

Chemicals



Organic & bioorganic chemicals

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Organic & bioorganic chemicals

Click Chemistry

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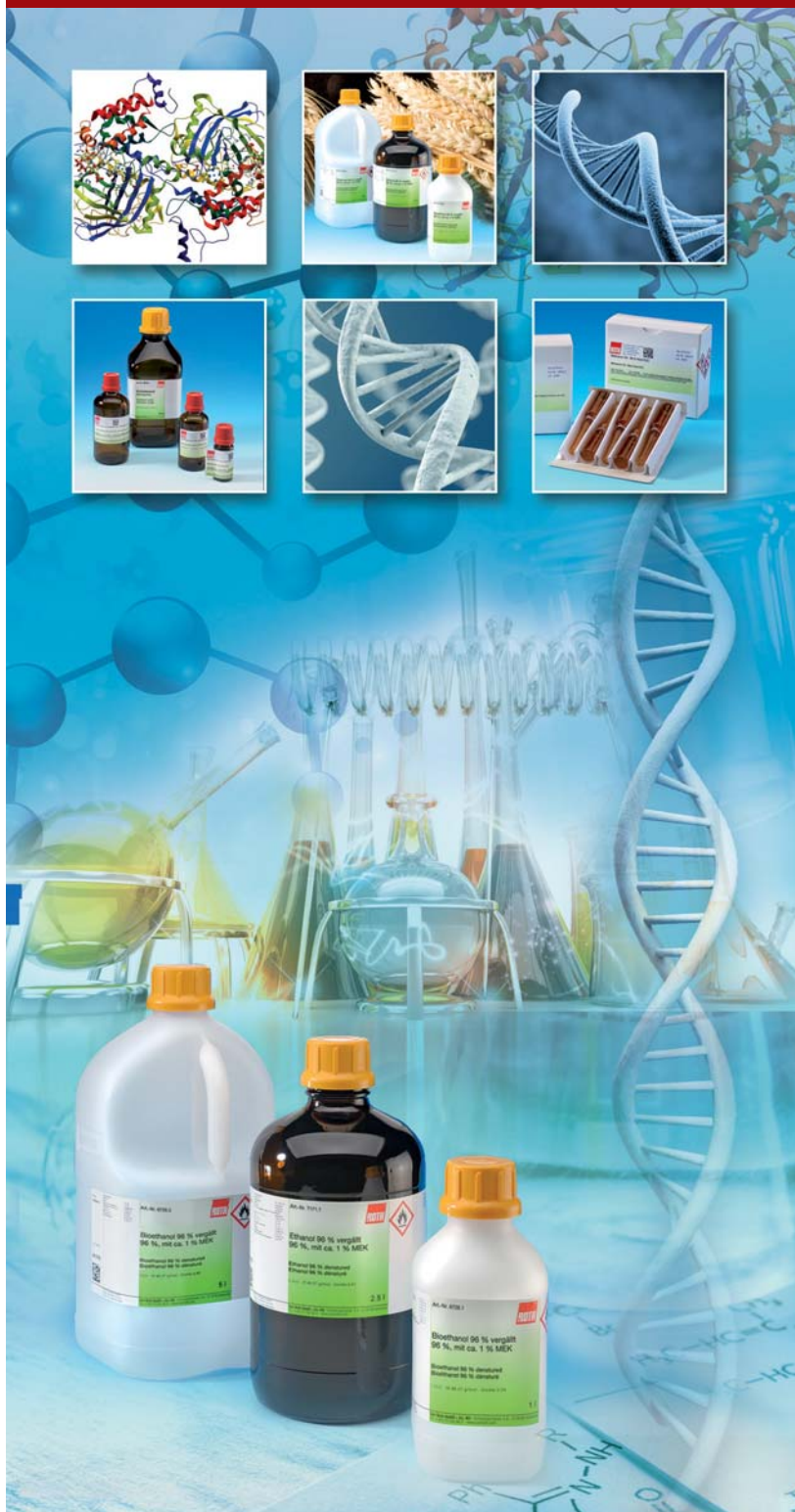
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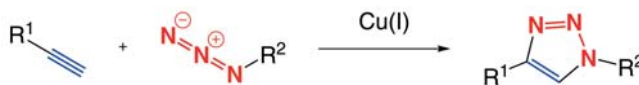
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Click Chemistry

The copper(I)-catalysed azide-alkyne cycloaddition (CuAAC) is the most prominent example of a group of reactions named click reactions. According to Sharpless' definition, these reactions are characterised by high yields, mild reaction conditions, and by their tolerance of a broad range of functional groups.[1-3] Typically, the reactions require simple or no workup or purification of the product. The most important characteristic of the CuAAC reaction is its unique bioorthogonality as neither azide nor terminal alkyne functional groups are generally present in natural systems.



Schematic illustration of the copper(I)-catalysed azide-alkyne cycloaddition (CuAAC)

References:

- 1 H. C. Kolb, M. G. Finn, K. B. Sharpless, *Angew. Chem. Int. Ed.* **2001**, *40*, 2004-2021.
- 2 C. W. Tornøe, C. Christensen, M. Meldal, *J. Org. Chem.* **2002**, *67*, 3057-3064.
- 3 V. V. Rostovtsev, L. G. Green, V. V. Fokin, K. B. Sharpless, *Angew. Chem.* **2002**, *114*, 2708-2711; *Angew. Chem. Int. Ed.* **2002**, *41*, 2596-2599.

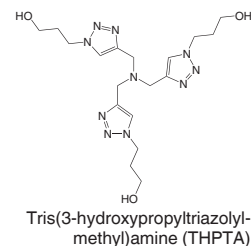
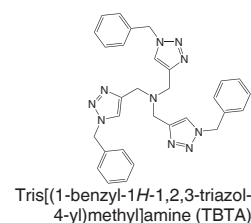
Essentials for Click Chemistry

Starting from diverse copper catalyst sources, over Cu(I) stabilising ligands to buffer additives and solvents, you will find all necessary reagents in the special ROTI®click quality to perform your click reactions here.

Catalysts, ligands, additives and solvents

Product	Purity	Art. No.	Pack Qty.	€
L(+)-Ascorbic acid sodium salt	≥99 %, ROTI®click Grade	7819.1	10 mg	11,00
		7819.2	5x10 mg	33,25
Copper(I) bromide	≥99,999 %, ROTI®click Grade	7813.1	5 mg	11,00
		7813.2	10x5 mg	66,55
Copper(II) sulphate	≥98 %, anhydrous, ROTI®click Grade	7816.1	10 mg	11,00
		7816.2	5x10 mg	31,20
DMSO/t-Butanol Solvent	ROTI®click Grade	7815.1	1 ml	11,00
		7815.2	10x1 ml	60,10
Tris[(1-benzyl-1H-1,2,3-triazol-4-yl)methyl]amine (TBTA)	≥97 %, ROTI®click Grade	7814.1	5 mg	20,25
		7814.2	10 mg	33,90
		7814.3	50 mg	75,80
		7814.4	100 mg	126,35
Tris[(1-benzyl-1H-1,2,3-triazol-4-yl)methyl]amine (TBTA)	≥97 %	7380.1	50 mg	70,85
		7380.2	500 mg	568,70
Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA)	≥95 %, ROTI®click Grade	7822.1	5 mg	20,25
		7822.2	10 mg	33,90
		7822.3	50 mg	75,80
		7822.4	100 mg	126,35

For additional product data and safety information, see chapter Chemicals A-Z.



Tip:

TBTA (Art.No. 7380 and 7814) is suitable as Copper-stabilising ligand for reactions in organic solvents. THPTA (Art.No. 7822) on the other hand is an optimal ligand for reactions in aqueous media.



Azides and Alkynes

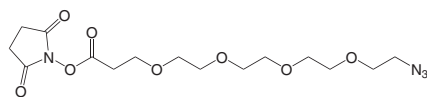
PEGylation and Linker

Click chemistry opens the door to introduce polyethylene glycols (PEGs) or other linkers in very sophisticated manner into your sample, which are still active for following reaction by the means of amine, carboxyl, maleimide or NHS-functional terminal groups. You can choose between alkyne and azide structured PEGs and linkers which you find in the table below.

PEG and Linker azides

Product	Purity	Art. No.	Pack Qty.	€
NHS-PEG4-Azide	≥90 %	7823.1	5 mg	37,65
		7823.2	10 mg	60,10
		7823.3	50 mg	181,70
		7823.4	100 mg	252,65
PEG24-Azide	≥90 %	7825.1	5 mg	56,45
		7825.2	10 mg	83,75
PEG8-Azide	≥95 %	7826.1	5 mg	56,45
		7826.2	10 mg	83,75
HO-PEG2-Azide	≥90 %	7828.1	5 mg	38,60
		7828.2	10 mg	61,20
H ₂ N-PEG8-Azide	≥90 %	7829.1	5 mg	38,60
		7829.2	10 mg	61,20
H ₂ N-PEG3-Azide	≥90 %	7830.1	5 mg	38,60
		7830.2	10 mg	61,20
PEG7-Bis-Azide	≥95 %	7831.1	5 mg	38,60
		7831.2	10 mg	61,20
Aminoxy-PEG3-Azide	≥90 %	7832.1	5 mg	79,05
		7832.2	10 mg	118,80
4-Azidoaniline hydrochloride	≥95 %	7834.1	5 mg	25,30
		7834.2	10 mg	38,60
4-Azidobenzoic acid	≥97 %	7835.1	10 mg	35,40
5-Azidopentanoic acid	≥99 %	7836.1	5 mg	25,30
		7836.2	10 mg	38,60

For additional product data and safety information, see chapter Chemicals A-Z.

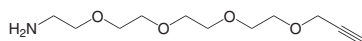


NHS-PEG4-Azide

PEG and Linker alkynes

Product	Purity	Art. No.	Pack Qty.	€
NHS-PEG5-Alkyne	≥90 %	7838.1	5 mg	60,10
		7838.2	10 mg	104,85
H ₂ N-PEG4-Alkyne	≥90 %	7840.1	5 mg	61,20
		7840.2	10 mg	105,90
HOOC-PEG4-Alkyne	≥90 %	7842.1	5 mg	61,20
		7842.2	10 mg	105,90

For additional product data and safety information, see chapter Chemicals A-Z.

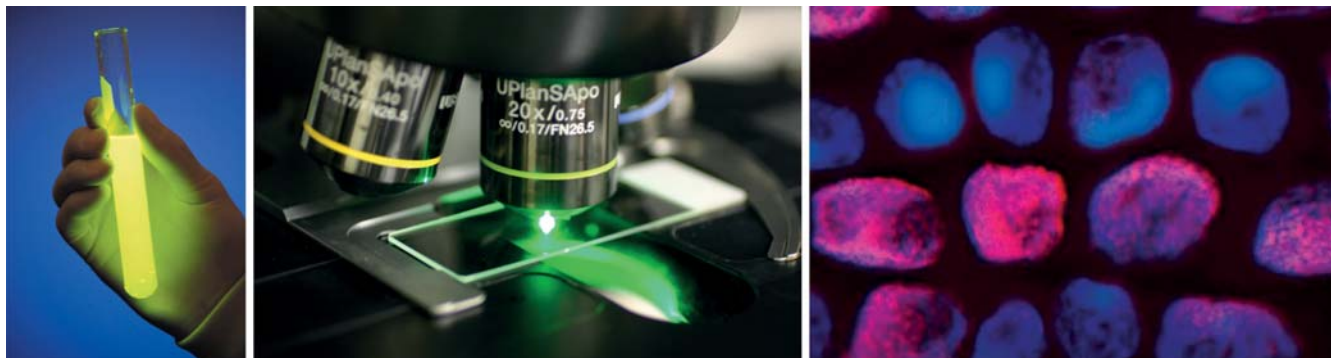


H₂N-PEG4-Alkyne

Tags

Fluorescent Tags

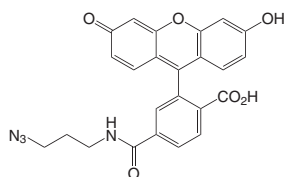
Carl Roth offers a selection of fluorescent tags for labelling of (bio-)molecules via click chemistry. All available tags are suitable for fluorescence spectroscopy applications due to their excellent absorption properties and good solubility. Tags with PEG-spacer are beneficial for applications with as little interaction between the analyte and the tag as possible. The coumarine derivative offers a unique feature: fluorescence is only detected after the coupling via click reaction.



Fluorescent Tags

Product	Purity	Absorption max.	Emission max.	molar extinction coefficient ϵ	Art. No.	Pack Qty.	€
3-Azido-7-hydroxycoumarin	$\geq 98\%$	404 nm (after click reaction) (buffer, pH 7)	480 nm (after click reaction) (buffer, pH 7)	n.b.	7811.1	1 mg	80,10
					7811.2	5 mg	267,70
6-Carboxyfluorescein Azide (6-FAM-Azide)	$\geq 95\%$	496 nm (buffer, pH 9)	516 nm (buffer, pH 9)	83 000 $\text{cm}^{-1}\text{M}^{-1}$	7806.1	1 mg	41,85
					7806.2	5 mg	71,95
					7806.3	10 mg	109,15
					7806.4	100 mg	424,65
6-Carboxyfluorescein-PEG3-Azide (6-FAM-PEG3-Azide)	$\geq 96\%$	496 nm (buffer, pH 9)	516 nm (buffer, pH 9)	83 000 $\text{cm}^{-1}\text{M}^{-1}$	7812.1	1 mg	122,45
					7812.2	5 mg	465,50
					7807.1	1 mg	41,85
					7807.2	5 mg	71,95
5-Carboxytetramethylrhodamine Azide (5-TAMRA-Azide)	$\geq 95\%$	546 nm (DMF)	579 nm (DMF)	91 000 $\text{cm}^{-1}\text{M}^{-1}$	7807.3	10 mg	109,15
					7807.4	100 mg	424,65
					7808.1	1 mg	41,85
					7808.2	5 mg	71,95
5-Carboxytetramethylrhodamine-PEG3-Azide (5-TAMRA-PEG3-Azide)	$\geq 95\%$	546 nm (DMF)	579 nm (DMF)	91 000 $\text{cm}^{-1}\text{M}^{-1}$	7808.3	10 mg	109,15
					7808.4	100 mg	424,65

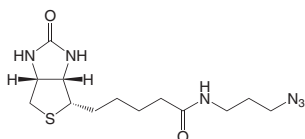
For additional product data and safety information, see chapter Chemicals A-Z.



6-Carboxyfluorescein Azide (6-FAM-Azide)

Non-Fluorescent Tags

Besides fluorescent tags other non-fluorescent labels play an important role in biochemistry and microbiology. Incorporation of such functional groups into your sample with high yields and selectivity is easily possible by click chemistry. Further, the click reaction is compatible with or rather orthogonal to various other labelling methodologies. In order to enlarge the scope for your personalised application we offer these tags in azide and alkyne functional form.

**Biotin-Azide**

≥95 %

5-(2-Oxo-hexahydro-thieno[3,4-d]imidazol-6-yl)-pentanoic acid (3-azido-propyl)-amide

C₁₃H₂₂N₆O₂S

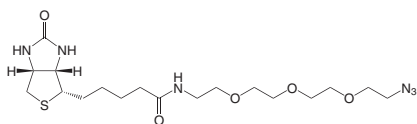
M 326,42 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

Type analysis:

Appearance: off-white powder
 Assay (HPLC): ≥95 %
 Solubility: DMSO, DMF, MeOH

7803.1	1 mg	plastic	41,85 €
7803.2	5 mg	plastic	71,95 €
7803.3	10 mg	plastic	109,15 €
7803.4	100 mg	plastic	424,65 €

**Biotin-PEG3-Azide**

≥95 %

N-(2-(2-(2-Azidoethoxy)ethoxy)ethoxyethyl)-5-((3aS,4S,6aR)-2-oxohexahydro-1H-thieno[3,4-d]imidazol-4-yl)pentanamide

C₁₈H₃₂N₆O₅S

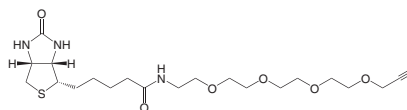
M 444,55 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

Type analysis:

Appearance: off-white solid
 Assay (HPLC): ≥95 %
 Solubility: H₂O, DMSO

7804.1	1 mg	plastic	96,75 €
7804.2	5 mg	plastic	358,00 €

**Biotin-PEG4-Alkyne**

≥95 %

5-((3aS,4S,6aR)-2-oxohexahydro-1H-thieno[3,4-d]imidazol-4-yl)-N-(3,6,9,12-tetraoxapentadec-14-yn-1-yl)pentanamide

C₂₁H₃₅N₃O₆S

M 457,58 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

Type analysis:

Appearance: white solid
 Assay (NMR): ≥95 %
 Solubility: DMSO, DMF, CH₂Cl₂, CHCl₃, MeOH

7805.1	1 mg	plastic	100,95 €
7805.2	5 mg	plastic	364,45 €



► DMSO, DMF and further solvents
 see Chapter chemicals A-Z

Modified amino acids

With the emergence of click chemistry the use of azide- and alkyne-derivatised α -amino acids has found high interest e.g. in the area of peptide synthesis as a powerful tool in the development of new therapeutics and biological chemistry fundamental research.

Peptide labelling mostly requires reactions which are running close to physiological conditions (neutral pH, aqueous solution, ambient temperature). Cu(I)-catalysed alkyne-azide cycloaddition (CuAAC) is optimal for such biological compounds, here the advantages of click chemistry once again show their potential. The low reactant concentrations, low background labelling, the quantitative and rapid labelling, plus the mild reaction conditions fit the necessary reactivity, selectivity and biocompatibility criteria for the peptide labelling and thus ensure the preservation of biological function.

Carl Roth provides high quality azido amino acids. In this form they can easily undergo click reaction when an alkyne functional reporter molecule is present.

Product	Synonym	Purity	Art. No.	Pack Qty.	€
L-4-Azidophenylalanine	H-L-Phe(4-N ₃)-OH	≥98 %	7850.1	5 mg	38,60
			7850.2	10 mg	61,20
			7850.3	100 mg	196,20
			7850.4	500 mg	499,90
D-4-Azidophenylalanine	H-D-Phe(4-N ₃)-OH	≥98 %	7853.1	5 mg	38,60
			7853.2	10 mg	61,20
			7853.3	100 mg	196,20
			7853.4	500 mg	499,90
L- β -Azidoalanine hydrochloride	H-L-Aza-OH · HCl	≥99 %	7854.1	5 mg	38,60
			7854.2	10 mg	61,20
			7854.3	100 mg	196,20
			7854.4	500 mg	499,90
D- β -Azidoalanine hydrochloride	H-D-Aza-OH · HCl	≥99 %	7856.1	5 mg	38,60
			7856.2	10 mg	61,20
			7856.3	100 mg	196,20
			7856.4	500 mg	499,90
L- γ -Azidohomoalanine hydrochloride	H-L-Aha-OH · HCl	≥99 %	7857.1	5 mg	38,60
			7857.2	10 mg	61,20
			7857.3	100 mg	196,20
			7857.4	500 mg	499,90
D- γ -Azidohomoalanine hydrochloride	H-D-Aha-OH · HCl	≥99 %	7858.1	5 mg	38,60
			7858.2	10 mg	61,20
			7858.3	100 mg	196,20
			7858.4	500 mg	499,90
L-Azidoornithine hydrochloride	H-L-Orn(N ₃)-OH · HCl	≥99 %	7859.1	5 mg	38,60
			7859.2	10 mg	61,20
			7859.3	100 mg	196,20
			7859.4	500 mg	499,90
D-Azidoornithine hydrochloride	H-D-Orn(N ₃)-OH · HCl	≥99 %	7860.1	5 mg	38,60
			7860.2	10 mg	61,20
			7860.3	100 mg	196,20
			7860.4	500 mg	499,90
L-Azidolysine hydrochloride	H-L-Lys(N ₃)-OH · HCl	≥99 %	7861.1	5 mg	38,60
			7861.2	10 mg	61,20
			7861.3	100 mg	196,20
			7861.4	500 mg	499,90
D-Azidolysine hydrochloride	H-D-Lys(N ₃)-OH · HCl	≥99 %	7862.1	5 mg	38,60
			7862.2	10 mg	61,20
			7862.3	100 mg	196,20
			7862.4	500 mg	499,90

For additional product data and safety information, see chapter Chemicals A-Z.

► Fmoc azido amino acids see page 1435

Free Nucleotides & Nucleosides

Nucleotides

Our modified nucleotides for click chemistry complement our range of unmodified standard nucleotides. You can use our alkyne-triphosphates in your nucleotide mixture to incorporate alkyne groups into your PCR fragment. These alkyne groups can be used to label the PCR fragment in a subsequent click reaction.

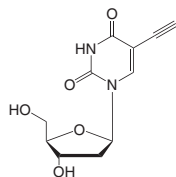
Product	Purity	Art. No.	Pack Qty.	€
C8-Alkyne-dCTP	≥99 %, 100 mM in water	7801.1	0,5 µmol	83,75
		7801.2	2,5 µmol	321,45
		7801.3	5,0 µmol	488,60
C8-Alkyne-dUTP	≥99 %, 100 mM in water	7799.1	0,5 µmol	83,75
		7799.2	2,5 µmol	321,45
		7799.3	5,0 µmol	488,60
5-Ethynyl-dUTP	≥98 %, 100 mM in water	7802.1	0,5 µmol	83,75
		7802.2	2,5 µmol	321,45
		7802.3	5,0 µmol	488,60

For additional product data and safety information, see chapter Chemicals A-Z.

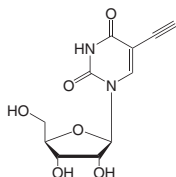
► dNTP solutions see page 1759

Nucleosides

The detection of cell proliferation is of utmost importance for monitoring cell vitality, determining genotoxicity or evaluating anticancer drugs. The feeding of cells with EdU (5-ethynyl-2'-deoxyuridine) or EU (5-ethynyl uridine) can be used in cell proliferation studies.



5-Ethynyl-2'-deoxyuridine (EdU)



5-Ethynyl uridine

Product	Purity	Art. No.	Pack Qty.	€
5-Ethynyl-2'-deoxyuridine (EdU)	≥99 %	7845.1	5 mg	25,30
		7845.2	10 mg	38,60
		7845.3	50 mg	88,70
		7845.4	100 mg	144,60
		7845.5	500 mg	593,40
		7845.6	1 g	929,90
5-Ethynyl uridine (EU)	≥97 %	7848.1	5 mg	56,45
		7848.2	10 mg	101,60

For additional product data and safety information, see chapter Chemicals A-Z.

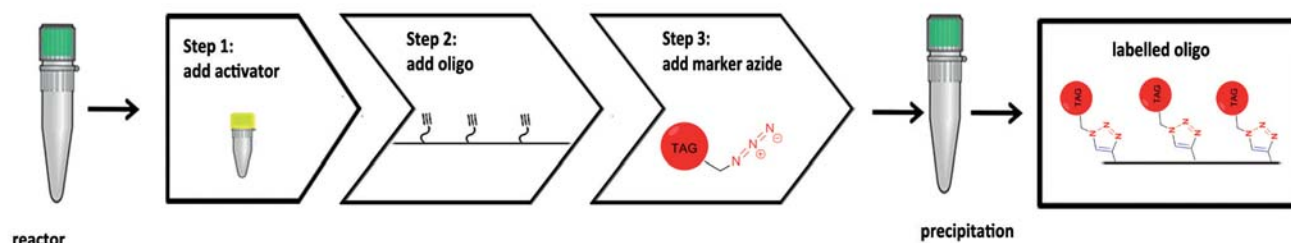
► Further nucleotides and nucleosides see page 1428

Applications

Labelling of Oligos with Roti®kits for DNA Labelling

The ROTI®kits for DNA Labelling are optimized for the labelling of up to 100 nmol of a single or double alkyne-modified oligonucleotide via copper(I)-catalyzed azide-alkyne cycloaddition (CuAAC; click chemistry). These kits provide all reagents needed to perform your click reaction on alkyne bearing oligonucleotides using a fast, simple and straight forward protocol.

The Oligo Click kits are based on a new solid heterogeneous catalyst. This air-stable, insoluble Cu(I) source provided in a ready-to-use vial (reactor) along with an activator allows efficient click reactions in both aqueous and organic solvents. Both catalyst and activator result in a much easier and faster handling including only three steps:



More than 100 azides are compatible with these kits.

ROTI®kits for DNA Labelling



Product	Marker	Activator	Reactor	Art. No.	Pack Qty.	€
Oligo Click S-488	6-FAM	10 µl	7 x 2,5 mg	7766.1	1 kit	122,55
Oligo Click M-488	6-FAM	20 µl	7 x 5 mg	7767.1	1 kit	127,40
Oligo Click S-555	5-TAMRA	10 µl	7 x 2,5 mg	7769.1	1 kit	138,70
Oligo Click M-555	5-TAMRA	20 µl	7 x 5 mg	7770.1	1 kit	144,60
Oligo Click S-Biotin	Biotin Azide	10 µl	7 x 2,5 mg	7771.1	1 kit	101,60
Oligo Click M-Biotin	Biotin Azide	20 µl	7 x 5 mg	7772.1	1 kit	105,90
Oligo Click S Reload	-	35 µl	9 x 2,5 mg	7764.1	1 kit	56,45
Oligo Click M Reload	-	35 µl	9 x 5 mg	7765.1	1 kit	70,45

For additional product data and safety information, see chapter Chemicals A-Z.



Tip:

The ending of the product name specifies the included marker:

- 488: 6-FAM-Azide
- 555: 5-TAMRA-Azide
- Biotin: Biotin Azide
- Reload: no marker included

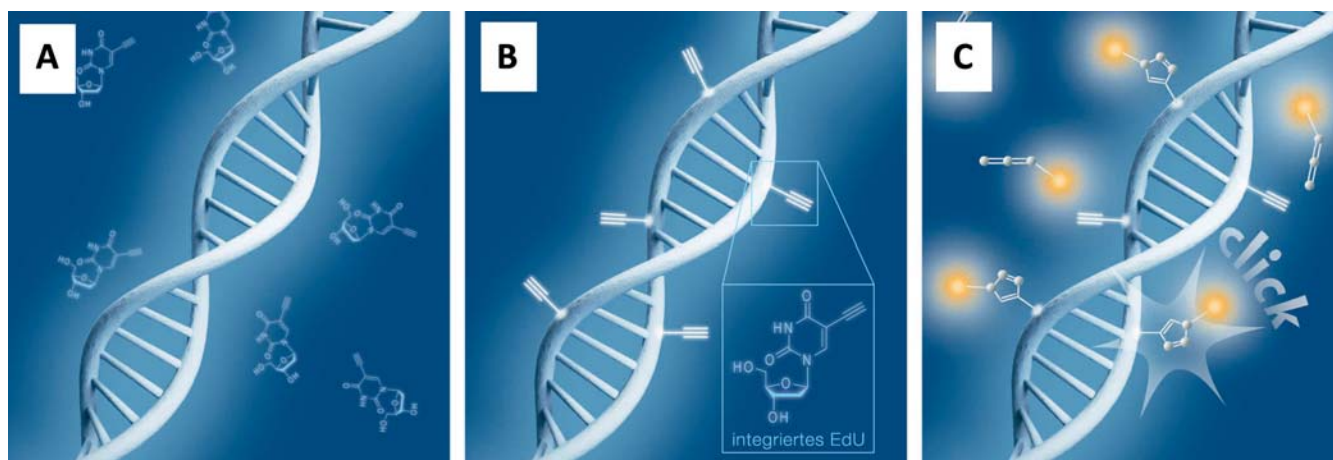


Cell proliferation assays



Our EdU (5-ethyl-2'-deoxyuridine) Click kits with click chemistry based detection of cell proliferation provide a superior alternative to time-consuming and less sensitive BrdU (bromodeoxyuridine) assays. Similar to BrdU assays, our assays utilise a uracil derivative (in this case ethynyldeoxyuridine, EdU) which is incorporated into the replicating DNA. EdU is not detected via antibodies; instead fluorescent dyes are coupled directly via click reaction. The click reaction is highly selective and does not require denaturation of the DNA.

Advantages of the click chemistry based approach:



Schematic illustration of the click chemistry based EdU cell proliferation assay. A) Incubation of cells with EdU. EdU is a thymidine analogue and is incorporated in DNA during active DNA synthesis. B) After DNA synthesis, EdU was incorporated in the DNA strands. C) Detection of proliferating cells via click chemistry. This reaction is finished within 30 minutes, whereby a variety of different fluorescent dye azides can be used.

Benefits of the Click Assay:

- Highly reliable
- Easy handling
- Fast detection procedure (only 30 min)
- Mild conditions, no DNA denaturation required
- Compatible with various dyes
- Modular system in click chemistry
- Compatible with multiplexing
- No cytotoxicity up to 1 mM EdU

Kits available for:

- Fluorescence microscopy (ROTI®kits for Imaging)
- Flow Cytometry (ROTI®kits for Flow Cytometry)
- High Throughput Screening (ROTI®kits for High Throughput Screening)

Tip:

The number at the end of the product name specifies the excitation wavelength of the included fluorescent marker. Suitable excitation source are:

- 488 nm (blue-green argon laser 488 nm, blue diode laser 473 nm)
- 555 nm (green Nd:YAG laser 532 nm, green helium-neon-laser 543 nm)
- 594 nm (yellow helium-neon-laser 594 nm, yellow diode laser 594 nm)
- 647 nm (red krypton laser 647 nm, red helium-neon-laser 633 nm, red diode laser 635 or 650 nm)

Tip:

All ROTI®kits are being shipped cooled.

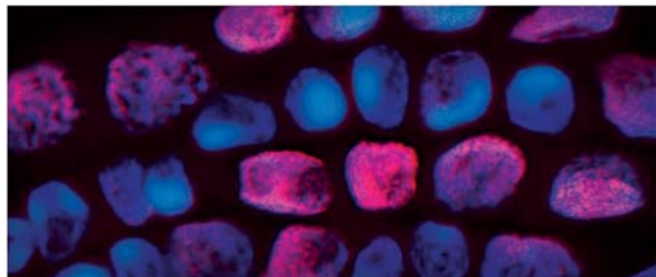
Please note:

In order to guarantee optimum product quality, the dispatch of refrigerated transport products will be carried out on Mo and Tue only outside Germany! Slight delays in delivery are therefore possible

ROTI®kits for Imaging



The detection of cell proliferation is of utmost importance for monitoring of cell vitality, determining genotoxicity or evaluating anticancer drugs. Carl Roth's cell proliferation assays based on EdU (5-ethynyl-2'-deoxyuridine) provide a superior alternative to BrdU (bromodeoxyuridine) assays. Roth's EdU Click assays are not antibody based and therefore do not require DNA denaturation for detection of the incorporated nucleoside. Instead, the EdU Click assay utilizes click chemistry for detection in a variety of dye fluorescent readouts. Furthermore, the streamlined detection protocol both reduces the total number of steps and significantly decreases the total amount of time.



Proliferating tissue of barley meristem labeled via EdU Click-555 kit (Art. Nr. 7775.1). Dividing cells incorporated EdU and were labeled via click reaction with TAMRA (pink stained cells). Nuclei were counterstained with DAPI (blue). Magnification: 100x; Filterset: Sp. Aqua HC mFISH; Sp. Green HC mFISH

ROTI®kits for Imaging



Warning H315-H319-H400-H410



Product	Marker	Application	Art. No.	Pack Qty.	€
EdU Click-488	6-FAM	For 100-500 assays.	7773.1	1 kit	335,40
EdU Click-555	5-TAMRA	For 100-500 assays.	7775.1	1 kit	335,40
EdU Click-594	5/6 Sulforhodamine	For 100-500 assays.	7776.1	1 kit	331,10
EdU Click-647	Eterneon Red	For 100-500 assays.	7777.1	1 kit	331,10

For additional product data and safety information, see chapter Chemicals A-Z.

Example specification:

EdU Click-488

ROTI®kit for Imaging

For fast and simple detection of cell proliferation through fluorescence microscopy.

Transport temp.: cooled



Warning H315-H319-H400-H410

For 100-500 assays.

Components:

EdU	5 mg
6-FAM-Azide (10 mM in DMSO)	130 µl
Buffer Additive	4 x 200 mg
DMSO	2 x 2 ml
Catalyst Solution	2 x 2 ml
Reaction Buffer	4 x 2 ml

Store at -20 °C (EdU, 6-FAM-Azide, Buffer Additive);
+4 °C (DMSO, Catalyst Solution, Reaction Buffer)



Instructions for use

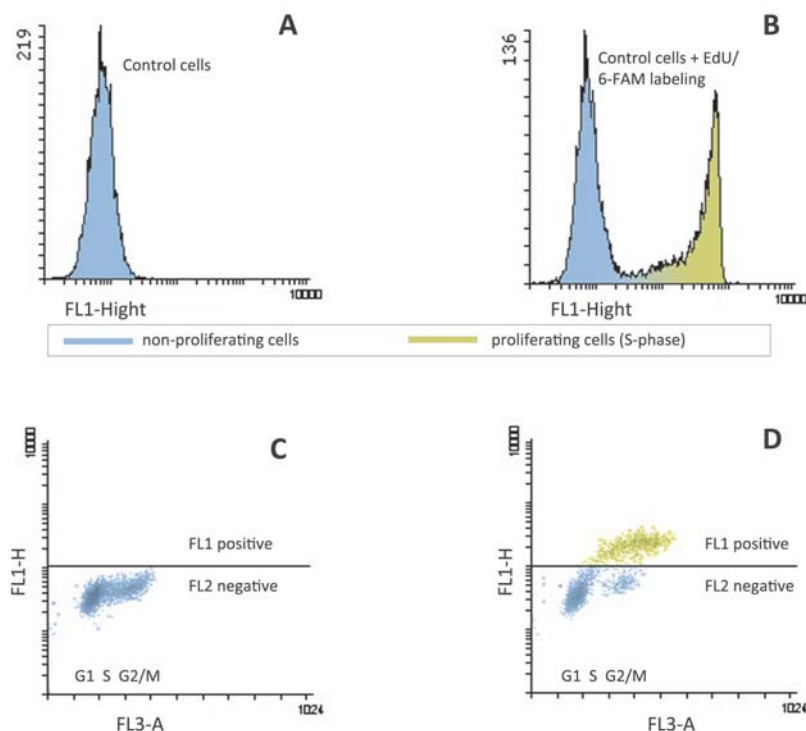
can be found on the Internet next to the product description.

► Cell culture media and further reagents for cell culture see chapter Cell biology

ROTI®kits for Flow Cytometry

ready-to-use

The ROTI®kits for Flow Cytometry by Carl Roth use click chemistry to detect cell proliferation by means of a large number of fluorescent stain read-outs. In the detection procedure both, the total number of steps and the processing time are significantly reduced. The simple click chemistry detection procedure is complete within 30 minutes.



HeLa cells, treated without (A) and with (B) 10 μ M EdU for 2 h. Click reaction was performed using 6-FAM-Azide. A: negative control, cells without EdU incorporation. B: non-proliferating cells without EdU incorporation (blue coloured left peak) and proliferating cells (S-phase) having incorporated EdU and are labeled with 6-FAM Azide (green coloured right peak). Density plots of PI stained samples without (C) and with (D) EdU incubation and followed click reaction. The y-axis presents the FL1-Fluorescence intensity and the x-axis the content of DNA measured with FL3-area. Cell cycle phases are indicated as G1, S and G2/M phase.

ROTI®kits for Flow Cytometry

H411-EUH208



Product	Marker	Application	Art. No.	Pack Qty.	€
EdU Click FC-488	6-FAM	For 50 assays.	7779.1	1 kit	342,40
EdU Click FC-555	5-TAMRA	For 50 assays.	7780.1	1 kit	342,40
EdU Click FC-594	5/6 Sulforhodamine	For 50 assays.	7781.1	1 kit	342,40
EdU Click FC-647	Eternon Red	For 50 assays.	7783.1	1 kit	342,40

For additional product data and safety information, see chapter Chemicals A-Z.

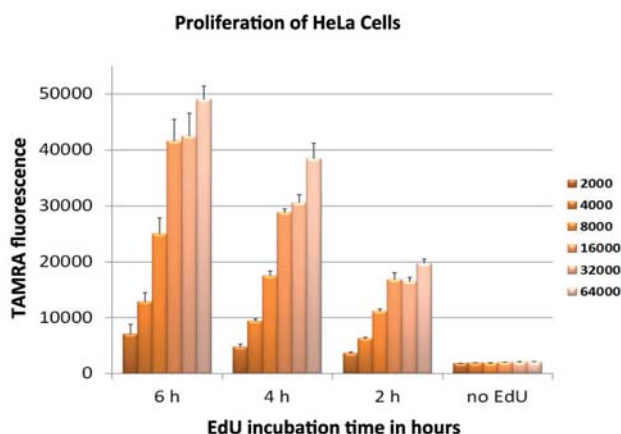


ROTI®kits for High Throughput Screening

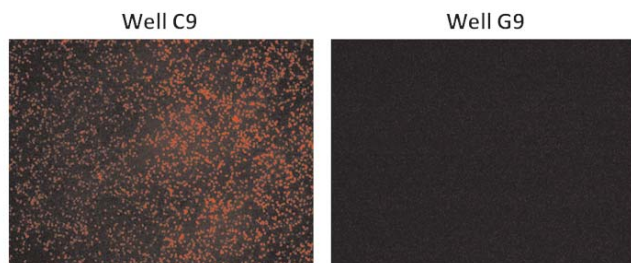
The ROTI®kits for High Troughput Screening measures DNA synthesis of adherent cells in 96 well plates.

By utilizing click chemistry, detection of a variety of fluorescent dyes is highly specific and very fast.

The kits are available in different sizes. The size (2, 4 or 20) refers to the number of 96-well plates for which the kit is designed.



HeLa cells incubated without and with 10 μ M EdU for 2, 4 or 6 h in 96 well plate. EdU incorporation was detected over time and for different cell numbers using a fluorescence plate reader. Control: Without EdU no fluorescence was detected after 6 h incubation time.



Fluorescence imaging of 2 wells: Well C9 incubated for 6 h with EdU; Well G9: Incubation without EdU.

ROTI®kits for High Troughput Screening

Product	Marker	Application	Art. No.	Pack Qty.	€
EdU Click HTS 2-488	6-FAM	For 200 reactions or 2x96 well plates.	7786.1	1 kit	192,45
EdU Click HTS 4-488	6-FAM	For 400 reactions or 4x96 well plates.	7787.1	1 kit	297,25
EdU Click HTS 20-488	6-FAM	For 2000 reactions or 20x96 well plates.	7788.1	1 kit	972,90
EdU Click HTS 2-555	5-TAMRA	For 200 reactions or 2x96 well plates.	7789.1	1 kit	190,85
EdU Click HTS 4-555	5-TAMRA	For 400 reactions or 4x96 well plates.	7791.1	1 kit	297,25
EdU Click HTS 20-555	5-TAMRA	For 2000 reactions or 20x96 well plates.	7792.1	1 kit	972,90
EdU Click HTS 2-594	5/6 Sulforhodamine	For 200 reactions or 2x96 well plates.	7793.1	1 kit	190,85
EdU Click HTS 4-594	5/6 Sulforhodamine	For 400 reactions or 4x96 well plates.	7794.1	1 kit	297,25
EdU Click HTS 20-594	5/6 Sulforhodamine	For 2000 reactions or 20x96 well plates.	7795.1	1 kit	972,90
EdU Click HTS 2-647	Eterneon Red	For 200 reactions or 2x96 well plates.	7796.1	1 kit	190,85
EdU Click HTS 4-647	Eterneon Red	For 400 reactions or 4x96 well plates.	7797.1	1 kit	297,25
EdU Click HTS 20-647	Eterneon Red	For 2000 reactions or 20x96 well plates.	7798.1	1 kit	972,90

For additional product data and safety information, see chapter Chemicals A-Z.

► 96-well plates (microplates) see page 445

DNA synthesis



Nucleobases & derivatives

Product	Purity	Art. No.	Pack Qty.	€
Adenine	≥98 %, for biochemistry	3025.1	5 g	14,95
		3025.2	25 g	38,20
6-Azauracil	≥98 %, for biochemistry	5488.1	5 g	60,10
		5488.2	10 g	100,95
6-Benzylaminopurine	≥98 %, for biochemistry	5552.1	1 g	16,70
		5552.2	5 g	38,60
		5552.3	25 g	155,90
Cytosine	≥99 %, for biochemistry	7295.1	5 g	28,50
		7295.2	25 g	66,15
		7295.3	100 g	177,40
Guanine	≥97 %, for biochemistry	7505.1	10 g	23,35
		7505.2	25 g	47,20
Guanine hydrochloride	≥98 %, for biochemistry	3814.2	5 g	13,45
		3814.1	10 g	19,90
		3814.3	50 g	67,20
Hypoxanthine	≥98 %, for biochemistry	6416.1	5 g	67,65
Kinetin	≥98 %, for biochemistry	4142.1	1 g	18,85
		4142.2	5 g	47,20
Orotic acid	≥99 %, anhydrous	6820.2	25 g	36,05
		6820.1	100 g	107,40
Theobromine	≥99 %, Ph.Eur., for biochemistry	8963.1	10 g	19,90
		8963.2	100 g	87,00
2-Thiouracil	≥98 %, for biochemistry	5245.1	50 g	40,75
		5245.2	100 g	68,30
Thymine	≥99 %, for biochemistry	7289.1	5 g	22,05
		7289.2	25 g	35,40
		7289.3	100 g	77,95
Uracil	≥99 %, for biochemistry	7288.1	5 g	14,20
		7288.2	25 g	24,40
		7288.3	100 g	60,10

For additional product data and safety information, see chapter Chemicals A-Z.

Nucleosides

Product	Purity	Art. No.	Pack Qty.	€
Adenosine	≥99 %, p.a.	6122.1	5 g	14,55
		6122.2	10 g	22,50
		6122.3	25 g	45,05
5-Bromo-2'-deoxyuridine (BrdU)	≥99 %, for biochemistry	3243.1	250 mg	31,10
Cytidine	≥99 %, for biochemistry	0717.1	10 g	34,95
		0717.2	25 g	67,65
Guanosine	≥98 %, for biochemistry	0715.1	10 g	20,35
		0715.2	25 g	36,05
Inosine	≥98 %, for biochemistry	6770.1	5 g	19,05
Thymidine	≥99 %, p.a.	3005.2	500 mg	17,75
		3005.1	1 g	21,00
		3005.3	5 g	44,65
		3005.4	25 g	134,40
Uridine	≥99 %, for biochemistry	0714.1	5 g	18,85
		0714.2	10 g	26,80
		0714.3	25 g	51,10

For additional product data and safety information, see chapter Chemicals A-Z.

Nucleotides

Product	Purity	Art. No.	Pack Qty.	€
Adenosin-5'-triphosphate disodium salt (ATP)	≥98 %, for biochemistry	HN35.1	5 g	21,40
		HN35.2	10 g	31,10
		HN35.3	25 g	57,55
		HN35.4	100 g	192,45
ATP	≥98 %, lyophilised	K054.1	1 g	12,40
		K054.2	5 g	33,90
		K054.3	10 g	53,25
		K054.4	25 g	117,20
		K054.5	50 g	213,95
CTP	≥98 %, lyophilised	K057.1	100 mg	19,60
		K057.2	250 mg	48,95
		K057.3	500 mg	95,15
		K057.4	1 g	170,95
GTP	≥90 %, lyophilised	K056.1	100 mg	45,50
		K056.2	250 mg	87,00
		K056.3	500 mg	169,35
		K056.4	1 g	278,45
UTP	≥90 %, lyophilised	K055.1	100 mg	35,40
		K055.2	500 mg	130,65

For additional product data and safety information, see chapter Chemicals A-Z.

► Solutions of the nucleotides (NTP solutions) see page 1659

CPG/Supports

Support material for DNA synthesis

Derivated Controlled Pore Glass (CPG) is used as support material for DNA synthesis. The 500 Å supports are ideal for virtually all applications. In order to avoid steric hindrance between the growing oligo-nucleotide chains and to gain a maximum yield of full-length chains, a long-chained alkylamine "spacer arm" is used.

500 Å supports are loaded with 30-40 µmol/g

Adenosine-CPG-Support

500 Å pore size

Support material for DNA synthesis.

dA-lcaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥98,0 %
CPG loading.....30-40 µmol/g
Coupling efficiency.....≥99 %

2318.3	1 g	plastic	52,15 €

Cytidine-CPG-Support

500 Å pore size

Support material for DNA synthesis.

dC-lcaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥95,0 %
CPG loading.....30-40 µmol/g
Coupling efficiency.....≥99 %

2319.3	1 g	plastic	52,15 €

Guanosine-CPG-Support

500 Å pore size

Support material for DNA synthesis.

dG-lcaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥98,0 %
CPG loading.....30-40 µmol/g
Coupling efficiency.....≥99 %

2320.3	1 g	plastic	52,15 €

Thymidine-CPG-Support

500 Å pore size

Support material for DNA synthesis.

dT-lcaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥98,0 %
CPG loading.....30-40 µmol/g
Coupling efficiency.....≥99 %

2321.3	1 g	plastic	52,15 €

BCE-Phosphoramidites

for PerSeptive Expedite™ and PolyGen® Synthesizer

Adenosine-BCE-phosphoramidite

For DNA synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-dA(N-Bz)P-(OCH₂CH₂CN)-N(iPr)₂

C₄₇H₅₂N₇O₇P

M 857,7 g/mol

Storage temp.: +4 °C

K921.1	1 g	glass	32,15 €

Cytidine-BCE-phosphoramidite

For DNA synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-dC(N-Bz)P-(OCH₂CH₂CN)-N(iPr)₂

C₄₆H₅₂N₅O₈P

M 833,7 g/mol

Storage temp.: +4 °C

K922.1	1 g	glass	32,15 €

Guanosine-BCE-phosphoramidite

For DNA synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-dG(N-Bu)P-(OCH₂CH₂CN)-N(iPr)₂

C₄₄H₅₄N₇O₈P

M 839,7 g/mol

Storage temp.: +4 °C

K923.1	1 g	glass	32,15 €

Thymidine-BCE-phosphoramidite

For DNA synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-T-P(OCH₂CH₂CN)-N(iPr)₂

C₄₀H₄₉N₄O₈P

M 744,6 g/mol

Storage temp.: +4 °C

K924.1	1 g	glass	31,75 €

Reagents



For ABI™- and PolyGen® Synthesizer

Molecular sieve 3 Å

activated, under argon

Suitable for PolyGen® synthesiser, 3 Å.

Storage temp.: +20 °C

N893.1	100 ml	glass	11,50 €

Activation reagent

For DNA synthesis with ABI™ and PolyGen® Synthesizer

Tetrazole/Acetonitrile

Danger H225-H302+H312+H332-H319

Type analysis:

Appearance.....clear, colorless solution
Assay (tetrazole).....0,43-0,46 mol/l
Water (KF).....≤0,003 %

2253.1	200 ml	glass	99,90 €

2253.2	450 ml	glass	197,30 €

Capping reagent I

for DNA synthesis with ABI™ and PolyGen® Synthesizer

Mixture of acetic anhydride, pyridine and tetrahydrofuran

Storage temp.: +4 °C

 **Danger**

H225-H318-H302+H332-H351-H315-EUH019

2255.1	200 ml	glass	34,95 €
2255.2	450 ml	glass	73,65 €
2255.3	2,5 l	glass	203,20 €
Original pack 4 x 2,5 l			193,04/2,5 l

Capping reagent II

for DNA synthesis with ABI™ and PolyGen® Synthesizer

Mixture of 1-methylimidazole and tetrahydrofuran

Storage temp.: +4 °C

 **Danger** H225-H314-H302-H335-H351-EUH019

2256.1	200 ml	glass	33,90 €
2256.2	450 ml	glass	70,45 €
2256.3	2,5 l	glass	186,55 €
Original pack 4 x 2,5 l			177,22/2,5 l

DMT removal DCE

for DNA synthesis with PolyGen® Synthesizer

3 % Trichloro acetic acid in 1,2-dichloroethane



Danger H225-H350-H318-H302-H315-H335-H411

K060.1	450 ml	glass	34,95 €
K060.2	2,5 l	glass	110,20 €
Original pack 4 x 2,5 l			104,69/2,5 l

DMT removal reagent

for DNA synthesis with ABI™ Synthesizer

3 % Trichloro acetic acid in dichloromethane

 **Danger** H318-H351-H335-H315-H411

2257.1	450 ml	glass	34,95 €
2257.2	2,5 l	glass	110,20 €
Original pack 4 x 2,5 l			104,69/2,5 l

Oxidation reagent

for DNA synthesis with ABI™ and PolyGen® Synthesizer

Iodine/water/pyridine/tetrahydrofuran-mixture. 0,05 M iodine.

 **Danger** H225-H302+H312+H332-H351-H319-H335-EUH019

2254.1	200 ml	glass	25,70 €
2254.2	450 ml	glass	47,85 €
2254.3	2,5 l	glass	209,65 €
Original pack 4 x 2,5 l			199,17/2,5 l

Fast Oxidation reagent

for DNA synthesis with ABI™ and PolyGen® Synthesizer

For quick separating phosphoramidites.

Iodine/water/pyridine/tetrahydrofuran-mixture. 0,02 M iodine.

Storage temp.: +20 °C

 **Danger** H225-H315-H373-H351-H319-H335-EUH019

A133.2	450 ml	glass	47,85 €

Starter Kit DNA synthesis for approx. 100x 30mers

Product	Art. No.	Pack Qty.	€	Recommended order amount
Adenosine-CPG-support (500 Å)	2318.3	1 g	52,15	1
Cytidine-CPG-support (500 Å)	2319.3	1 g	52,15	1
Guanosine-CPG-support (500 Å)	2320.3	1 g	52,15	1
Thymidine-CPG-support (500 Å)	2321.3	1 g	52,15	1
Adenosine-BCE-phosphoramidite	K921.1	1 g	32,15	5
Cytidine-BCE-phosphoramidite	K922.1	1 g	32,15	5
Guanosine-BCE-phosphoramidite	K923.1	1 g	32,15	5
Thymidine-BCE-phosphoramidite	K924.1	1 g	31,75	5
Activation reagent	2253.2	450 ml	197,30	1
Oxidation reagent	2254.2	450 ml	47,85	1
Capping reagent I	2255.2	450 ml	73,65	2
Capping reagent II	2256.2	450 ml	70,45	1
DMT removal DCE	K060.1	450 ml	34,95	1
Molecular sieve 3 Å	N893.1	100 ml	11,50	5
Ammonia solution 32 %	A990.1	200 ml	16,05	1
Acetonitrile (water content ≤10 ppm)	8824.2	2,5 l	95,60	2
Acetonitrile (water content ≤30 ppm)	3620.1	100 ml	25,30	5
Disposable syringes, Luer-fitting	0059.1	100 pieces	20,10	1
Disposable needles Sterican®, long edge	C721.1	100 pieces	6,70	1
PCR-reaction vials (0,2 ml)	XT87.1	1000 pieces	50,00	1

For additional product data and safety information, see chapter Chemicals A-Z.



Solvents for DNA synthesis

- Each reagent is specially purified for DNA synthesis one step above p.a. grade
- Each batch is tested on a synthesizer to determine maximum yield
- Solutions are also microfiltered to prevent any possible malfunction of synthesizer
- Extremely careful manufacturing, testing and packing guarantee a new standard of quality - the DNA synthesis Grade
- The 100 ml glass bottle is sealed with a septum cap

Acetonitrile

ROTISOLV® ≥99,9 %, for DNA synthesis

Water content ≤10 ppm

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

For solubilisation of phosphoramidites during synthesis of oligonucleotides >20mers.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,001 %
Non volatile matter.....	≤0,0001 %

8824.2	2,5 l	glass	95,60 €
Original pack 4 x 2,5 l			
8824.3	5 l	aluminium	159,00 €
Original pack 2 x 5 l			
			1,00/5 l

Acetonitrile

ROTISOLV® ≥99,9 %, for DNA synthesis

Water content ≤30 ppm

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

For solubilisation of phosphoramidites during synthesis of oligonucleotides ≤20mers.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,003 %
Free acid.....	≤0,002 %
Non volatile matter.....	≤0,0003 %

2216.2	2,5 l	glass	75,80 €
Original pack 4 x 2,5 l			
			72,01/2,5 l

Acetonitrile

ROTISOLV® ≥99,9 %, for DNA synthesis

Water content ≤30 ppm

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

For solubilisation of phosphoramidites during synthesis of oligonucleotides ≤20mers. Sealed with septum cap.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,003 %
Packed for Applied Biosystems and Biosearch DNA-Synthesizer.	

3620.1	100 ml	septum bottle	25,30 €

Ammonia solution 32 %

30-33 %, for DNA synthesis.

Ammonium hydroxide solution

NH₃ + H₂O

M 17,03 + aq g/mol

Storage temp.: +4 °C

Danger H290-H314-H400-H335

For oligo separation from supports and for neutralising protective groups. Comes in bottle to fit ABI 391/392/394.

Type analysis:

Assay (NH ₃).....	≥30 %

A990.1	200 ml	glass	16,05 €



Acetonitrile

ROTIDRY® ≥99,9 % (≤10 ppm H₂O)

Dried; for DNA synthesis and analysis.

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,001 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Filtered through a membrane and filled under protective gas.	

AE00.1	1 l	glass	33,25 €
Original pack 6 x 1 l			
AE00.2	2,5 l	glass	67,65 €
Original pack 4 x 2,5 l			
AE00.3	4 l	glass	98,80 €

► Further dried solvents see page 1457

Amino acids

Our amino acids are of the highest purity and suitable for a broad range of applications in biochemistry. Besides the natural occurring L-amino acids, we offer a selection of unnatural D-amino acids and DL-amino acids.



Programme extension!

Product	Purity	Art. No.	Pack Qty.	€
D-Alanine	≥99 %, for biochemistry	7866.1	5 g	19,90
		7866.2	25 g	60,10
		7866.3	100 g	181,70
DL-Alanine	≥99 %, for biochemistry	9798.2	25 g	15,60
		9798.1	100 g	41,85
		9798.3	250 g	51,50
L-Alanine	≥99 %, for biochemistry	3076.1	25 g	18,20
		3076.2	250 g	92,35
		8592.1	5 g	18,85
DL-Arginine	≥98,5 %, for biochemistry	8592.2	25 g	55,80
		8592.3	100 g	189,10
		3144.1	50 g	16,05
L-Arginine	≥98,5 %, USP, for biochemistry	3144.3	250 g	38,60
		3144.2	1 kg	125,25
		7868.1	5 g	22,50
D-Arginine monohydrochloride	≥99 %, for biochemistry	7868.2	25 g	67,20
		7868.3	100 g	202,00
		4925.1	5 g	72,60
DL-Arginine monohydrochloride	≥98 %, for biochemistry	3145.1	50 g	16,05
		3145.2	250 g	41,85
		7872.1	5 g	22,50
D-Asparagine monohydrate	≥98 %, for biochemistry	7872.2	25 g	67,20
		5495.1	100 g	36,45
		5495.2	250 g	80,10
DL-Asparagine monohydrate	≥98 %, for biochemistry	HN23.1	100 g	33,90
		HN23.2	500 g	144,60
		HN23.3	1 kg	241,90
D-Aspartic acid	≥98 %, for biochemistry	7873.1	5 g	18,85
		7873.2	25 g	56,90
		7873.3	100 g	143,55
DL-Aspartic acid	≥99 %, for biochemistry	8593.1	100 g	25,70
		8593.2	500 g	98,80
		T202.1	100 g	14,95
L-Aspartic acid	≥98,5 %, Ph.Eur., for biochemistry	T202.2	500 g	66,15
		T202.3	1 kg	109,55
		8594.1	5 g	44,65
DL-Cysteine	≥98 %, for biochemistry	8594.2	25 g	110,65
		8594.3	100 g	321,45
		3467.1	10 g	13,65
L-Cysteine	≥98 %, DAB, for biochemistry	3467.2	50 g	27,45
		3467.3	250 g	102,05
		3468.1	10 g	13,90
L-Cysteine hydrochloride	≥99 %, p.a., anhydrous	3468.2	50 g	24,65
		3468.3	250 g	70,65
D-Cysteine hydrochloride monohydrate	≥98,5 %, for biochemistry	7874.1	1 g	22,50
		7874.2	5 g	67,20

Product	Purity	Art. No.	Pack Qty.	€
L-Cysteine hydrochloride monohydrate	≥98,5 %, for biochemistry	T203.1	50 g	24,20
		T203.2	100 g	37,55
		T203.3	500 g	158,60
DL-Cystine	≥98,5 %	5565.1	1 g	44,00
L-Cystine	≥98,5 %, for biochemistry	3471.1	100 g	44,00
		3471.2	500 g	203,20
D-Glutamine	≥98,5 %, for biochemistry	7876.1	1 g	22,50
		7876.2	5 g	67,20
		7876.3	25 g	202,10
DL-Glutamine	≥98,5 %, for biochemistry	8595.1	1 g	45,05
		8595.2	5 g	84,85
		8595.3	25 g	278,45
L-Glutamine	≥99 %, USP, for biochemistry	3772.1	100 g	28,95
		3772.2	500 g	91,95
D-Glutamic acid	≥99 %, for biochemistry	7879.1	5 g	22,50
		7879.2	25 g	67,20
		7879.3	100 g	166,55
DL-Glutamic acid	≥98,5 %, for biochemistry	8596.1	25 g	55,80
		8596.2	100 g	178,35
L-Glutamic acid	≥98,5 %, Ph.Eur., for biochemistry	3774.1	250 g	29,25
		3774.2	1 kg	81,60
Glycine	≥99 %, p.a.	3908.1	250 g	21,00
		3908.2	1 kg	67,65
		3908.3	5 kg	188,15
		3908.5	25 kg	654,70
		T873.1	250 g	23,55
	≥98,5 %, Ph.Eur., USP, JP	T873.3	500 g	44,00
		T873.2	1 kg	73,00
		T873.4	2,5 kg	165,05
		3187.1	250 g	17,75
	≥99 %, for biochemistry	3187.2	500 g	23,15
		3187.3	1 kg	36,25
		3187.4	5 kg	153,20
		3790.1	250 g	16,70
	≥99 %, for synthesis	3790.2	1 kg	33,25
		3790.3	5 kg	117,75
D-Histidine	≥98 %, for biochemistry	7880.1	5 g	42,90
		7880.2	25 g	128,90
DL-Histidine	≥98,5 %, for biochemistry	8597.1	5 g	28,95
		8597.2	25 g	84,85
		8597.3	100 g	278,45
L-Histidine	≥98,5 %, Ph.Eur., for biochemistry	3852.1	25 g	15,80
		3852.3	100 g	43,55
		3852.2	1 kg	330,60
L-Histidine hydrochloride monohydrate	≥98,5 %, Ph.Eur., for biochemistry	9455.1	100 g	40,35
		9455.3	250 g	84,85
		9455.2	500 g	155,90
DL-Isoleucine	≥98,5 %, for biochemistry	8598.1	10 g	22,50
		8598.2	50 g	84,85
		8598.3	100 g	153,65
L-Isoleucine	≥98,5 %, USP, for biochemistry	3922.1	10 g	13,15
		3922.2	100 g	40,75
		3922.3	1 kg	327,90
D-Leucine	≥99 %, for biochemistry	7882.1	5 g	27,85
		7882.2	25 g	83,75
		7882.3	100 g	252,65
DL-Leucine	≥98,5 %, for biochemistry	8599.1	25 g	21,00
		8599.2	50 g	36,05
		8599.3	250 g	142,45
L-Leucine	≥98,5 %, Ph.Eur., USP, for biochemistry	3984.1	100 g	32,15
		3984.3	250 g	59,05
		3984.4	500 g	105,25
L-Lysine monohydrate	≥98,5 %, for biochemistry	3984.2	1 kg	196,20
		4207.1	25 g	42,50
		4207.2	100 g	79,05
D-Lysine hydrochloride	≥99 %, for biochemistry	7883.1	1 g	22,50
		7883.2	5 g	50,45
		7883.3	25 g	123,55

Product	Purity	Art. No.	Pack Qty.	€
DL-Lysine hydrochloride	≥98 %, for biochemistry	8600.1	500 mg	18,85
		8600.2	1 g	28,95
		8600.3	5 g	51,50
L-Lysine hydrochloride	≥98,5 %, USP, for biochemistry	9357.1	100 g	16,70
		9357.3	250 g	34,30
		9357.4	500 g	60,10
		9357.2	1 kg	107,40
		7885.1	5 g	17,75
D-Methionine	≥98 %, for biochemistry	7885.2	25 g	53,65
		7885.3	100 g	133,85
		8602.1	100 g	27,45
DL-Methionine	≥98 %, for biochemistry	8602.2	500 g	107,40
		9359.1	100 g	26,80
L-Methionine	≥99 %, for biochemistry	9359.3	250 g	54,75
		9359.4	500 g	104,20
		9359.2	1 kg	192,45
		T204.1	25 g	13,45
L-Ornithine monohydrochloride	≥99 %, for biochemistry	T204.2	100 g	34,95
		T204.3	500 g	126,75
		7886.1	5 g	19,90
D-Phenylalanine	≥98,5 %, for biochemistry	7886.2	25 g	60,10
		7886.3	100 g	151,50
DL-Phenylalanine	≥99 %, for biochemistry	8603.1	25 g	19,90
		8603.2	100 g	54,75
		8603.3	250 g	122,05
L-Phenylalanine	≥98,5 %, Ph.Eur., for biochemistry	4491.3	25 g	12,80
		4491.1	100 g	36,05
		4491.4	250 g	71,50
		4491.2	1 kg	256,95
D-Proline	≥98,5 %, for biochemistry	7888.1	1 g	22,50
		7888.2	5 g	67,20
		7888.3	25 g	179,45
DL-Proline	≥99 %, for biochemistry	5267.1	5 g	23,55
		5267.2	10 g	42,50
		5267.3	25 g	81,20
L-Proline	≥98,5 %, Ph.Eur., for biochemistry	T205.1	25 g	14,85
		T205.2	100 g	29,60
		T205.3	500 g	113,45
D-Serine	≥99 %, for biochemistry	7531.2	1 g	16,70
		7531.1	5 g	22,50
		7531.3	25 g	88,70
DL-Serine	≥99 %, for biochemistry	8606.1	100 g	41,85
		8606.2	500 g	181,70
L-Serine	≥98,5 %, Ph.Eur.	4682.1	100 g	42,50
		4682.3	250 g	81,20
		4682.4	500 g	152,15
		4682.2	1 kg	267,70

Product	Purity	Art. No.	Pack Qty.	€
D-Threonine	≥98,5 % for biochemistry	7889.1	5 g	22,50
		7889.2	25 g	67,20
		7889.3	100 g	213,95
DL-Threonine	≥99 %, for biochemistry	7532.1	10 g	19,90
		7532.4	50 g	44,00
		7532.2	100 g	70,45
		7532.3	500 g	299,95
		T206.1	25 g	14,75
L-Threonine	≥99 %, Ph.Eur., for biochemistry	T206.2	100 g	28,95
		T206.4	250 g	55,80
		T206.3	500 g	106,35
D-Tryptophane	≥98,5 %, for biochemistry	7700.1	5 g	44,00
		7700.2	25 g	128,90
DL-Tryptophane	≥98 %, for biochemistry	5236.1	10 g	14,20
		5236.2	25 g	26,80
		5236.3	100 g	85,90
L-Tryptophane	≥98,5 %, Ph.Eur., for biochemistry	4858.1	10 g	13,65
		4858.2	100 g	65,05
		4858.4	250 g	136,45
		4858.3	1 kg	489,15
		7890.1	1 g	19,90
D-Tyrosine	≥98 %, for biochemistry	7890.2	5 g	60,10
		7890.3	25 g	181,70
DL-Tyrosine	≥98,5 %, for biochemistry	8608.1	10 g	22,50
		8608.2	50 g	66,55
		8608.3	250 g	256,95
L-Tyrosine	≥99 %, Ph.Eur., for biochemistry	T207.1	25 g	14,75
		T207.2	100 g	36,05
		T207.3	500 g	145,15
D-Valine	≥98,5 %, for biochemistry	7891.1	5 g	22,50
		7891.2	25 g	67,20
		7891.3	100 g	213,95
DL-Valine	≥99 %, for biochemistry	7540.1	50 g	23,55
		7540.2	100 g	37,55
		7540.3	250 g	81,60
L-Valine	≥98,5 %, USP, for biochemistry	4879.1	25 g	15,60
		4879.3	100 g	35,40
		4879.4	250 g	67,65
		4879.5	500 g	107,40
		4879.2	1 kg	213,95

For additional product data and safety information, see chapter Chemicals A-Z.

► For endotoxin-tested, high-quality amino acids and derivatives, refer to page 1274

Amino Acid Derivatives

Product	Purity	Art. No.	Pack Qty.	€
N-Acetyl-L-cysteine	≥98 %, for biochemistry	4126.1	25 g	21,00
		4126.2	100 g	67,20
		5526.1	25 g	15,60
N-Acetylglycine	≥99 %, for biochemistry	5526.2	100 g	28,95
		5526.3	500 g	106,45
		3078.2	50 g	22,50
β-Alanine	≥99 %, for biochemistry	3078.1	250 g	65,05
		5521.1	1 g	24,20
		5521.2	5 g	90,20
L-Alaninol	≥98 %, for biochemistry	5521.3	10 g	144,60
		6830.1	10 g	34,95
		6830.2	50 g	126,35
L-Alanyl-L-glutamine	≥98 %, for biochemistry	K031.1	10 mg	252,65
Alliin	ROTICHRON® HPLC	5519.1	5 g	22,40
2-Amino-5-bromo-benzoic acid	≥95 %, for biochemistry	5519.2	25 g	74,10
		5518.1	25 g	43,55
DL-2-Aminobutyric acid	≥98 %, for biochemistry	5518.2	100 g	128,50
		5516.1	10 g	17,45
2-Amino-4-chloro-benzoic acid	≥98 %, for biochemistry	5516.2	25 g	27,85
		5516.3	100 g	85,90
		3113.1	100 g	23,55
6-Aminohexanoic acid	≥99 %, for biochemistry	3113.3	250 g	47,20
		3113.2	500 g	85,90
		6187.1	10 g	33,25
4-Aminohippuric acid	≥98 %, for biochemistry	6187.2	100 g	235,45
		5514.1	50 g	35,40
2-Aminoisobutyric acid	≥97 %, for biochemistry	5514.2	100 g	60,10
		8451.1	500 mg	22,40
5-Aminolevulinic acid hydrochloride	≥98 %, for biochemistry	8451.2	1 g	33,25
		8451.3	5 g	98,80
DL-Carnitinchloride	≥98 %, for biochemistry	7212.1	25 g	54,30
L-Carnosine	≥98 %, for biochemistry	4148.1	1 g	24,20
		4148.2	5 g	79,05
Cysteamine hydrochloride	≥99 %, for biochemistry	7625.1	25 g	25,70
		7625.2	100 g	67,20
		7625.3	250 g	117,20
DL-2,3-Diamino-propionic acid hydrochloride	≥99 %, for biochemistry	5431.1	1 g	21,75
		5431.2	5 g	76,25

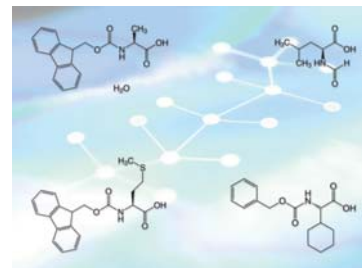
Product	Purity	Art. No.	Pack Qty.	€
Glutathione oxidized	≥98 %, for biochemistry	6378.1	1 g	32,15
		6378.2	5 g	134,40
L-Glutathione reduced	>98 %, for biochemistry	6382.1	5 g	25,30
		6382.2	25 g	87,65
Glycinamide hydrochloride	≥95 %, for biochemistry	5543.1	10 g	21,40
		5543.2	25 g	39,25
		5543.3	50 g	62,25
Glycine anhydride	extra pure	5542.1	25 g	38,20
Glycylglycine	≥99 %, ultra quality	3794.1	10 g	15,40
		3794.2	100 g	78,40
		3794.3	250 g	167,20
		3794.4	500 g	304,25
	≥98,5 %, Buffer Grade	HN74.1	50 g	31,10
		HN74.2	100 g	49,35
		HN74.3	250 g	107,40
		HN74.4	500 g	192,45
Hippuric acid sodium salt hydrate	≥99 %, cryst.	7507.1	25 g	85,90
o-Hydroxyhippuric acid	≥95 %	7511.1	1 g	53,25
L-4-Hydroxyproline	≥99 %, for biochemistry	3893.1	5 g	39,70
		8456.1	100 mg	53,25
L-Kynurenine	≥98 %, for biochemistry	8456.2	250 mg	99,90
		8456.3	500 mg	177,40
		5275.1	5 g	59,05
3-Nitro-L-tyrosine	≥98 %, for biochemistry	5275.2	10 g	96,65
		6663.1	500 mg	30,00
L-Norvalinol	≥98 %, for biochemistry	6663.2	1 g	46,15
		5939.1	10 g	53,65
N-Phenylglycine	≥97 %, for biochemistry	8385.1	1 g	112,90
Serotonin creatinine sulphate monohydrate	≥99 %, for biochemistry	8367.1	100 mg	17,75
		8367.2	1 g	32,80
Serotonin hydrochloride	≥98 %, for biochemistry	8367.3	5 g	107,40
		4721.1	100 g	17,75
Taurine	≥99 %, for biochemistry	4721.2	500 g	47,85
		4862.2	1 g	13,90
Tyramine	≥98 %, for biochemistry	4862.1	5 g	21,40
		4862.3	25 g	53,65

For additional product data and safety information, see chapter Chemicals A-Z.

Peptide Synthesis

Protected amino acids

We supply protected amino acids of the highest quality and purity for standard applications in biochemistry and specifically for peptide synthesis.



Programme extension!

Fmoc amino acids

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Fmoc-L-Alanine monohydrate	≥98 %, for biochemistry	Fmoc-L-Ala-OH	6646.1	10 g	14,55
			6646.2	50 g	33,25
			6646.3	250 g	124,60
			6646.4	500 g	224,70
			6646.5	1 kg	428,95
Fmoc-8-Amino-3,6-dioxaoctanoic acid	≥99 %, for biochemistry	Fmoc-020c-OH	7400.1	500 mg	66,55
			7400.2	1 g	107,40
Fmoc-L-Arginine	≥98 %, for biochemistry	Fmoc-L-Arg-OH	6896.1	5 g	28,95
			6896.2	25 g	112,35
Fmoc-L-Arginine-(Pbf)	≥98 %, for biochemistry	Fmoc-L-Arg(Pbf)-OH	8833.1	5 g	35,40
			8833.2	25 g	131,05
			8833.3	100 g	428,95
Fmoc-L-Asparagine	≥98,5 %, for biochemistry	Fmoc-L-Asn-OH	6897.1	5 g	17,10
			6897.2	25 g	48,30
			6897.3	100 g	150,40
Fmoc-L-Asparagine-(Trityl)	≥98 %, for biochemistry	Fmoc-L-Asn(Trt)-OH	9652.1	5 g	19,25
			9652.2	25 g	60,10
			9652.3	100 g	192,45
Fmoc-L-Aspartic acid-(OAllyl)	≥98,5 %, for biochemistry	Fmoc-L-Asp(OAllyl)-OH	6641.1	500 mg	24,20
			6641.2	1 g	39,25
			6641.3	5 g	163,95
Fmoc-L-Aspartic acid-(OtBu)	≥99 %, for biochemistry	Fmoc-L-Asp(OtBu)-OH	9654.1	5 g	21,40
			9654.2	25 g	64,40
			9654.3	100 g	213,95
Fmoc-L-β-Azidoalanine	≥98 %, for biochemistry	Fmoc-L-Aza-OH	7369.1	250 mg	99,90
			7369.2	1 g	332,20
Fmoc-L-γ-Azidohomoalanine	≥99 %, for biochemistry	Fmoc-L-Aha-OH	7363.1	250 mg	79,45
			7363.2	1 g	274,15
Fmoc-L-Azidolysine	≥98 %, for biochemistry	Fmoc-L-Lys(N3)-OH	7357.1	250 mg	93,45
			7357.2	1 g	310,70
Fmoc-L-Azidoornithine	≥98 %, for biochemistry	Fmoc-L-Orn(N3)-OH	7362.1	250 mg	99,90
			7362.2	1 g	332,20
Fmoc-L-4-Azidophenylalanine	≥98 %, for biochemistry	Fmoc-L-Phe(4-N3)-OH	7485.1	100 mg	48,30
			7485.2	250 mg	104,20
			7367.1	100 mg	89,15
Fmoc-L-4-Azidoproline (2S,4R)	≥98 %, for biochemistry	Fmoc-L-Pro(4-N3)-OH (2S,4R)	7367.2	250 mg	176,85
			7367.3	1 g	590,20
			8842.1	5 g	32,15
Fmoc-L-Cysteine-(Acetamidomethyl)	≥99 %, for biochemistry	Fmoc-L-Cys(Acm)-OH	8842.2	25 g	92,35
			8842.3	100 g	289,20
			8841.1	5 g	18,20
Fmoc-L-Cysteine-(Trityl)	≥98,5 %, for biochemistry	Fmoc-L-Cys(Trt)-OH	8841.2	25 g	53,65
			8841.3	100 g	161,15
			6898.1	5 g	17,10
Fmoc-L-Glutamine	≥98 %, for biochemistry	Fmoc-L-Gln-OH	6898.2	25 g	48,30
			6898.3	100 g	150,40
			9653.1	5 g	22,50
Fmoc-L-Glutamine-(Trityl)	≥98 %, for biochemistry	Fmoc-L-Gln(Trt)-OH	9653.2	25 g	74,10
			9653.3	100 g	247,25
			9655.1	5 g	20,35
Fmoc-L-Glutamic acid-(OtBu) monohydrate	≥99 %, for biochemistry	Fmoc-L-Glu(OtBu)-OH	9655.2	25 g	62,25
			9655.3	100 g	203,20
			6899.1	5 g	10,65
Fmoc-Glycine	≥99 %, for biochemistry	Fmoc-Gly-OH	6899.2	25 g	32,15
			6899.3	100 g	107,40

For additional product data and safety information, see chapter Chemicals A-Z.



Product	Purity	Synonym	Art. No.	Pack Qty.	€
Fmoc-L-Histidine-(Trt)	≥98,5 %, for biochemistry	Fmoc-L-His(Trt)-OH	8843.1	5 g	20,35
			8843.2	25 g	62,25
			8843.3	100 g	188,05
			6647.1	10 g	14,55
Fmoc-L-Isoleucine	≥98,5 %, for biochemistry	Fmoc-L-Ile-OH	6647.2	50 g	33,25
			6647.3	250 g	124,60
			6654.1	10 g	14,55
Fmoc-L-Leucine	≥98,5 %, for biochemistry	Fmoc-L-Leu-OH	6654.2	50 g	33,25
			6654.3	250 g	124,60
			6654.4	500 g	224,70
			6900.1	1 g	16,05
Fmoc-L-Lysine	≥98 %, for biochemistry	Fmoc-L-Lys-OH	6900.2	5 g	48,30
			6900.3	10 g	85,90
			8840.1	5 g	18,20
Fmoc-L-Lysine-(Boc)	≥98,5 %, for biochemistry	Fmoc-L-Lys(Boc)-OH	8840.2	25 g	53,65
			8840.3	100 g	161,15
			6656.1	10 g	14,55
Fmoc-L-Methionine	≥98,5 %, for biochemistry	Fmoc-L-Met-OH	6656.2	50 g	33,25
			6656.3	250 g	124,60
			6658.1	10 g	15,60
Fmoc-L-Phenylalanine	≥98,5 %, for biochemistry	Fmoc-L-Phe-OH	6658.2	50 g	39,70
			6658.3	250 g	149,45
			6659.1	10 g	15,60
Fmoc-L-Proline	≥99 %, for biochemistry	Fmoc-L-Pro-OH	6659.2	50 g	39,70
			6659.3	250 g	149,45
			7491.1	100 mg	44,65
Fmoc-L-Propargylglycine	≥99 %, for biochemistry	Fmoc-L-Pra-OH	7491.2	250 mg	82,70
			6901.1	5 g	47,20
Fmoc-L-Serine monohydrate	≥98 %, for biochemistry	Fmoc-L-Ser-OH	6901.2	25 g	150,40
Fmoc-L-Serine-(tBu)	≥99 %, for biochemistry	Fmoc-L-Ser(tBu)-OH	9666.1	5 g	21,40
			9666.2	25 g	64,40
			9666.3	100 g	213,95
Fmoc-L-Threonine-(tBu)	≥99 %, for biochemistry	Fmoc-L-Thr(tBu)-OH	9659.1	5 g	21,40
			9659.2	25 g	64,40
			9659.3	100 g	213,95
Fmoc-L-Tryptophan	≥98 %, for biochemistry	Fmoc-L-Trp-OH	6903.1	5 g	10,65
			6903.2	25 g	32,15
			6903.3	100 g	107,40
Fmoc-L-Tryptophan-(Boc)	≥97 %, for biochemistry	Fmoc-L-Trp(Boc)-OH	9668.1	5 g	26,80
			9668.2	25 g	89,15
			9668.3	100 g	279,50
Fmoc-L-Tyrosine	≥98 %, for biochemistry	Fmoc-L-Tyr-OH	6906.1	1 g	32,15
			6906.2	5 g	75,15
			6906.3	10 g	128,90
Fmoc-L-Tyrosine-(tBu)	≥99 %, for biochemistry	Fmoc-L-Tyr(tBu)-OH	9669.1	5 g	21,40
			9669.2	25 g	64,40
			9669.3	100 g	213,95
Fmoc-L-Valine	≥98,5 %, for biochemistry	Fmoc-L-Val-OH	6660.1	10 g	14,55
			6660.2	50 g	33,25
			6660.3	250 g	124,60
			6660.4	500 g	224,70

For additional product data and safety information, see chapter Chemicals A-Z.

Boc amino acids

Programme
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Product	Purity	Synonym	Art. No.	Pack Qty.	€
Boc-L-Alanine	≥98,5 %, for biochemistry	Boc-L-Ala-OH	6907.1	5 g	14,55
			6907.2	25 g	35,40
			6907.3	100 g	106,45
Boc-L-Arginine hydrochloride monohydrate	≥98 %, for biochemistry	Boc-L-Arg-OH	6914.1	5 g	26,80
			6914.2	25 g	70,45
			6914.3	100 g	209,65
Boc-L-Asparagine	≥98 %, for biochemistry	Boc-L-Asn-OH	6915.1	5 g	11,00
			6915.2	25 g	28,95
			6915.3	100 g	89,80
Boc-L-Aspartic acid-(OBenzyl)	≥98,5 %, for biochemistry	Boc-L-Asp(OBzl)-OH	8846.1	5 g	18,20
			8846.2	25 g	53,65
			8846.3	100 g	160,20
Boc-L-Glutamine	≥99 %, for biochemistry	Boc-L-Gln-OH	6916.1	5 g	11,00
			6916.2	25 g	28,95
			6916.3	100 g	89,80
Boc-L-Glutamic acid	≥99 %, for biochemistry	Boc-L-Glu-OH	6917.1	5 g	17,75
			6917.2	25 g	55,80
			6917.3	100 g	198,90
Boc-Glycine	≥98 %, for biochemistry	Boc-Gly-OH	6918.1	5 g	11,00
			6918.2	25 g	28,95
			6918.3	100 g	89,80
Boc-L-Histidine	≥98 %, for biochemistry	Boc-L-His-OH	6920.1	5 g	24,65
			6920.2	25 g	96,25
Boc-L-Hydroxyproline	≥98 %, for biochemistry	Boc-L-Hyp-OH	6921.1	5 g	44,65
			6921.2	25 g	155,90
Boc-L-Isoleucine hemihydrate	≥98 %, for biochemistry	Boc-L-Ile-OH	6923.1	5 g	21,00
			6923.2	25 g	51,50
			6923.3	100 g	111,70
Boc-L-tert-Leucine	≥98,5 %, for biochemistry	Boc-L-Tle-OH	6942.1	1 g	22,50
			6942.2	5 g	89,80
			6942.3	10 g	160,20
Boc-L-Leucine monohydrate	≥98 %, for biochemistry	Boc-L-Leu-OH	6924.1	5 g	11,00
			6924.2	25 g	28,95
			6924.3	100 g	89,80
Boc-L-Lysine	≥98 %, for biochemistry	Boc-L-Lys-OH	6926.1	1 g	17,75
			6926.2	5 g	55,80
			6926.3	10 g	100,95
Boc-L-Methionine	≥99 %, for biochemistry	Boc-L-Met-OH	6928.1	5 g	14,55
			6928.2	25 g	35,40
			6928.3	100 g	106,45
Boc-L-Phenylalanine	≥99 %, for biochemistry	Boc-L-Phe-OH	6931.1	5 g	11,00
			6931.2	25 g	28,95
			6931.3	100 g	89,80
Boc-L-Proline	≥99 %, for biochemistry	Boc-L-Pro-OH	6932.1	5 g	11,00
			6932.2	25 g	28,95
			6932.3	100 g	89,80
Boc-L-Serine	≥99 %, for biochemistry	Boc-L-Ser-OH	6933.1	5 g	17,75
			6933.2	25 g	51,50
			6933.3	100 g	166,65
Boc-L-Threonine	≥98 %, for biochemistry	Boc-L-Thr-OH	6935.1	5 g	24,65
			6935.2	25 g	93,45
Boc-L-Tryptophan	≥95 %, for biochemistry	Boc-L-Trp-OH	6945.1	5 g	14,55
			6945.2	25 g	35,40
			6945.3	100 g	106,45
Boc-L-Tyrosine	≥98 %, for biochemistry	Boc-L-Tyr-OH	6949.1	5 g	23,55
			6949.2	25 g	67,20
Boc-L-Valine	≥98 %, for biochemistry	Boc-L-Val-OH	6950.1	5 g	11,00
			6950.2	25 g	28,95
			6950.3	100 g	89,80

For additional product data and safety information, see chapter Chemicals A-Z.

Further protected amino acids

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Cbz-cyclohexyl-L-glycine	≥98 %, for biochemistry	Cbz-L-Chg-OH	6636.1	500 mg	30,00
			6636.2	1 g	53,25
			6636.3	5 g	177,40
N-Formyl-L-leucine	≥98 %, for biochemistry	N-Formyl-L-Leu	6665.1	500 mg	24,20
			6665.2	1 g	39,25
			6665.3	5 g	163,95
L-Hydroxyproline methylester hydrochloride	≥98 %, for biochemistry	H-Hyp-OMe · HCl	6662.1	500 mg	17,10
			6662.2	1 g	26,80
			6662.3	5 g	105,25
L-tert-Leucine methylester hydrochloride	≥98 %, for biochemistry	H-L-Tle-OMe · HCl	6664.1	500 mg	30,00
			6664.2	1 g	46,15

For additional product data and safety information, see chapter Chemicals A-Z.

Coupling reagents

Our range of traditional and innovative coupling reagents is suited for standard coupling reactions. We offer premium quality products and excellent value for money.



Product	Purity	Art. No.	Pack Qty.	€
BOP	≥99 %	2168.1	5 g	19,25
		2168.2	25 g	48,30
		2168.3	100 g	145,15
CDI	≥98 %	6992.1	10 g	25,30
		6992.2	25 g	46,15
		6992.3	100 g	104,85
		6992.4	500 g	418,20
COMU®	≥99 %	2100.1	5 g	33,90
		2100.2	25 g	120,95
		2100.3	100 g	418,20
DCC	≥98 %	4193.1	100 g	18,50
		4193.2	250 g	34,95
		4193.3	500 g	62,90
		4193.4	1 kg	116,65
		4193.5	2,5 kg	267,70
DEPBT	≥98,5 %	2103.1	5 g	43,55
		2103.2	25 g	181,70
DIC	≥99 %	6981.1	5 ml	18,20
		6981.2	25 ml	49,35
		6981.3	100 ml	138,70
		6981.4	500 ml	482,70
DMAP	≥99 %	6988.1	5 g	12,05
		6988.2	25 g	25,30
		6988.3	100 g	76,25
		6988.4	500 g	267,70
DSC	≥99 %	2110.1	5 g	21,40
		2110.2	25 g	55,80
		2110.3	100 g	153,20
EDC-HCl	≥99 %	2156.1	5 g	18,85
		2156.2	25 g	50,00
		2156.3	100 g	143,55
HATU	≥99 %	2131.1	5 g	48,30
		2131.2	25 g	185,45
HBTU	≥99 %	2132.1	5 g	16,70
		2132.2	25 g	36,45
		2132.3	100 g	96,65
		2132.5	1 kg	499,90
HCTU	≥99 %	2112.1	5 g	19,25
		2112.2	25 g	31,10
		2112.3	100 g	88,05
		2112.5	1 kg	536,45

Product	Purity	Art. No.	Pack Qty.	€
HDMA	≥98 %	6888.1	5 g	38,60
		6888.2	25 g	124,60
		6888.3	100 g	428,95
HDMC	≥99 %	6893.1	5 g	38,20
		6893.2	25 g	149,45
		6893.3	100 g	504,20
K-Oxyma	≥99 %	6891.1	25 g	26,55
		6891.2	50 g	44,00
		6891.3	250 g	174,70
Oxyma Pure	≥99,5 %	2118.1	25 g	25,50
		2118.2	100 g	72,90
PyBOP®	≥98,5 %	2178.1	5 g	23,15
		2178.2	25 g	67,65
		2178.3	100 g	203,20
		2178.5	1 kg	1321,20
PyBrOP®	≥98,5 %	2200.1	5 g	36,45
		2200.2	25 g	133,85
		2200.3	100 g	482,70
		2200.5	1 kg	2578,95
PyClock®	≥98,5 %	2123.1	5 g	25,30
		2123.2	25 g	79,45
		2123.3	100 g	274,15
		2123.5	1 kg	1816,75
PyOxim	≥99 %	2120.1	5 g	25,50
		2120.2	25 g	79,45
		2120.3	100 g	278,45
		2120.5	1 kg	1816,75
TATU	≥99 %	2148.1	5 g	40,35
		2148.2	25 g	139,25
TBTU	≥99 %	2140.1	5 g	15,60
		2140.2	25 g	34,95
		2140.3	100 g	96,25
		2140.5	1 kg	499,90
TCTU	≥98 %	6890.1	5 g	25,30
		6890.2	25 g	80,10
		6890.3	100 g	203,20
TOTU	≥99 %	2125.1	5 g	27,85
		2125.2	25 g	88,05
		2125.3	100 g	321,45
TSTU	≥99 %	2130.1	5 g	46,80
		2130.2	25 g	179,55

For additional product data and safety information, see chapter Chemicals A-Z.

Tip:

- There is no single coupling reagent that is suitable for every coupling reaction. Therefore, Carl Roth offers a broad range of established and reactive coupling reagents in order to address various synthetic challenges.
- Besides the "gold standard" HATU (Art. No. 2131), we also offer the greener alternative COMU® (Art. No. 2100), which is known to mediate the coupling in most cases at least as efficient as HATU.
- Oxyma Pure (Art. No. 2118) and K-Oxyma (Art. No. 6891) were developed as less hazardous alternatives for HOBt and HOAt, thus being a perfect one-to-one replacement in most syntheses.



Solvents for Peptide Synthesis

Acetonitrile (ACN)

≥99,5 %, extra pure

Methyl cyanide, Cyanomethane

C₂H₃N • M 41,05 g/mol

  **Danger** H225-H302+H312+H332-H319

4380.1	1 l	glass	25,30 €
Original pack 6 x 1 l			24,04/1 l
4380.2	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l
4380.3	10 l	tinplate	170,95 €
4380.4	25 l	tinplate	375,20 €

Dichloromethane (DCM)

≥99,9 %, for peptide synthesis

Methylene chloride, DCM

CH₂Cl₂ • M 84,93 g/mol

 **Warning** H351

P089.1	2,5 l	glass	56,90 €
Original pack 4 x 2,5 l			54,06/2,5 l

N,N-Diisopropylethylamine (DIPEA)

≥99,5 %, for (peptide) synthesis

DIPEA, Hunig's base, N-Ethyl-diisopropylamine

C₈H₁₉N

   **Danger** H225-H331-H318-H302-H315-H335

2474.1	100 ml	glass	21,40 €
2474.2	250 ml	glass	38,60 €
2474.3	1 l	glass	131,15 €
Original pack 6 x 1 l			124,59/1 l
2474.4	2,5 l	glass	261,25 €
Original pack 4 x 2,5 l			248,19/2,5 l

N,N-Dimethylacetamide (DMA)

≥99 %, for synthesis

DMA, Acetic acid dimethylamide

C₄H₉NO

  **Danger** H360D-H312+H332-H319

3617.1	250 ml	glass	11,50 €
3617.2	1 l	glass	33,90 €
Original pack 6 x 1 l			32,21/1 l
3617.3	2,5 l	glass	45,70 €
Original pack 4 x 2,5 l			43,42/2,5 l
3617.4	10 l	plastic	111,30 €
3617.5	25 l	plastic	231,15 €

N,N-Dimethylformamide (DMF)

≥99,8 %, for peptide synthesis

DMF

C₃H₇NO • M 73,10 g/mol

   **Danger** H226-H360D-H312+H332-H319

A529.3	500 ml	glass	35,40 €
A529.1	2,5 l	glass	94,50 €
Original pack 4 x 2,5 l			89,78/2,5 l
A529.2	25 l	plastic	284,90 €

1,1,1,3,3,3-Hexafluoro-2-propanol (HFIP)

≥99 %, for (peptide) synthesis

HFIPA, HFIP, Hexafluoroisopropanol

C₃H₂F₆O • M 168,04 g/mol

  **Danger** H290-H302+H332-H314

2473.1	10 ml	glass	36,25 €
2473.2	25 ml	glass	76,25 €
2473.3	100 ml	glass	276,85 €

N-Methyl-2-pyrrolidone (NMP)

≥99,8 %, for peptide synthesis

NMP

C₅H₉NO • M 99,13 g/mol

  **Danger** H360D-H315-H319-H335

P052.1	2,5 l	glass	108,05 €
Original pack 4 x 2,5 l			102,65/2,5 l

Piperidine

≥99,5 %, for peptide synthesis

Hexahydropyridine

C₅H₁₁N • M 85,15 g/mol

   **Danger** H225-H311+H331-H314

A122.1	200 ml	glass	30,00 €
A122.2	500 ml	glass	53,65 €
A122.3	1 l	glass	88,70 €
Original pack 6 x 1 l			84,27/1 l

Trifluoroacetic acid (TFA)

≥99,9 %, for (peptide-)synthesis

TFA

C₂HF₃O₂ • M 114,02 g/mol

  **Danger** H290-H314-H332-H412

P088.1	100 ml	glass	56,90 €
P088.2	500 ml	glass	166,65 €
P088.3	1 l	glass	292,40 €
Original pack 6 x 1 l			277,78/1 l

Water

redistilled

H₂O • M 18,02 g/mol

3478.1	1 l	plastic	6,35 €
Original pack 6 x 1 l			6,03/1 l
3478.4	5 l	plastic	18,20 €
Original pack 2 x 5 l			17,29/5 l
3478.2	10 l	plastic	28,95 €
3478.3	30 l	plastic	75,15 €



Reactors for Peptide Synthesis

Made of **PP**, with plunger and frit.
Frit made of **PE**, pore size 25 µm, temperature resistant until +90 °C.
Column outlet: luer (male).

Type	Art. No.	Pack Qty.	€
2 ml	7926.1	100	70,85
5 ml	7927.1	100	84,40
10 ml	7944.1	100	95,60
20 ml	9261.1	100	117,20

Frits for reactors

Material **PTFE**.

Type	Art. No.	Pack Qty.	€
Ø 9,1 mm, for 2 ml reactors	7946.1	100	62,25
Ø 12,3 mm, for 5 ml reactors	7960.1	100	70,85
Ø 14,6 mm, for 10 ml reactors	7962.1	100	80,55

Phenyl isothiocyanate

≥99 %, for biochemistry

C₇H₅NS

M 135,17 g/mol

Danger H301+H311+H331-H314

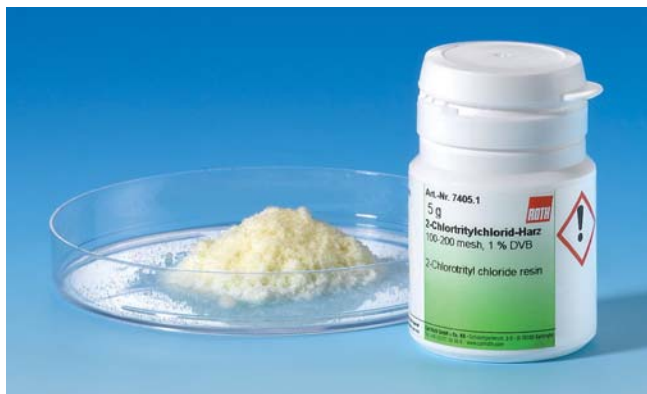
Type analysis:

Appearance: colourless to pale yellow liquid
Assay (GC): ≥99 %

7296.1	25 ml	glass	20,10 €
7296.2	100 ml	glass	44,65 €
7296.3	500 ml	glass	177,40 €

Tip:

A well-known method for protein sequencing is the Edman degradation. Herein, the peptide is degraded using phenylisothiocyanate (Art.No. 7296) starting from the N-terminus. Phenylisothiocyanate reacts with the N-terminal amino acid resulting in cleavage from the peptide and formation of a phenylthiohydantoin derivative. Subsequently, the phenylthiohydantoin derivative is identified by chromatographic methods through comparison with standards and the next amino acid can be addressed. Through repetition of this procedure stepwise degradation of the peptide is achieved, thus enabling sequencing of peptides with up to 50 residues.



Resins for Peptide Synthesis

Product	Purity	Art. No.	Pack Qty.	€
2-Chlorotriyl chloride resin	100-200 mesh, 1 % DVB	7405.1	5 g	70,85
		7405.2	25 g	278,45
Rink amide resin	100-200 mesh, 1 % DVB	7515.1	1 g	32,15
		7515.2	5 g	132,15
Sieber amide resin	100-200 mesh	7408.1	1 g	81,60
		7408.2	5 g	332,20
Wang resin	100-200 mesh, 1 % DVB	7506.1	1 g	13,90
		7506.2	5 g	30,65
		7506.3	25 g	107,40



Protecting groups for Peptide Synthesis

Product	Purity	Art. No.	Pack Qty.	€
Acetic acid anhydride	≥99 %, for synthesis	4483.1	1 l	26,35
		4483.2	2,5 l	40,35
		4483.3	5 l	51,50
		4483.4	10 l	80,55
		4483.5	25 l	170,95
Benzoylchloride	≥99 %, for synthesis	7456.1	100 ml	12,15
		7456.2	500 ml	26,80
		7456.3	1 l	39,25
		7456.4	2,5 l	76,25
Di-tert-butyl dicarbonate	≥99 %	6985.1	100 g	134,40
		6985.2	500 g	428,95
9-Fluorenylmethoxy-carbonyl chloride	≥98 %	2201.1	5 g	17,75
		2201.2	25 g	39,70
		2201.3	100 g	115,60
Trimethylchlorosilane	≥99 %, for GC	2338.1	25 g	45,05

For additional product data and safety information, see chapter Chemicals A-Z.

Building blocks for Synthesis

Adamantanes and derivatives

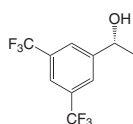
Product	Structural formula	Empirical formula	CAS-Nr.	Art. No.	Pack Qty.	€
Adamantane, ≥99 %		C ₁₀ H ₁₆	281-23-2	7620.1	25 g	15,60
				7620.2	100 g	30,00
1-Adamantanecarboxylic acid, ≥99 %		C ₁₂ H ₁₆ O ₂	828-51-3	7622.1	25 g	21,00
				7622.2	100 g	49,35
1-Adamantanol, ≥98,5 %		C ₁₀ H ₁₆ O	768-95-6	7745.1	10 g	14,55
				7745.2	50 g	28,95
				7745.3	250 g	92,35
2-Adamantanol, ≥98 %		C ₁₀ H ₁₆ O	700-57-2	7863.1	5 g	22,40
				7863.2	25 g	61,20
				7863.3	50 g	99,90
2-Adamantanone, ≥99 %		C ₁₀ H ₁₄ O	700-58-3	8406.1	25 g	22,40
				8406.2	100 g	69,35
1-Adamantanamine hydrochloride, ≥99 %		C ₁₀ H ₁₇ N · HCl	665-66-7	7621.1	25 g	19,90
				7621.2	100 g	47,20
1-Chloroadamantane, ≥98 %		C ₁₀ H ₁₅ Cl	935-56-8	7627.1	5 g	12,80
				7627.2	25 g	21,40
				7627.3	100 g	53,65
5-Hydroxy-2-adamantanone, ≥98 %		C ₁₀ H ₁₄ O ₂	20098-14-0	7628.1	1 g	19,25
				7628.2	5 g	60,10
2-Methyl-2-adamantanol, ≥98 %		C ₁₁ H ₁₈ O	702-98-7	7630.1	1 g	14,20
				7630.2	5 g	33,25
3-Noradamantanecarboxylic acid, ≥99 %		C ₁₀ H ₁₄ O ₂	16200-53-6	7631.1	1 g	20,10
				7631.2	5 g	60,10

For additional product data and safety information, see chapter Chemicals A-Z.

Chiral building blocks and auxiliaries

(R)-1-[3,5-Bis(trifluoromethyl)phenyl]ethanol
≥99 %Chiral building block
C₁₀H₈F₆O • M 258,16 g/mol

Warning H302-H412

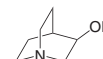
**Type analysis:**

Appearance..... white to off-white powder
 Assay (GC)..... ≥99 %
 Enantiomeric excess (GC)..... ≥99 %
 Water (KF)..... ≤0,5 %

7481.1	1 g	glass	25,70 €
7481.2	5 g	glass	61,20 €
7481.3	25 g	glass	214,90 €

(R)-3-Quinuclidinol
≥99 %Chiral building block
C₇H₁₃NO • M 127,19 g/mol

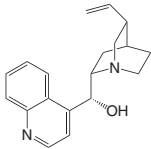
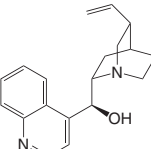
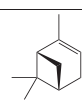
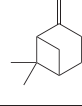
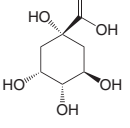
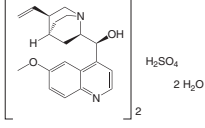
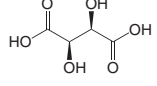
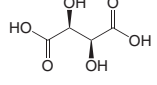
Danger H314

**Type analysis:**

Appearance..... white to off-white solid
 Assay (GC)..... ≥99 %
 Enantiomeric excess (GC)..... ≤1 % (S)-3-Quinuclidinol

7483.1	1 g	glass	27,85 €
7483.2	5 g	glass	81,60 €
7483.3	10 g	glass	134,40 €

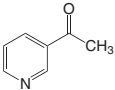
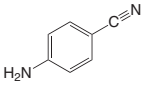
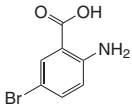
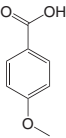
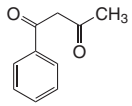
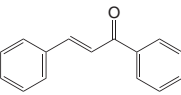
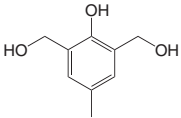
Further chiral building blocks and auxiliaries

Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	Cinchonidine	~96 %	C ₁₉ H ₂₂ N ₂ O	8872.1	25 g	99,45
	Cinchonine	≥99 %	C ₁₉ H ₂₂ N ₂ O	8875.1	50 g	213,95
	α-Pinene	≥97,5 %	C ₁₀ H ₁₆	5647.1	100 ml	28,95
	β-Pinene	pure	C ₁₀ H ₁₆	7106.1	250 ml	21,40
	(-)-Quinic acid	≥98 %	C ₇ H ₁₂ O ₆	8835.1	25 g	83,35
				8835.2	100 g	267,70
	Quinidine sulphate dihydrate	≥99 %	(C ₂₀ H ₂₄ N ₂ O ₂) ₂ · H ₂ SO ₄ · 2 H ₂ O	3348.1	10 g	30,00
	D(-)-Tartaric acid	≥99 %	C ₄ H ₆ O ₆	5529.1	25 g	45,05
	L(+)-Tartaric acid	≥99,7 %	C ₄ H ₆ O ₆	4890.3	500 g	21,40
				4890.1	1 kg	36,05
				4890.2	5 kg	133,20
				4890.5	25 kg	504,20

For additional product data and safety information, see chapter Chemicals A-Z.

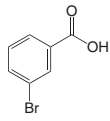
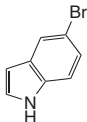
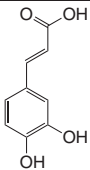
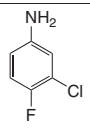
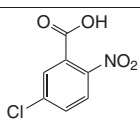
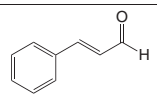
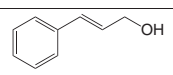
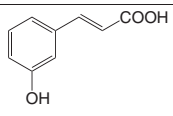
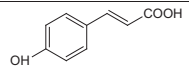
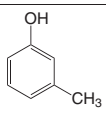
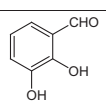
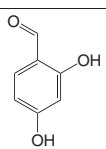
Aromatic building blocks

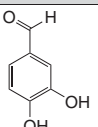
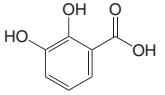
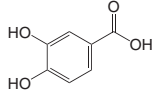
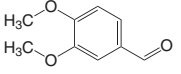
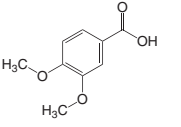
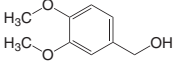
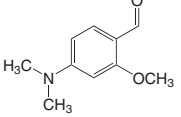
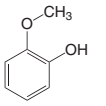
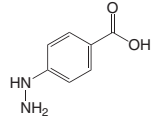
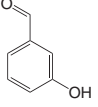
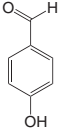
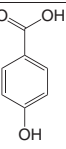
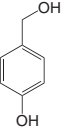


Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	3-Acetylpyridine	≥99 %	C ₇ H ₇ NO	8740.1	10 g	17,10
				8740.2	50 g	32,15
				8740.3	100 g	53,65
	4-Aminobenzonitrile	≥98 %	C ₇ H ₆ N ₂	8721.1	10 g	17,10
				8721.2	50 g	75,15
				8721.3	100 g	127,95
	2-Amino-5-bromobenzoic acid	≥95 %	C ₇ H ₆ BrNO ₂	5519.1	5 g	22,40
				5519.2	25 g	74,10
	Anisole	≥99 %	C ₇ H ₈ O	4417.1	100 ml	12,05
				4417.2	500 ml	23,15
				4417.3	1 l	37,55
				4417.4	2,5 l	78,40
	4-Anisic acid	≥98 %	C ₈ H ₈ O ₃	3631.1	100 g	17,75
				3631.2	250 g	33,25
				3631.3	500 g	61,20
	7-Azaindole	≥98 %	C ₇ H ₆ N ₂	5490.1	1 g	17,75
				5490.2	5 g	55,80
				5490.3	10 g	100,95
	Barbituric acid	≥99 %	C ₄ H ₄ N ₂ O ₃	4927.1	100 g	73,00
				4927.2	500 g	256,95
	Benzaldehyde	≥99,5 %	C ₇ H ₆ O	4372.1	100 ml	12,05
				4372.2	500 ml	21,00
				4372.3	1 l	26,80
				4372.4	2,5 l	49,35
	Benzoylacetone	≥99 %	C ₁₀ H ₁₀ O ₂	5484.1	25 g	53,65
				5484.2	100 g	181,70
	Benzoylchloride	≥99 %	C ₇ H ₅ ClO	7456.1	100 ml	12,15
				7456.2	500 ml	26,80
				7456.3	1 l	39,25
				7456.4	2,5 l	76,25
	Benzyl alcohol	≥98 %	C ₇ H ₈ O	4478.1	500 ml	20,10
				4478.2	1 l	30,00
				4478.3	2,5 l	64,40
	Benzylidene acetophenone	≥98 %	C ₁₅ H ₁₂ O	3982.1	100 g	105,25
	2,6-Bis(hydroxymethyl)-p-cresol	≥97 %	C ₉ H ₁₂ O ₃	7299.1	25 g	25,70
				7299.2	100 g	67,20

For additional product data and safety information, see chapter Chemicals A-Z.

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Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	3-Bromobenzoic acid	≥99 %	C ₇ H ₅ BrO ₂	4273.1	25 g	30,00
				4273.2	100 g	75,15
	5-Bromoindole	≥99,5 %	C ₈ H ₆ BrN	5469.1	5 g	22,50
				5469.2	25 g	100,95
	Caffeic acid	≥98 %	C ₉ H ₈ O ₄	5869.3	5 g	17,75
				5869.1	10 g	28,95
				5869.2	50 g	110,20
	Chlorobenzene	≥99,5 %	C ₆ H ₅ Cl	KK01.1	100 ml	12,40
				KK01.2	500 ml	22,05
				KK01.3	1 l	33,25
	3-Chloro-4-fluoroaniline	≥95 %	C ₆ H ₅ ClFN	5461.1	25 g	40,75
				5461.2	100 g	117,20
	5-Chloro-2-nitrobenzoic acid	≥98 %	C ₇ H ₄ ClNO ₄	5456.1	25 g	23,55
				5456.2	100 g	64,40
	Cinnamaldehyde	≥98 %	C ₉ H ₈ O	5549.1	250 ml	23,15
	Cinnamyl alcohol	≥98 %	C ₉ H ₁₀ O	4905.1	100 g	18,85
	m-Coumaric acid	≥98 %	C ₉ H ₈ O ₃	9904.1	5 g	55,80
	p-Coumaric acid	≥98 %	C ₉ H ₈ O ₃	9908.1	10 g	32,80
				9908.2	50 g	67,20
	m-Cresol	≥99 %	C ₇ H ₈ O	9269.1	250 g	36,45
	1,2-Dichlorobenzene	≥98 %	C ₆ H ₄ Cl ₂	4374.1	100 ml	12,40
				4374.2	500 ml	24,20
				4374.3	1 l	37,55
	2,3-Dihydroxybenzaldehyde	≥98 %	C ₇ H ₆ O ₃	7274.1	1 g	14,55
				7274.2	5 g	26,80
				7274.3	25 g	85,90
	2,4-Dihydroxybenzaldehyde	≥98 %	C ₇ H ₆ O ₃	4039.1	25 g	34,30
				4039.2	100 g	102,70
				4039.3	250 g	213,95

Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	3,4-Dihydroxybenzaldehyde	≥98 %	C ₇ H ₆ O ₃	5424.1	5 g	12,80
				5424.2	25 g	34,95
				5424.3	100 g	96,25
	2,3-Dihydroxybenzoic acid	≥98,5 %	C ₇ H ₆ O ₄	6057.1	5 g	104,20
	3,4-Dihydroxybenzoic acid	≥97 %	C ₇ H ₆ O ₄	8274.1	10 g	41,40
	3,4-Dimethoxybenzaldehyde	≥99 %	C ₉ H ₁₀ O ₃	9651.1	100 g	42,90
				9651.2	500 g	181,70
	3,4-Dimethoxybenzoic acid	≥99 %	C ₉ H ₁₀ O ₄	4230.1	100 g	39,70
				4230.2	250 g	85,90
				4230.3	1 kg	321,45
	3,4-Dimethoxybenzyl alcohol	≥95 %	C ₉ H ₁₂ O ₃	6170.1	50 ml	155,90
	4-Dimethylamino-2-methoxybenzaldehyde	≥98 %	C ₁₀ H ₁₃ NO ₂	8412.1	1 g	38,60
				8412.2	5 g	160,20
	Guaiacol	≥98%	C ₇ H ₈ O ₂	7308.1	100 ml	36,45
	4-Hydrazinobenzoic acid	≥97 %	C ₇ H ₈ N ₂ O ₂	4539.1	10 g	28,95
				4539.2	50 g	74,10
				4539.3	100 g	122,45
	3-Hydroxybenzaldehyde	≥97 %	C ₇ H ₆ O ₂	4493.1	50 g	22,50
				4493.2	100 g	32,15
				4493.3	250 g	67,65
	4-Hydroxybenzaldehyde	≥99 %	C ₇ H ₆ O ₂	3870.2	50 g	17,75
				3870.1	250 g	73,65
	4-Hydroxybenzoic acid	≥99 %	C ₇ H ₆ O ₃	3872.1	100 g	16,70
				3872.2	500 g	36,45
				3872.3	1 kg	52,60
	4-Hydroxybenzyl alcohol	≥98 %	C ₇ H ₈ O ₂	6257.1	5 g	34,95

For additional product data and safety information, see chapter Chemicals A-Z.

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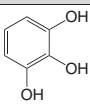
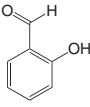
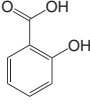
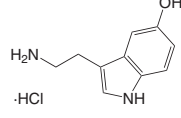
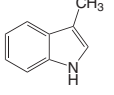
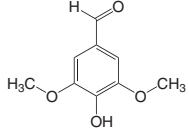
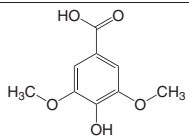
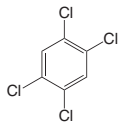
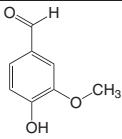
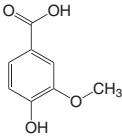
Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	3-Hydroxy-4-methylbenzoic acid	≥98 %	C ₈ H ₈ O ₃	4298.1	1 g	28,95
				4298.2	5 g	46,80
				4298.3	25 g	133,85
	Indole-3-acetic acid	≥99 %	C ₁₀ H ₉ NO ₂	7280.1	5 g	16,70
				7280.2	25 g	55,40
				7280.3	50 g	96,25
	Indole-3-butyric acid	≥99 %	C ₁₂ H ₁₃ NO ₂	4143.1	5 g	17,75
				4143.2	25 g	55,40
	Indole-3-carboxaldehyde	≥98 %	C ₉ H ₇ NO	5538.1	25 g	45,70
				5538.2	50 g	81,60
	Indole-3-propionic acid	≥99 %	C ₁₁ H ₁₁ NO ₂	4144.1	10 g	35,40
				4144.2	50 g	117,20
	5-Methoxyindole	≥98 %	C ₉ H ₉ NO	6546.1	1 g	26,80
				6546.2	5 g	48,30
				6546.3	25 g	160,20
	3-Methoxysalicylic acid	≥97 %	C ₈ H ₈ O ₄	4504.1	5 g	18,20
				4504.2	25 g	45,70
	1-Methylimidazole	≥99 %	C ₄ H ₆ N ₂	N353.1	100 ml	18,10
				N353.2	1 l	91,95
	4-Methyl-3-nitroaniline	≥99 %	C ₇ H ₈ N ₂ O ₂	5532.1	25 g	26,55
				5532.2	50 g	43,75
	3-Methylsalicylic acid	≥98,5 %	C ₈ H ₈ O ₃	4525.1	100 g	22,50
				4525.2	500 g	73,00
	5-Methylsalicylic acid	≥98 %	C ₈ H ₈ O ₃	6547.1	1 g	31,10
				6547.2	5 g	41,40
				6547.3	25 g	81,20
	4-Nitroanthranilic acid	≥98 %	C ₇ H ₆ N ₂ O ₄	4543.1	1 g	41,85
				4543.2	5 g	80,55
	2-Nitrobenzaldehyde	≥98 %	C ₇ H ₅ NO ₃	4224.1	25 g	30,00
				4224.2	100 g	57,95
				4224.3	250 g	103,75

For additional product data and safety information, see chapter Chemicals A-Z.

Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	4-Nitrobenzaldehyde	≥98 %	C ₇ H ₅ NO ₃	5667.1	25 g	23,15
				5667.2	100 g	45,05
				5667.3	250 g	85,90
	Nitrobenzene	≥99 %	C ₆ H ₅ NO ₂	4394.2	500 ml	30,65
				4394.1	1 l	51,10
	3-Nitrobenzonitrile	≥98 %	C ₇ H ₄ N ₂ O ₂	4530.1	25 g	41,85
				4530.2	100 g	88,05
	4-Nitrobenzylalcohol	≥99 %	C ₇ H ₇ NO ₃	6522.1	25 g	27,85
				6522.2	100 g	56,90
				6522.3	250 g	102,70
	4-Nitrobenzyl bromide	≥99 %	C ₇ H ₆ NO ₂ Br	5680.1	25 g	24,20
				5680.2	100 g	46,15
				5680.3	250 g	84,85
	4-Nitrobenzyl chloride	≥98 %	C ₇ H ₆ NO ₂ Cl	5697.1	10 g	16,05
				5697.2	50 g	34,95
	3-Nitrophenol	≥99 %	C ₆ H ₅ NO ₃	4533.1	25 g	49,35
				4533.2	100 g	122,05
				4533.3	250 g	278,45
	4-Nitrophenol	≥99 %	C ₆ H ₅ NO ₃	6524.1	25 g	30,00
				6524.2	100 g	47,85
				6524.3	500 g	127,95
	2-Phenoxyethanol	≥99 %	C ₈ H ₁₀ O ₂	4348.1	250 ml	21,40
				4348.2	1 l	42,90
				4348.3	10 l	213,95
	1,4-Phenylenediamine	≥99 %	C ₆ H ₈ N ₂	4499.2	50 g	29,60
				4499.1	100 g	53,25
				4499.3	250 g	82,25
	2-Phenylethanol	≥99 %	C ₈ H ₁₀ O	4422.1	5 ml	10,25
				4422.2	250 ml	15,30
				4422.3	1 l	40,75
	2-Phenylindole	95 %	C ₁₄ H ₁₁ N	6279.1	50 g	42,90
	o-Phthaldialdehyde	≥99 %	C ₈ H ₆ O ₂	5980.1	25 g	103,10

For additional product data and safety information, see chapter Chemicals A-Z.

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Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	Pyrogallol	≥98 %	C ₆ H ₆ O ₃	3963.2	50 g	23,55
				3963.1	100 g	43,55
				3963.3	250 g	84,85
				3963.4	1 kg	310,70
	Salicylaldehyde	≥99 %	C ₇ H ₆ O ₂	4662.1	100 ml	29,60
	Salicylic acid	≥99 %	C ₇ H ₆ O ₃	9268.2	500 g	30,00
				9268.1	1 kg	51,50
	Serotonin hydrochloride	≥98 %	C ₁₀ H ₁₃ ClN ₂ O	8367.1	100 mg	17,75
				8367.2	1 g	32,80
				8367.3	5 g	107,40
	Skatole	>99 %	C ₉ H ₉ N	4696.1	10 g	75,15
	Syringaldehyde	≥98 %	C ₉ H ₁₀ O ₄	5359.1	5 g	44,00
	Syringic acid	≥97 %	C ₉ H ₁₀ O ₅	5361.1	10 g	59,90
	1,2,4,5-Tetrachlorobenzene	~99 %	C ₆ H ₂ Cl ₄	4790.1	250 g	39,25
	1,2,4-Triazole	≥99 %	C ₂ H ₃ N ₃	5242.1	25 g	19,90
				5242.2	100 g	55,80
	Vanillin	≥99 %	C ₈ H ₈ O ₃	7887.1	100 g	15,60
				7887.2	1 kg	79,05
	Vanillic acid	≥98 %	C ₈ H ₈ O ₄	3685.1	10 g	34,95

For additional product data and safety information, see chapter Chemicals A-Z.

Carboxylic acids

NEW

Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	5-Aminolevulinic acid hydrochloride	≥98 %	C ₅ H ₁₀ ClNO ₃	8451.1	500 mg	22,40
				8451.2	1 g	33,25
				8451.3	5 g	98,80
	5-Bromovaleric acid	≥96 %	C ₅ H ₉ BrO ₂	5466.1	10 g	20,65
				5466.2	50 g	62,25
	Butyric acid	≥99 %	C ₄ H ₈ O ₂	3277.1	100 ml	14,85
				3277.2	1 l	57,95
	Capric acid	>99 %	C ₁₀ H ₂₀ O ₂	8797.1	100 g	18,20
				8797.2	1 kg	76,25
	Caproic acid	≥98 %	C ₆ H ₁₂ O ₂	8799.1	100 ml	16,70
				8799.3	500 ml	28,50
				8799.2	1 l	48,60
				8799.4	2,5 l	97,75
	Cyclobutane-1,1-dicarboxylic acid	≥98 %	C ₆ H ₈ O ₄	5451.1	5 g	35,40
				5451.2	25 g	130,00
	DL-6,8-Dithiooctanoic acid, (α-Lipoic acid)	≥98 %	C ₈ H ₁₄ O ₂ S ₂	6229.1	5 g	107,40
	Fumaric acid	≥99,5 %	C ₄ H ₄ O ₄	3748.1	500 g	17,75
				3748.2	2,5 kg	59,05
	L-Lactic acid	≥98 %	C ₃ H ₆ O ₃	8360.1	5 g	32,80
				8360.2	10 g	48,95
				8360.3	25 g	99,45
	Levulinic acid	98 %	C ₅ H ₈ O ₃	3976.1	50 g	21,40
				3976.2	500 g	107,40
	Maleic acid	≥99 %	C ₄ H ₄ O ₄	3538.1	500 g	30,00
	Myristic acid	≥98 %	C ₁₄ H ₂₈ O ₂	6469.1	1 kg	44,00
	Octanoic acid	≥99,5 %	C ₈ H ₁₆ O ₂	2613.1	100 ml	13,15
				2613.2	500 ml	21,40
				2613.3	1 l	28,50
				2613.4	2,5 l	55,80
	Pelargonic acid	≥97 %	C ₉ H ₁₈ O ₂	7015.1	50 ml	32,15
	Phenylpropionic acid	≥98 %	C ₉ H ₈ O ₂	5271.1	5 g	39,70
				5271.2	25 g	145,15
	Pimelic acid	≥99 %	C ₇ H ₁₂ O ₄	5270.1	25 g	27,85
				5270.2	50 g	40,75
	Propionic acid	≥99,5 %	C ₃ H ₆ O ₂	6026.2	500 ml	13,90
				6026.1	1 l	20,65
				6026.3	2,5 l	37,10
	Sebacic acid dichloride	≥98 %	C ₁₀ H ₁₆ Cl ₂ O ₂	4472.2	10 ml	22,50
				4472.1	50 ml	67,65
				4472.3	250 ml	213,95

For additional product data and safety information, see chapter Chemicals A-Z.

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Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	Sorbic acid	≥99 %	C ₆ H ₈ O ₂	7158.1	250 g	36,05
				7158.2	500 g	64,00
				7158.3	1 kg	116,65
	Stearic acid	≥98,5 %	C ₁₈ H ₃₆ O ₂	5274.1	10 g	68,30
	n-Valeric acid	>98 %	C ₅ H ₁₀ O ₂	4874.1	250 ml	28,50

Further aldehydes

NEW

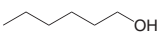
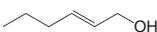
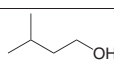
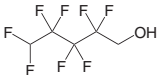
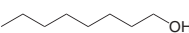
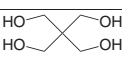
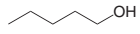
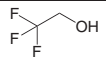
Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	2-Butenal	≥98 %	C ₄ H ₆ O	3425.1	250 ml	134,40
	Capric aldehyde	≥97 %	C ₁₀ H ₂₀ O	7547.1	100 ml	104,20
	Caproic aldehyde	≥98 %	C ₆ H ₁₂ O	3327.1	100 ml	35,40
	Dodecyl aldehyde	≥98 %	C ₁₂ H ₂₄ O	3754.1	50 ml	44,65
	trans-Hexen-2-al	>96 %	C ₆ H ₁₀ O	3757.1	25 ml	60,10

Further alcohols

NEW

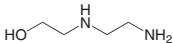
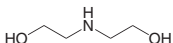
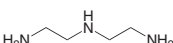
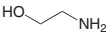
Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	1,3-Butanediol	≥99 %	C ₄ H ₁₀ O ₂	7473.1	250 ml	23,35
				7473.2	500 ml	39,25
				7473.3	1 l	69,35
	1,4-Butanediol	≥99 %	C ₄ H ₁₀ O ₂	4211.1	1 l	34,30
				4211.2	2,5 l	73,00
				4211.3	10 l	231,15
	1-Butanol	≥99,5 %	C ₄ H ₁₀ O	7724.1	1 l	25,70
				7724.3	2,5 l	39,70
				7724.2	10 l	107,40
	2-Butanol	≥98,5 %	C ₄ H ₁₀ O	KK02.1	500 ml	24,20
				KK02.2	1 l	40,75
	tert-Butanol	≥99 %	C ₄ H ₁₀ O	4323.1	1 l	23,45
				4323.3	2,5 l	40,75
				4323.2	10 l	144,60
	Cetyl alcohol	≥95 %	C ₁₆ H ₃₄ O	5762.1	1 kg	45,70
	Cyclohexanol	≥98,5 %	C ₆ H ₁₂ O	7756.1	1 l	27,45
				7756.2	2,5 l	51,10
	1-Decanol	≥99 %	C ₁₀ H ₂₂ O	4151.1	1 l	57,95
	2,2-Dimethyl-1,3-propanediol	≥99 %	C ₅ H ₁₂ O ₂	7349.1	100 g	12,05
				7349.2	500 g	22,40
				7349.3	1 kg	34,30
				7349.4	2,5 kg	73,00
	1,7-Heptanediol	≥98 %	C ₇ H ₁₆ O ₂	5541.1	5 g	60,10
				5541.2	10 g	100,95
	1-Heptanol	≥99 %	C ₇ H ₁₆ O	3827.1	500 ml	65,05

For additional product data and safety information, see chapter Chemicals A-Z.

Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	1-Hexanol	≥98 %	C ₆ H ₁₄ O	3847.1	1 l	40,35
				3847.2	2,5 l	88,70
	trans-2-Hexen-1-ol	≥97 %	C ₆ H ₁₂ O	3756.1	5 ml	26,35
	Isoamyl alcohol	≥98,5 %	C ₅ H ₁₂ O	8930.1	1 l	43,55
				8930.2	2,5 l	79,45
	2,2,3,3,4,4,5,5-Octafluoro-1-pentanol	≥99,5 %	C ₅ H ₄ F ₈ O	7297.1	10 ml	15,60
				7297.2	100 ml	81,20
	1-Octanol	≥99 %	C ₈ H ₁₈ O	4439.1	100 ml	13,80
				4439.2	500 ml	22,80
				4439.3	1 l	34,95
	Pentaerythritol	≥98 %	C ₅ H ₁₂ O ₄	7522.2	100 g	16,70
				7522.1	500 g	50,00
	1-Pentanol	~98 %	C ₅ H ₁₂ O	8949.2	500 ml	23,15
				8949.1	1 l	38,60
	1,2-Propanediol	≥99,5 %	C ₃ H ₈ O ₂	0340.1	1 l	21,40
				0340.2	2,5 l	41,40
				0340.3	5 l	75,80
	1-Propanol	>99,5 %	C ₃ H ₈ O	9169.1	1 l	23,15
				9169.2	2,5 l	41,85
				9169.3	10 l	107,00
				9169.4	25 l	193,00
				9866.1	1 l	16,05
	2-Propanol	≥99,5 %	C ₃ H ₈ O	9866.2	2,5 l glass	38,60
				9866.5	2,5 l plastic	36,45
				9866.6	5 l	52,60
				9866.3	10 l	80,10
				9866.4	25 l	160,75
				CP29.1	100 ml	33,25
	2,2,2-Trifluoroethanol	>99,8 %	CF ₃ CH ₂ OH	CP29.2	250 ml	59,70
				CP29.3	1 l	188,15

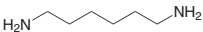
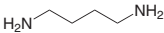
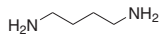
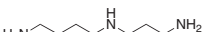
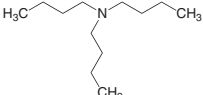
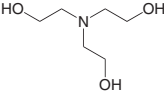
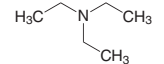
Further amines

NEW

Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	2-(2-Aminoethylamino)ethanol	≥98 %	C ₄ H ₁₂ N ₂ O	6717.1	100 ml	13,90
				6717.2	500 ml	23,55
				6717.3	1 l	37,10
				6717.4	2,5 l	79,45
	Diethanolamine	≥99 %	C ₄ H ₁₁ NO ₂	HN99.1	500 ml	27,45
				HN99.2	1 l	35,15
				HN99.3	2,5 l	66,55
				HN99.4	5 l	99,45
				HN99.5	10 l	170,95
	Diethylamine	≥99,5 %	C ₄ H ₁₁ N	KK00.1	100 ml	12,15
				KK00.2	500 ml	19,05
				KK00.3	1 l	24,95
				KK00.4	2,5 l	42,90
	Diethylene triamine	≥98 %	C ₄ H ₁₃ N ₃	6723.1	100 ml	12,70
				6723.2	500 ml	25,70
				6723.3	1 l	37,55
				6723.4	2,5 l	72,60
	Diisopropylamine	≥99,5 %	C ₆ H ₁₅ N	4369.1	100 ml	12,05
				4369.2	500 ml	23,90
				4369.3	1 l	37,55
	Ethanolamine	≥99 %	C ₂ H ₇ NO	4376.1	100 ml	11,00
				4376.2	500 ml	17,95
				4376.3	1 l	27,10

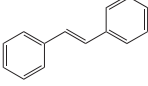
* For additional product data and safety information, see chapter Chemicals A-Z.

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Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	Ethylenediamine	≥99,5 %	C ₂ H ₈ N ₂	4218.1	100 ml	12,60
				4218.2	500 ml	16,05
				4218.3	1 l	24,65
				4218.4	2,5 l	48,30
				4218.5	10 l	166,55
	Hexamethylene diamine	≥99,5 %	C ₆ H ₁₆ N ₂	4465.1	100 g	15,60
				4465.2	250 g	26,80
				4465.3	1 kg	51,50
	Putrescin	≥99 %	C ₄ H ₁₂ N ₂	8379.1	25 g	20,10
				8379.2	100 g	40,35
				8379.3	500 g	127,95
	Putrescin dihydrochloride	≥97 %	C ₄ H ₁₂ N ₂ · 2 HCl	4141.1	10 g	22,80
				4141.2	25 g	45,05
				4141.3	50 g	79,45
	Spermidine	≥98 %	C ₇ H ₁₉ N ₃	7161.2	1 g	38,60
				7161.1	2,5 g	73,00
				7161.3	5 g	126,85
	Spermine	≥99 %	C ₁₀ H ₂₆ N ₄	7162.2	1 g	34,30
				7162.1	2,5 g	77,95
				7162.3	5 g	117,75
	Tributylamine	≥99 %	C ₁₂ H ₂₇ N	4089.1	100 ml	14,55
				4089.2	500 ml	25,30
				4089.3	1 l	33,90
				4089.4	2,5 l	59,05
	Triethanolamine	≥99 %	C ₆ H ₁₅ NO ₃	6300.1	1 l	23,90
				6300.3	2,5 l	38,60
				6300.2	10 l	124,60
	Triethylamine	≥99,5 %	C ₆ H ₁₅ N	X875.1	100 ml	11,00
				X875.2	500 ml	15,30
				X875.3	1 l	22,50
				X875.4	2,5 l	40,35

Further building blocks



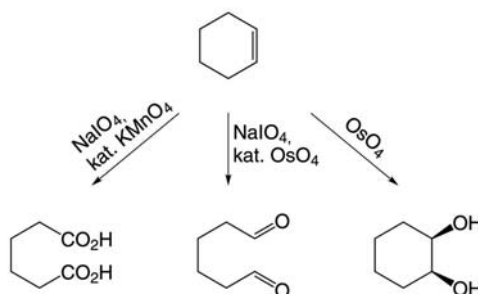
Structural formula	Product	Purity	Empirical formula	Art. No.	Pack Qty.	€
	γ-Butyrolactone	≥99 %	C ₄ H ₆ O ₂	HN98.1	100 ml	14,95
				HN98.2	500 ml	30,00
				HN98.3	1 l	54,75
	Cyclohexanone	≥99,5 %	C ₆ H ₁₀ O	CP27.1	1 l	26,35
				CP27.2	2,5 l	46,15
				CP27.3	10 l	134,95
				CP27.4	25 l	238,65
	Cyclohexene	≥99 %	C ₆ H ₁₀	3451.1	500 ml	55,80
	Decahydronaphthalene	≥98 %	C ₁₀ H ₁₈	4438.1	1 l	26,35
				4438.3	2,5 l	51,10
				4438.2	10 l	164,50
	Nitromethane	≥98,5 %	CH ₃ NO ₂	4406.1	500 ml	26,55
	Propyl bromide	>98 %	C ₃ H ₇ Br	4631.1	100 ml	34,30
	trans-Stilbene	≥97 %	C ₁₄ H ₁₂	5246.1	50 g	36,45
				5246.2	100 g	62,25
	Styrene	≥99,5 %	C ₈ H ₈	2641.1	500 ml	18,85
				2641.2	1 l	27,45
				2641.3	2,5 l	49,35

For additional product data and safety information, see chapter Chemicals A-Z.

Synthesis reagents

Oxidising agents

Oxidation reactions play an important role - not only in inorganic chemistry but also in many organic synthesis processes. Several examples are shown here: dihydroxylation, Lemieux Johnson oxidation and Lemieux-von Rudolf oxidation (from the right). Carl Roth offers a selection of well-known and commonly available oxidants in this area.



Product	Purity	Art. No.	Pack Qty.	€
Hydrogen peroxide 35 %	pure, stabilized	9683.4	500 ml	14,95
		9683.1	1 l	19,60
		9683.3	2,5 l	28,95
		9683.2	10 l	71,95
Hydrogen peroxide 30 %	for synthesis, stabilized	CP26.5	500 ml	13,90
		CP26.1	1 l	17,75
		CP26.4	2,5 l	25,70
		CP26.2	10 l	45,70
		CP26.3	25 l	93,00
Manganese(IV) oxide	>90 %, precipitated, active	4486.1	250 g	29,60
Osmium tetroxide	≥99,95 %, p.a.	8371.1	100 mg	36,45
		8371.2	500 mg	91,30
		8371.3	1 g	141,40
Potassium chromate	≥99 %, p.a., ACS	HN33.1	100 g	34,30
		HN33.2	250 g	63,35
		HN33.3	500 g	110,65
		HN33.4	1 kg	192,45
Potassium dichromate	≥99,5 % cryst.	7953.3	100 g	16,05
		7953.1	1 kg	84,40
		7953.2	5 kg	332,20
Potassium permanganate	≥99 %, Ph.Eur., BP, USP	8004.1	250 g	21,40
		8004.2	1 kg	52,15
		8004.3	5 kg	149,45
Sodium bismuthate	≥85 %, p.a.	4401.1	50 g	42,90
		4401.2	100 g	79,05
		4401.3	250 g	170,95
Sodium hypochlorite solution	12 % Cl, techn.	9062.3	1 l	16,45
		9062.4	2,5 l	24,75
		9062.1	10 l	32,80
		9062.2	33 kg	79,05
Sodium hypochlorite solution	5-10 % Cl, techn.	6846.1	1 l	12,40
		6846.2	2,5 l	17,10
		6846.3	10 l	25,30
		6846.4	33 kg	48,95
Sodium iodate	≥99 %, p.a.	HN17.1	50 g	37,10
		HN17.2	100 g	75,15

For additional product data and safety information, see chapter Chemicals A-Z.

Reducing agents

As with oxidation reactions, reduction reactions are also widely used in organic synthesis. An example of this reductive amination, which is shown below. You can find commonly used reducing agents here.

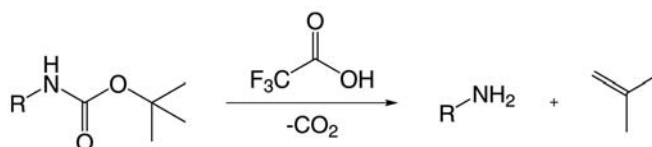


Product	Purity	Art. No.	Pack Qty.	€
Formic acid 98 %	>98 %, for synthesis	4742.1	1 l	20,35
		4742.2	2,5 l	40,75
		4742.3	10 l	88,05
Magnesium filings	≥99,9 %, acc. to Grignard, for synthesis	AE61.1	250 g	16,35
		AE61.2	500 g	24,95
		AE61.3	1 kg	40,75
Sodium	≥99 %, rods, in paraffin oil	4469.1	250 g	143,55
Sodium borohydride	≥97 %	4051.1	25 g	30,65
		4051.2	100 g	64,40
Sodium sulphite	≥98 %, anhydrous	8637.1	1 kg	19,60
		8637.3	5 kg	50,45
		8637.2	10 kg	92,35
Triphenylphosphine	≥99,5 %, for synthesis	4110.1	10 g	11,50
		4110.2	100 g	17,75
		4110.3	250 g	32,15
		4110.4	1 kg	95,15
Zinc granule	≥99,99 %, p.a., particle size: 5-15 mm	AE99.1	250 g	16,05
		AE99.2	500 g	24,20
		AE99.3	1 kg	34,30
Zinc dust	>98 %, particle size <63 µm	9524.2	500 g	26,80
		9524.3	1 kg	37,55
		9524.1	2,5 kg	66,55

For additional product data and safety information, see chapter Chemicals A-Z.

(Lewis) acids

Acids are commonly used in synthesis protocols for processing reactions. In addition, acids (usually Lewis acids) can also serve as catalysts for various reactions. The removal of the Boc protecting group shown here is formally catalysed by the acids used (in this case, trifluoroacetic acid). In addition to conventional inorganic acids, Carl Roth can supply other acids and Lewis acids commonly used in organic synthesis.

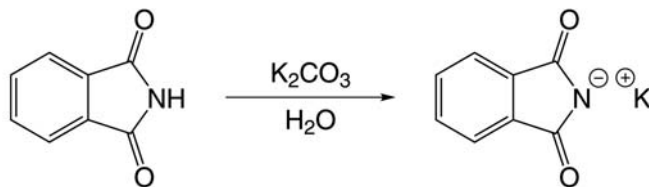


Product	Purity	Art. No.	Pack Qty.	€
Acetic acid 99-100 %	≥99 %, for synthesis	7332.1	1 l	17,10
		7332.4	2,5 l	34,30
		7332.2	5 l	61,20
		7332.3	10 l	91,95
		7332.5	25 l	170,95
Aluminium chloride	≥98 %, anhydrous, sublimated	CN86.1	100 g	11,75
		CN86.2	500 g	23,15
		CN86.3	1 kg	37,10
Ammonium chloride	≥99 %, cryst.	5470.1	1 kg	15,60
		5470.2	5 kg	39,70
		5470.3	10 kg	55,80
		5470.5	25 kg	99,45
Hydrochloric acid 37 %	37 %, extra pure	9277.1	1 l	17,75
		9277.2	2,5 l	28,50
		9277.3	10 l	62,25
Iron(III) chloride	≥98,5 %, extra pure, anhydrous	5192.1	250 g	18,85
		5192.2	500 g	25,30
		5192.3	1 kg	36,80
Nitric acid 68 %	68 %, extra pure	2616.1	250 ml	13,15
		2616.2	1 l	22,80
		2616.3	2,5 l	37,10
ortho-Phosphoric acid 85 %	85 %, extra pure	9079.1	1 l	35,40
		9079.2	2,5 l	64,40
		9079.3	10 l	134,40
Potassium hydrogen sulphate	≥99 %, extra pure	X989.1	500 g	17,45
		X989.2	1 kg	28,50
		X989.3	2,5 kg	53,65
Sodium hydrogen sulphate	≥93 %, pearls	2373.1	1 kg	16,70
		2373.2	5 kg	36,05
Sulphuric acid 96 %	96 %, techn.	0971.1	1 l	16,70
		0971.2	2,5 l	24,65
		0971.3	10 l	48,95
		0971.4	25 l	102,70
		6957.1	500 ml	103,10
Trifluoroacetic acid	≥99,9 %	6957.2	1 l	181,70
		6957.3	2,5 l	399,90

For additional product data and safety information, see chapter Chemicals A-Z.

Bases

Many reaction mechanisms require deprotonation so that the desired reaction can take place. The strength of the required bases depends entirely on the application. Carl Roth supplies a wide selection of bases which play an important role in organic synthesis.



Product	Purity	Art. No.	Pack Qty.	€
Ammonia solution 25 %	≥25 %, extra pure	5460.1	1 l	17,10
		5460.2	5 l	32,15
		5460.3	10 l	39,70
		5460.4	30 l	100,55
Barium hydroxide octahydrate	≥97 %, extra pure	HN75.1	500 g	24,95
		HN75.2	1 kg	41,40
		HN75.3	2,5 kg	90,85
Caesium carbonate	≥99,9 %, p.a.	6873.1	5 g	15,60
		6873.2	25 g	32,15
		6873.3	100 g	131,70
		6873.4	500 g	321,45
1,8-Diazabicyclo[5.4.0]undec-7-ene (DBU)	≥98 %, for synthesis	6869.1	25 ml	27,85
		6869.2	100 ml	81,20
		6869.3	250 ml	149,45
		6869.4	500 ml	267,70
N,N-Diisopropylethylamine (DIPEA)	≥99 %, for synthesis	4105.1	100 ml	14,95
		4105.2	250 ml	24,20
		4105.3	1 l	68,70
		4105.4	2,5 l	141,40
Imidazole	≥99 %	3899.1	50 g	16,35
		3899.2	250 g	44,00
		3899.3	500 g	61,85
		3899.4	1 kg	88,05
Piperidine	≥99,5 %, for peptide synthesis	A122.1	200 ml	30,00
		A122.2	500 ml	53,65
		A122.3	1 l	88,70
Potassium carbonate	≥98 %	7956.1	1 kg	16,70
		7956.2	5 kg	57,95
		7956.5	25 kg	192,45
Potassium hydrogen carbonate	≥99 %, Ph.Eur.	X887.1	500 g	15,30
		X887.2	1 kg	22,40
		X887.3	2,5 kg	44,65
Potassium hydroxide	≥85 %, in flakes	7986.1	1 kg	22,50
		7986.3	2,5 kg	39,25
		7986.2	10 kg	107,00
		7986.5	25 kg	203,20
Pyridine	≥99 %, for synthesis	CP07.1	500 ml	31,10
		CP07.2	1 l	61,20
		CP07.3	2,5 l	123,55
Sodium carbonate	>99 %, anhydrous	8563.1	1 kg	14,95
		8563.2	10 kg	55,80
		8563.5	25 kg	105,90
Sodium hydrogen carbonate	≥99 %	0965.1	500 g	10,55
		0965.2	1 kg	14,75
		0965.3	5 kg	36,45
Sodium hydroxide	≥99 %	9356.1	1 kg	13,45
		9356.3	5 kg	33,90
		9356.2	10 kg	59,70
		9356.5	25 kg	104,85
Triethylamine (TEA)	≥99,5 %, for synthesis	X875.1	100 ml	11,00
		X875.2	500 ml	15,30
		X875.3	1 l	22,50
		X875.4	2,5 l	40,35

For additional product data and safety information, see chapter Chemicals A-Z.

Solvents

ROTIDRY® Dried solvents

The ROTIDRY® solvents have a low water content and high product purity. Therefore, these solvents are excellent for use in organic synthesis, DNA synthesis and analysis. ROTIDRY® dried solvents are applicable where it is necessary to have low water context e.g. chromatographic purification methods.



Properties:

- Very low water content
- Extremely high product purity
- Low evaporation residue
- Filled under protective gas
- Particle filtration

Example specification:

Acetonitrile

ROTIDRY® ≥99,9 % (≤10 ppm H₂O)

Dried; for DNA synthesis and analysis.

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,001 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Filtered through a membrane and filled under protective gas.	

Product	Purity	Art. No.	Pack Qty.	€
Acetic acid ethyl ester	≥99,8 % (≤100 ppm H ₂ O)	4424.1	1 l	26,05
Acetonitrile	≥99,9 % (≤10 ppm H ₂ O)	AE00.1	1 l	33,25
		AE00.2	2,5 l	67,65
		AE00.3	4 l	98,80
Dichloromethane	≥99,8 % (≤50 ppm H ₂ O)	AE03.1	1 l	28,70
Diethyl ether	≥99,5 % (≤50 ppm H ₂ O), stab.	AE04.1	1 l	41,85
n-Hexane	≥99 % (≤50 ppm H ₂ O)	AE05.1	1 l	62,25
Methanol	≥99,9 % (≤50 ppm H ₂ O)	AE01.1	1 l	27,65
		AE01.2	2,5 l	48,95
Tetrahydrofuran	≥99,9 % (≤50 ppm H ₂ O)	AE07.1	1 l	44,00
Toluene	≥99,5 % (≤50 ppm H ₂ O)	AE06.1	1 l	36,05
Trichloromethane/ Chloroform	≥99,8 % (≤50 ppm H ₂ O)	4423.1	1 l	24,65

For additional product data and safety information, see chapter Chemicals A-Z.

ROTIDRY® Sept Dried solvents in septum bottle



Advantages of the septum bottle:

- Additional product quality assurance
- No ingress of water during removal
- Ideal for small quantities
- Removable septum for removal of large quantities
- Special cap permits multiple puncture points

Example specification:

Acetonitrile

ROTIDRY®Sept ≥99,9 % (≤10 ppm H₂O)

Dried; in a septum bottle

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,001 %
Acidity (as CH ₃ COOH).....	≤0,002 %
Evaporation residue.....	≤0,0003 %

Product	Purity	Art. No.	Pack Qty.	€
Acetonitrile	≥99,9 % (≤10 ppm H ₂ O)	5175.1	250 ml	42,50
Dichloromethane	≥99,9 % (≤50 ppm H ₂ O)	5176.1	250 ml	33,90
Diethyl ether	≥99,5 % (≤50 ppm H ₂ O), stab.	5177.1	250 ml	51,10
Dimethyl sulphoxide	≥99,8 % (≤100 ppm H ₂ O)	5179.1	250 ml	56,90
n-Hexane	≥99 % (≤30 ppm H ₂ O)	5180.1	250 ml	39,70
Methanol	≥99,9 % (≤50 ppm H ₂ O)	5181.1	250 ml	32,80
Tetrahydrofuran	≥99,8 % (≤10 ppm H ₂ O)	5182.1	250 ml	46,80
Toluene	≥99,5 % (≤30 ppm H ₂ O)	5191.1	250 ml	34,95

For additional product data and safety information, see chapter Chemicals A-Z.

Solvents for Synthesis

Acetic acid ethyl ester

>99,5 %, for synthesis

Ethyl acetate, Acetic ester



M 88,11 g/mol

  **Danger** H225-H319-H336-EUH066

7338.1	1 l	glass	21,75 €
Original pack 6 x 1 l			20,66/1 l
7338.3	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l
7338.5	5 l	plastic	50,45 €
Original pack 2 x 5 l			47,93/5 l
7338.2	10 l	tinplate	81,60 €
7338.4	25 l	tinplate	166,65 €

Acetone

>99,5 %, for synthesis

2-Propanone, Dimethyl ketone



M 58,08 g/mol

  **Danger** H225-H319-H336-EUH066

5025.1	1 l	glass	16,70 €
Original pack 6 x 1 l			15,87/1 l
5025.2	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l
5025.5	2,5 l	plastic	35,40 €
Original pack 4 x 2,5 l			33,63/2,5 l
5025.6	5 l	plastic	48,30 €
Original pack 2 x 5 l			45,89/5 l
5025.3	10 l	tinplate	85,90 €
5025.4	25 l	tinplate	181,70 €

Cyclohexane

>99,5 %, for synthesis

Hexahydrobenzene



M 84,16 g/mol

    **Danger** H225-H304-H400-H410-H315-H336

6570.1	1 l	glass	20,35 €
Original pack 6 x 1 l			19,33/1 l
6570.3	2,5 l	glass	29,80 €
Original pack 4 x 2,5 l			28,31/2,5 l
6570.2	10 l	tinplate	77,95 €
6570.4	25 l	tinplate	154,70 €

Dichloromethane

>99,5 %, for synthesis

Methylene chloride, DCM



M 84,93 g/mol

 **Warning** H351

8424.4	100 ml	glass	9,60 €
8424.1	1 l	glass	18,85 €
Original pack 6 x 1 l			17,91/1 l
8424.2	2,5 l	glass	36,45 €
Original pack 4 x 2,5 l			34,63/2,5 l
8424.3	10 l	tinplate	95,60 €
8424.5	25 l	tinplate	164,40 €

Diethyl ether

>99,5 %, for synthesis, stabilized

Ether, Ethyl ether



M 74,12 g/mol

  **Danger** H224-H302-H336-EUH019-EUH066

5920.2	1 l	glass	30,65 €
Original pack 6 x 1 l			29,12/1 l
5920.3	5 l	aluminium	107,40 €
Original pack 2 x 5 l			102,03/5 l
5920.4	25 l	tinplate	311,65 €

Methanol

>99 %, for synthesis

Methyl alcohol, Carbinol



M 32,04 g/mol

   **Danger** H225-H301+H311+H331-H370

8388.1	1 l	glass	14,20 €
Original pack 6 x 1 l			13,49/1 l
8388.2	2,5 l	glass	28,50 €
Original pack 4 x 2,5 l			27,08/2,5 l
8388.5	2,5 l	plastic	23,90 €
Original pack 4 x 2,5 l			22,71/2,5 l
8388.6	5 l	plastic	37,55 €
Original pack 2 x 5 l			35,67/5 l
8388.3	10 l	tinplate	61,20 €
8388.4	25 l	tinplate	96,65 €

Toluene

>99,5 %, for synthesis

Methylbenzene



M 92,14 g/mol

   **Danger** H225-H304-H361d-H373-H315-H336

9558.1	1 l	glass	23,55 €
Original pack 6 x 1 l			22,37/1 l
9558.3	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
9558.2	10 l	tinplate	84,85 €
9558.4	25 l	tinplate	158,60 €

Trichloromethane/Chloroform

>99 %, for synthesis

Chloroform



M 119,38 g/mol

  **Danger** H331-H372-H351-H361d-H302-H315-H319

Y015.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
Y015.2	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l
Y015.3	10 l	tinplate	119,90 €
Y015.4	25 l	tinplate	224,70 €

► Further solvents see chapter Chemicals A-Z

Ionic Liquids



Ionic liquids are salts which are available in a liquid state over a wide temperature range. They constitute a new generation of solvents with considerable potential for being able to replace classic organic solvents. Ionic liquids are composed of organic cations and organic or anorganic anions. Due to their fully ionized composition they exhibit no vapor pressure over the entire liquid range.

- Low-melting with melting point under 100 °C
- Thermally, mechanically and electrochemically stable
- Neither volatile nor combustible
- Negligible vapor pressure
- High solubility of many different kinds of chemicals

Synonym	Type	Assay	Art. No.	Pack Qty.	€
BMIM Cl	1-Butyl-3-methyl-imidazolium-chloride	≥99 %	2010.1 *	25 g	120,95
			2010.2	100 g	224,70
BMIM PF ₆	1-Butyl-3-methyl-imidazolium-hexafluorophosphate	≥99 %	2012.1	25 g	88,05
			2012.2	100 g	246,20
BMIM BF ₄	1-Butyl-3-methyl-imidazolium-tetrafluoroborate	>99 %	2014.1	25 g	76,90
			2014.2	100 g	246,20
BMIM OTf	1-Butyl-3-methylimidazolium-trifluoromethanesulphonate	≥99 %	2015.1	25 g	192,45
			2015.2	100 g	525,70
BMPyrr BTA	1-Butyl-1-methyl-pyrrolidinium bis(trifluoromethylsulphonyl)-imide	≥99 %	2021.1	25 g	160,20
			2021.2	100 g	327,90
BMPyrr DCA	1-Butyl-1-methyl-pyrrolidinium-dicyanamide	≥98 %	2022.1	25 g	321,45
			2022.2	100 g	686,95
N1114 BTA	Butyl-trimethyl-ammonium-bis(trifluoromethylsulphonyl)-imide	≥99 %	2025.1	25 g	203,20
			2025.2	100 g	450,45
Choline DHP	Cholin-dihydrogenphosphate	≥98 %	2028.1	25 g	231,15
			2028.2	100 g	525,70
EAN	Ethylammonium-nitrate	≥97 %	2035.1	25 g	147,85
			2035.2	100 g	327,90
EMIM Br	1-Ethyl-3-methyl-imidazolium-bromide	≥99 %	2037.1	25 g	166,10
			2037.2	100 g	278,45
EMIM DCA	1-Ethyl-3-methyl-imidazolium-dicyanamide	≥98 %	2053.1	25 g	263,40
			2053.2	100 g	585,90
EMIM EtOSO ₃	1-Ethyl-3-methyl-imidazolium-ethylsulphate	≥99 %	2054.1	25 g	83,75
			2054.2	100 g	187,05
EMIM OMs	1-Ethyl-3-methyl-imidazolium-methanesulphonate	≥99 %	2056.1	25 g	203,20
			2056.2	100 g	478,40
EMIM SCN	1-Ethyl-3-methyl-imidazolium-thiocyanate	≥98 %	2059.1	25 g	224,70
			2059.2	100 g	450,45
EMIM OTf	1-Ethyl-3-methyl-imidazolium-trifluoromethanesulphonate	≥99 %	2062.1	25 g	203,20
			2062.2	100 g	590,20
HMIM Cl	1-Hexyl-3-methyl-imidazolium-chloride	≥98 %	2064.1	25 g	235,45
			2064.2	100 g	418,20
HMIM PF ₆	1-Hexyl-3-methyl-imidazolium-hexafluorophosphate	≥99 %	2069.1	25 g	134,40
			2069.2	100 g	299,95
HMIM BF ₄	1-Hexyl-3-methyl-imidazolium-tetrafluoroborate	≥99 %	2070.1	25 g	133,85
			2070.2	100 g	278,45
OMIM PF ₆	1-Methyl-3-octyl-imidazolium-hexafluorophosphate	>99 %	2076.1	25 g	170,95
			2076.2	100 g	375,20
OMIM BF ₄	1-Methyl-3-octyl-imidazolium-tetrafluoroborate	>99 %	2081.1	25 g	160,20
			2081.2	100 g	338,65
PMIM I	1-Methyl-3-propyl-imidazolium-iodide	≥98 %	2091.1	25 g	145,15
			2091.2	100 g	295,65
PMPip BTA	1-Methyl-1-propyl-piperidinium-bis-(trifluoromethylsulphonyl)-imide	≥99 %	2095.1	25 g	188,15
			2095.2	100 g	385,95
S222 BTA	Triethylsulphonium-bis-(trifluoromethylsulphonyl)-imide	≥99 %	2096.1	25 g	407,45
			2096.2	100 g	736,40

For additional product data and safety information, see chapter Chemicals A-Z.

- For information on solubility as well as the chemical and physical properties of the ionic liquids, refer to www.carlroth.de

Green Solvents

Green Solvents are our alternative for sustainable solvents. The listed solvents serve as substitutes for environmentally hazardous and harmful reagents and help minimise risk. Sustainability is also achieved through the use of renewable raw materials and by employing environmentally compatible manufacturing and recovery processes.



2-Methyltetrahydrofuran

≥99 %, extra pure

C₅H₁₀O • M 86,13 g/mol

Danger H225-H319-H335-EUH019



Type analysis:

Appearance.....clear, colourless liquid
Assay (GC).....≥99 %
Water (KF).....≤0,05 %
Density (20 °C).....0,850-0,865
Stabilized with 150-400 ppm BHT

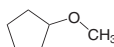
6845.1	250 ml	glass	23,15 €
6845.2	500 ml	glass	38,60 €
6845.3	1 l	glass	52,70 €
Original pack 6 x 1 l			50,07/1 l
6845.4	2,5 l	glass	99,45 €
Original pack 4 x 2,5 l			94,48/2,5 l
6845.5	10 l	tinplate	342,95 €

Cyclopentyl methyl ether

≥99 %, extra pure

CPME • C₆H₁₂O • M 100,16 g/mol

Danger H225-H302-H315-H319-H412-EUH019



Type analysis:

Assay (GC).....≥99,0 %
Appearance of solution.....clear
Water.....≤0,01 %

7763.1	250 ml	glass	33,25 €
7763.2	500 ml	glass	55,80 €
7763.3	1 l	glass	89,15 €
Original pack 6 x 1 l			84,69/1 l
7763.4	2,5 l	glass	177,40 €
Original pack 4 x 2,5 l			168,53/2,5 l

Dibasic ester

≥99 %, pure

DBE, mixture of dicarboxylic acid (C₄-C₆) dimethyl esters



Type analysis:

Assay (GC).....≥99,0 %
Colour (Hazen).....≤15
Density (20 °C).....1,087-1,093
Dimethyl adipate.....8,0-22,0 %
Dimethyl glutarate.....57,0-67,0 %
Dimethyl succinate.....18,0-28,0 %

7973.1	1 l	plastic	21,40 €
Original pack 6 x 1 l			20,33/1 l
7973.2	2,5 l	plastic	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
7973.3	5 l	plastic	64,40 €
Original pack 2 x 5 l			61,18/5 l

Bioethanol

Our bioethanol is manufactured by fermentation of organic wheat followed by distillation and rectification.



Advantages:

- Made from wheat grown in a controlled organic environment in accordance with EU organic farming regulation 834/2007
- Non-synthetically manufactured ethanol
- Low toxicity thanks to safe production methods
- Suitable for synthesis and other laboratory applications
- Denaturated using a non-organic denaturant (Art. No. 6726)

Bioethanol 96 %

96 %, Ph.Eur.

C₂H₆O • M 46,07 g/mol

Danger H225-H319

6724.1	1 l	glass	69,35 €
Original pack 6 x 1 l			65,88/1 l
6724.2	2,5 l	glass	142,90 €
Original pack 4 x 2,5 l			135,76/2,5 l
6724.3	2,5 l	plastic	138,70 €
Original pack 4 x 2,5 l			131,77/2,5 l
6724.4	5 l	plastic	267,70 €
Original pack 2 x 5 l			254,32/5 l
6724.5	10 l	plastic	504,20 €
6724.6	25 l	plastic	1073,95 €

Bioethanol 96 % denatured

96 %, with approx. 1 % MEK

C₂H₆O • M 46,07 g/mol

Danger H225-H319

6726.1	1 l	plastic	13,15 €
Original pack 6 x 1 l			12,49/1 l
6726.2	2,5 l	plastic	22,80 €
Original pack 4 x 2,5 l			21,66/2,5 l
6726.3	5 l	plastic	40,35 €
Original pack 2 x 5 l			38,33/5 l
6726.4	10 l	plastic	64,40 €
6726.5	25 l	plastic	143,95 €

Glycerol of vegetable origin

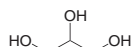
Glycerol

≥98 %, Ph.Eur., anhydrous

1,2,3-Propanetriol

C₃H₈O₃

M 92,09 g/mol



7530.1	1 l	plastic	34,30 €
Original pack 6 x 1 l			
7530.4	2,5 l	plastic	55,80 €
Original pack 4 x 2,5 l			
7530.5	5 l	plastic	101,60 €
Original pack 2 x 5 l			
7530.2	10 l	plastic	187,60 €
7530.3	35 kg	plastic	364,45 €

Glycerol 86 %

~86 %, Ph.Eur., extra pure

1,2,3-Propanetriol

M 92,1 g/mol



7533.1	1 l	plastic	31,10 €
Original pack 6 x 1 l			
7533.3	2,5 l	plastic	55,40 €
Original pack 4 x 2,5 l			
7533.4	5 l	plastic	95,60 €
Original pack 2 x 5 l			
7533.2	10 l	plastic	169,35 €
7533.5	25 l	plastic	332,20 €

NMR-Spectroscopy

Deuterated Compounds

Deuterated reagents are used primarily in NMR spectroscopy.

Examples of application: Routine tasks such as structure determination and identity verification in research and development laboratories.

- High degree of deuteration
- Defined water content
- Extremely cost effective



Solvents

Programme extension!

Product	Purity	Art. No.	Pack Qty.	€
Acetone D6	99,8 Atom%D	AE51.1	10 ml	41,40
		AE51.4	10 ml (septum bottle)	42,50
		AE51.2	50 ml	185,90
		AE51.3	10 x 0,75 ml (glass ampoule)	47,20
	99,5 Atom%D	7909.1	10 ml	33,25
Acetonitrile D3	99,8 Atom%D	7909.2	50 ml	142,45
		7911.1	10 ml	67,65
		7911.2	10 x 0,75 ml (glass ampoule)	70,85
	99,5 Atom%D	AE52.1	10 ml	62,25
		AE52.3	10 ml (septum bottle)	63,35
Benzene D6	99,8 Atom%D	AE52.2	25 ml	126,75
		7912.1	10 ml	64,40
		7912.2	25 ml	142,45
		7912.3	10 x 0,75 ml (glass ampoule)	68,70
	99,5 Atom%D	AE53.1	10 ml	40,35
		AE53.3	10 ml (septum bottle)	41,40
		AE53.2	50 ml	166,10
Bromobenzene D5	99,5 Atom%D	HN93.1	10 ml	98,80
Cyclohexane D12	99,5 Atom%D	5200.1	5 ml (glass ampoule)	85,90

Product	Purity	Art. No.	Pack Qty.	€
Deuterium oxide	100 Atom%D	HN81.1	10 ml	24,20
		HN81.4	10 ml (septum bottle)	25,30
		HN81.2	50 ml	85,90
		HN81.3	10 x 0,75 ml (glass ampoule)	29,60
	99,8 Atom%D	6672.1	10 ml	22,05
		6672.5	10 ml (septum bottle)	23,15
		6672.2	25 ml	41,85
		6672.3	100 ml	142,90
1,2-Dichloro-benzene D4	99 Atom%D	6672.4	500 ml	643,95
Dichloromethane D2	99,8 Atom%D	6672.6	10 x 0,75 ml (glass ampoule)	26,35
		HN82.1	5 ml	163,30
		7913.1	10 ml	85,90
	99,5 Atom%D	7913.2	10 x 0,75 ml (glass ampoule)	89,15
		AE55.3	5 ml	42,50
		AE55.1	10 ml	77,95
		AE55.2	25 ml	170,95
N,N-Dimethyl-formamide D7	99,5 Atom%D	AE55.4	50 ml	246,20
		AE55.5	10 x 0,75 ml (glass ampoule)	82,25
		CP92.1	5 ml	175,15

For additional product data and safety information, see chapter Chemicals A-Z.

Product	Purity	Art. No.	Pack Qty.	€
Dimethyl sulphoxide D6	99,9 Atom%D	7915.1	10 ml	40,75
		7915.2	10 ml (septum bottle)	41,85
		7915.3	10 x 0,75 ml (glass ampoule)	44,00
	99,8 Atom%D	AE56.1	10 ml	32,15
		AE56.4	10 ml (septum bottle)	33,25
		AE56.2	50 ml	125,70
		AE56.5	100 ml	222,45
Dimethyl sulphoxide D6 with TMS (0,03 vol.%)	99,9 Atom%D	7916.1	10 x 0,75 ml (glass ampoule)	40,75
	99,8 Atom%D	AE60.1	10 ml	34,30
		AE60.2	50 ml	127,95
Ethanol D1	99,5 Atom%D	HN84.1	50 ml	115,60
Ethanol D6	99 Atom%D	CP93.1	5 ml	160,10
Methanol D1	99,5 Atom%D	HN86.1	25 ml	45,05
		HN86.2	100 ml	156,85
		7919.1	10 ml	52,60
Methanol D4 with TMS (0,03 vol.%)	99,8 Atom%D	7919.2	25 ml	125,70
		7919.3	10 x 0,75 ml (glass ampoule)	54,75
		7918.1	10 ml (septum bottle)	109,55
Methanol D4	100 Atom%D	7918.2	10 x 0,75 ml (glass ampoule)	111,70
	99,8 Atom%D	AE57.1	10 ml	56,90
		AE57.4	10 ml (septum bottle)	59,05
		AE57.5	25 ml	130,00
		AE57.2	50 ml	263,30
		AE57.3	10 x 0,75 ml (glass ampoule)	60,10
Nitromethane D3	99 Atom%D	HN91.1	10 ml	89,80
Pyridine D5	99,8 Atom%D	7922.1	10 ml	109,55
		7922.2	10 x 0,75 ml (glass ampoule)	111,70
	99,5 Atom%D	CP94.1	10 ml	83,35
		CP94.2	10 ml (septum bottle)	84,40
		CP94.3	10 x 0,75 ml (glass ampoule)	87,65
1,1,2,2-Tetrachloroethane D2	99,6 Atom%D	CP96.1	10 ml	71,95
		CP96.2	10 x 0,75 ml (glass ampoule)	78,40
Tetrahydrofuran D8	99,5 Atom%D	AE58.3	5 ml	85,50
		AE58.1	10 ml	168,25
		AE58.2	10 ml (septum bottle)	170,40
		AE58.4	25 ml	346,70
		AE58.5	10 x 0,75 ml (glass ampoule)	170,95
Toluene D8	99,8 Atom%D	7924.1	10 ml	104,20
		7924.2	10 x 0,75 ml (glass ampoule)	106,35
	99,5 Atom%D	CP95.1	10 ml	75,15
		CP95.2	10 x 0,75 ml (glass ampoule)	80,55
Trichloromethane/ Chloroform D1	100 Atom%D	CP91.1	10 x 0,75 ml (glass ampoule)	25,30
	99,8 Atom%D	7903.1	10 x 0,75 ml (glass ampoule)	16,70
	99,8 Atom%D, stab. with Ag	AE54.4	25 ml	17,75
		AE54.1	100 ml	42,90
		AE54.3	100 ml (septum bottle)	45,05
Trichloromethane/ Chloroform D1 with TMS (0,03 vol.%)	99,8 Atom%D	AE54.2	500 ml	196,20
	99,8 Atom%D, stab. with Ag	7905.1	10 x 0,75 ml (glass ampoule)	16,70
		AE59.1	100 ml	42,50

For additional product data and safety information, see chapter Chemicals A-Z.

Acids and Bases

Product	Purity	Art. No.	Pack Qty.	€
Acetic acid D4	99,5 Atom%D	HN83.1	10 ml	69,05
Deuterium chloride 38 % solution in D ₂ O	99,5 Atom%D	HN80.1	10 ml	33,25
Formic acid D2, 95 % solution in D ₂ O	98 Atom%D	HN92.1	5 ml	84,85
Sodium deuterium oxide 30 % solution in D ₂ O	99,5 Atom%D	HN90.1	10 ml	52,15
Sulphuric acid D2, 98 % solution in D ₂ O	99,5 Atom%D	HN87.1	10 ml	32,15
		HN87.2	50 ml	135,35
Trifluoroacetic acid D	99,5 Atom%D	CP97.1	10 ml	49,35

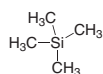
For additional product data and safety information, see chapter Chemicals A-Z.

Special Compounds

Product	Purity	Art. No.	Pack Qty.	€
Iodomethane D3	99,5 Atom%D, stab. with Cu	HN88.1	25 g	130,10
Sodium borodeuteride	98 Atom%D	HN89.1	1 g	51,10

For additional product data and safety information, see chapter Chemicals A-Z.

Reagent for NMR calibration



Tetramethylsilane

≥99,9 %, for NMR-spectroscopy

For the calibration of NMR spectra; calibration substance.

TMS

$\text{C}_4\text{H}_{12}\text{Si}$

M 88,22 g/mol

Storage temp.: +4 °C

Danger H224

Type analysis:

Assay (GC).....≥99,9 %
Aptitude for NMR-spectroscopy.....complies

CP18.1	25 ml	glass	26,55 €
CP18.2	100 ml	glass	74,75 €



Rack for NMR-test tubes

Made of PP. With 72 slots and 2 side handles for easy transportation.

Stability is provided by hemispherical holes in the lower level.

For NMR test tubes L 178 mm, outer Ø 5 mm.

Dimensions: L 210 x W 110 x H 220 mm. Autoclavable.

Art. No.	Pack Qty.	€
YA94.1	1	52,15



Rotilabo®-NMR-vials

Made of borosilicate glass 3.3. With lenticular-shaped based. Ideal for applications with high operational capacity.

Technical specifications:

Length (mm)	178 ±0,5
Ø outer (mm)	4,95 ±0,05
Ø inner (mm)	4,15 ±0,05
Straightness (mm)	±0,07
Wall thickness (mm)	0,38
MHz	100-300

Delivery without cap, please order separately.

Type	Art. No.	Pack Qty.	€
Rotilabo®-NMR-vials	HX58.1	50	75,05

Accessories:

Caps made of EVA	HX59.1	1000	91,40



DURAN GROUP

NMR-vials

Vials contain no paramagnetic substances. Outstanding straightness. Uniform wall thickness. Good regularity of diameter. Length 178 mm.

Two models available:

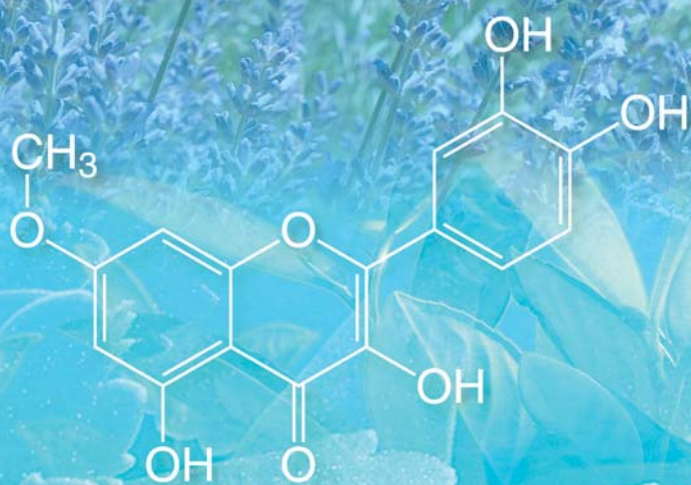
- **Economic:** Made of DURAN®, with Retrace-Code, for one-time use in fully automatic sample changers or for high throughput
- **Scientific:** Made of borosilicate glass, for multiple use. Vials can be cleaned and sterilized. Optimal utilization of substance in extremely high-resolution range.

Technical specifications:

Model	Economic	Scientific
Length (mm)	178	178
Ø outer (mm)	4,95 ±0,05	4,97 ±0,013
Ø inner (mm)	4,20 ±0,05	4,20 ±0,013
Straightness (mm)	±0,07	0,013
MHz	300	500

Delivery incl. sealing plugs.

Type	Art. No.	Pack Qty.	€
Economic	EP54.1	250	449,00
Scientific	EP55.1	5	57,25



Natural & Reference Materials

Phytochemicals

Primary Standards	1466
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Oils and Greases

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Essential Oils 1480

Carbohydrates 1483

Vitamins 1485

Reference Standards

The reference standards are offered as powders with good flowability and crystallinity to guarantee efficient handling in the laboratory. All products of this product line are filled in brown glass vials with screw caps and are packed in foil bags. This packaging offers safe storage for a long term as well as protection of the product against external influences. Storage is carried out in a controlled environment.

Primary Standards

ROTI®STAR Primary Standards for pharmaceutical and food analysis



ROTI®STAR Primary Standards are extensively characterised by the analytical methods listed below. They come with a certificate which contains:

- Proof of identity with spectra, e.g. ^1H NMR, ^{13}C NMR, MS, UV
- Content determined with two independent validated methods, e.g. chromatographic purity and quantitative NMR
- Content of residual solvent determined with two different validated GC methods
- Water determination by Karl Fischer titration

Product	Assay (HPLC)	Assay (qNMR)	Art. No.	Pack Qty.	€
Acetoxyvaleric acid	≥90,0 %	≥90,0 %	NE36.1*	10 mg	826,70
Acteoside / Verbascoside	≥93,0 %	≥80,0 %	NE33.1	10 mg	740,70
Apigenin	≥95,0 %	≥95,0 %	NE37.1	10 mg	736,40
Apigenin-7-glucoside	≥95,0 %	≥85,0 %	NE19.1	25 mg	929,90
p-Arbutin	≥95,0 %	≥80,0 %	NE38.1	10 mg	467,65
L(+)-Ascorbic acid / Vitamin C	≥90,0 %	≥90,0 %	NE00.1	100 mg	671,90
Benzaldehyde	-	≥90,0 %	NE01.1*	100 mg	671,90
Benzoic acid	≥95,0 %	≥90,0 %	NE03.1	100 mg	671,90
Benzoic acid sodium salt	≥95,0 %	≥95,0 %	NE11.1	100 mg	671,90
Benzyl alcohol	-	≥95,0 %	NE02.1*	100 mg	671,90
Bilobalid	≥95,0 %	≥95,0 %	NE20.1*	25 mg	736,40
Butylated hydroxyanisole / BHA	≥95,0 %	≥90,0 %	NE04.1	100 mg	671,90
Butylated hydroxytoluene / BHT	≥95,0 %	≥90,0 %	NE05.1	100 mg	671,90
Caffeic acid	≥95,0 %	≥90,0 %	NE08.1	25 mg	525,70
Casticin	≥95,0 %	≥90,0 %	NE39.1	10 mg	783,70
Chlorogenic acid	≥95,0 %	≥90,0 %	NE06.1	25 mg	467,65
(+)-Dihydroquercetin / (+)-Taxitoline	≥90,0 %	≥85,0 %	NE55.1*	10 mg	783,70
3,4-Dihydroxybenzoic acid	≥95,0 %	≥90,0 %	NE52.1	50 mg	525,70
Echinacoside	≥90,0 %	≥80,0 %	NE40.1	10 mg	478,40

Product	Assay (HPLC)	Assay (qNMR)	Art. No.	Pack Qty.	€
(-)-Epicatechin	≥93,0 %	≥90,0 %	NE41.1*	10 mg	478,40
Eriocitrin	≥95,0 %	≥85,0 %	NE42.1	10 mg	478,40
Ginkgolide A	≥95,0 %	≥90,0 %	NE43.1*	10 mg	826,70
Ginsenoside Rb1	≥90,0 %	≥80,0 %	NE44.1	10 mg	714,90
Ginsenoside Re	≥90,0 %	≥85,0 %	NE45.1	10 mg	714,90
Ginsenoside Rg1	≥90,0 %	≥80,0 %	NE62.1	10 mg	714,90
Harpagoside	≥95,0 %	≥80,0 %	NE21.1	25 mg	714,90
Hederacoside C	≥95,0 %	≥84,0 %	NE46.1	10 mg	525,70
Herniarin	≥95,0 %	≥93,0 %	NE47.1	10 mg	467,65
4-Hydroxybenzoic acid ethyl ester / Ethylparaben	≥95,0 %	≥90,0 %	NE07.1	100 mg	671,90
4-Hydroxybenzoic acid methyl ester / Methylparaben	≥98,0 %	≥95,0 %	NE10.1	100 mg	671,90
4-Hydroxybenzoic acid propyl ester / Propylparaben	≥97,0 %	≥95,0 %	NE13.1	100 mg	671,90
Hydroxyvaleric acid	≥90,0 %	≥80,0 %	NE48.1*	10 mg	467,65
Hypericin	≥95,0 %	≥85,0 %	NE22.1	10 mg	783,70
Hyperoside	≥95,0 %	≥85,0 %	NE23.1	25 mg	590,20
Isoquercitrin	≥95,0 %	≥85,0 %	NE24.1	10 mg	794,45
Isovitexin	≥95,0 %	≥85,0 %	NE25.1	10 mg	783,70
Kaempferol	≥95,0 %	≥80,0 %	NE26.1	25 mg	783,70
Luteolin	≥90,0 %	≥80,0 %	NE49.1	25 mg	783,70
Oleanolic acid	≥95,0 %	≥90,0 %	NE50.1	10 mg	525,70
Osthol	≥95,0 %	≥95,0 %	NE51.1	10 mg	783,70
2-Phenoxyethanol	-	≥95,0 %	NE12.1	250 mg	783,70
Potassium sorbate	≥95,0 %	≥95,0 %	NE09.1	100 mg	671,90
Quercetin dihydrate	≥95,0 %	≥85,0 %	NE27.1	50 mg	704,15
Quercetin-3-O-β-Glucuronide	≥90,0 %	≥85,0 %	NE28.1	25 mg	1009,45
Quercitrin	≥95,0 %	≥80,0 %	NE29.1	25 mg	783,70
Rosmarinic acid	≥85,0 %	≥80,0 %	NE30.1*	50 mg	891,20
Rutin trihydrate	≥95,0 %	≥90,0 %	NE14.1	50 mg	467,65
Sennoside A	≥80,0 %	≥75,0 %	NE53.1	50 mg	929,90
Sennoside B	≥85,0 %	≥80,0 %	NE54.1	50 mg	929,90
Silybin	≥95,0 %	≥85,0 %	NE31.1	50 mg	467,65
Sorbic acid	≥95,0 %	≥90,0 %	NE15.1	100 mg	671,90
DL-α-Tocopherol / Vitamin E	≥92,0 %	≥90,0 %	NE16.1*	250 mg	671,90
RRR-α-Tocopherol / Vitamin E	≥92,0 %	≥90,0 %	NE18.1*	250 mg	671,90
DL-α-Tocopherol acetate / Vitamin E acetate	≥95,0 %	≥93,0 %	NE17.1	250 mg	671,90
Valeric acid	≥95,0 %	≥90,0 %	NE32.1	25 mg	794,45
Vitexin	≥95,0 %	≥85,0 %	NE56.1	10 mg	639,65
Vitexin-2''-O-rhamnoside	≥95,0 %	≥85,0 %	NE34.1	10 mg	704,15
Xanthohumol	≥95,0 %	≥95,0 %	NE35.1	10 mg	729,95

For additional product data and safety information, see chapter Chemicals A-Z.

*** User information:**

These products are shipped cooled.

Please note:

to ensure optimal product quality, these products are shipped only from Monday until Wednesday inside Germany and only on Mondays and Tuesdays outside Germany.

This may lead to minor delays in delivery.

The delivery time of the primary standards is approx. 2-4 weeks.



Working Standards

ROTICHRON® Working Standards for Analysis

The **ROTICHRON® Working Standards** are traceable to established primary standards which are characterised extensively concerning identity and content. Therefore they can be used in all areas of analytics and they are a cost-saving alternative to primary standards. The standard comes with a certificate of analysis which includes proof of identity and defined assay.

The substances are protected optimally against external influences with a high-quality glass and foil bag packaging.



Product	Assay (HPLC)	Assay (GC)	Art. No.	Pack Qty.	€
Acetoxyvaleric acid	≥90,0 %		NC36.1	10 mg	299,95
Acteoside / Verbascoside	≥80,0 %		NC33.1	50 mg	240,80
Apigenin	≥85,0 %		NC37.1	25 mg	461,20
Apigenin-7-glucoside	≥90,0 %		NC19.1	25 mg	278,45
p-Arbutin	≥85,0 %		NC38.1	10 mg	170,95
L(+)-Ascorbic acid / Vitamin C	≥90,0 %		NC00.1	100 mg	89,80
Benzaldehyde	-	≥80,0 %	NC01.1	100 mg	89,80
Benzoic acid	≥95,0 %		NC03.1	100 mg	89,80
Benzoic acid sodium salt	≥90,0 %		NC11.1	100 mg	89,80
Benzyl alcohol	≥90,0 %		NC02.1	100 mg	89,80
Bilobalid	≥85,0 %		NC20.1	50 mg	289,20
Butylated hydroxyanisole / BHA	-	≥95,0 %	NC04.1	100 mg	89,80
Butylated hydroxytoluene / BHT	-	≥95,0 %	NC05.1	100 mg	89,80
Caffeic acid	≥90,0 %		NC08.1	100 mg	89,80
Casticin	≥85,0 %		NC39.1	25 mg	467,65
Chlorogenic acid	≥90,0 %		NC06.1	100 mg	89,80
(+)-Dihydroquercetin / (+)-Taxifolin	≥85,0 %		NC55.1	50 mg	357,45
3,4-Dihydroxybenzoic acid / Protocatechuic acid	≥90,0 %		NC52.1	100 mg	99,90
Echinacoside	≥80,0 %		NC40.1	25 mg	310,70
(-)-Epicatechin	≥90,0 %		NC41.1	50 mg	223,10
Eriocitrin	≥85,0 %		NC42.1	25 mg	240,80
Ginkgolide A	≥85,0 %		NC43.1	25 mg	278,45
Ginsenoside Rb1	≥85,0 %		NC44.1	25 mg	222,00
Ginsenoside Re	≥80,0 %		NC45.1	25 mg	226,30
Ginsenoside Rg1	≥85,0 %		NC62.1	25 mg	357,45
Harpagoside	≥80,0 %		NC21.1	50 mg	401,55
Hederacoside C	≥85,0 %		NC46.1	25 mg	299,95
Herniarin	≥95,0 %		NC47.1	50 mg	133,85
4-Hydroxybenzoic acid ethyl ester / Ethylparaben	≥90,0 %		NC07.1	100 mg	89,80
4-Hydroxybenzoic acid methyl ester / Methylparaben	≥91,0 %		NC10.1	100 mg	89,80
4-Hydroxybenzoic acid propyl ester / Propylparaben	≥90,0 %		NC13.1	100 mg	89,80
Hydroxyvaleric acid	≥90,0 %		NC48.1	25 mg	332,20
Hypericin	≥85,0 %		NC22.1	10 mg	278,45
Hyperoside	≥85,0 %		NC23.1	50 mg	334,35
Isoquercitrin	≥80,0 %		NC24.1	25 mg	310,70
Isovitexin	≥80,0 %		NC25.1	25 mg	334,35
Kaempferol	≥80,0 %		NC26.1	25 mg	156,45
Luteolin	≥80,0 %		NC49.1	50 mg	143,55
Oleanolic acid	≥85,0 %		NC50.1	50 mg	256,95
Osthol	≥90,0 %		NC51.1	50 mg	206,95
2-Phenoxyethanol	-	≥90,0 %	NC12.1	250 µl	89,80
Potassium sorbate	≥85,0 %		NC09.1	100 mg	89,80
Quercetin dihydrate	≥80,0 %		NC27.1	100 mg	217,70
Quercetin-3-O-β-Glucuronide	≥80,0 %		NC28.1	50 mg	267,70
Quercitrin	≥70,0 %		NC29.1	100 mg	334,35
Rosmarinic acid	≥85,0 %		NC30.1	100 mg	284,90
Rutin trihydrate	≥85,0 %		NC14.1	100 mg	89,80
Sennoside A	≥75,0 %		NC53.1	50 mg	321,45
Sennoside B	≥80,0 %		NC54.1	50 mg	346,70
Silybin	≥85,0 %		NC31.1	100 mg	167,60
Sorbic acid	≥95,0 %		NC15.1	100 mg	89,80
DL-α-Tocopherol / Vitamin E	≥90,0 %		NC16.1	250 µl	89,80
RRR-α-Tocopherol / Vitamin E	-	≥85,0 %	NC18.1	250 µl	89,80
DL-α-Tocopherol acetate / Vitamin E acetate	≥90,0 %		NC17.1	250 µl	89,80
Valeric acid	≥95,0 %		NC32.1	50 mg	267,70
Vitexin	≥85,0 %		NC56.1	25 mg	557,95
Vitexin-2''-O-rhamnoside	≥80,0 %		NC34.1	25 mg	378,95
Xanthohumol	≥95,0 %		NC35.1	25 mg	246,20

For additional product data and safety information, see chapter Chemicals A-Z.

Reference substances ROTICHROM® HPLC/TLC/GC for Chromatography



Pure reference substances are essential for precise analysis. They are used for identifying compounds by retention time, for calibrating detectors, and for eliminating errors in quantification of the sample compounds.

Peak areas are proportional to sample quantity in all chromatographic methods. For precise quantitative analysis, however, it is necessary to calibrate the detector as the signal may significantly vary with different substances.

To avoid errors during sample preparation and injection, an internal standard should be used in any case. The standard must not be present in the sample, however, its chemical and physical properties ought to be the closest possible to the analytical targets. It must be well resolved in the chromatogram within the same range of retention time as the sample. Before sample analysis, a given volume of standard is added, and all clean-up procedures are made with the sample containing the standard. Quantitative errors may be compensated by comparing the peak-areas of the sample with that of the internal standard.

Reference substances

- ROTICHROM® HPLC
- ROTICHROM® TLC
- ROTICHROM® GC

are supplied with an HPLC-chromatogram, TLC-chromatogram and GC-chromatogram respectively, which is enclosed in the outer packaging.



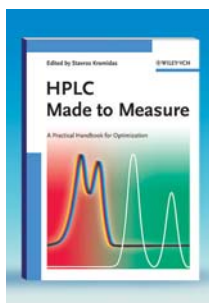
Reference substances with analytical documentation

TLC, HPLC, ¹H NMR, ¹³C NMR, UV, IR, MS

The high-purity substances from this product line are supplied with extensive analytical documentation. This documentation extends to approx. 20 pages and contains all key data on the analytical methods used. Our results are generally confirmed using at least one additional method. This ensures maximum reliability in assay and identity testing.

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Acetoxyvalerenic acid	≥99 %	T890.1	25 mg	568,70
Acteoside	>98 %	T891.1	20 mg	467,65
Cynarin	>99 %	T892.1	10 mg	418,20
(+)-Dihydroquercetin	>99 %	T893.1	20 mg	338,65
Hydroxyvalerenic acid	>99 %	4710.2	50 mg	482,70
		4710.1	100 mg	912,70
Primin	>99 %	T898.1	20 mg	446,15
Quercetin	>99 %	1210.1	50 mg	424,65
Seneciophylline	>99 %	1214.1	20 mg	439,70
Valerenic acid	≥99 %	4712.2	50 mg	525,70
		4712.1	100 mg	966,45

For additional product data and safety information, see chapter Chemicals A-Z.



HPLC Made to Measure

A Practical Handbook for Optimization.
Kromidas, Stavros (Ed.)

1st Edition - May 2006, 753 pages, hard cover

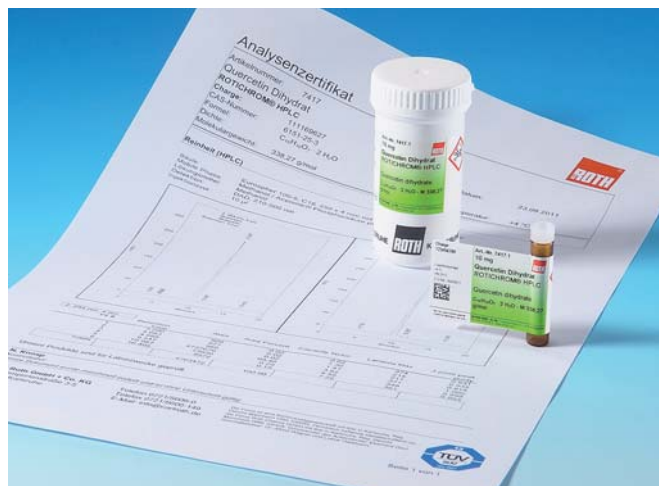
ISBN 978-3-527-31377-8

Short description:

The only topical book to focus on optimization, this volume addresses the needs of users wishing to improve their methods in particular in terms of throughput, accuracy and cost-effectiveness. Written by bestseller authors and scientists working for major international companies.

Titel	Art. No.	Pack Qty.	Price incl. VAT. €
HPLC Made to Measure	HX93.1	1	165,00

Natural & Reference Materials · Phytochemicals



Reference substances for HPLC

ROTICHROM® HPLC

ROTH offers a broad range of reference substances for HPLC. These highly pure substances predominantly have a HPLC purity level of >98 %, which is sufficient for meaningful analysis. You will find the certificate of analysis with HPLC chromatogram in the outer packaging.

ROTICHROM® HPLC - first choice for reference substances for chromatography.



Anthocyanins

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Apigeninidin chloride	≥97 %	3939.2	10 mg	353,70
Cyanidin 3-arabinoxide chloride	≥95 %	0641.1	10 mg	353,70
Cyanidin chloride	≥96 %	4545.1	10 mg	209,65
Cyanin chloride	>98 %	1133.1	20 mg	213,95
Delphinidin chloride	≥99 %	4537.1	10 mg	317,15
Delphinidin 3-galactoside chloride	≥95 %	0643.1	10 mg	381,65
Delphinidin 3-glucoside chloride	≥95 %	0644.1	10 mg	338,65
Delphinidin 3-rutinoside chloride	≥97 %	0977.1	20 mg	317,15
Diosmetinidin chloride	≥97 %	9326.1	10 mg	284,90
Idaein chloride	≥98 %	3967.1	5 mg	295,65
Keracyanine chloride	≥96,5 %	6134.2	10 mg	203,20
Kuromanin chloride	≥97 %	6136.2	10 mg	203,20
Luteolinidin chloride	≥91 %	9325.2	5 mg	364,45
Malvidin chloride	≥97 %	6140.1	10 mg	289,20
Malvin chloride	≥95 %	K013.1	10 mg	231,15
Oenin chloride	≥97 %	K030.1	5 mg	284,90
Pelargonidin chloride	≥99 %	4541.1	10 mg	289,20
Pelargonidin 3,5-diglucoside chloride	≥97 %	1646.1	5 mg	252,65
Peonidin chloride	≥98,5 %	4540.1	5 mg	289,20
Peonidin 3,5-diglucoside chloride	≥96 %	1413.1	10 mg	375,20
Peonidin 3-glucoside chloride	≥97 %	1619.1	5 mg	267,70
Petunidin 3-glucoside chloride	≥97 %	1469.1	5 mg	256,95
Primulin chloride	≥95 %	K014.1	5 mg	536,45



Glucosinolates

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Epiprogoitrin	≥97 %	2273.1	10 mg	246,20
Glucobrassicinapin	≥98 %	2276.1	10 mg	274,15
Glucobrassicin	≥97 %	2279.1	20 mg	413,90
Glucoerucin	≥97 %	2280.1	10 mg	284,90
Gluciberin	≥99 %	2281.1	10 mg	228,45
Glucanapin	≥97 %	2282.1	10 mg	235,45
Glucanasturtiin	≥97 %	2357.1	20 mg	413,90
Glucoraphanin	≥97 %	2374.1	10 mg	241,90
Progoitrin	≥97 %	2436.1	10 mg	224,70
Sinabin potassium salt	≥97 %	6694.1	20 mg	231,15
Sinigrin monohydrate	≥99 %	4542.2	50 mg	299,95



Programme extension!

Pyrrolizidine alkaloids

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
7-O-Acetylintermediate	≥95 %	7975.1	5 mg	342,95
7-O-Acetylintermediate N-oxide	≥95 %	7980.1	5 mg	342,95
Echimidine	≥95 %	7992.1	5 mg	342,95
Echimidine N-oxide	≥97 %	8011.1	5 mg	342,95
(Z)-Erucifoline	≥97 %	1657.1	5 mg	284,90
(Z)-Erucifoline N-oxide	≥97 %	1664.1	5 mg	306,40
Europine hydrochloride	≥97 %	1676.1	10 mg	364,45
Europin N-oxide	≥97 %	1687.1	10 mg	364,45
Heliotrine	≥98 %	1929.1	20 mg	289,20
Heliotrine N-oxide	≥97 %	1944.1	10 mg	252,65
Indicine hydrochloride	≥97 %	1960.1	10 mg	338,65
Indicine N-oxide	≥96,0 %	1961.1	10 mg	364,45
Intermedine	≥95 %	1962.1	5 mg	321,45
Intermedine N-oxide	≥95 %	8018.1	5 mg	349,40
Jacobine	≥98 %	1963.1	5 mg	284,90
Jacobine N-oxide	≥96 %	1970.1	5 mg	299,95
Lasiocarpine	≥96 %	2090.1	10 mg	295,65
Lasiocarpine N-oxide	≥96 %	2202.1	10 mg	295,65
Lycopsamine	≥95 %	2208.1	5 mg	306,40
Lycopsamine N-oxide	≥95 %	8022.1	5 mg	349,40
Monocrotaline N-oxide	≥98 %	2249.1	10 mg	364,45
Retrorsin	>98 %	1213.1	20 mg	241,90
Retrorsine N-oxide	≥97 %	6733.1	10 mg	252,65
Senecionine	≥96 % (GC)	2261.1	10 mg	89,80
Senecionine N-oxide	≥95 %	6734.1	10 mg	392,40
Seneciphylline N-oxide	≥97 %	6735.1	10 mg	439,70
Senecivernine	≥95 %	2209.1	5 mg	267,70
Senecivernine N-oxide	≥95 %	2215.1	5 mg	284,90
Senkirkine	≥95 %	4934.1	10 mg	317,15

More reference substances for HPLC

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Acacetin	≥99 %	6531.1	10 mg	189,10
Acetoxyvaleric acid	>99 %	4446.1	25 mg	439,70
6-O-Acetylacteoside	>99 %	1072.1	20 mg	341,85
3-Acetyl-α-boswellic acid	>99 %	1073.1	10 mg	407,45
3-Acetyl-β-boswellic acid	>99 %	1074.1	10 mg	396,70
3-O-Acetyl-9-11-dehydro-β-boswellic acid	≥98 %	6269.1	5 mg	317,15
3-Acetyl-11-keto-β-boswellic acid	>99 %	1075.1	10 mg	353,70
Actein	>99 %	1080.1	5 mg	364,45
Acteoside	>98 %	4451.1	20 mg	385,95
Agnuside	>98 %	1081.1	10 mg	274,15
Alliin	≥98 %	K031.1	10 mg	252,65
Aloe-emodin	≥99 %	6004.1	10 mg	212,35
Aloenin A	>99 %	1082.1	20 mg	428,95
Aloin A	≥97 %	4744.1	25 mg	89,80
Amarogentin	>99 %	6488.1	10 mg	274,15
Amentoflavone trihydrate	>99 %	5255.1	10 mg	263,40
α-Amyrin	≥98,5 %	7000.1	10 mg	218,80
β-Amyrin	≥98,5 %	7001.1	10 mg	375,20
Apigenin-7-glucoside	>99 %	6348.1	10 mg	137,50
Apiin	>99 %	1085.1	10 mg	295,65
Aristolochic acid I	>99 %	1086.1	20 mg	274,15
Aristolochic acid II	>99 %	1088.1	20 mg	342,95
Asiaticoside	>99 %	3972.1	10 mg	188,15
Aucubin	>98,5 %	7004.1	25 mg	131,70
Azadirachtin	≥96 %	4314.1	1 mg	160,20
Baicalin	>99 %	1110.1	20 mg	284,90
Baicalin	>99 %	1121.1	20 mg	224,70
Bavachinin A	≥99 %	8898.1	5 mg	198,90
Bergamottin	>99 %	8889.1	25 mg	166,65
Bergaptene	>99 %	7006.1	25 mg	181,70
Betulinic acid	≥97 %	7007.1	25 mg	181,70
Bilobalid	>98 %	1122.1	20 mg	364,45
α-Boswellic acid	>99 %	1123.1	10 mg	375,20
β-Boswellic acid	>99 %	1124.1	10 mg	385,95
11-keto-β-Boswellic acid	>99 %	1155.1	10 mg	342,95
Butein	>99 %	7010.1	10 mg	306,40
Caftaric acid	>98 %	1125.1	10 mg	353,70
Casticin	>98 %	1126.1	20 mg	413,90
Catalpol	>99 %	1127.1	25 mg	267,70
Caulophylligenin	≥99 %	7439.1	5 mg	461,20
(-)-α-Chaconine	≥98 %	4192.1	5 mg	224,70
Chelidonium	>98 %	1129.1	25 mg	263,40
Chrysanthellin A	≥96 %	5261.1	10 mg	370,90
Chrysoeriol	>99 %	6044.1	5 mg	238,65
Chrysophanic acid	>99 %	7442.1	10 mg	155,90
Cichoric acid	>98 %	1130.1	10 mg	375,20
Cnicin	≥98 %	2823.1	10 mg	235,45
Coptisin chloride	>99 %	1131.1	10 mg	213,95
Cucurbitacin E	≥98 %	9741.1	10 mg	289,20
Cucurbitacin I	≥95 %	9032.2	5 mg	284,90
Curcumin	>98 %	1132.1	20 mg	353,70
Cynarin	>99 %	4457.1	10 mg	321,45
Datiscetol	>99 %	7444.1	10 mg	231,15
27-Deoxyactein	>99 %	1134.1	5 mg	403,15
Dhurrin	≥98 %	3866.1	1 mg	52,70
Didymin	≥99 %	7445.1	5 mg	332,20
(+)Dihydroquercetin	>99 %	4464.1	20 mg	235,45
		4464.2	50 mg	446,15
Diosmetin	≥99 %	7446.1	10 mg	188,15
Diosmin	≥99 %	7447.1	10 mg	209,65
Echinacoside	>98 %	1135.1	10 mg	364,45
Echinocystic acid 3-glucoside	≥92 %	6995.1	25 mg	987,95
β-Elemonic acid	≥98 %	6491.1	10 mg	446,15
Elenolic acid glucoside	>98 %	1136.1	20 mg	284,90
Eleutheroside B	>99 %	1137.1	5 mg	228,45
Eleutheroside E	>96 %	1138.1	5 mg	228,45

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Emodin	≥99 %	7451.1	10 mg	149,45
Englerin A	≥96 %	6492.1	10 mg	403,15
(-)-Epicatechin	>99 %	1139.1	20 mg	192,45
(-)-Epicatechin gallate	≥98 %	6358.1	10 mg	263,40
(-)-Epigallocatechin	≥98 %	6359.1	10 mg	299,95
(-)-Epigallocatechin gallate	≥98 %	6361.1	10 mg	241,90
Eriodictyol	≥99 %	6990.1	10 mg	170,95
Eriodictyol-7-glucoside	≥99 %	6521.1	10 mg	252,65
Erythrodil	≥98 %	7455.1	10 mg	196,20
Eupatorin	≥99 %	6493.1	20 mg	260,70
Fisetin	≥99 %	7457.1	10 mg	184,40
Flavanomarein	≥99 %	7458.1	10 mg	321,45
Formononetin	≥99 %	9570.1	10 mg	123,65
Frangulin A	>98 %	1140.1	20 mg	263,40
Frangulin B	>98 %	1142.1	10 mg	278,45
Fraxin	≥99 %	9364.1	10 mg	310,70
Friedelin	≥98 %	7459.1	25 mg	181,70
Galangin	≥99 %	7460.1	10 mg	149,45
(-)-Galocatechin	>99 %	4480.1	10 mg	220,40
		4480.2	20 mg	353,70
Genistin	≥99 %	9374.1	5 mg	273,60
Geraldol	≥99 %	7461.2	5 mg	276,85
[6]-Gingerol	>98 %	T895.1	10 mg	263,40
[8]-Gingerol	>98 %	1143.1	10 mg	299,95
Ginkgolide A	>98 %	1145.1	20 mg	299,95
Ginkgolide B	>99 %	1146.1	20 mg	342,95
Ginkgolide C	>95 %	1147.1	20 mg	353,70
Ginkgolic acids RN	>90 %	1148.1	5 mg	284,90
Ginsenoside Rb1	≥98 %	7462.1	5 mg	159,00
Ginsenoside Rb2	≥94 %	7463.1	5 mg	278,45
Ginsenoside Rc	≥98 %	7465.1	5 mg	188,15
Ginsenoside Rd	≥98 %	7466.1	5 mg	166,65
Ginsenoside Re	≥98 %	7468.1	5 mg	117,20
Ginsenoside Rf	≥98 %	4552.1	5 mg	349,40
Ginsenoside Rg1	≥98 %	7467.1	5 mg	160,20
Glucotropaeolin	>99 %	1149.1	50 mg	413,90
18-β-Glycyrrhetic acid	≥99 %	7469.1	25 mg	166,65
Hamamelitannin	>99 %	1151.1	20 mg	235,45
Harpagid	>99 %	1152.1	10 mg	278,45
Harpagoside	>98 %	7471.1	10 mg	91,40
Hederacoside C	>99 %	7472.1	10 mg	112,90
α-Hederin	≥98 %	7486.1	10 mg	155,90
Hesperetin	≥99 %	7570.1	10 mg	142,45
Hesperidin	≥98 %	7577.1	10 mg	166,65
Homoeriodictyol	>99 %	7585.1	10 mg	171,90
Homoorientin	>99 %	6002.1	5 mg	217,70
4-Hydroxybenzoic acid ethyl ester	≥99 %	4746.1	1 g	27,85
4-Hydroxybenzoic acid methyl ester	≥99 %	4748.1	1 g	28,95
4-Hydroxybenzoic acid propyl ester	≥99 %	4749.1	1 g	27,85
Hydroxytyrosol	>98 %	1153.1	25 mg	241,90
Hydroxyvaleric acid	>99 %	4481.1	25 mg	310,70
		4481.2	50 mg	514,95
		4481.3	100 mg	805,20
Hyperforin / Adhyperforin Dicyclohexylammonium salt, Mixture 4:1	≥95 %	6495.1	5 mg	299,95
Hypericin	≥98 %	L543.1	1 mg	112,90
Hypericin sodium salt	>98 %	1154.1	5 mg	335,95
Hyperoside	>99 %	7932.1	10 mg	112,90
Isoacteoside	>99 %	T896.1	20 mg	353,70
Isopimpinellin	≥99 %	8854.1	10 mg	168,80
Isoquercitrin	>99 %	7586.1	10 mg	110,20
Isorhamnetin	≥98 %	7589.1	10 mg	213,95
Isorhamnetin-3-rutinoside	≥99 %	9388.1	5 mg	203,20
Isorhoifolin	≥98 %	6989.1	10 mg	360,15
Isosakuranetin	≥99 %	7498.1	10 mg	160,20
Isovitexin	≥99 %	6412.1	5 mg	209,65

Natural & Reference Materials · Phytochemicals

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Isoxanthohumol	≥99 %	2824.1	10 mg	209,65
Kaempferide	≥99 %	7501.1	10 mg	160,20
Kaempferol	>99 %	7503.1	10 mg	102,15
Kaempferol-3-glucoside	≥99 %	9321.1	5 mg	209,65
Kaempferol-3-rhamnosido-glucoside	≥98 %	4526.1	10 mg	428,95
Lanatoside C	>99 %	7321.1	50 mg	123,65
Leiocarposide	≥99 %	2825.1	5 mg	239,20
Loganin	≥99 %	4162.1	10 mg	170,95
Loganic acid	≥99 %	4158.1	25 mg	332,20
Lupeol	≥99 %	8863.1	25 mg	203,20
Luteolin	>99 %	4546.1	10 mg	123,65
Luteolin-7-glucoside	≥98 %	4164.1	10 mg	177,40
Lycopene	>90 %	1180.1	5 mg	239,20
(-)-Maackiain	≥98 %	6496.1	10 mg	252,65
Madecassoside	≥97 %	6138.1	10 mg	321,45
Manassantin A	≥98 %	6497.1	10 mg	364,45
Manassantin B	≥98 %	6684.1	10 mg	321,45
Marein	≥99 %	4171.1	5 mg	263,40
Maritimein	≥98 %	4172.1	5 mg	364,45
Myricetin	≥99 %	4187.1	10 mg	213,95
Myricitrin	≥99 %	9391.1	10 mg	177,40
Narciclasine	≥97 %	6689.1	10 mg	385,95
Naringenin	>98 %	1186.1	50 mg	407,45
Naringenin-7-glucoside	≥99 %	8865.1	10 mg	160,20
Naringin	≥99 %	4200.1	10 mg	138,70
Neerocitrin	≥99 %	4206.1	10 mg	310,70
Neohesperidin	≥99 %	6767.1	10 mg	235,45
Oleanolic acid	≥99 %	7402.1	25 mg	149,45
Oleuropein	>98 %	1191.1	20 mg	252,65
Ononin	≥99 %	9411.1	5 mg	263,40
Orientin	≥99 %	6151.1	5 mg	235,45
Peltatoside	≥99 %	7406.1	10 mg	284,90
Phloretin	≥99 %	7051.2	100 mg	170,95
Physcion	≥99 %	7412.1	10 mg	181,70
Picrosid II	>98 %	1197.1	20 mg	224,70
(-)-Podophyllotoxin	≥99 %	3946.1	25 mg	203,20
Poncirin	≥97 %	7413.1	10 mg	224,70
Primulaverin	>99 %	1201.1	10 mg	263,40
Primverin	>99 %	1203.1	10 mg	263,40
Protopine	≥98 %	6690.1	10 mg	239,20
Pseudohypericin	≥97 %	2846.1	5 mg	478,40
Psoralen	≥98,5 %	7415.1	10 mg	155,90
Quercetin dihydrate	>99 %	7417.1	10 mg	96,65
Quercitrin	≥99 %	9417.1	10 mg	185,45
Rhamnetin	≥99 %	7418.1	10 mg	209,65
Rhein	≥99 %	7419.1	10 mg	170,95
Rhoifolin	≥99 %	7420.1	25 mg	428,95
Robinetin	≥99 %	7421.1	10 mg	213,95
Rosmarinic acid	≥99 %	N816.1	10 mg	149,45
Rutin trihydrate	≥99 %	7422.2	50 mg	166,65
Saponarin	≥98 %	6413.1	5 mg	185,45
Sciadopitysin	>99 %	9410.1	5 mg	198,90
Sennoside A	>98 %	7423.1	10 mg	117,20
Sennoside A1	≥95 %	6693.1	10 mg	263,40
Sennoside B	≥98 %	7424.1	10 mg	185,45
Silybin	>98 %	1215.1	50 mg	375,20
Sinensetin	>99 %	3497.1	5 mg	241,90
α-Solanine	≥98 %	2826.1	10 mg	231,15
Spiraeoside	>98 %	1216.1	20 mg	332,20
Sulfuretin	≥99 %	7569.1	5 mg	263,40
Sutherlandioside B	≥97 %	6695.1	10 mg	289,20
Sutherlandioside D	≥95 %	6696.1	10 mg	299,95
Syringetin-3-glucoside	≥99 %	9432.1	5 mg	317,15
Tamarixetin	≥99 %	7425.1	10 mg	235,45

Product	Purity (HPLC)	Art. No.	Pack Qty.	€
Tilirosid	≥98 %	3268.1	10 mg	332,20
Umckalin	≥99 %	2827.1	5 mg	224,70
Ursolic acid	≥98,5 %	7429.1	10 mg	149,45
Ursolic acid methyl ester	≥99 %	7430.1	25 mg	203,20
Uvaol	≥98 %	7433.1	5 mg	155,90
Valerenic acid	>99 %	4488.1	25 mg	346,70
		4488.2	50 mg	579,45
ε-Viniferin	≥98 %	6697.1	20 mg	435,40
Vitexin	≥99 %	6418.1	5 mg	192,45
Xanthohumol	≥99 %	2828.1	10 mg	188,15

For additional product data and safety information, see chapter Chemicals A-Z.



Reference substances for TLC ROTICHROM® TLC

The ROTICHROM® TLC substances come with a certificate of analysis and a chromatogram enclosed in the outer package.

Product	Art. No.	Pack Qty.	€
Aloin	5555.1	50 mg	54,75
Apigenin	5611.1	25 mg	39,25
Apigenin-7-glucoside	5557.1	100 mg	130,00
Bergamottin	1217.1	50 mg	278,45
Caffeic acid	5574.1	100 mg	33,25
Capsanthin	5674.1	1 mg	256,95
Chelidonine	6235.1	25 mg	145,15
Chlorogenic acid	5558.1	50 mg	37,55
β-Cryptoxanthin	5675.1	1 mg	284,90
Cyanin chloride	5568.1	25 mg	50,55
Cytisine	5615.1	25 mg	102,15
(-)-Epicatechin	5798.1	50 mg	48,30
Harmine	9968.1	500 mg	39,70
Hesperidin	5800.1	10 mg	52,70
Hyperoside	4215.1	25 mg	44,65
Isoquercitrin	5573.1	50 mg	55,90
Lutein	5671.1	5 mg	299,95
Lycopene	5670.1	5 mg	353,70
Physalien	5673.1	5 mg	220,40
Rhaponticin	5804.1	100 mg	52,60
Silybin	5578.1	100 mg	56,45
Solanidine	5677.1	10 mg	120,95
Taurocholic acid sodium salt	5817.1	100 mg	49,35
Tomatin	5676.1	25 mg	38,20
Vitexin	5579.1	10 mg	36,45
Vitexin-2"-O-rhamnoside	5819.1	10 mg	77,95
	5672.1	1 mg	203,20
Zeaxanthin	5672.1	1 mg	203,20
	5672.2	5 mg	364,45

For additional product data and safety information, see chapter Chemicals A-Z.



More reference substances

The substances are delivered without chromatogram.

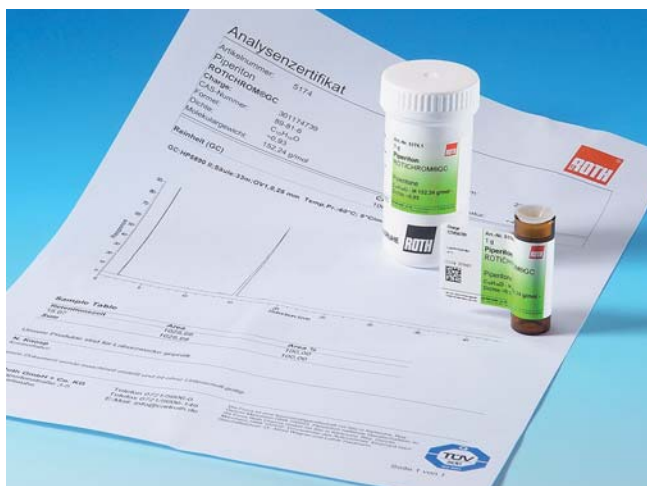
Product	Art. No.	Pack Qty.	€
Acacetin	5010.1	25 mg	109,55
Ajmalicine	6192.1	250 mg	55,80
Aloe-emodin	3524.1	100 mg	347,15
Aloin	4568.1	250 mg	47,20
Amygdalin	5500.1	10 g	34,30
Anethole	5131.1	25 ml	19,25
	5131.2	250 ml	54,75
Apocynin	7884.1	25 g	93,00
	6115.1	10 g	47,85
p-Arbutin	6115.2	50 g	150,00
Aristolochic acid sodium salt (I and II)	7268.1	500 mg	342,95
Aucubin	9149.1	250 mg	439,70
Azulen	3159.1	100 mg	47,20
Berberine chloride hydrate	3192.1	1 g	12,05
Bergaptene	8899.1	1 g	317,15
Betulin(ol)	8763.1	1 g	59,15
Betulinic acid	6516.1	250 mg	48,40
Boldine	8900.1	100 mg	117,75
	5950.1	10 g	19,25
Bromelain	5950.2	100 g	85,90
	5869.1	10 g	28,95
Caffeic acid	5869.2	50 g	110,20
Capsaicin	8804.1	100 mg	89,15
β-Carotene	5669.1	10 mg	209,65
Carvacrol	8808.1	10 ml	30,35
(+)-Catechin	6200.1	1 g	30,65
DL-Catechin hydrate	8822.1	1 g	105,25
(-)-α-Chaconine	4192.1	5 mg	224,70
Chlorophyll A	6360.1	1 mg	349,40
	6360.2	5 mg	1451,25
Chlorophyll B	6365.1	1 mg	222,00
	6365.2	5 mg	1236,25
Chrysin	6475.1	500 mg	18,85
Cnicin	4560.1	10 mg	69,90
Corynanthine	8985.1	500 mg	117,20
Coumarin	7942.1	100 g	42,90
p-Coumaric acid	9906.1	1 g	18,85
Daidzein	6047.1	25 mg	162,35
Daidzin	9323.1	5 mg	184,90
Daphnetin	6618.1	10 mg	252,65
Demissidine	6635.1	50 mg	75,15
	4005.1	100 mg	39,25
Digitonin	4005.2	500 mg	131,70
	4005.3	1 g	235,45
	4005.4	5 g	924,50
Digitoxin	7359.1	50 mg	35,40
Digoxin	7323.1	50 mg	65,50
Dihydroouabain	7197.1	50 mg	138,70
(+)-Dihydroquercetin	5797.2	100 mg	198,90
Dihydrorobinetin	6960.1	100 mg	60,75
6,7-Dihydroxyflavone	8066.1	10 mg	310,70
3,4-Dimethoxy cinnamic acid	9918.1	5 g	21,20
Emetine dihydrochloride	4116.1	1 g	144,60
Emodin	7272.1	100 mg	27,45

Product	Art. No.	Pack Qty.	€
(-)-Epicatechin	7293.1	500 mg	90,85
Esculin sesquihydrate	8704.1	5 g	19,25
Eucalyptol	7244.1	25 ml	25,30
Eugenol	7292.1	50 ml	16,70
Ferulic acid	9936.1	10 g	32,15
	9936.2	100 g	177,40
Fisetin	7383.1	250 mg	67,65
Frangulin (A+B)	7404.1	25 mg	37,65
Frangulin B	7655.1	10 mg	256,95
Fraxidin	9369.1	10 mg	155,90
	7300.1	50 g	30,00
Gallic acid monohydrate	7300.2	100 g	42,50
	7300.3	500 g	127,95
Genistein	3429.1	50 mg	131,70
Gibberellic acid	7464.1	250 mg	14,55
	7464.2	1 g	25,30
Glycyrrhizic acid ammonium salt hydrate	6247.1	10 g	39,25
	6247.2	50 g	150,00
Guaiacol	7308.1	100 ml	36,45
Hederagenin	9141.2	250 mg	220,40
α-Hederin	9970.1	250 mg	306,40
Helenien	4452.2	10 mg	278,45
Herniarin	7734.1	1 g	26,80
Hesperidin	7737.1	10 g	37,55
Homoeriodictyol	9382.1	50 mg	428,95
Hydrocotarnine hydrobromide	4268.1	100 mg	11,75
L-Hyoscyamine	8914.1	1 g	75,15
Isoquercitrin	6527.1	250 mg	188,15
Isorhamnetin	6528.1	100 mg	353,70
Isorhamnetin-3-glucoside	9386.1	5 mg	267,70
Isoscapoletin	5883.1	25 mg	134,40
Kaempferol	5859.1	500 mg	224,70
Kaempferol-7-neohesperidoside	9467.1	10 mg	138,70
	5911.1	10 g	42,50
Khellin	5911.2	50 g	166,65
	4226.1	50 ml	33,25
Menthone	6930.1	25 ml	79,05
(-)-Menthone	8524.1	2,5 g	65,05
Naringenin	6786.1	100 mg	181,70
Naringenin-7-glucoside	6481.1	10 g	25,70
	6481.2	50 g	80,55
Naringin	6481.3	100 g	149,45
Oleanolic acid	8308.1	250 mg	241,90
Oleuropein	7018.2	1 g	446,15
Pelargonidin chloride	6853.1	25 mg	84,95
	4196.1	2,5 g	42,90
Phlorizin dihydrate	4196.2	10 g	134,40
	4196.3	100 g	815,95
Physcion	9415.1	250 mg	446,15
Picrotoxin	7093.1	1 g	107,40
Pilocarpin nitrate	7523.1	1 g	134,40
Piperine	7099.1	5 g	78,40
	7138.1	25 g	46,15
	7138.2	100 g	149,45
Quercetin dihydrate (C.I. 75670)	2629.1	25 g	35,40
	2629.2	50 g	64,40
	2629.3	100 g	117,75
Quercetin-3-O-glucose-6"-acetate	9419.1	10 mg	289,20
	8835.1	25 g	83,35
(-)-Quinic acid	8835.2	100 g	267,70
Quinidine sulphate dihydrate	3348.1	10 g	30,00
Quinine hydrochloride dihydrate	6225.1	25 g	39,25
Rauwolfscine hydrochloride	7144.1	100 mg	16,70
Reserpine acid hydrochloride hemihydrate	4295.1	100 mg	42,90
	N811.1	500 mg	42,90
Resveratrol	N811.2	1 g	69,80
	N811.3	5 g	148,90
Rhaponticin	7152.1	1 g	40,75
Rhein	8868.1	50 mg	51,10

Natural & Reference Materials · Phytochemicals

Product	Art. No.	Pack Qty.	€
Rhoifolin	9247.1	500 mg	170,95
Rosmarinic acid	A558.1	100 mg	224,70
Rutin trihydrate	5154.1	25 g	25,30
	5154.2	100 g	77,30
D(-)-Salicin	7192.1	5 g	26,80
	7192.2	50 g	166,65
Sanguinarine nitrate	7200.2	10 mg	263,40
Scoparone	7494.1	500 mg	203,20
Scopoletin	7210.1	100 mg	123,10
	7210.2	1 g	1009,45
Seneciophylline	6414.1	10 mg	78,40
Sennidine A	7012.1	10 mg	198,90
Sennidine B	7016.1	10 mg	246,20
Sennoside A	9349.1	100 mg	403,15
Shikimic acid	7305.2	250 mg	21,40
	7305.1	1 g	75,15
Sinapic acid	5317.1	1 g	67,65
	5317.2	10 g	536,45
Sinigrin monohydrate	5319.1	250 mg	86,55
α-Solanine	4180.1	10 mg	203,20
Spiraeoside	4564.1	10 mg	88,70
Stachydrine hydrochloride	9457.1	25 mg	246,20
Stigmasterol	9468.1	1 g	23,90
K-Strophantoside	4078.1	50 mg	73,00
Strychnine	4843.1	10 g	15,60
Strychnine hydrochloride	4845.1	10 g	19,25
Strychnine N-oxide	4277.1	500 mg	42,90
Syringic acid	5361.1	10 g	59,90
Theobromine	8963.1	10 g	19,90
	8963.2	100 g	87,00
α+β-Thujone (isomers)	9540.1	5 g	18,85
	9540.2	50 g	126,35
Trifolirhizin	4738.1	25 mg	160,20
Tripelargonin	8877.1	10 g	50,00
Umbelliferone	5437.1	10 g	34,30
	5437.2	100 g	203,20
(+)-Usnic acid	4565.1	10 g	92,35
Verbenalin	9450.1	5 mg	149,45
Vitexin	4173.1	10 mg	34,95
Xanthotoxol	7499.1	50 mg	719,20
Yohimbine hydrochloride	9716.1	10 g	89,15

For additional product data and safety information, see chapter Chemicals A-Z.



Reference substances for GC

ROTICHRUM® GC

Roth offers an extensive range of reference substances for gas chromatography from the substance groups of alkanes, alcohols, ketones, esters, aromatic compounds, and much more. Their GC purity is generally ≥98 %, which allows for accurate analysis.

The **ROTICHRUM® GC** substances come with a certificate of analysis and a GC chromatogram enclosed in the outer packaging.

Product	Purity (GC)	Art. No.	Pack Qty.	€
Acetic acid amyl ester	≥97 %	5060.1	1 g	75,15
Acetic acid benzyl ester	≥99 %	6014.1	1 g	75,15
Acetic acid L-bornyl ester	≥98 %	9009.1	1 g	75,15
Acetic acid ethyl ester	≥99 %	6022.1	1 g	75,15
Acetic acid geranyl ester	≥90 %	5262.1	1 g	75,15
Acetic acid n-heptyl ester	≥98,5 %	3155.1	1 g	75,15
Acetic acid hexyl ester	≥98 %	9449.1	1 g	75,15
Acetic acid isobutyl ester	≥97,5 %	5092.1	1 g	75,15
Acetic acid linalyl ester	≥95 %	5199.1	1 g	75,15
Acetic acid (L)-menthyl ester	≥99 %	5189.1	1 g	75,15
Acetic acid methyl ester	≥99 %	5187.1	1 g	23,15
Acetic acid 2-phenylethyl ester	≥98,5 %	6652.1	1 g	75,15
Acetic acid terpinyl ester	≥83 %	9445.1	1 g	75,15
Acetyleugenol	≥97 %	6688.1	1 g	75,15
Allyl capronate	≥92 %	3792.1	1 g	75,15
Allyl caprylate	≥96 %	3793.1	1 g	75,15
Allyl heptanoate	≥97 %	3798.1	1 g	75,15
iso-Amyl capronate	≥97 %	3799.1	1 g	75,15
4-Anisaldehyde	≥99 %	9037.1	1 g	75,15
Anthranilic acid methyl ester	≥99 %	9405.1	1 g	75,15
α-Asarone	≥96 %	9362.1	1 g	75,15
β-Asarone	≥97 %	9363.1	1 g	75,15
Benzaldehyde	≥96 %	9039.1	1 g	75,15
Benzoic acid ethyl ester	≥98 %	3850.1	1 g	75,15
Benzoic acid methyl ester	≥98,5 %	9041.1	1 g	75,15
Benzene	≥99 %	4898.1	1 g	28,95
Benzyl alcohol	≥88 %	6012.1	1 g	75,15
(+)-Borneol	≥96 %	8903.1	100 mg	130,65
(-)-Borneol	≥95 %	8495.1	1 g	75,15
1,4-Butanediol	≥96 %	5077.1	1 g	75,15
2,3-Butanediol	≥95 %	6741.1	1 g	75,15
1-Butanol	≥99 %	9098.1	1 g	75,15
2-Butanol	≥99 %	6336.1	1 g	75,15
2-Butanone	≥99 %	4899.1	1 g	25,30
Butyric acid ethyl ester	≥98 %	5572.1	1 g	75,15
Butyric acid hexyl ester	≥96 %	9451.1	1 g	75,15
Butyric acid methyl ester	≥96 %	5186.1	1 g	75,15
γ-Butyrolactone	≥96 %	3720.1	1 g	75,15
Camphene	≥95 %	5288.1	1 g	75,15
(+)-Camphor	≥96 %	3861.1	1 g	75,15
DL-Camphor	≥95 %	4329.1	1 g	75,15

- More substances and pack sizes on request. Please don't hesitate to contact us!

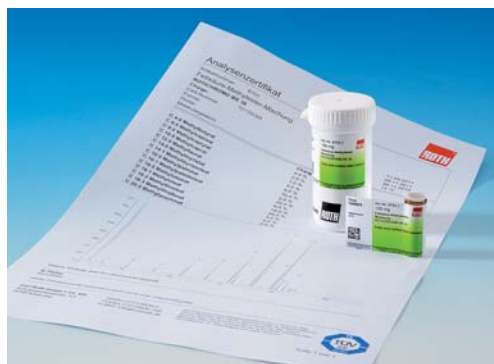
Product	Purity (GC)	Art. No.	Pack Qty.	€
Capric acid ethyl ester	≥97 %	3575.1	1 g	75,15
Capric acid isoamyl ester	≥93 %	4420.1	1 g	75,15
Capric acid methyl ester	≥98 %	6709.1	1 g	75,15
Caproic aldehyde	≥94 %	6757.1	1 g	75,15
Caproic acid ethyl ester	≥98 %	6019.1	1 g	75,15
Caproic acid methyl ester	≥97 %	6653.1	1 g	75,15
Caprylic acid ethyl ester	≥99 %	6018.1	1 g	75,15
Caprylic acid methyl ester	≥99 %	4349.1	1 g	75,15
(+)-2-Carene	≥93 %	4952.1	1 g	75,15
δ-3-Carene	≥90 %	3572.1	1 g	36,45
(+)-Carvone	≥94 %	6947.1	1 g	75,15
(-)-Carvone	≥98 %	5286.1	1 g	75,15
β-Caryophyllen	≥95 %	7232.1	1 g	75,15
(-)-α-Cedrene	≥96 %	8908.1	100 mg	181,70
Cedrol	≥94 %	3235.1	1 g	75,15
Cinnamaldehyde	≥97 %	3618.1	1 g	75,15
Cinnamic acid benzyl ester	≥94 %	5088.1	1 g	75,15
Cinnamic acid ethyl ester	≥98 %	3211.1	1 g	75,15
1,4-Cineole	≥87 %	5833.1	1 g	75,15
Citral	≥95 %	5292.1	1 g	75,15
Citronellal	≥93 %	6008.1	1 g	75,15
(+)-β-Citronellol	≥95 %	6006.1	1 g	75,15
(-)-β-Citronellol	≥90 %	6645.1	1 g	75,15
(±)-β-Citronellol	≥88 %	6193.1	1 g	75,15
Coumarin	≥99 %	5284.1	1 g	75,15
Cuminaldehyde	≥90 %	6649.1	1 g	75,15
Cyclohexane	≥99 %	4901.1	1 g	28,95
Cyclohexanone	≥99 %	4353.1	1 g	75,15
p-Cymol	≥97 %	5282.1	1 g	75,15
γ-Decalactone	≥98 %	6704.1	1 g	75,15
n-Decane	≥98,5 %	3474.1	1 g	75,15
Dihydrocoumarin	≥97 %	5089.1	1 g	75,15
Dihydrojasmon	≥97 %	8735.1	1 g	75,15
Diphenyl	≥96 %	9309.1	1 g	75,15
n-Dodecane	≥98,5 %	9029.1	1 g	75,15
Ethylbenzene	≥98,5 %	4904.1	1 g	34,30
Ethyl-trans-2-hexenoate	≥95 %	3819.1	1 g	75,15
Ethyl vanillin	≥97 %	3913.1	1 g	75,15
Eucalyptol	≥97 %	6938.1	1 g	75,15
Eugenol	≥98,5 %	6941.1	1 g	75,15
Eugenol methyl ether	≥95 %	5073.1	1 g	75,15
Farnesol	≥85 %	8707.1	1 g	75,15
(+)-Fenchone	≥99 %	6210.1	1 g	75,15
(-)-Fenchone	≥98,5 %	9377.1	1 g	75,15
Fenchyl alcohol	≥97,5 %	3253.1	1 g	75,15
Geraniol	≥98 %	5264.1	1 g	75,15
Guaiacol	≥96 %	5135.1	1 g	75,15
1-Heptanol	≥99 %	3173.1	1 g	21,40
2-Heptanol	≥98,5 %	8768.1	1 g	75,15
n-Hexadecane	≥98 %	9003.1	1 g	75,15
1-Hexanol	≥94 %	3174.1	1 g	75,15
3-Hexanone	≥97 %	3843.1	1 g	75,15
trans-Hexen-2-al	≥90 %	5258.1	1 g	75,15
Hexylcinnamaldehyde	≥97 %	9392.1	1 g	75,15
α-Humulene	≥95 %	9385.1	100 mg	169,35
Isoamyl alcohol	≥99 %	4260.1	1 g	75,15
Isoborneol	≥95 %	9824.1	1 g	75,15
Isobornyl acetate	≥97 %	8648.1	1 g	75,15
Isoeugenol	≥82 %	3226.1	1 g	75,15
Isomenthone	≥75 %	6458.1	1 g	75,15
Isopulegol	≥95 %	8030.1	1 g	75,15
cis-Jasmone	≥89 %	6519.1	1 g	75,15
β-Ionone	≥95 %	3713.1	1 g	75,15
Lauric acid ethyl ester	≥97,5 %	4410.1	1 g	75,15
Lauric acid methyl ester	≥98,5 %	6787.1	1 g	75,15
(+)-Limonene	≥98 %	5198.1	1 g	75,15
L-(-)-Limonene	≥94,5 %	3223.1	1 g	75,15
cis+trans-1,2-(+)-Limonene oxide	≥96 %	3712.1	1 g	75,15
cis+trans-1,2-(-)-Limonene oxide	≥95 %	3711.1	1 g	75,15

Product	Purity (GC)	Art. No.	Pack Qty.	€
Linalool	≥95 %	5201.1	1 g	75,15
Linalool oxide (cis+trans)	≥95 %	3358.1	1 g	75,15
Linoleic acid ethyl ester	≥98,5 %	3198.1	1 g	31,10
Linoleic acid methyl ester	≥99 %	3199.1	1 g	32,80
Menthofuran	≥91 %	5188.1	1 g	75,15
(+)-Menthol	≥96 %	3855.1	1 g	75,15
(-)-Menthol	≥95 %	9061.1	1 g	75,15
DL-Menthol	≥96 %	4967.1	1 g	75,15
4-(p-Methoxyphenyl)-2-butanone	≥98,5 %	5059.1	1 g	75,15
2-Methyl-1-butanol	≥99 %	9074.1	1 g	75,15
2-Methyl-3-buten-2-ol	≥97 %	9406.1	1 g	75,15
Methylchavicol	≥98 %	9413.1	1 g	75,15
Methyl-N-methyl anthranilate	≥95 %	3845.1	1 g	75,15
2-Methyl-1-propanol	≥97 %	9075.1	1 g	75,15
Nerol	≥96 %	5183.1	1 g	75,15
cis-Nerolidol	≥95 %	6701.1	1 g	75,15
cis-trans-Nerolidol	≥96 %	7895.1	1 g	75,15
trans-Nerolidol	≥89 %	6703.1	1 g	75,15
Nerol oxide	≥95 %	5178.1	1 g	75,15
γ-Nonalactone	≥97 %	3088.1	1 g	75,15
n-Nonane	≥98,5 %	9008.1	1 g	75,15
n-Octadecane	≥98,5 %	9059.1	1 g	75,15
n-Octane	≥98,5 %	4435.1	1 g	75,15
1-Octanol	≥98 %	3182.1	1 g	75,15
3-Octanol	≥97,5 %	8017.1	1 g	75,15
2-Octanone	≥97,5 %	9440.1	1 g	75,15
3-Octanone	≥98 %	3846.1	1 g	75,15
Oleic acid methyl ester	≥99 %	3186.1	1 g	31,10
Pelargonaldehyde	≥90 %	5564.1	1 g	75,15
n-Pentadecane	≥99 %	9096.1	1 g	75,15
1-Pentanol	≥99 %	9077.1	1 g	75,15
2-Pentanol	≥95 %	6824.1	1 g	75,15
(-)-Perillaldehyde	≥92 %	4099.1	1 g	75,15
Phenylacetic acid ethyl ester	≥94 %	4434.1	1 g	75,15
1-Phenylethanol	≥98,5 %	3065.1	1 g	75,15
2-Phenylethanol	≥96 %	9078.1	1 g	75,15
(+)-α-Pinene	≥95 %	3857.1	1 g	75,15
(-)-α-Pinene	≥96 %	5170.1	1 g	75,15
DL-α-Pinene	≥95 %	3858.1	1 g	75,15
β-Pinene	≥90 %	5172.1	1 g	75,15
Piperitone	≥96 %	5174.1	1 g	75,15
1-Propanol	≥99 %	4916.1	1 g	23,15
(+)-Pulegone	≥98 %	5168.2	100 mg	106,45
Sabinene	≥98,5 %	7188.2	1 g	127,95
Salicylic acid methyl ester	≥95 %	3704.1	1 g	75,15
Senecionine	≥96 %	2261.1	10 mg	89,80
Senecionine/Seneciophylline	≥99 %	8830.1	10 mg	70,45
Squalene	≥99 %	3185.1	1 g	23,90
α-Terpinene	≥80 %	8038.1	1 g	75,15
γ-Terpinene	≥95 %	8039.1	1 g	75,15
α-Terpineol	≥95 %	5152.1	1 g	75,15
Terpinolene	≥90 %	5166.1	1 g	75,15
n-Tetradecane	≥98 %	9024.1	1 g	75,15
Tetrahydrolinalool	≥99 %	9446.1	1 g	75,15
Tetrahydropyran	≥97 %	3853.1	1 g	75,15
Thymol	≥96 %	3209.1	1 g	75,15
Toluene	≥99 %	4911.1	1 g	28,95
n-Tridecane	≥98 %	4822.1	1 g	75,15
1,2,4-Trimethylbenzene	≥98 %	4913.1	1 g	22,50
1-Undecanol	≥97 %	3701.1	1 g	75,15
Vanillin	≥96 %	5108.1	1 g	75,15
m-Xylene	≥99 %	4912.1	1 g	24,20

For additional product data and safety information, see chapter Chemicals A-Z.

Natural & Reference Materials · Fatty Acid References

Fatty Acid References



In the field of lipid analysis we put an extensive collection of reference substances and reference mixtures at the analyst's disposal.

All reference mixtures are prepared from pure components which are carefully tested for purity by TLC and GC.

Precise weighing and a final check guarantee the precision of the mixture. A certificate comes with each product.

Free fatty acids

Product	Purity (GC)	Art. No.	Pack Qty.	€
Capric acid	≥99 %	3164.1	1 g	24,20
Caprylic acid	≥99 %	3168.1	1 g	37,10
Linoleic acid	≥99 %	5315.1	1 g	56,45
Linolenic acid	≥99 %	5320.1	1 g	182,25
Oleic acid	≥99 %	5362.1	1 g	33,90

For additional product data and safety information, see chapter Chemicals A-Z.

Fatty acid methyl esters

Product	Purity (GC)	Art. No.	Pack Qty.	€
Acetic acid methyl ester	≥99 %	5187.1	1 g	23,15
Butyric acid methyl ester	≥96 %	5186.1	1 g	75,15
Capric acid methyl ester	≥98 %	6709.1	1 g	75,15
Caproic acid methyl ester	≥97 %	6653.1	1 g	75,15
Caprylic acid methyl ester	≥99 %	4349.1	1 g	75,15
Lauric acid methyl ester	≥98,5 %	6787.1	1 g	75,15
Linoleic acid methyl ester	≥99 %	3199.1	1 g	32,80
Oleic acid methyl ester	≥99 %	3186.1	1 g	31,10

Fatty acid methyl ester mixtures

ROTICHRON®

Purity	Mixture	Art. No.	Pack Qty.	€
ME 11	saturated	8632.1	100 mg	127,95
ME 12	saturated	8636.1	100 mg	127,95
ME 13	saturated	8642.1	100 mg	127,95
ME 14	saturated	8644.1	100 mg	127,95
ME 15	saturated	8650.1	100 mg	127,95
ME 16	saturated	8661.1	100 mg	127,95
ME 17	saturated	8666.1	100 mg	127,95
ME 18	saturated	8667.1	100 mg	127,95
ME 19	saturated	8669.1	100 mg	127,95
ME 21	saturated	8676.1	100 mg	127,95
ME 22	saturated	8677.1	100 mg	127,95
ME 24	saturated	8679.1	100 mg	127,95
ME 26	saturated/unsaturated	8685.1	100 mg	127,95
ME 28	saturated/unsaturated	8691.1	100 mg	132,80
ME 29	unsaturated	8692.1	100 mg	132,80
ME 30	saturated/unsaturated	8693.1	100 mg	132,80
ME 32	saturated/unsaturated	8697.1	100 mg	127,95
ME 35	saturated/unsaturated	8701.1	100 mg	159,65
ME 36	saturated/unsaturated	8702.1	100 mg	159,65
ME 37	saturated/unsaturated	8703.1	100 mg	159,65
ME 38	saturated/unsaturated	8705.1	100 mg	159,65
ME 39	saturated/unsaturated	8709.1	100 mg	159,65
ME 46	saturated/unsaturated	8730.1	100 mg	132,80
ME 51	saturated/unsaturated	8737.1	100 mg	159,65

For additional product data and safety information, see chapter Chemicals A-Z.

Fatty acid methyl ester mixtures for special applications

ROTICHRON®

Purity	For testing of	Art. No.	Pack Qty.	€
F0 3	coconut, rape seed and mustard seed oils.	8756.1	100 mg	132,80
F0 4	olive and tea seed oils.	8758.1	100 mg	132,80
F0 5	coconut, palm kernel and babassu oils.	8759.1	100 mg	132,80
F0 7	rape seed oil.	8761.1	100 mg	132,80
F0 8	rape seed oil.	6330.1	100 mg	159,65

FA-lipid mixtures

ROTICHRON®

Purity	Art. No.	Pack Qty.	€
TLC 8	8823.1	100 mg	132,80
TLC 10	8827.1	100 mg	159,65

Free acid mixture

ROTICHRON® FA 1

Storage temp.: +4 °C

⚠️ Danger H314-H335

8792.1	100 mg	plastic	149,45 €

► For information on the composition of the individual mixtures see chart.

Narrow-spectrum fatty acid mixtures/Art. No.															
Carbon number/percent by weight		ME 11	ME 18	ME 15	ME 19	ME 12	ME 26	ME 16	ME 13	ME 28	ME 46	ME 14	ME 30	ME 32	ME 17
		8632.1	8667.1	8650.1	8669.1	8685.1	8685.1	8661.1	8642.1	8691.1	8730.1	8644.1	8693.1	8697.1	8666.1
	6 : 0	20	20												
	7 : 0	20													
	8 : 0	20	20	20	20										
	9 : 0	20		20											
	10 : 0	20	20	20	20										
	11 : 0			20		20									
	12 : 0		20	20	20	20	20								
	13 : 0					20		20							
	14 : 0		20		20	20	20	20							
	14 : 1						20								
	15 : 0				20	20		20							
	16 : 0						20	20	20	20	10				
	16 : 1						20								
	17 : 0							20	20						
	18 : 0								20	20	5	20	20		
	18 : 1									20	30		20		
	18 : 01T														
	18 : 2									20	50		20		
	18 : 3									20	5		20		
	19 : 0								20			20			
	20 : 0								20			20		20	20
	20 : 1													20	
	20 : 2													20	
	20 : 3													20	
	20 : 4													20	20
	21 : 0											20			20
	22 : 0											20			20
	22 : 1														
	23 : 0														20
	24 : 0														20

Broad-spectrum fatty acid mixtures/Art. No.																
Carbon number/percent by weight		ME 35	ME 36	ME 37	ME 38	ME 39	ME 22	ME 24	ME 21	ME 51	ME 29	FO 5	FO 3	FO 7	FO 4	FO 8
		8701.1	8702.1	8703.1	8705.1	8709.1	8677.1	8679.1	8676.1	8737.1	8692.1	8759.1	8756.1	8761.1	8758.1	6330.1
	4 : 0	4	4	6,1												
	5 : 0															
	6 : 0	3	2	9,2												
	7 : 0															
	8 : 0	2	2	7,7	2							7				
	9 : 0															
	10 : 0	3	3	7,7	3							5				
	11 : 0															
	12 : 0	3	4	7,7	4	2	20					48				
	13 : 0							20								
	14 : 0	12	10	7,7	8	2	20					15	1	1		
	14 : 1		2			1										
	15 : 0							20								
	16 : 0	30	25	7,7	10	22	20		20	4		7	4	4	11	4
	16 : 1		5			5					20					
	17 : 0					10		20								
	18 : 0	10	10	7,7	7	10	20		20	1		3	3	3	3	1
	18 : 1	30	25	7,7	8	32				58	20	12	45	60	80	53,8
	18 : 01T															4
	18 : 2	2	3	7,7	8	8				20		3	15	12	6	20,2
	18 : 3	1	4	7,7	10	4				10			3	5		10
	19 : 0								20							
	20 : 0		2	7,7	8		20		20	1			3	3		1,9
	20 : 1									2	20			1		1,9
	20 : 2															
	20 : 3															
	20 : 4					4										
	21 : 0								20							
	22 : 0			7,7	10					20	1			3	3	
	22 : 1				10						2	20		20	5	
	23 : 0															
	24 : 0				12					20	1			3	3	
	24 : 1											20				

Oils and Greases



Roth oils and greases are carefully manufactured from selected raw materials. They are of high purity and extensively specified. Therefore, they are suitable for a broad range of applications.

Oils and greases

Programme extension!

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Avocado oil	refined, DAC	Oleum Perseae	9341.1	1 l	57,95
			4702.1	1 l	26,80
Castor oil	Ph.Eur., nativ, extra pure	Oleum Ricini	4702.3	2,5 l	47,20
			4702.4	5 l	78,40
			4702.2	10 l	147,85
			6964.1	1 l	32,15
Colza oil	crude oil	Oleum Rapae	6964.2	2,5 l	62,25
			6964.3	5 l	106,35
Joboba oil	virgin	-	7526.1	100 ml	21,40
			7526.2	1 l	132,15
Lanolin	Ph.Eur., low in pesticides	Adeps Lanae anhydricum	5314.2	500 g	28,95
			5314.1	1 kg	45,05
	techn.	Adeps Lanae anhydricum	5313.2	500 g	18,20
			5313.1	1 kg	28,95
Linseed oil	native, cold pressed	-	9338.2	500 ml	24,65
			9338.1	1 l	37,55
			9338.3	2,5 l	69,80
	crude oil	-	8196.1	1 l	38,60
			8196.3	2,5 l	64,40
			8196.2	10 l	188,15
Maize oil	Ph.Eur., refined	Oleum Maydis	6212.1	1 l	32,15
			6212.2	2,5 l	53,65
			6212.3	5 l	80,55
			6212.4	10 l	134,30
Oil of theobroma	pure, filtered twice	Oleum Cacao	3515.2	100 g	15,60
			3515.1	500 g	41,40
Oil of sweet almond	refined	Oleum Amygdalae dulcis	9342.1	1 l	36,45
			9342.3	2,5 l	75,15
			9342.2	10 l	224,70
Oil of evening primrose	refined	Oleum Oenotherae	3691.1	50 ml	14,20
			3691.2	500 ml	61,85
			9332.2	500 ml	16,05
Peanut oil	refined	-	9332.1	1 l	23,55
			9332.3	2,5 l	40,75
			3686.1	1 l	21,00
Soybean oil	refined, extra pure	Oleum Sojae	3686.3	2,5 l	35,40
			3686.4	5 l	53,65
			3686.2	10 l	103,75
Stearic oil	techn.	-	9460.1	1 l	27,45

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Vaseline	Ph.Eur.	-	5775.2	500 g	16,70
			5775.1	1 kg	22,50
			5775.4	10 kg	112,35
Vaseline oil	techn., white	-	9336.1	1 l	21,40
			9336.2	2,5 l	37,55
			9336.3	5 l	59,05

For additional product data and safety information, see chapter Chemicals A-Z.

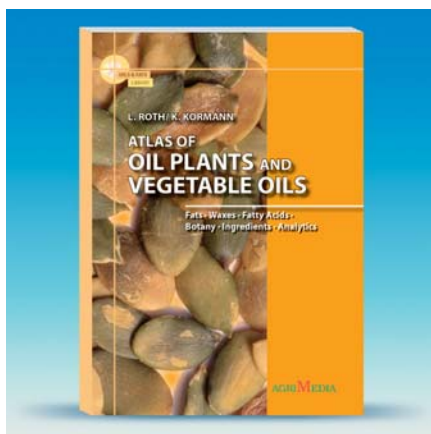
Fatty acids and derivatives

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Arachidic acid	≥99 %, synth.	n-Eicosanoic acid	8736.1	1 g	47,20
Arachidic acid calcium salt	DAB	Calcium arachinate/-behenate	9264.1	500 g	28,50
			9264.2	1 kg	46,80
Arachidonic acid	>99 %	-	4717.2	10 mg	44,65
			4717.1	100 mg	100,95
			4717.3	1 g	676,20
Azelaic acid	≥80 %	Nonanedioic acid	5487.1	25 g	20,10
			5487.2	100 g	49,15
Behenic acid	≥85 %	1-Docosanoic acid	5030.2	500 g	22,40
			5030.1	1 kg	34,65
5-Bromo-valeric acid	≥96 %	5-Bromopentanoic acid	5466.1	10 g	20,65
			5466.2	50 g	62,25
Butyric acid	≥99 %, for synthesis	Butanoic acid	3277.1	100 ml	14,85
			3277.2	1 l	57,95
Butyric acid ethyl ester	ROTICHRON® GC	Ethyl butyrate	5572.1	1 g	75,15
Butyric acid hexyl ester	ROTICHRON® GC	Hexyl butyrate	9451.1	1 g	75,15
Butyric acid methyl ester	ROTICHRON® GC	Methyl butyrate	5186.1	1 g	75,15
Capric aldehyde	≥97 %, for synthesis	Decanal	7547.1	100 ml	104,20
			8797.1	100 g	18,20
Capric acid	>99 %, for synthesis	Decanoic acid	8797.2	1 kg	76,25
			3164.1	1 g	24,20
Capric acid ethyl ester	ROTICHRON® GC	Ethyl caprate	3575.1	1 g	75,15
Capric acid isoamyl ester	ROTICHRON® GC	Isoamyl caprate	4420.1	1 g	75,15
Capric acid methyl ester	>97 %, for synthesis	Decanoic acid methyl ester, Methyldecanoate	3325.1	100 ml	59,70
			6709.1	1 g	75,15
Caproic aldehyde	≥98 %, for synthesis	Hexanal	3327.1	100 ml	35,40
			6757.1	1 g	75,15
Caproic acid	≥98 %, for synthesis	Hexanoic acid	8799.1	100 ml	16,70
			8799.3	500 ml	28,50
			8799.2	1 l	48,60
			8799.4	2,5 l	97,75
Caproic acid ethyl ester	ROTICHRON® GC	-	6019.1	1 g	75,15
Caproic acid methyl ester	ROTICHRON® GC	Methyl caproate, Hexanoic acid methyl ester	6653.1	1 g	75,15
Caprylic acid	ROTICHRON® GC	n-Octanoic acid	3168.1	1 g	37,10
Caprylic acid ethyl ester	ROTICHRON® GC	-	6018.1	1 g	75,15
Caprylic acid methyl ester	≥99 %, for synthesis	Methyl caprylate, Octanoic acid methyl ester, Methyl octanoate	3331.1	10 ml	23,90
			4349.1	1 g	75,15

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Cetyl alcohol	≥95 %	1-Hexadecanol, Alcohol C 16	5762.1	1 kg	45,70
Cetyl palmitate	synthetic	Spermaceti, Cetaceum	9229.2	100 g	16,70
			9229.1	1 kg	106,45
Cholesterol palmitate	≥97 %, pure	-	3404.1	5 g	44,00
Cholesteryl-stearat	≥97 %, rein	-	3405.1	5 g	31,10
Dodecyl aldehyde	≥98 %, for synthesis	Dodecanal, Lauraldehyde	3754.1	50 ml	44,65
Erucic acid	≥99 %	cis-13-Docosenoic acid	7065.2	250 mg	73,00
			7065.1	1 g	233,85
	≥90 %	cis-13-Docosenoic acid	9932.1	250 g	25,70
Erucic acid methyl ester	≥90 %	cis-13-Docosenoic acid methyl ester	9431.1	10 ml	60,75
			9431.2	50 ml	235,45
Glyceryl 1-monopalmitate	≥98 %, for biochemistry	1-Palmitin	3786.2	1 g	170,95
Glyceryl monostearate	pure	-	3787.1	500 g	18,85
Lauric acid ethyl ester	ROTICHROM® GC	Ethyl laurate, Dodecanoic acid ethyl ester	4410.1	1 g	75,15
Lanolin alcohols	Ph.Eur.	Lanae alcohols	5085.2	500 g	81,60
			5085.1	1 kg	145,70
Lauric acid methyl ester	ROTICHROM® GC	Methyl laurate, Dodecanoic acid methyl ester	6787.1	1 g	75,15
Lecithin	≥97 %, for biochemistry	Phosphatidylcholine	AE81.1	100 g	13,80
			AE81.2	250 g	22,50
			AE81.3	1 kg	59,05
	≥97 %, for biochemistry	Phosphatidylcholine	9812.1	250 g	19,05
			9812.2	2,5 kg	107,00
	from eggs, for biochemistry	Phosphatidylcholine	7514.1	25 g	38,20
Levulinic acid	98 %	4-Oxopentanoic acid, 3-Aceto-propionic acid	3976.1	50 g	21,40
			3976.2	500 g	107,40
Linoleic acid	ROTICHROM® GC	-	5315.1	1 g	56,45
Linoleic acid ethyl ester	ROTICHROM® GC	-	3198.1	1 g	31,10
Linoleic acid methyl ester	≥99 %	-	7217.1	5 ml	46,80
			7217.2	50 ml	385,95
	ROTICHROM® GC	-	3199.1	1 g	32,80
Linolenic acid	~94 %	9,12,15-Octadecatrienoic acid	6039.1	5 ml	89,80
	ROTICHROM® GC	9,12,15-Octadecatrienoic acid	5320.1	1 g	182,25
Myristic acid	≥98 %, for biochemistry	Tetradecanoic acid	6469.1	1 kg	44,00
Myristic acid isopropyl ester	≥92 %, extra pure	Isopropyl myristate, IPM	5527.1	500 ml	32,15
Myristic acid methyl ester	≥99 %	Methyl myristate, Methyl tetradecanoate	3753.1	50 ml	33,25
Oleic acid	≥99 %, natural	-	7213.1	5 ml	31,10
			7213.2	50 ml	212,35
	ROTICHROM® GC	-	5362.1	1 g	33,90
Oleic acid methyl ester	ROTICHROM® GC	Methyl oleate	3186.1	1 g	31,10
Oleic acid sodium salt	~90 %	Sodium oleate	8856.1	500 g	33,25
Palmitic acid	≥98 %, extra pure	Hexadecanoic acid	5907.3	500 g	19,25
			5907.1	1 kg	26,35
			5907.2	5 kg	92,35
			4459.1	25 g	17,75
Palmitic acid methyl ester	≥97 %	Methyl palmitate	4459.2	100 g	32,15
			4459.3	500 g	87,00
Pelargonic acid	≥97 %	Nonanoic acid	7015.1	50 ml	32,15

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Pelargonic acid vanillylamide	≥96 %	Nonylvanylamide, so called synth. Capsaicin	4462.1	10 g	31,10
			4462.2	50 g	117,20
Pimelic acid	≥99 %	Heptanedioic acid	5270.1	25 g	27,85
Stearic acid	≥98 %	Octadecanoic acid	5270.2	50 g	40,75
			9459.1	1 kg	20,35
			9459.2	5 kg	77,95
Stearic acid butyl ester	for synthesis	Butyl stearate	8150.2	100 ml	12,70
			8150.1	1 l	36,05
			8150.3	2,5 l	69,80
Stearic acid lithium salt	pure	Lithium stearate	8238.1	500 g	21,75
Stearic acid methyl ester	≥99 %	Methyl stearate	4704.1	5 g	33,25
			4704.2	25 g	65,05
			4704.3	50 g	97,30
Stearic acid sodium salt	88-92 %	Sodium stearate	8628.1	1 kg	32,80
Stearyl alcohol	≥95 %	1-Octadecanol	8663.2	500 g	16,70
			8663.1	1 kg	23,90
Tributyrin	≥97,5 %, for biochemistry	Glyceryl tributyrate	4813.1	100 ml	73,00
Tricaprin	≥98 %	Glyceryl tricaproate	7252.1	10 g	115,60
Tricaprylin	~98 %	Glyceryl tricaprylate	7249.1	10 g	47,00
			7249.2	100 g	299,95
Tripelargonin	ROTICHROM® CHR	-	8877.1	10 g	50,00
			8877.2	100 g	396,70
1-Undecanol	ROTICHROM® GC	-	3701.1	1 g	75,15
Undecanoic acid methyl ester	≥98 %	-	4866.1	10 ml	60,10
n-Valeric acid	>98 %	Pentanoic acid	4874.1	250 ml	28,50
n-Valeric acid methyl ester	≥98 %	Methyl-valerate	4876.1	100 ml	44,00
Zinc stearate	powder	Stearic acid zinc salt	9295.1	1 kg	37,30
			9295.5	25 kg	364,45

For additional product data and safety information, see chapter Chemicals A-Z.



Atlas of oil plants and vegetable oils

L. Roth, K. Kormann
196 pp., hardcover
ISBN-10: 3-86037-290-4

This is a unique source of information on the world's over 50 individual oilseeds including major, minor, unexploited and non-edible oilcrops. Each crop is clearly presented in a portrait of the plant (botany, distribution, cultivation) including colour pictures, tabular data on nutritional composition and oil characteristics. The book discusses the composition, processing technologies and utilization in the processing of oilseeds into oil, protein products and other by-products.

Art. No.	Pack Qty.	Price incl. VAT. €
EP94.1	1	99,00

Natural & Reference Materials · Essential Oils

Essential oils

Programme
extension!

Essential oils form in the oil glands of plants and are stored in the plant tissue. They can be found in blossoms, leaves, seeds, husks, roots, resins and bark or in the wood of a plant. Essential oils are generally extracted from plant components by steam distillation.

Our essential oils are carefully manufactured from selected raw materials. Our **Natural oils** are composed of 80 % mother plant extracts. **Artificial oils** are manufactured from synthetic aromatic substances. The origin of the plant is specified via the country code.



Product	Purity	Synonym	Art. No.	Pack Qty.	€
Hypericon oil	extra pure	Oleum Hyperici	4501.1	250 ml	27,85
	pure	Hypericum perforatum	9404.1	250 ml	24,20
Laurel oil	essential, natural	Oleum Lauri aetherum	6609.1	100 ml	60,10
	artificial	Oleum Lauri	3314.1	250 ml	43,55
Musk oil	artificial	-	3364.1	100 ml	36,45
Oil of angelica roots	hungarian, natural	Oleum Angelicae e seminis	6587.1	10 ml	98,80
	natural	Oleum Anisi	7036.1	100 ml	30,00
Oil of anise	artificial	Oleum Anisi	3278.2	100 ml	13,90
			3278.1	500 ml	41,40
Oil of balm	natural	Oleum Melissae indikum	6507.1	100 ml	17,10
Oil of basil	natural	Oleum Basilici	7039.1	25 ml	42,90
	natural	Oleum Bergamottae	6501.1	50 ml	31,10
Oil of bergamot	artificial	Oleum Bergamottae	3282.2	100 ml	21,40
			3282.1	250 ml	36,05
Oil of cajeput			6105.1	100 ml	24,20
			6105.2	500 ml	60,10
Oil of camphor	light	Oleum Camphorae	3357.1	1 l	52,15
Oil of caraway	natural	Oleum Carvi	7050.1	25 ml	18,85
	artificial	Oleum Carvi	3307.1	250 ml	33,25
Oil of cassia	natural, chinese	Oleum Cassiae	6593.1	100 ml	36,45
	pure	Oleum Foliorum cedri	6594.1	100 ml	72,60
Oil of cedar leaf	artificial	Oleum Foliorum cedri	3291.2	50 ml	18,20
			3291.1	250 ml	53,65
Oil of cedar wood			5308.1	100 ml	14,55
	for microscopy	Oleum Ligni cedri	5308.2	250 ml	21,40
Oil of celery			5308.3	500 ml	37,55
	-	Apium graveoleus oil	7040.2	5 ml	21,40
Oil of cembra pine			7040.1	25 ml	53,25
	pure	Oleum Cembrae	4208.2	25 ml	16,05
Oil of chamomile	blue	Oleum Chamomillae	4208.1	100 ml	40,75
	roman, natural	Oleum Chamomillae romanae	6504.1	10 ml	84,85
Oil of chamomile	artificial	Oleum Chamomillae	3354.1	5 ml	60,10
			3305.1	50 ml	50,45
Oil of cinnamon	natural	Oleum Cinnamomi ceylanici	A432.2	10 ml	16,05
	artificial	Oleum Cinnamomi ceylanici	A432.1	50 ml	53,65
Oil of citronella	natural	Oleum Citronellae	6512.1	50 ml	26,80
	artificial	Oleum Citronellae	6502.1	250 ml	36,45
Oil of clary-sage	natural	Oleum Salviae sclareae	3292.1	500 ml	31,10
			3355.1	25 ml	40,35
Oil of cloves			8662.1	250 ml	34,30
	≥80 %, DAB, natural	Oleum Caryophyllorum	8662.2	1 l	107,40
Oil of coriander	natural	Oleum Coriandri	7052.1	25 ml	20,35
Oil of cubeb	natural	Litsea, Oleum Cubebarum	6608.1	100 ml	24,20
Oil of cypress	french, natural	Oleum Cupressi	6596.1	100 ml	53,25
Oil of dill herb	natural	Oleum Anethi e herba	6597.1	100 ml	42,90
Oil of dill seed	extra pure	Oleum Anethi e seminis	3352.1	100 ml	40,35

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Oil of estragon	pure	Oleum Dracunculi	6602.1	50 ml	69,35
Oil of eucalyptus	>70 %, Ph.Eur.	Oleum Eucalypti	5337.1	100 ml	20,35
			5337.2	500 ml	79,05
	artificial	Oleum Eucalypti artificiale	3297.2 	500 ml	26,80
Oil of fennel	artificial	Oleum Foeniculi	3297.1	1 l	41,40
			3299.2 	100 ml	16,05
Oil of fir needles	artificial	Oleum Pini	3299.1	500 ml	41,40
			3301.1	500 ml	30,00
Oil of fir needles	siberian, artificial	Oleum Pini sibiricum artificiale	3300.1	1 l	36,45
			3300.1	1 l	36,45
Oil of gardsage	natural, Dalmat.	Oleum Salviae	7075.1	50 ml	24,20
Oil of garlic	natural	Oleum Allii sativi	3540.2 	50 ml	26,80
			3540.1	100 ml	59,05
Oil of geranium	natural	Oleum Geranii	7054.1	25 ml	21,40
	artificial	Oleum Geranii	3304.1	250 ml	47,20
Oil of grapefruit	natural	-	6718.1	250 ml	56,65
Oil of juniper	pure	Oleum Juniperi e baccis	7059.1	25 ml	26,35
Oil of juniper wood	natural	Oleum Juniperi e ligno	7057.1	25 ml	18,20
Oil of lavandin	french	Lavendula hybrida	6603.1	100 ml	27,85
Oil of lavender	DAB	Oleum Lavandulae	5443.1	100 ml	37,10
	artificial	Oleum Lavandulae	5443.2	1 l	209,65
Oil of lemon	italian	Oleum Citri	3367.1	250 ml	45,70
			3797.2 	50 ml	48,30
	natural	Oleum Citri	3797.1	100 ml	94,50
			5213.1	100 ml	27,45
			3346.1	500 ml	40,35
Oil of lemon-grass	low in terpenes	Oleum Citri	6625.1	50 ml	55,80
Oil of lime	natural purity	Cochin, Oleum Lemon-grass	6606.1	100 ml	24,20
Oil of lime	natural	Oleum Limettae, Lime oil	6721.1	50 ml	22,50
Oil of lovage	pure	Oleum Levistici	6607.1	10 ml	96,65
Oil of mandarin	italian	Oleum Mandarinae	3796.1	100 ml	42,90
Oil of mint	China, raw	Oleum Menthae arvensis	6730.2 	50 ml	16,05
			6730.1	250 ml	47,85
	Japan, natural	Oleum Menthae arvensis	6731.2 	50 ml	18,20
			6731.1	250 ml	47,85
	rectified twice	Oleum Menthae arvensis	6732.1	50 ml	21,40
Oil of mountain pine	artificial	Oleum Pini pumilionis	6732.2	250 ml	51,50
			3310.2 	250 ml	21,40
Oil of niaouli	natural	Melaleuca viridiflora	3310.1	500 ml	39,70
Oil of nutmeg	volatile	Oleum Myristicae aethereum	6610.1	100 ml	28,95
Oil of orange	bitter, italian	Oleum Aurantii amar	7064.1	50 ml	26,35
	Brazil	Oleum Aurantii, with analysis.	6509.1	100 ml	34,95
	Florida	-	3803.1	100 ml	33,25
			6728.2 	250 ml	21,40
			6728.3	500 ml	35,40
Oil of orange flowers	sweet, natural	Oleum Aurantii dulc	6728.1	1 l	56,90
	natural	Oleum Neroli	6611.1	100 ml	41,40
Oil of orange flowers	artificial	Oleum Neroli	7070.1	10 ml	188,15
	artificial	Oleum Neroli	3323.1	50 ml	60,10
Oil of palmarosa	east indian	Oleum Palmae rosae	6613.2 	25 ml	21,40
			6613.1	100 ml	41,40
Oil of parsley	french	Oleum Petroselini	7072.1	10 ml	21,40
Oil of patchouli	artificial	Oleum Patchouli	6511.2 	25 ml	20,35
			6511.1	100 ml	52,15
Oil of pepper	natural	Oleum Piperis	6616.2 	25 ml	30,00
			6616.1	100 ml	83,75
Oil of peppermint	pure	Oleum Menthae piperitae	9318.1	50 ml	21,40
	artificial	Oleum Menthae piperitae	3329.2 	100 ml	16,05
			3329.1	500 ml	40,75
Oil of peppermint italian	pure	Oleum Menthae piperitae	7063.1	25 ml	26,35
Oil of peppermint Kennewick, USA	natural	Oleum Menthae piperitae	3777.1	100 ml	95,70
Oil of petitgrain	south american	Oleum Petitgrain americ.	6614.1	100 ml	41,40
Oil of rose	bulgarian, natural	Oleum Rosae	5733.1	1 ml	45,70
			5733.2	10 ml	278,45
	artificial	Oleum Rosae	4092.1	10 ml	24,20
Oil of rosemary	spanish	Oleum Rosmarini	6514.1	100 ml	24,20
	morrocan	Oleum Rosmarini	3764.1	100 ml	23,15
	artificial	Oleum Rosmarini	3336.2 	100 ml	16,05
			3336.1	500 ml	40,75

Natural & Reference Materials · Essential Oils

Product	Purity	Synonym	Art. No.	Pack Qty.	€
Oil of rose-wood	nature identical	Oleum Ligni Rhodii	3275.2 	50 ml	32,15
			3275.1	100 ml	60,10
Oil of sandal-wood	west indian	Oleum Santali	6620.2 	25 ml	16,05
			6620.1	100 ml	40,75
	artificial	Oleum Ligni Santali artificiale	3341.2 	50 ml	18,20
			3341.1	250 ml	48,30
Oil of Scotch pine needles	natural	Oleum Pini silvestris	7073.1	100 ml	27,85
	artificial	Oleum Pini silvestris	3306.2 	250 ml	21,40
			3306.1	500 ml	39,70
Oil of silver fir	artificial	Oleum Abietis	3295.1	250 ml	27,85
Oil of silver fir cones	natural	Oleum Templini	6598.1	100 ml	47,20
Oil of silver fir needles	natural	Oleum Abietis	3353.1	100 ml	36,45
Oil of origanum	natural	Oil of wild marjoram, Oleum Origaní cretici	6612.2 	25 ml	20,35
			6612.1	100 ml	52,15
Oil of spike	natural pure	Oleum Spicae	7079.1	50 ml	25,30
Oil of tansy	pure	Oleum Tanaceti	7081.2 	5 ml	16,05
			7081.1	25 ml	40,75
Oil of tea tree	australian, natural	Melaleuca alternifolia aetheroleum	K032.1	50 ml	24,20
Oil of thyme	natural	-	K500.1	50 ml	37,55
Oil of thyme	natural/nature-identical	Oleum Thymi	6513.1	100 ml	20,35
Oil of valerian	polish	Oleum Valerianae	6588.2 	10 ml	42,90
			6588.3	25 ml	93,45
			6588.1	50 ml	170,95
	artificial	Oleum Valerianae artificiale	3279.1	100 ml	30,00
Oil of vetiver	natural	Oleum Vetiverae	6622.2 	10 ml	16,05
			6622.1	50 ml	40,75
Oil of wintergreen	artificial	Oleum Gaultheriae	7053.1	100 ml	30,00
Oil of wormwood	natural	Oleum Absinthii	6909.1	10 ml	19,25
Oil of ylang-ylang	Comoren, natural	Oleum Anonae	6624.2 	25 ml	30,00
			6624.1	100 ml	107,40
Oil of ylang-ylang	artificial	Oleum Anonae	3343.2 	50 ml	16,05
			3343.1	250 ml	53,65

For additional product data and safety information, see chapter Chemicals A-Z.

Sugar (Carbohydrates)

Carbohydrates are a biologically and chemically significant group. From this segment we supply high purity products which are ideal for microbiological and biochemical applications.



Product	Purity	Art. No.	Pack Qty.	€
N-Acetyl-D-galactosamine	≥99 %, for biochemistry	4114.1	250 mg	30,00
		4114.2	1 g	90,85
N-Acetyl-D-glucosamine	≥99 %, for biochemistry	8993.3	5 g	14,55
		8993.2	25 g	36,45
		8993.1	50 g	64,40
		8993.4	100 g	100,95
		5525.1	250 mg	12,80
N-Acetyl-D-mannosamine	≥98 %	5525.2	1 g	41,85
		5525.3	5 g	133,85
		7480.1	100 mg	22,50
N-Acetylneuraminic acid	≥99 %, for biochemistry	7480.2	500 mg	67,20
		7480.3	1 g	110,20
		7480.4	5 g	332,20
		6010.2	50 mg	27,85
β-D-Allose	≥98 %	6010.1	100 mg	38,20
		8954.1	10 g	28,95
DL-Arabinose	>99 %, for biochemistry	8954.2	50 g	82,70
		5118.1	50 g	37,10
L(+)-Arabinose	≥99 %, for biochemistry	5118.2	100 g	57,95
		5118.3	250 g	114,50
		5510.1	25 g	109,55
D(+)-Arabitol	≥99 %, for biochemistry	5510.2	50 g	166,65
		7738.1	1 g	20,35
L(-)-Arabitol	for biochemistry	7738.2	5 g	53,65
		5840.1	5 g	17,10
		5840.3	25 g	51,50
D(+)-Cellobiose	≥98 %, for biochemistry	5840.2	100 g	192,45
		5463.1	5 g	28,50
		5463.2	25 g	96,65
α-D-Cellobiose octaacetate	≥98 %, for biochemistry	3363.2	25 g	16,05
		3363.1	100 g	51,10
α-Chloralose	(≤20 % β-Anomer)	3363.3	250 g	99,90
		4122.1	5 g	20,10
α-Cyclodextrin	≥90 %, for biochemistry	4122.2	25 g	64,40
		4122.3	50 g	106,45
		9916.1	250 mg	22,40
2-Deoxy-D-galactose	≥99 %, for biochemistry	9916.2	1 g	43,55
		9916.3	5 g	160,20
		CN96.1	50 mg	15,60
2-Deoxy-D-glucose	≥98 %, for biochemistry	CN96.2	1 g	36,05
		CN96.3	5 g	126,35
		CN97.1	5 g	38,20
2-Deoxy-D-ribose	≥99 %, for biochemistry	CN97.2	10 g	64,00
		CN97.3	25 g	139,25
		8718.1	10 g	26,80
Dextran 2,5	for biochemistry	8718.2	100 g	106,35
		8718.3	500 g	428,95
		7615.1	10 g	14,55
Dextran 6	for biochemistry	7615.2	100 g	51,50
		7615.3	500 g	213,95
		7616.1	10 g	14,55
Dextran 10	for biochemistry	7616.2	100 g	51,50
		7616.3	500 g	213,95
		7617.1	10 g	14,55
Dextran 20	for biochemistry	7617.2	100 g	53,65
		7617.3	500 g	213,95

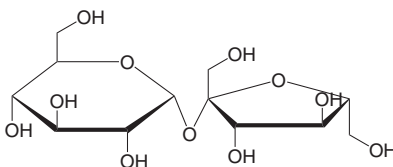
Product	Purity	Art. No.	Pack Qty.	€
Dextran 35	for biochemistry	8943.2	10 g	14,55
		8943.1	50 g	41,40
		8943.3	100 g	67,20
Dextran 40	for biochemistry	7626.1	10 g	10,65
		7626.2	100 g	33,25
		7626.3	250 g	67,65
		7626.4	500 g	118,15
	extra pure	9227.3	10 g	14,55
		9227.1	100 g	38,20
		9227.4	250 g	76,25
Dextran 70	extra pure	9227.2	500 g	129,55
		9228.3	10 g	14,55
		9228.1	100 g	49,35
		9228.4	250 g	100,95
		9228.2	500 g	192,45
Dextran 100	for biochemistry	7618.1	10 g	14,55
		7618.2	100 g	51,50
		7618.3	500 g	213,95
		7619.1	10 g	14,55
Dextran 150	for biochemistry	7619.2	100 g	51,50
		7619.3	500 g	213,95
		9233.3	10 g	33,25
Dextran 250	for biochemistry	9233.1	100 g	167,20
		9233.2	500 g	736,40
		9219.3	10 g	22,40
Dextran 500	for biochemistry	9219.1	100 g	75,15
		9219.2	500 g	321,45
		7610.1	10 g	27,85
		7610.2	25 g	51,50
Dextran sulphate 8 sodium salt	for biochemistry	7610.3	50 g	90,85
		7610.4	100 g	170,95
		7612.1	10 g	27,85
Dextran sulphate 40 sodium salt	for biochemistry	7612.2	25 g	51,50
		7612.3	50 g	90,85
		7612.4	100 g	170,95
		5956.5	10 g	27,85
Dextran sulphate 500 sodium salt	for biochemistry and molecular biology	5956.3	25 g	53,65
		5956.4	50 g	91,30
		5956.1	100 g	174,05
		5956.2	500 g	768,65
		6778.1	1 kg	24,20
Dextrin	white, extra pure	6778.2	5 kg	91,30
		6777.1	1 kg	16,05
	yellow, extra pure	6777.2	5 kg	56,90
		3488.1	250 g	31,75
Dulcitol	≥99 %, for biochemistry	4944.2	10 g	16,70
		4944.1	50 g	53,65
D(-)-Fructose	>99,5%, for biochemistry	4981.1	500 g	14,95
		4981.4	1 kg	22,80
		4981.2	2,5 kg	48,05
		4981.5	5 kg	63,35
		4981.6	10 kg	82,25
		4981.3	25 kg	170,95
D-Fructose-1,6-diphosphate trisodium salt octahydrate	≥98 %, for biochemistry	4982.1	1 g	16,70
		4982.2	5 g	31,10
		4982.3	25 g	91,95
L(-)-Fucose	≥95 %, for biochemistry	KK10.1	1 g	27,85
		KK10.2	5 g	88,70
		KK10.3	25 g	375,20

Natural & Reference Materials · Carbohydrates

Product	Purity	Art. No.	Pack Qty.	€
D(+)-Galactose	≥98 %, for biochemistry	4987.1	100 g	24,65
		4987.2	500 g	83,35
		4987.3	1 kg	143,55
α-D-Galactose-1-phosphate Dipotassium salt pentahydrate	≥99 %, for biochemistry	5550.1	25 mg	26,80
		5550.2	100 mg	91,30
β-D-Gentiobiose	≥98 %, for biochemistry	4123.1	250 mg	47,85
		4123.2	500 mg	89,15
		4123.3	1 g	155,90
D(+)-Glucose	p.a., ACS, anhydrous	X997.1	250 g	12,80
		X997.2	1 kg	30,00
		X997.3	2,5 kg	62,90
		X997.4	5 kg	107,40
		X997.5	25 kg	510,65
	≥99,5 %, CELLPURE®, anhydrous	HN06.1	250 g	12,70
		HN06.2	500 g	20,35
		HN06.3	1 kg	29,80
L(-)-Glucose	≥98 %, for biochemistry	7509.1	100 mg	27,85
		7509.2	500 mg	63,35
		7509.3	1 g	104,20
D(+)-Glucose monohydrate	≥99,5 %, Ph.Eur.	6780.1	1 kg	18,20
		6780.2	5 kg	61,85
		6780.4	10 kg	102,05
		6780.3	50 kg	303,70
	for microbiology	6887.1	1 kg	17,75
		6887.2	2,5 kg	36,45
		6887.3	5 kg	59,05
		6887.5	25 kg	160,20
α-D-Glucose-1-phosphate disodium salt tetrahydrate	≥98 %, for biochemistry	6119.1	1 g	30,00
		6119.2	10 g	132,15
D-Glucose-6-phosphate Monosodium salt	≥98 %, for biochemistry	5544.1	1 g	42,50
		5544.2	5 g	149,45
D-Glucose-6-phosphate disodium dihydrate	≥98 %, for biochemistry	CN72.1	1 g	28,50
		CN72.2	5 g	96,65
		CN72.3	10 g	171,50
D-Glucuronic acid	≥98 %, for biochemistry	4124.1	1 g	17,10
		4124.2	5 g	36,45
		4124.3	10 g	60,10
		4124.4	25 g	103,75
D-Glucuronic acid sodium salt monohydrate	≥99 %, for biochemistry	4355.1	10 g	39,70
		4355.2	25 g	66,55
Glycogen	lyophilised, from oysters	HP51.1	1 g	22,50
		HP51.2	5 g	88,70
		HP51.3	10 g	153,65
		HP51.4	25 g	332,20
3-Indoxyl-β-D-glucopyranoside	≥99 %, for biochemistry	4243.1	250 mg	48,95
		4243.2	500 mg	79,05
		4243.3	1 g	141,80
meso-Inositol	≥99 %, p.a.	6329.2	10 g	22,50
		6329.1	100 g	149,45
		4191.1	50 g	23,35
	≥99 %, for biochemistry	4191.2	100 g	38,60
		4191.3	250 g	76,25
		6884.1	25 mg	59,05
Isomaltotriose	≥98 %	6884.2	100 mg	177,40
Isomaltulose	≥99 %, for biochemistry	8400.1	25 g	26,80
		8400.2	100 g	76,25
Lactose monohydrate	Ph.Eur., for biochemistry	8921.1	1 kg	20,35
		8921.2	5 kg	72,60
		8921.3	10 kg	123,55
		8921.5	25 kg	289,20
	for microbiology	6868.1	1 kg	23,35
		6868.2	5 kg	78,40
		6868.4	10 kg	134,40
Lactulose	≥99 %, for biochemistry	6868.3	50 kg	499,90
		CN98.1	10 g	23,55
		CN98.2	25 g	46,15
		CN98.3	50 g	83,35

D(+)-Maltose monohydrate	≥95 %, for biochemistry	8951.1	100 g	19,90
		8951.2	250 g	33,90
		8951.3	500 g	62,90
		8951.4	1 kg	90,20
D(-)-Mannitol	≥98 %, Ph.Eur., USP, BP, for biochemistry	4175.1	1 kg	64,40
		4175.2	5 kg	255,35
D(+)-Mannose	≥99,5 %, for biochemistry	4220.1	10 g	23,15
		4220.2	50 g	73,00
D(+)-Melezitose monohydrate	≥99 %, for biochemistry	4222.1	2,5 g	20,65
		4222.2	25 g	76,25
D(+)-Melibiose monohydrate	≥99 %, for biochemistry	4223.1	2,5 g	27,45
		4223.3	10 g	67,20
		4223.2	50 g	241,35
D(+)-Raffinose pentahydrate	≥98 %, for biochemistry	5241.1	10 g	32,80
		5241.4	25 g	51,50
		5241.2	50 g	87,00
		5241.3	100 g	134,40
L(+)-Rhamnose monohydrate	≥99 %, for biochemistry	4655.1	5 g	28,50
		4655.2	25 g	77,30
D(-)-Ribose	≥98 %, for biochemistry	7168.1	10 g	27,85
		7168.3	25 g	44,85
		7168.2	100 g	142,45
D(+)-Saccharose	≥99,5 %, p.a.	4621.1	1 kg	18,85
		4621.2	5 kg	78,40
		4621.3	10 kg	99,45
		4621.5	25 kg	181,70
	Ph.Eur.	4661.1	1 kg	18,20
		4661.2	5 kg	74,10
		4661.4	10 kg	91,30
		4661.3	50 kg	295,65
	≥99,7 %, pulv.	9286.1	1 kg	17,10
		9286.2	5 kg	60,75
	≥99,5 %, RNase/DNase free	9097.1	1 kg	33,90
		9097.2	5 kg	144,05
D-Sorbitol	≥98 %, for biochemistry	6213.1	1 kg	22,80
		6213.2	5 kg	64,00
		6213.3	10 kg	115,60
L(-)-Sorbitose	≥98 %, for biochemistry	4028.2	25 g	42,50
		4028.3	50 g	72,60
		4028.1	100 g	104,85
D-Tagatose	≥98,5 %, for biochemistry	6161.1	1 g	166,65
		6161.2	5 g	729,95
D(+)-Trehalose dihydrate	≥99 %, for biochemistry	5151.1	5 g	12,80
		5151.2	25 g	33,90
		5151.4	50 g	60,10
		5151.3	250 g	278,45
Xylitol	≥98,5 %, Ph.Eur., for biochemistry	9711.1	250 g	20,35
		9711.3	500 g	38,60
		9711.2	1 kg	75,15
		9711.4	2,5 kg	145,15
D(+)-Xylose	≥98,5 %, for biochemistry	5537.1	100 g	21,00
		5537.2	500 g	66,55
		5537.3	1 kg	104,20
L-Xylose	≥99 %, for biochemistry	4061.3	1 g	26,35
		4061.1	5 g	99,90
		4061.2	10 g	152,15

For additional product data and safety information, see chapter Chemicals A-Z.



D(+)-Saccharose

Vitamins

Vitamins are involved in many metabolic reactions. We can supply a range of high-purity substances suitable for biochemical applications in research and development.



Product	Purity	Art. No.	Pack Qty.	€
L(+)-Ascorbic acid / Vitamin C	≥99 %, p.a.	3525.1	100 g	11,10
		3525.2	250 g	16,05
		3525.3	500 g	24,55
	≥99 %, Ph.Eur., USP, BP, E 300	6288.1	100 g	11,75
		6288.2	250 g	18,85
		6288.3	1 kg	56,45
L(+)-Ascorbic acid sodium salt	≥99 %, USP, for biochemistry	3149.1	100 g	22,05
		3149.2	500 g	66,55
D(+)-Biotin / Vitamin H	≥98,5 %, Ph.Eur., for biochemistry	3822.2	500 mg	28,50
		3822.1	1 g	52,15
Calcium D(+)-pantothenate	≥98 %, Ph.Eur., for biochemistry	3812.2	100 g	24,65
		3812.1	250 g	44,00
Folic acid	≥96 %, for biochemistry	T912.1	25 g	38,60
		T912.2	50 g	67,65
Nicotinic acid	≥99 %, for biochemistry	3815.1	100 g	29,60
		3815.2	250 g	59,05
Pyridoxine hydrochloride / Vitamin B ₆ hydrochloride	≥99 %, for biochemistry	T914.1	50 g	27,10
		T914.2	100 g	45,05
Riboflavine / Vitamin B ₂	≥97 %, Ph.Eur., for biochemistry	9607.1	25 g	27,85
		T911.1	25 g	14,95
Thiamine hydrochloride / Vitamin B ₁ hydrochloride	≥98,5 %, for biochemistry	T911.2	100 g	38,60
DL-α-Tocopherol / Vitamin E	≥96 %, Ph.Eur., oily	3806.1	100 g	61,20
DL-α-Tocopherol acetate / Vitamin E acetate	≥96,5 %, Ph.Eur., oily	3805.1	100 g	35,40
Vitamin B ₁₂	≥96 %, for biochemistry	T915.1	500 mg	39,25
		T915.2	1 g	66,15
Vitamin K ₁	≥97 %, for biochemistry	3804.1	1 g	26,80
		3804.2	10 g	145,70

For additional product data and safety information, see chapter Chemicals A-Z.



Chromatography

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ROTI®CAP High Performance Capillary Columns

The proved ROTH series of high performance capillary columns for gas chromatography.

ROTI®CAP capillary columns set standards:

Low column bleed

Modern manufacturing processes offer capillaries with lower bleed levels, which are especially suitable for GC-MS. Less column bleed yields increased sensitivity and accuracy through a better signal to noise ratio for any kind of detector. Further reduced column bleed improves detectability of solutes in qualitative and quantitative GC-MS analyses.

High thermal stability

Due to high temperature stability ROTI®CAP capillary columns can be operated at about 40 °C higher temperatures compared to standard phases. Thanks to these elevated working temperatures, high-boiling components, which exhibit very long retention times and wide peaks on standard phases, elute earlier and with a more well-formed peak.

High inert columns due to optimised deactivation

Polar compounds are frequently difficult to analyse, because they often give broad tailing peaks. Advances in deactivation technology for the ROTI®CAP capillaries result in an excellent chromatographic performance yielding improved peak shapes of polar compounds combined with improved efficiency and sensitivity.

In order to guarantee best industry standard capillaries with highest reproducibility from column to column ROTI®CAP capillary columns have to meet high specifications.

Within the **quality control** the following parameters are determined:

- **Separation Efficiency** by measuring the separation number (acc. to Kaiser) in a temperature programme
- **Polarity** by measuring retention indices
- **Bleeding** in a temperature programme with a test mixture including high-boiling hydrocarbons
- **Inertness** by measuring the peak height ratio for decylamine/C-12 (for non-polar to medium polar phases)

Overview ROTI®CAP capillary columns:

GC capillary columns by ROTH	Configuration of the column	Similar phases	Polarity
ROTI®CAP-1	100 % dimethylpolysiloxane	OV-1, DB-1, SE-30, HP-1, SPB-1, CP-Sil 5 CB, Rtx®-1, 007-1, BP-1, MDN-1, AT™-1, ZB 1, OV 101, equivalent to USP phases G1/G2/G38	lowest ↓ highest
ROTI®CAP-1 MS	100 % dimethylpolysiloxane	Ultra 1, DB-1 MS, Rtx®-1 MS, HP-1 MS, Equity™-1, AT™-1 MS, VF-1 MS	
ROTI®CAP-5	5 % phenyl - 95 % dimethylpolysiloxane	SE-54, SE-52, DB-5, HP-5, SPB-5, CP-Sil 8, Rtx®-5, Rxi-5 MS, 007-5, BP5, MDN-5, AT™-5, ZB-5, equivalent to USP phases G27/G36	
ROTI®CAP-5 MS	5 % phenyl - 95 % dimethylpolysiloxane	DB-5 MS, HP-5 MS, Ultra-2, Equity™-5, CP-Sil 8CB low bleed/MS, Rtx®-5SIL-MS, AT™-5 MS, 007-5 MS, BPX5, MDN-5S, AT™-5 MS, VF-5MS, equivalent to USP phases G27/G36	
ROTI®CAP-5 MS Ultra	silarylene phase with selectivity similar to 5 % phenyl - 95 % methylpolysiloxane		
ROTI®CAP-5 HT	silarylene phase with selectivity similar to 5 % phenyl - and 95 % dimethylpolysiloxane	DB-5 HT, VF-5 HT, HT-5, XTI-5HT, ZB-5HT, equivalent to USP phases G27/G36	
ROTI®CAP-624	6 % cyanopropyl-phenyl - 94 % dimethylpolysiloxane	HP-624, HP-VOC, DB-624, DB-VRX, SBP-624, CP-624, Rtx®-624, Rtx®-Volatiles, 007-624, BP624, VOCOL, equivalent to USP phase G43	
ROTI®CAP-1701	14 % cyanopropyl-phenyl - 86 % dimethylpolysiloxane	OV-1701, DB-1701, CP Sil 19 CB, HP-1701, Rtx®-1701, SPB-1701, 007-1701, BP10, ZB-1701, equivalent to USP phase G46	
ROTI®CAP-1701 MS 	silarylene phase with selectivity analogue to 14 % cyanopropyl-phenyl - 86 % dimethylpolysiloxane	VF-1701ms, TG-1701MS, OV-1701, DB-1701, HP-1701, Rtx-1701, SPB-1701, CP-Sil 19 CB, 007-1701, BP10, ZB-1701, equivalent to USP phase G46	
ROTI®CAP-35 MS	silarylene phase with selectivity analogue to 35 % phenyl - 65 % methylpolysiloxane	DB-35 MS, HP-35, SPB-35, 007-35, BPX-35, MDN-35, AT-35 MS, ZB-35, OV-11, VF-35 MS, equivalent to USP phase G42, close equivalent to G28/G32	
ROTI®CAP-WAX	polyethylene glycol (PEG) 20000 dalton	DB-Wax, Supelcowax™, HP-Wax, HP-INNOWax, Rtx®-Wax, Stabilwax, CP-Wax 52 CB, 007-CW, BP20, AT™-Wax, ZB-Wax, equivalent to USP phase G16	highest
ROTI®CAP-FFAP	polyethylene glycol 2-nitroterephthalate	DB-FFAP, HP-FFAP, CP-SIL 58 CB, 007-FAP, CP-FFAP CB, Nukol equivalent to USP phase G35, close equivalent to USP phase G25	



GC capillary column ROTI®CAP-1**100 % Dimethylpolysiloxane**

- **Non-polar**
- Low column bleed
- Solvent rinsing applicable
- **Working temperature limits:**
for columns with 0,25 - 0,32 mm inner diameter and films <3 µm:
340 °C for isothermal operation
360 °C for short isotherms in a temperature programme
for columns with 0,53 mm inner diameter and films <3 µm:
320 °C for isothermal operation
340 °C for short isotherms in a temperature programme
for thick film columns with films ≥3 µm:
300 °C for isothermal operation
320 °C for short isotherms in a temperature programme
- **Application areas:** Excellent column for routine applications.

- **Similar phases:** OV-1, DB-1, SE-30, HP-1, Ultra-1, SPB-1, CP-SIL 5 CB, Rtx-1, 007-1, BP1, MDN-1, AT-1, ZB 1, OV 101
- Equivalent to USP phases G1/G2/G38

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
10	0,10	0,10	6077.1	1	265,00
10	0,25	0,10	6079.1	1	220,00
10	0,25	0,25	6081.1	1	220,00
10	0,25	0,50	6085.1	1	220,00
10	0,32	0,10	6086.1	1	232,00
10	0,32	0,25	6087.1	1	232,00
10	0,32	0,50	6088.1	1	232,00
10	0,32	1,00	6095.1	1	232,00
10	0,32	5,00	6097.1	1	232,00
10	0,53	1,00	6099.1	1	275,00
10	0,53	2,00	6100.1	1	275,00
10	0,53	5,00	6101.1	1	275,00
12	0,20	0,20	6103.1	1	249,00
12	0,20	0,35	6106.1	1	249,00
15	0,25	0,10	6107.1	1	299,00
15	0,25	0,25	6112.1	1	299,00
15	0,32	0,25	6074.1	1	309,00
15	0,32	1,00	6113.1	1	299,00
15	0,53	1,00	2849.1	1	329,00
20	0,10	0,10	6125.1	1	439,00
20	0,10	0,40	6126.1	1	439,00
25	0,20	0,10	6127.1	1	479,00
25	0,20	0,20	6129.1	1	479,00
25	0,20	0,35	6130.1	1	479,00
25	0,25	0,10	6131.1	1	479,00
25	0,25	0,25	6135.1	1	479,00
25	0,25	0,50	6137.1	1	479,00
25	0,25	1,00	6141.1	1	479,00
25	0,32	0,10	6143.1	1	509,00
25	0,32	0,25	6148.1	1	509,00
25	0,32	0,35	6152.1	1	509,00
25	0,32	0,50	6154.1	1	509,00
25	0,32	1,00	6156.1	1	509,00
25	0,32	3,00	6157.1	1	509,00
25	0,32	5,00	6158.1	1	509,00
25	0,53	0,50	6164.1	1	595,00
25	0,53	1,00	6165.1	1	595,00
25	0,53	2,00	6168.1	1	595,00
25	0,53	5,00	6172.1	1	595,00
30	0,25	0,10	1358.1	1	479,00
30	0,25	0,25	CN10.1	1	479,00
30	0,25	0,50	1362.1	1	479,00
30	0,25	1,00	1363.1	1	479,00
30	0,32	0,10	1370.1	1	509,00
30	0,32	0,25	1220.1	1	509,00
30	0,32	0,35	1371.1	1	509,00
30	0,32	0,50	1372.1	1	509,00
30	0,32	1,00	1373.1	1	509,00
30	0,32	3,00	1374.1	1	509,00
30	0,32	5,00	1375.1	1	509,00

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
30	0,53	0,50	6180.1	1	595,00
30	0,53	1,00	6182.1	1	595,00
30	0,53	2,00	1376.1	1	595,00
30	0,53	5,00	1377.1	1	595,00
50	0,20	0,20	6184.1	1	789,00
50	0,20	0,35	6185.1	1	789,00
50	0,20	0,50	6199.1	1	789,00
50	0,25	0,25	6202.1	1	789,00
50	0,25	0,50	6204.1	1	789,00
50	0,25	1,00	6206.1	1	789,00
50	0,32	0,10	6208.1	1	849,00
50	0,32	0,25	6209.1	1	849,00
50	0,32	0,35	6211.1	1	849,00
50	0,32	0,50	6214.1	1	849,00
50	0,32	1,00	6216.1	1	849,00
50	0,32	3,00	6218.1	1	849,00
50	0,32	5,00	6221.1	1	849,00
50	0,53	5,00	6222.1	1	909,00
60	0,25	0,10	6223.1	1	829,00
60	0,25	0,25	1378.1	1	829,00
60	0,25	0,50	6224.1	1	829,00
60	0,25	1,00	6226.1	1	829,00
60	0,32	0,10	6227.1	1	909,00
60	0,32	0,25	1379.1	1	919,00
60	0,32	0,35	6228.1	1	909,00
60	0,32	0,50	6234.1	1	909,00
60	0,32	1,00	6236.1	1	909,00
60	0,32	3,00	6237.1	1	909,00

GC capillary column ROTI®CAP-1 MS**100 % Dimethylpolysiloxane**

- **Non-polar**
- Very low column bleed
- Selectivity identical to ROTI®CAP 1
- **Working temperature limits:**
340 °C for isothermic operation
360 °C for short isotherms in a temperature programme
- **Application areas:** Ideal for GC/MS- and ECD-applications and general analysis at trace level

- **Similar phases:** Ultra 1, DB-1 MS, Rtx®-1 MS, HP-1 MS, Equity™-1, AT™-1 MS, VF-1 MS
- Equivalent to USP phases G1/G2/G38

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
12	0,20	0,35	6242.1	1	285,00
15	0,25	0,25	6243.1	1	339,00
25	0,20	0,20	6244.1	1	549,00
30	0,25	0,25	CN14.1	1	545,00
30	0,32	0,25	1381.1	1	589,00
50	0,20	0,20	6246.1	1	909,00
60	0,25	0,25	1382.1	1	949,00

GC capillary column ROTI®CAP-5

5 % Phenyl - 95 % Dimethylpolysiloxane

- **Non-polar**
- Low column bleed
- Solvent rinsing applicable
- **Working temperature limits:**
for columns with 0,25 - 0,32 mm inner diameter and films <3 µm:
340 °C for isothermal operation
360 °C for short isotherms in a temperature programme
for columns with 0,53 mm inner diameter and films <3 µm:
320 °C for isothermal operation
340 °C for short isotherms in a temperature programme
for thick film columns with films ≥3 µm:
300 °C for isothermal operation
320 °C for short isotherms in a temperature programme
- **Application areas:** standard phase with large range of applications
- **Similar phases:** SE-54, SE-52, DB-5, HP-5, SPB-5, CP-SIL 8, Rtx-5, 007-5, BP5, MDN-5, AT-5, ZB-5
- Equivalent to USP phases G27/G36

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
10	0,10	0,10	6252.1	1	265,00
10	0,25	0,25	6253.1	1	219,00
10	0,32	0,10	6254.1	1	235,00
10	0,53	0,50	6260.1	1	275,00
10	0,53	1,00	6266.1	1	275,00
10	0,53	2,00	6267.1	1	275,00
10	0,53	5,00	6268.1	1	275,00
15	0,25	0,25	6270.1	1	285,00
15	0,32	0,10	6271.1	1	305,00
15	0,32	0,25	6273.1	1	305,00
15	0,32	1,00	6274.1	1	305,00
15	0,32	5,00	6275.1	1	305,00
15	0,53	0,50	6075.1	1	305,00
15	0,53	1,00	1231.1	1	329,00
25	0,20	0,10	6277.1	1	479,00
25	0,20	0,20	6281.1	1	479,00
25	0,20	0,35	6282.1	1	479,00
25	0,20	0,50	6283.1	1	479,00
25	0,25	0,10	6284.1	1	465,00
25	0,25	0,25	6285.1	1	475,00
25	0,25	0,50	6291.1	1	475,00
25	0,25	1,00	6292.1	1	475,00
25	0,32	0,10	6293.1	1	509,00
25	0,32	0,25	6295.1	1	509,00
25	0,32	0,35	6296.1	1	509,00
25	0,32	0,50	6297.1	1	509,00
25	0,32	1,00	6298.1	1	509,00
25	0,32	3,00	6299.1	1	509,00
25	0,32	5,00	6302.1	1	509,00
25	0,53	0,50	6289.1	1	595,00
25	0,53	1,00	6303.1	1	595,00
25	0,53	2,00	6304.1	1	595,00
25	0,53	5,00	6305.1	1	595,00
30	0,25	0,10	1383.1	1	479,00
30	0,25	0,25	CN11.1	1	479,00
30	0,25	0,35	1384.1	1	479,00
30	0,25	0,50	1385.1	1	479,00
30	0,25	1,00	1386.1	1	479,00
30	0,32	0,10	1387.1	1	509,00
30	0,32	0,25	1227.1	1	509,00
30	0,32	0,35	1388.1	1	509,00
30	0,32	0,50	1389.1	1	509,00
30	0,32	1,00	1390.1	1	509,00
30	0,32	3,00	1402.1	1	509,00
30	0,32	5,00	1403.1	1	509,00
30	0,53	0,50	6306.1	1	595,00

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
30	0,53	1,00	1406.1	1	595,00
30	0,53	2,00	1434.1	1	595,00
30	0,53	5,00	1435.1	1	595,00
50	0,20	0,20	6307.1	1	789,00
50	0,20	0,35	6308.1	1	789,00
50	0,20	0,50	6312.1	1	789,00
50	0,25	0,10	6313.1	1	789,00
50	0,25	0,25	6314.1	1	789,00
50	0,25	0,35	6316.1	1	789,00
50	0,25	0,50	6318.1	1	789,00
50	0,25	1,00	6319.1	1	789,00
50	0,32	0,10	6320.1	1	849,00
50	0,32	0,25	6321.1	1	849,00
50	0,32	0,35	6322.1	1	849,00
50	0,32	0,50	6323.1	1	849,00
50	0,32	1,00	6324.1	1	849,00
50	0,32	3,00	6325.1	1	849,00
50	0,32	5,00	6326.1	1	849,00
50	0,53	2,00	6328.1	1	909,00
50	0,53	5,00	6339.1	1	909,00
60	0,25	0,10	6341.1	1	829,00
60	0,25	0,25	1436.1	1	829,00
60	0,25	0,35	6343.1	1	829,00
60	0,25	0,50	6345.1	1	829,00
60	0,25	1,00	6346.1	1	829,00
60	0,32	0,10	6347.1	1	909,00
60	0,32	0,25	1437.1	1	909,00
60	0,32	0,35	6349.1	1	909,00
60	0,32	0,50	6353.1	1	909,00
60	0,32	1,00	6354.1	1	909,00
60	0,32	3,00	6355.1	1	909,00
60	0,53	2,00	6357.1	1	999,00



Each column is individually tested and supplied with test certificate and test chromatogramm. Columns have fused ends or are sealed with septa, to protect them from atmospheric oxygen. Ferrules or fittings are not included.

GC capillary column ROTI®CAP-5 MS 5 % Diphenyl - 95 % Dimethylpolysiloxane

- **Non-polar**
- Very low column bleed
- Selectivity identical to ROTI®CAP 5
- **Working temperature limits:**
340 °C for isothermal operation
360 °C for short isotherms in a temperature programme
- **Application areas:** ideal for GC/MS- and ECD-applications and general analysis at trace level

- **Similar phases:** DB-5 MS, HP-5 MS, Ultra-2, Equity-5, CP-SIL 8 CB low bleed/MS, Rtx-5SIL-MS, Rtx-5 MS, Rxi-5 MS, 007-5 MS, BPX5, MDN-5S, AT-5 MS, VF-5 MS
- Equivalent to USP phases G27/G36

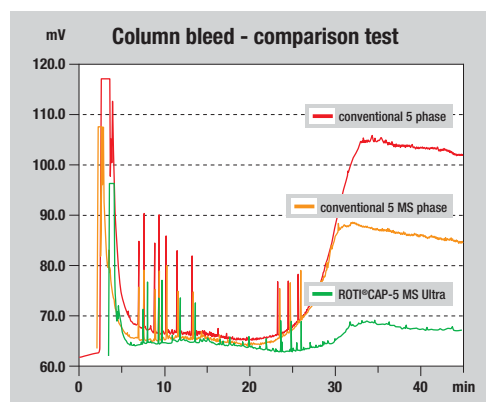
Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
12	0,20	0,20	6362.1	1	285,00
12	0,20	0,35	6363.1	1	285,00
15	0,25	0,25	6364.1	1	339,00
25	0,20	0,20	6369.1	1	545,00
25	0,20	0,35	6371.1	1	545,00
25	0,32	1,00	6372.1	1	589,00
30	0,25	0,25	CN15.1	1	545,00
30	0,25	0,50	1438.1	1	545,00
30	0,25	1,00	1439.1	1	545,00
30	0,32	0,25	1478.1	1	589,00
30	0,32	0,50	1492.1	1	589,00
50	0,20	0,20	6373.1	1	899,00
50	0,20	0,35	6380.1	1	899,00
50	0,32	1,00	6381.1	1	979,00
60	0,25	0,25	1509.1	1	949,00
60	0,25	0,50	1519.1	1	949,00
60	0,25	1,00	6727.1	1	949,00
60	0,32	1,00	6384.1	1	1039,00

- ROTISOLV® GC Ultra Grade solvents
see page 1495

GC capillary column ROTI®CAP-5 MS Ultra Silarylene Phase

- **Non-polar**
- Polarity similar to a 5 % diphenyl - 95 % dimethylpolysiloxane phase
- **Lowest column bleed.**
- Solvent rinsing applicable
- **Working temperature limits:**
340 °C for isothermal runs
360 °C for short isothermal runs in a temperature programme
for columns with film thickness >0,5 µm:
320 °C for isothermal runs
340 °C for short isothermal runs in a temperature programme
- **Application areas:** all-round phase for environmental analyses, trace analyses, EPA methods, pesticides, PCBs, food and drug analyses. Ideal for ion-trap and quadrupole MS detectors

- **Similar phases:** DB-5 MS, HP-5 MS, Ultra-2, Equity-5, CP-SIL 8 CB low bleed/MS, Rtx-5SIL-MS, Rtx-5 MS, Rxi-5 MS, 007-5 MS, BPX5, MDN-5S, AT-5 MS, VF-5 MS
- Equivalent to USP phases G27/G36



The bleed comparison test of the **ROTI®CAP-5 MS Ultra** with a conventional 5 phase and 5-MS phase shows the outstanding performance of the silarylene phase.

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
12	0,20	0,35	6455.1	1	395,00
15	0,25	0,25	6456.1	1	469,00
25	0,20	0,20	6457.1	1	695,00
25	0,32	1,00	6460.1	1	745,00
30	0,25	0,25	2959.1	1	695,00
30	0,25	0,50	2960.1	1	695,00
30	0,25	1,00	2961.1	1	695,00
30	0,32	0,25	2962.1	1	745,00
30	0,32	0,50	2963.1	1	745,00
50	0,20	0,20	6462.1	1	1179,00
50	0,20	0,35	6463.1	1	1179,00
60	0,25	0,25	2969.1	1	1255,00
60	0,25	0,50	6466.1	1	1255,00
60	0,25	1,00	6467.1	1	1255,00
60	0,32	0,25	6468.1	1	1389,00
60	0,32	1,00	6470.1	1	1389,00

GC capillary column ROTI®CAP-5 HT Silarylene Phase

- **Non-polar**
- Selectivity similar to a 5 % phenyl - 95 % methylpolysiloxane phase
- Very low column bleed
- Solvent rinsing applicable
- **Working temperature limits:**
380 °C for isothermal operation
400 °C for short isothermal operation in a temperature programme
- **Application areas:** simulated distillation; hydrocarbon, fuel, oil analysis; high boiling analytes; Ideal for MS detectors
- **Similar phases:** DB-5HT, VF-5HT, HT-5, XTI-5HT, ZB-5HT
- Equivalent to USP phases G27 / G36

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
15	0,25	0,1	3883.1	1	339,00
15	0,25	0,25	3885.1	1	339,00
15	0,32	0,1	3884.1	1	349,00
15	0,32	0,25	3888.1	1	349,00
30	0,25	0,1	3889.1	1	545,00
30	0,25	0,25	3891.1	1	545,00
30	0,32	0,1	3890.1	1	585,00
30	0,32	0,25	3892.1	1	585,00

GC capillary column ROTI®CAP-624 6 % Cyanopropyl-phenyl - 94 % Dimethylpolysiloxane

- **Medium polar**
- **Working temperature limits:**
280 °C for isothermal operations
300 °C for short isotherms in a temperature programme
- **Application areas:** recommended for environmental analyses
- **Similar phases:**
HP-624, HP-VOC, DB-624, DB-VRX, SBP-624, CP-624, RTX-624, RTX-Volatiles, 007-624, BP624, VOCOL, ZB-624
- Equivalent to USP phase G43

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
25	0,20	1,10	6393.1	1	475,00
25	0,25	1,40	6398.1	1	475,00
25	0,32	1,80	6400.1	1	509,00
25	0,53	3,00	6401.1	1	589,00
30	0,25	1,40	1872.1	1	475,00
30	0,32	1,80	CN16.1	1	509,00
30	0,53	3,00	1874.1	1	589,00
50	0,25	1,40	6403.1	1	785,00
50	0,32	1,80	6404.1	1	849,00
60	0,25	1,40	1875.1	1	891,20
60	0,32	1,80	1876.1	1	909,00

GC capillary column ROTI®CAP-1701 14 % Cyanopropyl-phenyl - 86 % Dimethylpolysiloxane

- **Medium-polar**
- **Working temperature limits:**
for columns with inner diameter <0,53 mm:
300 °C for isothermal runs
320 °C for short isothermal runs in a temperature programme
for columns with inner diameter 0,53 mm:
280 °C for isothermal runs
300 °C for short isothermal runs in a temperature programme
- **Application areas:** reference column for structure clarification, e.g. in combination with ROTI®CAP-5; Columns with film thickness ≥1 µm are used for solvent analyses
- **Similar phases:** OV-1701, DB-1701, CP Sil 19 CB, HP-1701, Rtx-1701, SPB-1701, 007-1701, BP10, ZB-1701
- Equivalent to USP phase G46

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
10	0,25	0,25	6406.1	1	219,00
10	0,32	0,25	6407.1	1	235,00
10	0,53	1,00	6408.1	1	275,00
15	0,25	0,25	6409.1	1	295,00
15	0,32	0,25	6411.1	1	305,00
15	0,53	1,00	3698.1	1	329,00
15	0,53	2,00	6415.1	1	329,00
25	0,20	0,20	6417.1	1	475,00
25	0,25	0,25	6419.1	1	475,00
25	0,32	0,25	6433.1	1	509,00
25	0,32	0,35	6434.1	1	509,00
25	0,32	0,50	6435.1	1	509,00
25	0,32	1,00	6436.1	1	509,00
25	0,53	1,00	6438.1	1	595,00
25	0,53	2,00	6440.1	1	595,00
30	0,25	0,25	3700.1	1	479,00
30	0,25	0,50	3703.1	1	479,00
30	0,25	1,00	3706.1	1	479,00
30	0,32	0,25	3708.1	1	509,00
30	0,32	0,35	3709.1	1	509,00
30	0,32	0,50	3714.1	1	509,00
30	0,32	1,00	3715.1	1	509,00
30	0,53	1,00	3716.1	1	595,00
30	0,53	2,00	3717.1	1	595,00
50	0,20	0,20	6441.1	1	789,00
50	0,25	0,25	6442.1	1	789,00
50	0,32	0,25	6443.1	1	849,00
50	0,32	0,35	6444.1	1	849,00
50	0,32	0,50	6446.1	1	849,00
50	0,32	1,00	6447.1	1	849,00
50	0,53	2,00	6449.1	1	909,00
60	0,25	0,25	3724.1	1	819,00
60	0,25	0,50	6450.1	1	819,00
60	0,32	0,25	3725.1	1	909,00
60	0,32	0,35	6452.1	1	909,00
60	0,32	0,50	6453.1	1	909,00
60	0,32	1,00	6454.1	1	909,00

GC capillary column ROTI®CAP-1701 MS Silarylene phase



- **Medium polar**
- Silarylene phase with selectivity analogue to a **14 % cyanopropyl-phenyl – 86 % dimethyl polysiloxane**
- **Very low column bleed**
- **Working temperature limits:**
280 °C for isothermal runs
300 °C for short isothermal runs in a temperature programme
- **Application areas:** Reference column for structure identification, e.g., in combination with ROTI®CAP-5 MS; suitable for environmental analysis (e.g., PAHs, PCBs, pesticides); ion trap and quadrupole MS compatibility
- **Similar phases:** VF-1701ms, TG-1701MS, OV-1701, DB-1701, HP-1701, Rtx-1701, SPB-1701, CP-Sil 19 CB, 007-1701, BP10, ZB-1701 Equivalent to USP phase G46

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
30	0,25	0,25	8047.1	1	555,00
30	0,25	0,50	8050.1	1	555,00
30	0,25	1,00	8051.1	1	555,00
30	0,32	0,25	8052.1	1	595,00
30	0,32	0,50	8053.1	1	595,00
30	0,32	1,00	8054.1	1	595,00
50	0,32	1,00	8056.1	1	995,00
60	0,25	0,25	8067.1	1	965,00
60	0,25	0,50	8068.1	1	965,00
60	0,25	1,00	8077.1	1	965,00
60	0,32	0,25	8078.1	1	1069,00
60	0,32	0,50	8080.1	1	1069,00
60	0,32	1,00	8081.1	1	1069,00

GC capillary column ROTI®CAP-35 MS Silarylene Phase

- **Medium polar**
- Selectivity analogue to **35 % phenyl - 65 % methylpolysiloxane**
- **Very low column bleeding**
- **Working temperature limits:**
360 °C for isothermal runs
370 °C for short isothermal runs in a temperature programme
- **Application areas:** Reference column in combination with a 1 MS or 5 MS (e.g. ROTI®CAP-1 MS or ROTI®CAP-5 MS) column; all-round phase for environmental analyses, ultra-trace analyses, EPA methods, pesticides, PCBs, food and drug analyses; ideal for ion trap detectors
- **Similar Phases:** DB-35 MS, HP-35, SPB-35, Rtx-35, 007-35, BPX-35, MDN-35, AT-35 MS, ZB-35, OV-11, VF-35 MS
- Equivalent to USP phase G42, close equivalent to USP phases G28/G32

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
30	0,25	0,25	4794.1	1	545,00
30	0,32	0,25	4800.1	1	585,00
60	0,25	0,25	4801.1	1	949,00
60	0,32	0,25	4802.1	1	1009,00

GC capillary column ROTI®CAP-WAX Polyethylene glycol (PEG) 20000 dalton

- **Polar**
- Suitable for aqueous solutions, high temperature stability
- **Working temperature limits:**
for columns with 0,25 - 0,32 mm inner diameter:
250 °C for isothermal operation
260 °C for short isotherms in a temperature programme
for columns with 0,53 mm inner diameter:
220 °C for isothermal operation
240 °C for short isotherms in a temperature programme
- **Application areas:** recommended for solvent analysis and alcohols
- **Similar phases:** DB-Wax, Supelcowax, HP-Wax, HP-INNOWAX, Rtx-Wax, CP-Wax 52 CB, Stabilwax, 007-CW, BP20, AT-Wax, ZB-Wax
- Equivalent to USP phase G16

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
25	0,25	0,25	1531.1	1	475,00
25	0,32	0,25	1545.1	1	509,00
25	0,32	0,50	1546.1	1	509,00
25	0,53	1,00	6386.1	1	595,00
30	0,25	0,25	CN12.1	1	475,00
30	0,32	0,25	1618.1	1	509,00
30	0,32	0,50	1228.1	1	509,00
30	0,53	1,00	1651.1	1	595,00
30	0,53	2,00	1877.1	1	595,00
50	0,25	0,25	1882.1	1	789,00
50	0,32	0,25	1918.1	1	855,00
50	0,32	0,50	6387.1	1	855,00
60	0,25	0,25	1925.1	1	819,00
60	0,32	0,25	1945.1	1	909,00
60	0,32	0,50	6388.1	1	909,00

GC capillary column ROTI®CAP-FFAP Polyethylene glycol 2-nitroterephthalate

- **Polar**
- High temperature stability
- **Working temperature limits:**
for columns with 0,25 - 0,32 mm inner diameter:
250 °C for isothermal operation
260 °C for short isotherms in a temperature programme
for columns with 0,53 mm inner diameter:
220 °C for isothermal operation
240 °C for short isotherms in a temperature programme
- **Application areas:** recommended for FAMES, free carboxylic acids
- **Similar phases:** DB-FFAP, HP-FFAP, CP-SIL 58 CB, 007-FFAP, CP-FFAP CB, Nukol
- Equivalent to USP phase G35

Length (m)	Inner Ø (mm)	Film thickness (µm)	Art. No.	Pack Qty.	€
10	0,10	0,10	6390.1	1	265,00
25	0,25	0,25	1828.1	1	475,00
25	0,32	0,25	6391.1	1	509,00
25	0,32	0,50	1830.1	1	509,00
25	0,53	1,00	1836.1	1	595,00
30	0,25	0,25	CN13.1	1	475,00
30	0,32	0,25	1229.1	1	509,00
30	0,32	0,50	1854.1	1	509,00
30	0,53	0,50	1856.1	1	595,00
50	0,25	0,25	1858.1	1	795,00
50	0,32	0,25	1860.1	1	855,00
50	0,32	0,50	6392.1	1	855,00
60	0,25	0,25	1864.1	1	819,00
60	0,32	0,25	1866.1	1	909,00

Derivatization Reagents for GC

Derivatization reagents are used mainly in gas chromatography when adequate volatility or stability of the substances to be separated is required. Detection sensitivity can also be increased through derivatization.

Our range of derivatization reagents is ideal for acylation, alkylation and silylation of reagents.



Reagents for silylation

Product	Purity	Art. No.	Pack Qty.	€
3-Aminopropyltriethoxysilane / APTES	≥98 %, for GC	2328.1	25 g	19,60
		2328.2	100 g	55,80
N,O-Bis(trimethylsilyl) acetamide / BSA	≥98 %, for GC	2330.1	25 g	60,75
N,O-Bis(trimethylsilyl)-trifluoroacetamide / BSTFA	≥98 %, for GC	2331.1	10 g	34,95
		3840.3	10 ml	12,70
1,1,1,3,3,3-Hexamethyldisilazane / HMDS 	≥98 %, for GC	3840.1	50 ml	16,70
		3840.2	250 ml	33,25
		3840.5	500 ml	45,05
		3840.4	1 l	80,10
N-Methyl-N-(trimethylsilyl)-trifluoroacetamide / MSTFA	≥97 %, for GC	8007.1	5 g	50,45
Trimethylchlorosilane / TMCS	≥99 %, for GC	2338.1	25 g	45,05
N-(Trimethylsilyl)-diethylamine / TMSDEA	≥98 %, for GC	0013.1	25 g	119,90
N-(Trimethylsilyl)-imidazole / TSIM	≥95 %, for GC	0012.1	10 g	38,60

Reagents for acylation

Product	Purity	Art. No.	Pack Qty.	€
Heptafluorobutyric acid anhydride / HFBA	≥98 %, for GC	0026.1	5 g	83,35
Trifluoroacetic anhydride / TFAA	≥99 %, for GC	0027.1	100 g	96,65

Reagents for alkylation

Product	Purity	Art. No.	Pack Qty.	€
N,N-Dimethylformamide dimethyl acetal / DMF-DMA	≥98 %	6870.1	5 ml	22,40
		6870.2	25 ml	33,25
		6870.3	100 ml	110,20
		6870.4	500 ml	407,45

For additional product data and safety information, see chapter Chemicals A-Z.

ROTISOLV® GC Ultra Grade Solvents

for gaschromatographic and residue analysis



In order to monitor and analyse environmentally relevant substances such as pesticides, dioxins, furans, PAH, PCB etc. in trace analysis, solvents with exceedingly high purity specifications are required. ROTH's ROTISOLV® GC Ultra Grade solvents have been developed specially for this application area and are produced with the most sophisticated production processes. Extensive quality checks guarantee the same high-grade quality from batch to batch.

Features:

- Highest purity
- Very low water content
- Non-volatile matter less than 2 ppm
- Quality control by means of ECD and NPD
- PAH-test
- Filtered through 0,2 µm membrane
- Bottled under protective gas

Acetic acid ethyl ester

ROTISOLV® ≥99,9 %, GC Ultra Grade

For gaschromatographic residue analysis.

Ethyl acetate, Acetic ester

$C_4H_8O_2$

M 88,11 g/mol

 **Danger** H225-H319-H336-EUH066

KK42.1	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l

Acetone

ROTISOLV® ≥99,9 %, GC Ultra Grade

For gaschromatographic residue analysis.

2-Propanone, Dimethyl ketone

C_3H_6O

M 58,08 g/mol

 **Danger** H225-H319-H336-EUH066

KK40.1	2,5 l	glass	55,80 €
Original pack 4 x 2,5 l			53,01/2,5 l

Cyclohexane

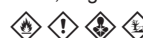
ROTISOLV® ≥99,9 %, GC Ultra Grade

For gaschromatographic residue analysis.

Hexahydrobenzene

C_6H_{12}

M 84,16 g/mol

 **Danger** H225-H304-H400-H410-H315-H336

KK41.1	2,5 l	glass	81,20 €
Original pack 4 x 2,5 l			77,14/2,5 l

Dichloromethane

ROTISOLV® ≥99,9 %, GC Ultra Grade

For gaschromatographic residue analysis.

Methylene chloride, DCM

CH_2Cl_2

M 84,93 g/mol

 **Warning** H351

KK47.1	2,5 l	glass	62,25 €
Original pack 4 x 2,5 l			59,14/2,5 l

n-Hexane

ROTISOLV® ≥95 %, GC Ultra Grade

For gaschromatographic residue analysis.

1-Methylpentane

C_6H_{14}

M 86,18 g/mol

 **Danger** H225-H304-H315-H336-H361f***-H373**-H411

KK48.1	2,5 l	glass	93,45 €
Original pack 4 x 2,5 l			88,78/2,5 l

Methanol

ROTISOLV® ≥99,9 %, GC Ultra Grade

For gaschromatographic residue analysis.

Methyl alcohol, Carbinol

CH_3OH

M 32,04 g/mol

 **Danger** H225-H301+H311+H331-H370

KK44.1	2,5 l	glass	44,30 €
Original pack 4 x 2,5 l			42,09/2,5 l

n-Pentane

ROTISOLV® ≥99 %, GC Ultra Grade

For gaschromatographic residue analysis.

1,3-Dimethylpropane, Diethylmethane

C_5H_{12}

M 72,15 g/mol

 **Danger** H225-H304-H336-H411-EUH066

KK45.1	2,5 l	glass	190,85 €
Original pack 4 x 2,5 l			181,31/2,5 l

Toluene

ROTISOLV® ≥99,8 %, GC Ultra Grade

For gaschromatographic residue analysis.

Methylbenzene

C_7H_8

M 92,14 g/mol

 **Danger** H225-H304-H361d-H373-H315-H336

KK46.1	2,5 l	glass	68,70 €
Original pack 4 x 2,5 l			65,27/2,5 l

► Detailed specifications see chapter Chemicals AZ.

ROTISOLV® Pestilyse® plus Solvents

for determination of dioxines, furanes, PCBs, pesticides, hydrocarbons and further pollutants



Roth created this product line (ROTISOLV® Pestilyse® plus) especially to address the growing requirements in residue analysis. Several relevant parameters are specified for these solvents which allow the use in various applications. With this product line, Roth sets the benchmark for residue analysis solvents in terms of purity and quality.

Features:

- Highest purity
- Controlled by FID, ECD and NPD
- PAH tested
- Tested for hydrocarbons (C₁₄-C₄₀)
- Tested for fluorescence
- Volatile impurities: max. 5 ppm
- Non-volatile impurities: max. 5 ppm

Example specification:

2-Propanol

ROTISOLV® ≥99,9 %, Pestilyse® plus

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.
Isopropanol, Isopropyl alcohol, Dimethyl carbinol, IPA, 2-Hydroxypropane
C₃H₈O
M 60,10 g/mol

⚠️ ⚠️ Danger H225-H319-H336

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,03 %
Free acid (as CH ₃ COOH).....	≤0,001 %
Free alkali (as NH ₃).....	≤0,0001 %
Evaporation residue.....	≤0,0003 %
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤10 ng/l
PAH-test (less than 2 ppb, HPLC).....	complies
Oil index (any hydrocarbon C ₁₀ -C ₄₀).....	≤0,1 mg/l
Fluorescence (as quinine):	
254 nm.....	≤1 ppb
365 nm.....	≤1 ppb
Transmission:	
220 nm.....	≥80 %

ROTISOLV® Pestilyse® plus Solvents

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Acetic acid ethyl ester	≥99,9 %, Pestilyse® plus	7565.1	2,5 l	glass	61,20
Acetone	≥99,9 %, Pestilyse® plus	7535.1	2,5 l	glass	51,10
Cyclohexane	≥99,9 %, Pestilyse® plus	7542.1	2,5 l	glass	75,15
Dichloromethane	≥99,9 %, Pestilyse® plus	7562.1	2,5 l	glass	61,20
n-Heptane	≥99 %, Pestilyse® plus	7566.1	2,5 l	glass	94,50
n-Hexane	≥99 %, Pestilyse® plus	7573.1	2,5 l	glass	110,65
	≥96 %, Pestilyse® plus	7567.1	2,5 l	glass	88,05
Isohexane	≥96 %, Pestilyse® plus	7576.1	2,5 l	glass	83,35
Isooctane	≥99,7 %, Pestilyse® plus	7580.1	2,5 l	glass	98,80
Methanol	≥99,9 %, Pestilyse® plus	7583.1	2,5 l	glass	39,70
n-Pentane	≥99 %, Pestilyse® plus	7587.1	2,5 l	glass	110,20
Petroleum ether 40-60 °C	Pestilyse® plus	7588.1	2,5 l	glass	64,00
2-Propanol	≥99,9 %, Pestilyse® plus	7590.1	2,5 l	glass	48,95
Toluene	≥99,8 %, Pestilyse® plus	7591.1	2,5 l	glass	56,90
Trichloromethane/Chloroform	≥99,9 %, Pestilyse® plus	7554.1	2,5 l	glass	67,65

For additional product data and safety information, see chapter Chemicals A-Z.

ROTISOLV® Pestilyse® Solvents

for residue and environmental analysis



Field of application: 'pesticide residue analysis' (via ECD, PND detection) in sectors environment, foodstuffs, water, etc.

ROTISOLV® Pestilyse® solvents are ideal as extraction agents and for sample preparation.

Advantage:

- Highest purity
- Quality control via ECD and PND
- Non-volatile parts: 5 ppm or less
- Specially purified for application in pesticide residue analysis

Example specification:

Petroleum ether 40-60 °C

ROTISOLV® Pestilyse®

For residue and environmental analysis.

Petroleum benzine

 **Danger** H225-H304-H315-H336-H411

Guarantee analysis:

Boiling range.....40-60 °C
Water (KF).....≤0,02 %
Acidity.....≤0,0005 meq/g
Evaporation residue.....≤0,0001 %
GC/ECD (individual signal as lindane).....≤5 ng/l
GC/PND (individual signal as ethylparathion).....≤10 ng/l



ROTISOLV® Pestilyse® Solvents

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Acetic acid ethyl ester	≥99,8 %, Pestilyse®	T164.2	1 l	glass	27,85
		T164.1	2,5 l	glass	59,05
		T164.3	4 l	glass	82,25
Acetone	≥99,8 %, Pestilyse®	T161.2	1 l	glass	24,65
		T161.1	2,5 l	glass	48,30
		T161.3	4 l	glass	67,65
Acetonitrile	≥99,9 %, Pestilyse®	T168.2	1 l	glass	32,15
		T168.1	2,5 l	glass	68,70
		T168.3	4 l	glass	98,80
Cyclohexane	≥99,5 %, Pestilyse®	T163.2	1 l	glass	32,60
		T163.1	2,5 l	glass	72,60
		T163.3	4 l	glass	96,25
Dichloromethane	≥99,8 %, Pestilyse®	T162.2	1 l	glass	29,60
		T162.1	2,5 l	glass	60,10
		T162.3	4 l	glass	73,65
Diethyl ether	≥99,8 %, Pestilyse®, stab.	T900.1	2,5 l	glass	76,25
n-Heptane	≥99 %, Pestilyse®	X878.1	2,5 l	glass	92,35
n-Hexane	≥99 %, Pestilyse®	T861.2	1 l	glass	45,70
		T861.1	2,5 l	glass	107,40
	≥97,5 %, Pestilyse®	T165.2	1 l	glass	39,70
		T165.1	2,5 l	glass	91,30
Isohexane	≥99 %, Pestilyse®	T165.3	4 l	glass	99,90
Isooctane	≥99 %, Pestilyse®	T904.1	2,5 l	glass	80,55
Methanol	≥99,9 %, Pestilyse®	T167.1	2,5 l	glass	93,45
		T169.2	1 l	glass	19,60
		T169.1	2,5 l	glass	30,35
n-Pentane	≥99 %, Pestilyse®	T169.3	4 l	glass	44,00
		T903.2	1 l	glass	44,65
		T903.1	2,5 l	glass	91,95
Petroleum ether 40-60 °C	Pestilyse®	T170.2	1 l	glass	31,10
		T170.1	2,5 l	glass	64,40
		T170.3	4 l	glass	87,65
2-Propanol	≥99,8 %, Pestilyse®	T902.1	2,5 l	glass	48,30
		T166.2	1 l	glass	31,10
		T166.1	2,5 l	glass	55,80
Toluene	≥99,8 %, Pestilyse®	T166.3	4 l	glass	89,80
Trichloromethane/Chloroform	≥99,8 %, Pestilyse®	T901.1	2,5 l	glass	66,35
Water	Pestilyse®	T905.1	2,5 l	glass	43,55

For additional product data and safety information, see chapter Chemicals A-Z.

Safety data sheets

can be found on the Internet next to the product description.

ROTISOLV® Headspace Grade Solvents

for analyses of organic volatile impurities (O.V.I.)



Headspace gas chromatography is a major quality control procedure particularly in the pharmaceutical and food industry. The regulations for this method can be found both in the European as well as the American Pharmacopoeia.

High-boiling solvents of excellent purity, which show no background due to organic volatile impurities on the GC-columns, are required for determining solvent residue.

Advantage:

- Highest purity (mostly ≥99,99 %)
- High boiling point
- Non volatile matter: ≤0,001 %
- Tested for headspace suitability
- Bottled under protective gas
- Microfiltered

Example specification:

Dimethyl sulphoxide

ROTISOLV® ≥99,99 %, Headspace Grade

For determination of solvent residues (O.V.I.)

DMSO

C₂H₆OS

M 78,13 g/mol

Guarantee analysis:

Assay (GC).....	≥99,99 %
Colour (APHA).....	≤5
Water (KF).....	≤0,03 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Free alkali (as NH ₃).....	≤0,0005 %
Refractive index (20 °C).....	1,477-1,480
Non volatile matter.....	≤0,001 %
Melting point.....	≥18 °C
UV-Cutoff.....	190-265 nm
Transmission:	
400 nm.....	≥98 %
350 nm.....	≥95 %
300 nm.....	≥85 %
275 nm.....	≥60 %
268 nm.....	≥30 %
Headspace suitability test for O.V.I.....	complies

N,N-Dimethylacetamide (DMA)

ROTISOLV® ≥99,99 %, Headspace Grade

For determination of solvent residues (O.V.I.)

DMA, Acetic acid dimethylamide

C₄H₉NO

M 87,12 g/mol

 **Danger** H360D-H312+H332-H319

HN45.1	1 l	glass	224,70 €
Original pack 6 x 1 l			213,47/1 l

N,N-Dimethylformamide (DMF)

ROTISOLV® ≥99,99 %, Headspace Grade

For determination of solvent residues (O.V.I.)

DMF

C₃H₇NO

M 73,10 g/mol

 **Danger** H226-H360D-H312+H332-H319

HN46.1	1 l	glass	209,55 €
Original pack 6 x 1 l			199,07/1 l

1,3-Dimethyl-2-imidazolidinone (DMI)

ROTISOLV® ≥99,5 %, Headspace Grade

For determination of solvent residues (O.V.I.)

DMEU, N,N'-Dimethylethylene urea, DMI

C₅H₁₀N₂O

M 114,15 g/mol

 **Danger** H311-H302-H319

HN48.1	500 ml	glass	843,90 €

Dimethyl sulphoxide (DMSO)

ROTISOLV® ≥99,99 %, Headspace Grade

For determination of solvent residues (O.V.I.)

DMSO

C₂H₆OS

M 78,13 g/mol

HN47.1	1 l	glass	217,70 €
Original pack 6 x 1 l			206,82/1 l

► Rotilabo®-crimps neck headspace vials
see page 60

Thin Layer Chromatography

Although the principle of thin-layer chromatography (TLC) is more than a century old, it did not make its breakthrough as an analytical method until about 40 years ago.

Thanks to the development of new sorbents and supports, as well as increasing instrumentation and automation, TLC has become a versatile separation method. It is used both in qualitative analysis and in quantitative analysis.

Applications range from simple manual separation processes in classic TLC to automated processes in HPTLC (high performance thin layer chromatography).

Advantages of thin layer chromatography:

- Higher sample throughput in less time
- Suitable for screening tests
- The ready-to-use TLC layer functions as a data storage device for separation results
- Pilot process for HPLC
- The separated substances can be used later for further analysis (e.g. IR, MS)
- By switching the mobile and the stationary phases, the separation process can be optimised quickly and cost-efficient

Ready-to-use layers for TLC at a glance

Code	Layer
Standard silica	
ADAMANT	silica 60 with improved binder system and optimized particle size distribution
SIL G	silica 60, standard grade
Unmodified silica for HPTLC	
Nano-SIL	nano silica 60, particle size 2-10 µm, standard grade
Modified silica for TLC/HPTLC	
Nano-SIL DIOL	diol-modified nano silica
Nano-SIL NH ₂	amino-modified nano silica
Nano-SIL CN	cyano-modified nano silica
RP-2 / UV ₂₅₄	silanised silica = dimethyl-modified silica 60
R-18 W/UV ₂₅₄	nano silica with partial octadecyl modification, wettable with water
Aluminium oxide	
ALOX N	aluminium oxide
Cellulose	
CEL 300	native fibrous cellulose MN 300
CEL 400	microcrystalline cellulose MN 400 (AVICEL®)

Supports for ready-to-use TLC layers:

- **Glass plates** (approx. 1,3 mm thick), resistant, easy to handle
- **Polyester sheets** (approx. 0,2 mm thick) POLYGRAM®, resistant to standard solvents, easy to cut to size using scissors, solid up to 185 °C
- **Aluminium sheets** (approx. 0,15 mm thick) ALUGRAM®, high stability, easy to cut, high torsional stability, low background noise during scanning and ALUGRAM® Xtra with excellent cutting and wettability

ADAMANT TLC Plates with Standard Silica Gel



Silica gel 60

With improved binder system and optimized grain distribution.

- Spec. surface: approx. 500 m²/g
- Medium pore width: 60 Å
- Spec. pore volume: 0,75 ml/g
- Particle size: 5-17 µm

Features:

- Silica gel layer with optimised binder system
- Increased separating power
- Brilliant UV indicator and low noise background for increased detection sensitivity
- Extremely hard silica gel layer: enables marking of gel with a pencil
- Highly abrasion proof surface prevents plates from getting damaged during transport or handling
- Plates do not get dusty, therefore no silica gel contamination of TLC chamber

TLC-ready-to-use layers, ADAMANT

Glass plate, silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 10 cm	0,25 mm	N086.1	50	113,90
10 x 10 cm	0,25 mm	N087.1	25	62,90
20 x 20 cm	0,25 mm	N088.1	25	145,50

TLC-ready-to-use layers, ADAMANT UV₂₅₄

Glass plate, silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 10 cm	0,25 mm	N089.1	50	113,90
5 x 10 cm	0,25 mm	N089.2	200 (4 x 50)	245,00
5 x 20 cm	0,25 mm	N090.1	100	189,00
10 x 10 cm	0,25 mm	N091.1	25	62,90
10 x 20 cm	0,25 mm	N092.1	50	167,50
20 x 20 cm	0,25 mm	N093.1	25	145,50

TLC Plates with Standard Silica Gel

Silica gel 60

- Spec. surface: approx. 500 m²/g
- Medium pore width: 60 Å
- Spec. pore volume: 0,75 ml/g
- Particle size: 5-17 µm



TLC-ready-to-use layers SIL G-25

Glass plate, silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 10 cm	0,25 mm	K795.1	50	102,50
5 x 20 cm	0,25 mm	K796.1	100	189,00
10 x 20 cm	0,25 mm	K797.1	50	167,50
20 x 20 cm	0,25 mm	K798.1	25	139,00

TLC-ready-to-use layers SIL G-25 / UV₂₅₄

Glass plate, silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 10 cm	0,25 mm	K799.1	50	112,90
5 x 20 cm	0,25 mm	K800.1	100	189,00
10 x 10 cm	0,25 mm	K801.1	25	49,90
10 x 20 cm	0,25 mm	K802.1	50	167,50
20 x 20 cm	0,25 mm	K803.1	25	129,00

TLC-ready-to-use foil ALUGRAM® SIL G

Aluminium foil, silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 10 cm	0,2 mm	N726.1	50	49,50
5 x 20 cm	0,2 mm	N727.1	50	61,90
20 x 20 cm	0,2 mm	N728.1	25	109,50

TLC-ready-to-use foil ALUGRAM® SIL G / UV₂₅₄

Aluminium foil, silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,2 mm	N729.1	50	32,50
4 x 8 cm	0,2 mm	N729.2	200 (4 x 50)	119,00
5 x 7,5 cm	0,2 mm	I334.1	20	20,90
5 x 10 cm	0,2 mm	N730.1	50	49,50
10 x 20 cm	0,2 mm	N731.1	20	55,50
20 x 20 cm	0,2 mm	N732.1	25	99,50

TLC-ready-to-use foil POLYGRAM® SIL G

Polyester foil, silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,2 mm	N733.1	50	32,50
5 x 20 cm	0,2 mm	N734.1	50	61,90
20 x 20 cm	0,2 mm	N735.1	25	109,50

TLC-ready-to-use foil POLYGRAM® SIL G / UV₂₅₄

Polyester foil, silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,2 mm	0816.1	50	32,50
4 x 8 cm	0,2 mm	0816.2	200 (4 x 50)	117,50
5 x 20 cm	0,2 mm	N736.1	50	61,90
20 x 20 cm	0,2 mm	N737.1	25	99,50

ALUGRAM® Xtra SIL G TLC ready-to-use Foils with Standard Silica Gels

Silica gel 60

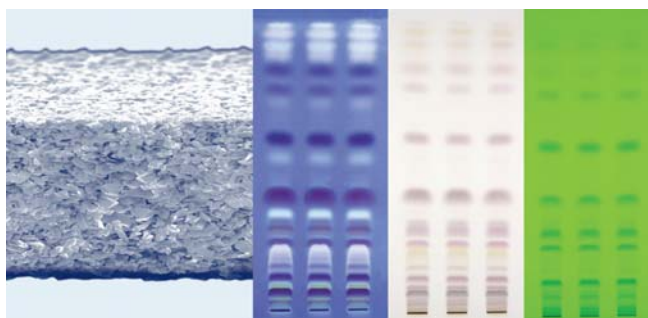
Improved binder system for enhanced cutting and wettability.

- Spec. surface: approx. 500 m²/g
- Medium pore width: 60 Å
- Spec. pore volume: 0,75 ml/g
- Particle size: 5-17 µm

The ready-to-use foils are produced with a special, highly polymeric binder, which is resistant towards almost all organic solvents and aggressive visualisation reagents. It is also completely stable in pure aqueous eluents.

Features:

- Easy cutting of foils, **no flaking of silica**
- Outstanding wettability, precise colourisation even with 100 % aqueous eluents
- Excellent separation efficiency and reproducibility from lot to lot



TLC ready-to-use Foil ALUGRAM® Xtra SIL G

Aluminium foil, silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 7,5 cm	0,2 mm	3868.1	20	20,90
5 x 10 cm	0,2 mm	3869.1	50	49,50
5 x 20 cm	0,2 mm	3871.1	50	61,90
20 x 20 cm	0,2 mm	3873.1	25	109,50

TLC ready-to-use Foil ALUGRAM® Xtra SIL G / UV₂₅₄

Aluminium foil, silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,2 mm	3874.1	50	32,50
5 x 7,5 cm	0,2 mm	3875.1	20	20,90
5 x 10 cm	0,2 mm	3876.1	50	49,50
5 x 20 cm	0,2 mm	3877.1	50	61,90
10 x 20 cm	0,2 mm	3878.1	20	55,50
20 x 20 cm	0,2 mm	3879.1	25	99,50

TLC Plates for Preparative Applications

These TLC-plates are particularly suitable for separating larger sample amounts due to the layer thickness of 1 mm and 2 mm respectively.



TLC ready-to-use layers SIL G-100

Glass plates, silica gel layer 60

Plate format	Layer thickness	Art. No.	Pack Qty.	€
20 x 20 cm	1,00 mm	3375.1	15	203,50

TLC ready-to-use layers SIL G-100 / UV₂₅₄

Glass plates, silica gel layer 60, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
20 x 20 cm	1,00 mm	3377.1	15	203,50

TLC ready-to-use layers SIL G-200

Glass plates, silica gel layer 60

Plate format	Layer thickness	Art. No.	Pack Qty.	€
20 x 20 cm	2,00 mm	CN40.1	12	212,50

TLC ready-to-use layers SIL G-200 / UV₂₅₄

Glass plates, silica gel layer 60, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
20 x 20 cm	2,00 mm	CN41.1	12	212,50

- Silica gel-60 - for preparing TLC-plates see page 1505

HPTLC Plates with Nano Silica Gel

(High Performance Thin Layer Chromatography Plates)

Nano silica gel

- Spec. surface: approx. 500 m²/g
- Medium pore width: 60 Å
- Spec. pore volume: 0,75 ml/g
- Particle size: 2-10 µm

Advantages compared to standard plates:

- Higher separation effect
- Shorter separation times and distances
- Smaller sample amounts of 0,01-0,1 µl (10-100 nanolitre)
- Lower diffusion due to extremely small amounts
- Higher detection sensitivity

HPTLC-ready-to-use layers Nano-SIL-20

Glass plate, nano silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 5 cm	0,2 mm	N080.1	100	195,00
10 x 10 cm	0,2 mm	N081.1	25	147,50
10 x 20 cm	0,2 mm	N082.1	50	349,00

HPTLC-ready-to-use layers Nano-SIL-20 / UV₂₅₄

Glass plate, nano silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 5 cm	0,2 mm	N083.1	100	195,00
10 x 10 cm	0,2 mm	N084.1	25	129,00
10 x 20 cm	0,2 mm	N085.1	50	351,00

HPTLC-ready-to-use foil ALUGRAM® Nano-SIL G

Aluminium foil, nano silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,2 mm	AE82.1	50	126,50
20 x 20 cm	0,2 mm	AE83.1	25	212,00

HPTLC-ready-to-use foil ALUGRAM® Nano-SIL G / UV₂₅₄

Aluminium foil, nano silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,2 mm	AE84.1	50	126,50
20 x 20 cm	0,2 mm	AE85.1	25	212,00

HPTLC-ready-to-use foil ALUGRAM® Xtra Nano-SIL G

Aluminium foil, nano silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,2 mm	3863.1	50	126,50
20 x 20 cm	0,2 mm	3895.1	25	212,00

HPTLC-ready-to-use foil ALUGRAM® Xtra Nano-SIL G / UV₂₅₄

Aluminium foil, nano silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,2 mm	3952.1	50	126,50
20 x 20 cm	0,2 mm	3988.1	25	212,00

Diol-modified HPTLC silica layers

Diol modification, carbon content 5,5 %

- Layer can be equally well wetted by pure water and organic solvents, respectively.
- **Tip:** for critical separations an alternative to silica, since it is less sensitive to the water content of the environment; leads to more reproducible results compared to silica.

Order of polarity:

silica > DIOL > NH₂ > CN > RP-2 > RP-18 W

Recommended application: steroids, pesticides and plant constituents.

HPTLC-ready-to-use Nano-SIL DIOL / UV₂₅₄

Glass plate, diol modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 10 cm	0,20 mm	4699.1	25	305,00

Amino-modified HPTLC silica layers

Aminopropyl modification, carbon content 3,5 %

- pH stability: 2- 8
- Layer can be equally well wetted by pure water and organic solvents, respectively.

Order of polarity:

silica > DIOL > NH₂ > CN > RP-2 > RP-18 W

Recommended application: vitamins, sugars, steroids, purine derivatives, xanthines, phenols, nucleotides and pesticides.

HPTLC-ready-to-use Nano-SIL NH₂

Glass plate, amino modified silica gel 60 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 10 cm	0,20 mm	3500.1	25	305,00

HPTLC-ready-to-use Nano-SIL NH₂ / UV₂₅₄

Glass plate, amino modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 10 cm	0,20 mm	3652.1	25	305,00
10 x 20 cm	0,20 mm	3660.1	25	455,00

HPTLC-ready-to-use foil

ALUGRAM® Nano-SIL NH₂ / UV₂₅₄

Aluminium foil, amino modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,15 mm	3723.1	50	169,50
20 x 20 cm	0,15 mm	3767.1	25	455,00

Cyano-modified HPTLC Silica Layers

Cyanopropyl modification, carbon content 5,5 %

- pH stability 2-8
- Normal phase or reversed phase separation modes depending on the polarity of the developing solvent

Order of polarity:

silica > DIOL > NH₂ > CN > RP-2 > RP-18 W

Recommended application: steroid hormones, phenols, preservatives

HPTLC-ready-to-use Nano-SIL CN / UV₂₅₄

Glass plate, cyano modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 10 cm	0,20 mm	4554.1	25	299,00
10 x 20 cm	0,20 mm	4569.1	25	455,00

HPTLC-ready-to-use foil

ALUGRAM® Nano-SIL CN / UV₂₅₄

Aluminium foil, cyano modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,15 mm	4598.1	50	169,50

Dimethyl-modified TLC Silica Layers

Silanized silica 60 with dimethylmodification, carbon content 4 %

- specific surface (BET): ~500 m²/g
- mean pore size: 60 Å
- specific pore volume: 0,75 ml/g
- particle size 5-17 µm
- pH stability: 2-10

Order of polarity:

silica > DIOL > NH₂ > CN > RP-2 > RP-18 W

Recommended application:

active plant constituents, steroids

TLC-ready-to-use layers RP-2 / UV₂₅₄

Glass plate, dimethyl modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 10 cm	0,25 mm	3496.1	25	146,50
10 x 20 cm	0,25 mm	3498.1	50	319,00
20 x 20 cm	0,25 mm	3499.1	25	235,00

TLC-ready-to-use foil ALUGRAM® RP-2 / UV₂₅₄

Aluminium foil, dimethyl modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,15 mm	3590.1	50	97,50
20 x 20 cm	0,15 mm	3591.1	25	221,00

Octadecyl-modified HPTLC silica layers

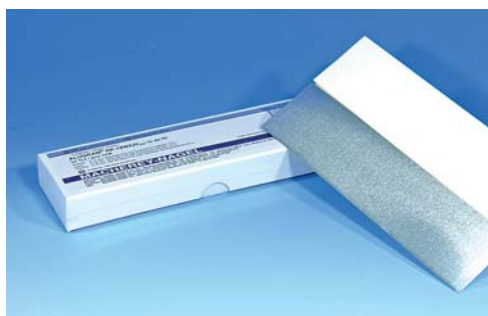
Reversed Phase (RP)-plates

- carbon content 14 %
- Partial octadecyl (C₁₈) modification
- wettable with water

Order of polarity:

silica > DIOL > NH₂ > CN > RP-2 > **RP-18 W**

Recommended application: aminophenols, barbiturates, preservatives, nucleobases, polycyclic aromatic hydrocarbons, steroids, tetracyclines, plasticizers (phthalates)



HPTLC-ready-to-use layers RP-18 W / UV₂₅₄

Glass plate, modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,25 mm	CP23.1	50	285,00
10 x 10 cm	0,25 mm	3380.1	25	212,00
10 x 20 cm	0,25 mm	3383.1	50	495,00
20 x 20 cm	0,25 mm	3399.1	25	395,00
20 x 20 cm	1,00 mm	1886.1	15	509,00

HPTLC-ready-to-use foil ALUGRAM® RP-18 W / UV₂₅₄

Aluminium foil, modified silica gel 60 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,15 mm	CP24.1	50	101,50
5 x 10 cm	0,15 mm	3434.1	50	122,90
5 x 20 cm	0,15 mm	CP25.1	50	227,00
10 x 10 cm	0,15 mm	3436.1	25	119,00
20 x 20 cm	0,15 mm	3487.1	25	305,00

TLC Plates with Aluminium Oxide

Aluminium oxide

- Spec. surface: approx. 200 m²/g
- Mean pore width: 60 Å
- Inert organic binder

Tip: We recommend to activate aluminium oxide layers before use by heating 10 minutes at 120 °C.

Recommended application: terpenes, alkaloids, steroids, aliphatic and aromatic compounds



TLC-ready-to-use foil ALUGRAM® ALOX N / UV₂₅₄

Aluminium foil, aluminium oxide layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,2 mm	N738.1	50	80,50
20 x 20 cm	0,2 mm	N739.1	25	119,00

TLC-ready-to-use foil POLYGRAM® ALOX N / UV₂₅₄

Polyester foil, aluminium oxide layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,2 mm	0817.1	50	36,50
5 x 20 cm	0,2 mm	N740.1	50	80,50
20 x 20 cm	0,2 mm	N741.1	25	119,00

► Reference substances for TLC
see page 1472

TLC Plates with Cellulose MN 300

Native fibrous cellulose

- Fibre length (95 %): 2-20 µm
- Average degree of polymerisation: 400-500
- Specific surface acc. to Blaine: 15000 cm²/g

Recommended application: partition chromatography of polar substances such as amino acids, carboxylic acids or carbohydrates



TLC-ready-to-use layers CEL 300

Glass plate, cellulose MN 300 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,1 mm	1320.1	100	255,00
10 x 20 cm	0,1 mm	1321.1	50	205,00
20 x 20 cm	0,1 mm	1322.1	25	147,50

TLC-ready-to-use layers CEL 300 / UV₂₅₄

Glass plate, cellulose MN 300 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,1 mm	1323.1	100	255,00
10 x 20 cm	0,1 mm	1324.1	50	205,00
20 x 20 cm	0,1 mm	1325.1	25	147,50

TLC-ready-to-use foil POLYGRAM® CEL 300

Polyester foil, cellulose MN 300 layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
4 x 8 cm	0,1 mm	0818.1	50	35,90

TLC-ready-to-use foil POLYGRAM® CEL 300 / UV₂₅₄

Polyester foil, cellulose MN 300 layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,1 mm	N742.1	50	82,90
20 x 20 cm	0,1 mm	N743.1	25	129,50

TLC Plates with Cellulose MN 400 (AVICEL®)

Microcrystalline cellulose

- Prepared by hydrolysis of high purity cellulose with HCl
- Mean degree of polymerisation: 40-200

Recommended application: carboxylic acids, lower alcohols, urea and purine derivatives



TLC-ready-to-use layers CEL 400

Glass plate, cellulose MN 400 (AVICEL®) layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 20 cm	0,1 mm	1326.1	50	205,00
20 x 20 cm	0,1 mm	1327.1	25	147,50

TLC-ready-to-use layers CEL 400 / UV₂₅₄

Glass plate, cellulose MN 400 (AVICEL®) layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
10 x 20 cm	0,1 mm	1328.1	50	205,00
20 x 20 cm	0,1 mm	1329.1	25	147,50

TLC-ready-to-use foil POLYGRAM® CEL 400

Polyester foil, cellulose MN 400 (AVICEL®) layer

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,1 mm	1330.1	50	82,90
20 x 20 cm	0,1 mm	1331.1	25	129,50

TLC-ready-to-use foil POLYGRAM® CEL 400 / UV₂₅₄

Polyester foil, cellulose MN 400 (AVICEL®) layer, with fluorescence indicator

Plate format	Layer thickness	Art. No.	Pack Qty.	€
5 x 20 cm	0,1 mm	1332.1	50	82,90
20 x 20 cm	0,1 mm	1333.1	25	129,50

Silica Gel 60 for TLC



Silica gels are the most important base material for thin layer chromatography. We therefore offer a wide range of specially selected silica gels 60 for preparing your own TLC-plates. Our program ranges from G-types (with gypsum) to a P-type (for preparative applications).

- Spec. surface: ~400-500 m²/g
- Mean pore diameter: 60 Å
- Pore volume: ~0,8 ml/g
- Particle size: 0-20 µm or 0-40 µm (preparative)
- Loss on drying: <9 %
- pH-value (5 % suspension): ~7

Silica Gel 60

Product	Purity	Art. No.	Pack Qty.	€
Silica gel 60 G	for TLC (with gypsum)	CN44.3	250 g	27,90
		CN44.1	500 g	48,90
		CN44.2	1 kg	85,50
Silica gel 60 G/F ₂₅₄	for TLC (with gypsum)	CN45.3	250 g	29,90
		CN45.1	500 g	55,50
		CN45.2	1 kg	102,90
Silica gel 60 P	for preparative TLC	CN47.3	250 g	28,90
		CN47.1	500 g	49,90
		CN47.2	1 kg	82,90

For additional product data and safety information, see chapter Chemicals A-Z.

TIP

Coating of DC-Plates with Silica Gel G:

Suspend 25 g Silica Gel G in 50 ml of distilled water under frequent agitation. The fluid suspension will harden after a short time, due to the amount of gypsum, and can immediately be applied to a glass plate that is free of grease. The plates should be rested for about 10 minutes until the surface is completely dim. Afterwards, preferably after predrying the plates exposed to air over night, the plates are dried (activated) for 30 minutes at 105 - 110 °C in a drying cabinet.

Until usage the plates should be stored in a desiccator above a desiccant like Silica Gel Orange (Art. No. P077).

TLC Spray Solutions

ready-to-use



ROTH's ready-to-use spray solutions make thin-layer chromatography operations considerably easier. In case of these ready-to-use spray solutions the staining/derivative reagent was dissolved in ethanol, 2-propanol or in water.

Aniline phthalate spray solution for TLC

Ready-to-use spray solution for detection of reducing sugars. 0,9 ml Anilin and 1,66 g Phthalic acid dissolved in 100 ml ethanol / 2-propanol (1/1 v/v).

Danger H225-H373-H319-H336-EUH208

CP35.1 100 ml glass 35,90 €

2',7'-Dichlorofluorescein spray solution for TLC

Ready-to-use spray solution for detection of Lipids (saturated, unsaturated). 0,2 g 2',7'- Dichlorofluorescein dissolved in 100 ml 2-propanol.

Danger H225-H319-H336

CP36.1 100 ml glass 35,00 €

4-(Dimethylamino)-benzaldehyde spray solution for TLC

Ready-to-use spray solution for detection of terpenes, sugars and steroids. 0,5 g 4-(Dimethylamino)-benzaldehyde dissolved in 100 ml 2-propanol.

Danger H225-H319-H336

CP38.1 100 ml glass 35,00 €

Dragendorff-Munier spray solution for TLC

Ready-to-use spray solution for detection of nitrogen compounds and alkaloids.

1 % basic Bismuth nitrate, 16,5 % tartaric acid, 20 % potassium iodide dissolved in water.

Warning H319

CP33.1 100 ml glass 35,00 €

Iron(III) chloride spray solution for TLC

Ready-to-use spray solution for detection of acetylsalicylic acid and paracetamol.

2 g Iron(III) chloride dissolved in 100 ml water.

Danger H318

CP34.1	100 ml	glass	34,50 €

Molybdato-phosphoric acid spray solution for TLC

Ready-to-use spray solution for detection of reducing compound lipids, fatty acids and steroids.

4 g Molybdato-phosphoric acid dissolved in 100 ml ethanol.

Danger H225-H318

CP31.1	100 ml	glass	34,50 €

Ninhydrin spray solution for TLC

Ready-to-use spray solution for detection of amino acids, amines and amino sugars.

0,5 g Ninhydrin dissolved in 100 ml ethanol.

Danger H225

CP30.1	100 ml	glass	34,50 €

Rhodamine B-spray solution for TLC

Ready-to-use spray solution for detection of lipids.

0,1 g Rhodamine B dissolved in 100 ml ethanol.

Danger H225

CP37.1	100 ml	glass	34,50 €

Rubeanic acid spray solution for TLC

Ready-to-use spray solution for detection of heavy metal ions.

0,2 g Rubeanic acid dissolved in 100 ml ethanol.

Danger H225

CP32.1	100 ml	glass	34,50 €

Ammonium molybdate spray reagent:

for detecting hydroxycarboxylic acids. Mix 2 ml **ammonium molybdate solution** 25 % + 2 ml ascorbic acid 10 % + 2 ml sulphuric acid 29,5 % and add 4 ml H₂O.

Dragendorff's spray reagent:

for detecting tertiary amines and nitrogen heterocycles. Mix 0,85 g **bismuth (III)-nitrate basic** + 40 ml H₂O + 10 ml acetic acid with 20 ml KI-solution (40 %).

Bromocresol green spray reagent:

for detecting hydroxycarboxylic acids. Dilute 25 mg **bromocresol green** + 0,36 ml 0,1 N NaOH + 10 ml ethanol 96 % to 50 ml with H₂O.

Ehrlich's spray reagent:

for detecting sulphonamides and primary aromatic amines. Mix 0,5 g **4-(dimethylamino)-benzaldehyde** + 25 ml hydrochloric acid 36 % + 25 ml ethanol 96 %.

Detection Reagents for TLC



Staining and derivatisation reagents for preparing your own spray solutions, e.g. for tracing organic acids, lipids, steroids, terpenes, flavonoids, amino acids, peptides.

Detection reagents

Product	Purity	Art. No.	Pack Qty.	€
Ammonium heptamolybdate tetrahydrate	≥99 %, p.a.	3666.1	250 g	80,55
		3666.2	500 g	144,60
		3666.3	1 kg	256,95
Bismuth(III) nitrate	≥71 %, p.a., alkaline	4447.1	50 g	40,35
		4447.2	100 g	64,00
Bromocresol Green	ACS	T115.1	1 g	15,60
		T115.2	5 g	24,65
		T115.3	10 g	42,90
		T115.4	25 g	80,55
2',7'-Dichlorofluorescein	p.a., ACS	X866.1	5 g	82,25
4-(Dimethylamino)-benzaldehyde	≥99 %, p.a.	X867.1	25 g	40,75
		X867.2	100 g	101,80
Molybdato-phosphoric acid hydrate	p.a., ACS	4440.1	25 g	36,35
		4440.2	50 g	53,45
		4440.3	100 g	96,25
Natural product reagent A	≥98 %, p.a.	9920.1	5 g	52,60
		9920.2	25 g	143,55
		9920.3	50 g	249,40
Ninhydrin	≥99 %, p.a., ACS	4378.1	25 g	35,40
		4378.2	100 g	92,35
		4378.3	500 g	342,95
Rhodamine B (C.I. 45170)	for microscopy	T130.1	25 g	30,00
2,3,5-Triphenyltetrazolium chloride	≥98,5 %, p.a.	KK13.1	10 g	46,15
		KK13.2	50 g	190,85

For additional product data and safety information, see chapter Chemicals A-Z.

Natural substance reagent A as a spray reagent:

According to Wagner natural substance A is an excellent reagent for fluorometry in quantitative analysis of thin layer chromatograms.

Application:

Natural substance-polyethylene glycol reagent (NST/PEG).

Spray a 1 % methanol solution of natural substance reagent A and a 5 % ethanol PEG 4000 solution, one after the other onto the TLC-plate (approx. 10 ml and 8 ml).

Intensive fluorescent colours will appear immediately or after 15 min in UV-365 nm.

Adding PEG will lead to an increase in detection sensitivity (from 10 µg to 2,5 µg).

The fluorescence behaviour depends on the constitution. The reagent must be freshly prepared before use (1 % in methanol). Spray under the fume hood!

Ninhydrin spray reagent:

for detecting amino acids and primary aliphatic amines. 0,15 g **ninhydrin** + 47,5 ml 2-propanol + 2,5 ml acetic acid 96 %.

Solvents for TLC

ROTISOLV® UV/IR-Grade solvents

for chromatography and spectroscopy



ROTISOLV® UV/IR-Grade solvents are specially adapted for spectrophotometric processes and other chromatographic applications which require high spectroscopic purity.

- High chemical purity
- Spectroscopically tested for UV and IR
- High UV-permeability
- Low fluorescence

Example specification:

n-Hexane

ROTISOLV® ≥99 %, UV/IR-Grade

For chromatography and spectroscopy.

1-Methylpentane

C_6H_{14}

M 86,18 g/mol

Danger H225-H304-H315-H336-H361f***-H373**-H411

Guarantee analysis:

Assay (GC).....	≥99 %
Water (KF).....	≤0,005 %
Acidity.....	≤0,005 meq/g
Evaporation residue.....	≤0,005 %
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤1,0 ppb
Transmission:	
245 nm.....	≥98 %
225 nm.....	≥90 %
217 nm.....	≥80 %
210 nm.....	≥50 %
195 nm.....	≥10 %

Acetic acid ethyl ester

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

Ethyl acetate, Acetic ester

$C_4H_8O_2$

M 88,11 g/mol

Danger H225-H319-H336-EUH066

4442.1	2,5 l	glass	52,15 €
Original pack 4 x 2,5 l			
			49,54/2,5 l

Acetone

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

2-Propanone, Dimethyl ketone

C_3H_6O

M 58,08 g/mol

Danger H225-H319-H336-EUH066

T906.1	2,5 l	glass	47,85 €
Original pack 4 x 2,5 l			
			45,46/2,5 l

Acetonitrile

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

Methyl cyanide, Cyanomethane

C_2H_3N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

T907.1	2,5 l	glass	83,75 €
Original pack 4 x 2,5 l			
			79,56/2,5 l

1-Butanol

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

n-Butanol, Butyl alcohol

$C_4H_{10}O$

M 74,12 g/mol

Danger H318-H226-H302-H315-H335-H336

4431.1	2,5 l	glass	83,75 €
Original pack 4 x 2,5 l			
			79,56/2,5 l

Cyclohexane

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

Hexahydrobenzene

C_6H_{12}

M 84,16 g/mol

Danger H225-H304-H400-H410-H315-H336

CP81.1	2,5 l	glass	79,45 €
Original pack 4 x 2,5 l			
			75,48/2,5 l

Dichloromethane

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy

Methylene chloride, DCM

CH_2Cl_2

M 84,93 g/mol

Warning H351

4433.1	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			
			36,67/2,5 l

N,N-Dimethylformamide (DMF)

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

DMF

C_3H_7NO

M 73,10 g/mol

Danger H226-H360D-H312+H332-H319

CP79.1	2,5 l	glass	85,90 €
Original pack 4 x 2,5 l			
			81,61/2,5 l

Chromatography · TLC

n-Heptane

ROTISOLV® ≥99 %, UV/IR-Grade

For chromatography and spectroscopy.

n-Methyl hexane

C_7H_{16}

M 100,20 g/mol

 **Danger** H225-H304-H400-H410-H315-H336

CP78.1	2,5 l	glass	98,40 €
Original pack 4 x 2,5 l			93,48/2,5 l

n-Hexane

ROTISOLV® ≥99 %, UV/IR-Grade

For chromatography and spectroscopy.

1-Methylpentane

C_6H_{14}

M 86,18 g/mol

 **Danger** H225-H304-H315-H336-H361f***-H373***-H411

T908.1	2,5 l	glass	97,75 €
Original pack 4 x 2,5 l			92,86/2,5 l

Isooctane

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

2,2,4-Trimethylpentane, iso-Octane, Isobutyltrimethylmethane

C_8H_{18}

M 114,23 g/mol

 **Danger** H225-H304-H400-H410-H315-H336

CP80.1	2,5 l	glass	97,75 €
Original pack 4 x 2,5 l			92,86/2,5 l

Methanol

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

Methyl alcohol, Carbinol

CH_3OH

M 32,04 g/mol

 **Danger** H225-H301+H311+H331-H370

T909.1	2,5 l	glass	31,75 €
Original pack 4 x 2,5 l			30,16/2,5 l

n-Pentane

ROTISOLV® ≥99 %, UV/IR-Grade

For chromatography and spectroscopy.

1,3-Dimethylpropane, Diethylmethane

C_5H_{12}

M 72,15 g/mol

 **Danger** H225-H304-H336-H411-EUH066

4443.1	2,5 l	glass	99,45 €
Original pack 4 x 2,5 l			94,48/2,5 l

2-Propanol

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

Isopropanol, Isopropyl alcohol, Dimethyl carbinol, IPA, 2-Hydroxypropane

C_3H_8O

M 60,10 g/mol

 **Danger** H225-H319-H336

T910.1	2,5 l	glass	65,05 €
Original pack 4 x 2,5 l			61,80/2,5 l

Tetrahydrofuran

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

THF, Oxolane

C_4H_8O

M 72,11 g/mol

 **Danger** H225-H319-H335-H351-EUH019

CP82.1	2,5 l	glass	85,90 €
Original pack 4 x 2,5 l			81,61/2,5 l

Toluene

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy

Methylbenzene

C_7H_8

M 92,14 g/mol

 **Danger** H225-H304-H361d-H373-H315-H336

4445.1	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l

Trichloromethane/Chloroform

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

Chloroform

$CHCl_3$

M 119,38 g/mol

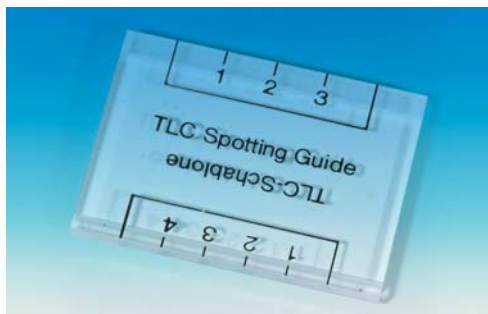
 **Danger** H331-H372-H351-H361d-H302-H315-H319

4432.1	2,5 l	glass	57,55 €
Original pack 4 x 2,5 l			54,67/2,5 l

► More details on specifications
see chapter Chemicals A-Z.

Chromatography · TLC

Accessories for TLC



Spotting guides for TLC plates

For the easy sample application. Size: 4 x 6 cm. Marks for 4 spots with a distance of 8 mm and 3 spots with a distance of 10 mm, respectively.

Art. No.	Pack Qty.	€
3661.1	2	21,50



TLC separation chamber

Made of borosilicate glass 3.3. For immersing pre-treated TLC ready-to-use 8 x 4 cm foils in solvents. Cylindrical glass beakers with loose glass lid. Inner height 100, Ø 60 mm.

Art. No.	Pack Qty.	€
0823.1	1	39,05



Developing chambers for TLC

Simultaneous developing chambers made of glass.

Type 1: for up to 5 plates up to size 20 x 20 cm

Type 2: for up to 2 plates up to size 10 x 10 cm

Type	Art. No.	Pack Qty.	€
1	3133.1	1	339,00
2	3134.1	1	152,50



TLC atomisers

Made of DURAN®. NS 19/26, volume 100 ml. Overall height 160 mm. **Delivery incl.** Erlenmeyer flasks, wire joint clamps, rubber ball incl. rubber tube 25 cm.

Type	Art. No.	Pack Qty.	€
TLC atomizers complete	0707.1	1	60,75

Accessories:

Spare spray nozzle	H451.1	1	36,70
Spare rubber bulb, incl. tube	5914.1	1	12,90



TLC sprayer

Versatile sprayer with gas cartridge for spraying reagents and other liquids. Spray pressure: constant 4,4 bar. Eco-friendly propellant mixture of dimethyl ether, propane and isobutane.

Sufficient for approx. 500 ml of liquid.

Easy to clean: unscrew cartridge, immerse uptake into vessel containing cleaning fluid and spray until the spray is free of residues.

Propellants: dimethyl ether, isobutane, propane.

Delivery incl. propellant cartridge, 170 ml glass reservoir bottle, suction tube and screw cap.

Danger H222-H229

Art. No.	Pack Qty.	€
YC44.1	1	13,95

Accessories:

Replacement cartridges with spray nozzle and suction tube	YC45.1	5	44,10
Replacement 170 ml glass bottle	YC46.1	1	7,20

Paper Chromatography

Paper chromatography (PC) is the oldest chromatographic technique. Like other chromatographic applications, separation is based upon the partition of the material mixture, which is to be separated, between two immiscible phases.

While the chromatographic paper is, strictly speaking, only the carrier for the liquid stationary phase, the properties of the paper do, in fact, have considerable influence on the quality of the separation.

The most important characteristics of chromatographic papers are the **weight** (g/m²), the **thickness** (mm) and the **migration distance**.

When specifying the migration distance, it is common practice in the paper industry to apply the Klemm method. This method indicates the extent of dampness of a 15 cm wide paper strip (dipped in 20 °C dist. water) after 10 minutes. You will, however, frequently find the migration distance of chromatographic paper specified in mm/30 min.



Chromatography Papers

ROTH offers a wide selection of high-quality chromatography papers for a variety of applications. Our programme ranges from machine finished paper to ungreased paper and even includes soft cardboard sheets.

Machine finished paper

Model	Thickness (mm)	Weight (g/m ²)	Flow rate (mm/min.)	Size (cm)	Art. No.	Pack Qty. (sheets)	€
MN 261	0,18	90	90-100/30	58 x 60	1236.1	100	165,00
MN 260	0,20	90	120-130/30	7,5 x 17	2940.1	100	27,50
MN 260	0,20	90	120-130/30	58 x 60	1238.1	100	165,00
MN 214	0,28	140	90-100/30	58 x 60	1239.1	100	239,00
MN 218	0,36	180	90-100/30	58 x 60	1246.1	100	309,00

Degreased paper

This paper is extracted with organic solvents.

Model	Thickness (mm)	Weight (g/m ²)	Flow rate (mm/min.)	Size (cm)	Art. No.	Pack Qty. (sheets)	€
MN 214 ff	0,28	140	90-100/30	56 x 58	1254.1	100	545,00

Soft cardboard

Model	Thickness (mm)	Weight (g/m ²)	Flow rate (mm/min.)	Size (cm)	Art. No.	Pack Qty. (sheets)	€
MN 827	0,70	270	130-140/10	58 x 60	1265.1	100	345,00
MN 866	1,70	650	100-120/10	38 x 38	1273.1	100	289,00

Whatman® Chromatography Papers

Whatman® chromatography papers for blotting, chromatography and filtration. Made from specially selected cellulose.

Thickness 0,18 mm (Whatman® 2CHR), flow rate 115 mm/30 min.

Dimensions	Art. No.	Pack Qty.	€
460 x 570 mm	CL36.1	100	228,00

Thickness 0,18 mm (Whatman 1CHR), flow rate 130 mm/30 min.

Also available in convenient rolls!

Dimensions	Art. No.	Pack Qty.	€
100 x 300 mm	CL37.1	100	42,80
200 x 200 mm	CL38.1	100	48,90
250 x 250 mm	CL39.1	100	76,40
460 x 570 mm	CL40.1	100	166,00
580 x 680 mm	CL41.1	100	259,00
20 mm x 100 m (roll)	7606.1	1	26,50
30 mm x 100 m (roll)	CL42.1	1	36,50
40 mm x 100 m (roll)	CL43.1	1	41,20
50 mm x 100 m (roll)	7607.1	1	49,50
100 mm x 100 m (roll)	CL44.1	1	93,40
150 mm x 100 m (roll)	7608.1	1	119,00

Thickness 0,34 mm (Whatman® 3CHR), flow rate 130 mm/30 min.

For general applications with medium/heavy solute loadings.

Dimensions	Art. No.	Pack Qty.	€
460 x 570 mm	7604.1	100	330,00

Thickness 0,92 mm (Whatman® 17CHR), flow rate 190 mm/30 min.

For the heaviest solute loadings.

Dimensions	Art. No.	Pack Qty.	€
70 x 90 mm	7600.1	100	64,00
25 x 220 mm	7601.1	100	65,40
460 x 570 mm	7602.1	25	247,00
460 x 570 mm	7603.1	100	919,00

Application Instructions:

Chromatography paper and cardboard must always be handled carefully. Your fingers should not touch the paper as the separation process will be disrupted by skin excretion, such as salt, grease and amino acids. Please avoid folding or creasing the paper as this will impair the capillary action.



Ion Chromatography

ROTI®STAR Standards for IC

ROTH has an extensive range of products which meets the highest standards of quality in the field of ion standards.

The solutions and mixtures are made using materials of the highest purity, and therefore meet the requirements for instrumental analysis by IC. All solutions are certified and can be traced to NIST standard reference solutions. Solutions are produced according to **ISO Guide 34** in an accredited environment. The solutions are tested in a laboratory accredited to **ISO/IEC 17025** and supplied with a detailed, batch-specific certificate of analysis.



Ion Standards for IC (Ion Chromatography)

Each standard solution is made of high-purity starting materials, and its content is determined gravimetrically and by ion chromatography. They come with certificates of analysis and an ion chromatogram.

- Single and multi-element-standards
- Anion and cation multi-element-standards
- Guaranteed accuracy $\pm 0,2\%$
- Container sizes: 100 ml and 500 ml

Ion Multi-Element Standards for IC - ready to use

Designation	Ion	Matrix	Art. No.	Pack Qty.	€
Acetate	CH_3COO^-	H_2O	1989.1	100 ml	40,35
			1989.2	500 ml	75,15
Ammonium	NH_4^+	H_2O	2654.1	100 ml	34,95
			2654.2	500 ml	69,80
Bromide	Br^-	H_2O	2655.1	100 ml	34,95
			2655.2	500 ml	69,80
Calcium	Ca^{2+}	H_2O	1986.1	100 ml	34,95
			1986.2	500 ml	69,80
Chloride	Cl^-	H_2O	2656.1	100 ml	34,95
			2656.2	500 ml	69,80
Chromate	CrO_4^{2-}	H_2O	2657.1	100 ml	34,95
			2657.2	500 ml	69,80
Cyanide	CN^-	0,1% KOH	2658.1	100 ml	34,95
			2658.2	500 ml	69,80
Fluoride	F^-	H_2O	2659.1	100 ml	34,95
			2659.2	500 ml	69,80
Formate	HCOO^-	H_2O	1999.1	100 ml	40,35
			1999.2	500 ml	75,15
Iodide	I^-	H_2O	2660.1	100 ml	34,95
			2660.2	500 ml	69,80
Magnesium	Mg^{2+}	H_2O	1987.1	100 ml	34,95
			1987.2	500 ml	69,80

Designation	Ion	Matrix	Art. No.	Pack Qty.	€
Sodium	Na^+	H_2O	1984.1	100 ml	34,95
			1984.2	500 ml	69,80
Nitrate	NO_3^-	H_2O	2661.1	100 ml	34,95
			2661.2	500 ml	69,80
Nitrite	NO_2^-	H_2O	2664.1	100 ml	34,95
			2664.2	500 ml	69,80
Oxalate	$\text{C}_2\text{O}_4^{2-}$	H_2O	2008.1	100 ml	40,35
			2008.2	500 ml	75,15
Phosphate	PO_4^{3-}	H_2O	2665.1	100 ml	34,95
			2665.2	500 ml	69,80
Potassium	K^+	H_2O	1985.1	100 ml	34,95
			1985.2	500 ml	69,80
Strontium	Sr^{2+}	H_2O	1988.1	100 ml	34,95
			1988.2	500 ml	69,80
Sulphate	SO_4^{2-}	H_2O	2666.1	100 ml	34,95
			2666.2	500 ml	69,80

For additional product data and safety information, see chapter Chemicals A-Z.

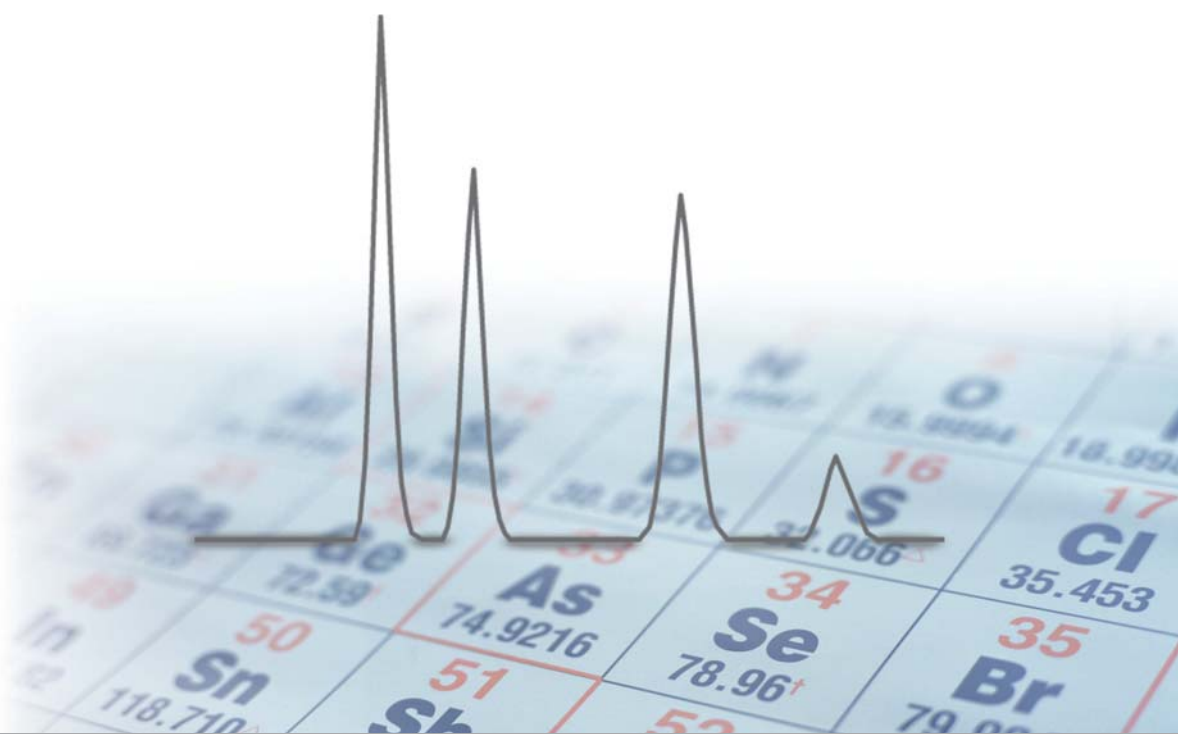


Ion Multi-Element Standards for IC - ready to use

Designation	Elements	Composition	Matrix	Art. No.	Pack Qty.	€
Anion Multi-Element Standard (concentration in mg/l)	7	F ⁻ (5), Cl ⁻ (10), NO ₂ ⁻ (15), Br ⁻ (25), NO ₃ ⁻ (25), PO ₄ ³⁻ (40), SO ₄ ²⁻ (30)	H ₂ O	2668.1	100 ml	56,90
				2668.2	500 ml	140,30
Anion Multi-Element Standard I, 1000 mg/l	3	Cl ⁻ , NO ₃ ⁻ , SO ₄ ²⁻	H ₂ O	2026.1	100 ml	121,40
				2026.2	500 ml	233,85
Anion Multi-Element Standard II, 1000 mg/l	3	F ⁻ , Br ⁻ , PO ₄ ³⁻	H ₂ O	2029.1	100 ml	127,95
				2029.2	500 ml	241,90
Anion Multi-Element Standard, 10 mg/l	6	F ⁻ , Cl ⁻ , Br ⁻ , NO ₃ ⁻ , PO ₄ ³⁻ , SO ₄ ²⁻	H ₂ O	2030.1	100 ml	81,20
				2030.2	500 ml	168,25
Cation Multi-Element Standard (concentration in mg/l)	6	NH ₄ ⁺ (40), Ca ²⁺ (40), K ⁺ (20), Li ⁺ (10), Mg ²⁺ (20), Na ⁺ (20)	0,1 % HNO ₃	2669.1	100 ml	56,90
				2669.2	500 ml	140,30
Cation Multi-Element Standard, 10 mg/l	4	Na ⁺ , K ⁺ , Mg ²⁺ , Ca ²⁺	H ₂ O	2032.1	100 ml	75,15
				2032.2	500 ml	154,30

For additional product data and safety information, see chapter Chemicals A-Z.

- Ultra pure acids, alkaline solutions and water for IC see page 1573



NUCLEODUR® Columns for HPLC

NUCLEODUR® as a state-of-the-art silica is the ideal base material for modern HPLC phases.
We offer you two phases **NUCLEODUR® C18 Gravity** which is ideal for sophisticated analytical separations and **NUCLEODUR® C18 ec** suitable for routine HPLC analysis.



NUCLEODUR® C₁₈ Gravity

The ideal phase for overall sophisticated analytical separations

- Especially suitable for LC/MS applications due to low bleeding properties
- Ideal for method development
- Superior base deactivation

Properties:

Octadecyl phase, multi-endcapped
Carbon content: 18,0 %
Pore size: 110 Å
pH stability: 1-11
Eluent on column: acetonitrile/water

Applications:

Pharmaceuticals, e.g. analgesics, antiinflammatory drugs, antidepressants, herbicides, immunosuppressants

Similar phases:

Zorbax® Extend C₁₈, Synergi™ and Max RP, Phenomenex Luna® C₁₈ (2), Waters Xterra® RP₁₈/MS C₁₈, Inertsil® ODS III, Purospher® RP-18, Star RP-18, USP L1

NUCLEODUR® C₁₈ Gravity, particle size 3 µm

Inner Ø (mm)	Length (mm)	Art. No.	Pack Qty.	€
4	250	KK86.1	1	649,00
4,6	150	KK87.1	1	625,00
4,6	250	KK88.1	1	679,00

NUCLEODUR® C₁₈ Gravity, particle size 5 µm

Inner Ø (mm)	Length (mm)	Art. No.	Pack Qty.	€
4	250	KK89.1	1	519,00
4,6	150	KK90.1	1	499,00
4,6	250	KK91.1	1	549,00

NUCLEODUR® C₁₈ ec

The ideal standard RP phase for routine HPLC analysis

- Economic and reliable
- Long-life columns
- For all standard routine applications in modern RP-chromatography

Properties:

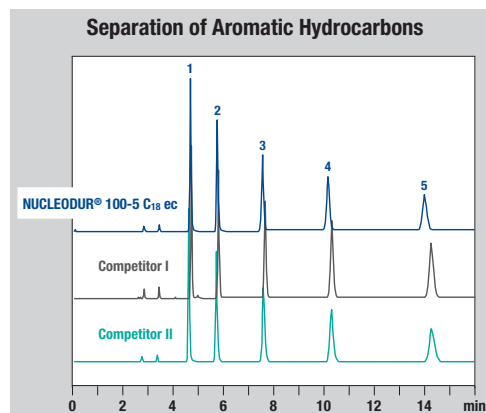
Octadecyl phase, endcapped
Carbon content: 17,5 %
Pore size: 110 Å
pH stability: 1-9
Eluent on column: acetonitrile/water

Applications:

Basic, neutral or acidic pharmaceuticals, derivatized amino acids, pesticides, aldehydes and ketones, fat-soluble vitamins, phenolic compounds, analytics acc. to USP L1

Similar phases:

For many applications the following phases can be replaced with identical or even better results: NUCLEOSIL® C₁₈, Spherisorb® ODS I and II, Hypersil® ODS, Waters Symmetry® C₁₈, Inertsil® ODS II, Kromasil® C₁₈, LiChrospher® RP₁₈ and RP C₁₈ ec.



Conditions:

Eluent: acetonitril / water (75/25, v/v)
Flow: 1,3 ml/min
Temperature: 30 °C
Detection: UV, 254 nm

Legend:

1. Toluene, 2. Ethylbenzene, 3. Propylbenzene, 4. Butylbenzene, 5. Pentylbenzene

NUCLEODUR® 100-3 C₁₈ ec, particle size 3 µm

Inner Ø (mm)	Length (mm)	Art. No.	Pack Qty.	€
4	250	KK80.1	1	445,00
4,6	150	KK81.1	1	409,00
4,6	250	KK82.1	1	465,00

NUCLEODUR® 100-5 C₁₈ ec, particle size 5 µm

Inner Ø (mm)	Length (mm)	Art. No.	Pack Qty.	€
4	250	KK83.1	1	325,00
4,6	150	KK84.1	1	282,00
4,6	250	KK85.1	1	349,00

Guard Columns Systems



Column Protection System

Innovative and universal screw-on guard column holder system
Suitable for all analytical HPLC columns with 1/16" fittings

Features

- Ideal protection for your analytical main column -> significant increase in column lifetime
- Minimized void volume -> suitable also for ultra fast HPLC
- Special ferrules -> pressure stability up to 1034 bar (15000 psi)
- Visual contamination check -> in-time changing of the guard column
- Guard column length 4 mm, ID 2 mm (for main columns with 2 mm ID) or ID 3 mm (for main columns with 3, 4 and 4,6 mm ID)
- UNIVERSAL RP guard columns suitable for all HPLC columns under RP conditions

Content of the column protection system

- Cartridge holder (1 piece)
- Capillaries (2 pieces)
- Ferrules (3 pieces)
- Wrenches (2 pieces)
- Manual

Art. No.	Pack Qty.	€
6041.1	1 Kit	132,50



Guard columns UNIVERSAL

Designation	Art. No.	Pack Qty.	€
Guard column EC 4/2 UNIVERSAL RP for main columns with 2 mm ID	6049.1	3	110,50
Guard column EC 4/3 UNIVERSAL RP for main columns with 3, 4 and 4,6 mm ID	6050.1	3	110,50

Replacement parts

Designation	Art. No.	Pack Qty.	€
Replacement ferrules	6042.1	5	36,50
Replacement connector including O-ring	6043.1	1	22,50
Replacement capillary tubes, nuts and metal ferrules	6045.1	3	49,90

Ion Pair Reagents



Ion pair reagents are strongly hydrophobic ions which form neutral ion pairs with oppositely charged sample molecules. In this way, the simultaneous separation of charged and non-charged molecules is possible.

Advantages:

- High purity
- High UV-permeability
- Broad range of products
- Excellent price/performance ratio

Ion pair reagents

Product	Purity	Art. No.	Pack Qty.	€
Butane-1-sulphonic acid sodium salt	≥99 %	KK50.1	10 g	45,70
		KK50.2	25 g	87,65
		KK50.3	100 g	267,70
Decane-1-sulphonic acid sodium salt	≥99 %	KK51.1	10 g	46,80
		KK51.2	25 g	91,30
		KK51.3	100 g	284,90
Dodecane-1-sulphonic acid sodium salt	≥99 %	KK52.1	10 g	50,45
		KK52.2	25 g	99,90
		KK52.3	100 g	332,20
Heptane-1-sulphonic acid sodium salt	≥98 %	KK53.1	10 g	42,50
		KK53.2	25 g	81,60
		KK53.3	100 g	246,20
Hexane-1-sulphonic acid sodium salt	≥98 %	KK54.1	10 g	42,50
		KK54.2	25 g	81,60
		KK54.3	100 g	246,20
Octane-1-sulphonic acid sodium salt	≥98 %	KK55.1	10 g	42,50
		KK55.2	25 g	81,60
		KK55.3	100 g	246,20
Pentane-1-sulphonic acid sodium salt	≥98 %	KK56.1	10 g	42,50
		KK56.2	25 g	81,60
		KK56.3	100 g	246,20
Propane-1-sulphonic acid sodium salt	≥98 %	KK57.1	10 g	49,35
		KK57.2	25 g	96,65
		KK57.3	100 g	299,95

For additional product data and safety information, see chapter Chemicals A-Z.

Assortment ROTISOLV® HPLC Solvents

for liquid chromatography



Available in different quality grades:

- HPLC Grade
- HPLC Gradient Grade
- HPLC Ultra Gradient Grade

ROTISOLV®-HPLC solvents meet all the requirements in high-performance liquid chromatography (HPLC). Their application ranges from routine applications (HPLC Grade) to specific analytic tasks (HPLC Ultra Gradient Grade).

- High chemical purity
- High UV-permeability
- Low fluorescence
- Low residue from evaporation
- Low water and acid content
- Filtered through 0,2 µm membrane
- Bottled under inert gas

Example specification:

Acetonitrile

ROTISOLV® HPLC Gradient Grade

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,02 %
Free acid.....	≤0,001 %
Non volatile matter.....	≤0,0002 %
Transmission:	
> 220 nm.....	≥99 %
220 nm.....	≥98 %
200 nm.....	≥96 %
195 nm.....	≥85 %
192 nm.....	≥50 %
190 nm.....	≥10 %
Gradient test:	
UV absorption of the greatest eluated peak	
210 nm.....	≤1,0 mAU
254 nm.....	≤0,5 mAU
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤0,5 ppb
Filtered through 0,2 µm membrane and filled under protective gas.	

ROTISOLV® HPLC Solvents

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Acetic acid ethyl ester	HPLC	7336.2	1 l	glass	34,30
		7336.1	2,5 l	glass	66,55
		7328.1	1 l	glass	26,55
		7328.2	2,5 l	glass	47,20
Acetone	HPLC				
Acetonitrile	HPLC Ultra Gradient Grade	T195.1	1 l	glass	64,40
		T195.2	2,5 l	glass	109,15
	HPLC Gradient Grade	8825.1	1 l	glass	41,85
		8825.2	2,5 l	glass	85,90
	HPLC Gradient	HN44.1	1 l	glass	36,45
		HN44.2	2,5 l	glass	69,80
	HPLC	7330.1	1 l	glass	36,05
		7330.2	2,5 l	glass	67,65
	HPLC, isocratic	CN20.1	1 l	glass	35,40
		CN20.2	2,5 l	glass	66,55
	≥99,8 %, for preparative HPLC	6827.1	2,5 l	glass	53,65
		6827.2	25 l	tinplate	385,95
1-Butanol	HPLC	T178.1	2,5 l	glass	90,85
tert-Butyl methyl ether	HPLC	T175.2	1 l	glass	40,35
		T175.1	2,5 l	glass	90,85
Cyclohexane	HPLC	7333.2	1 l	glass	44,00
		7333.1	2,5 l	glass	79,05
Dichloromethane	HPLC, not stabilized	7334.2	1 l	glass	33,90
		7334.1	2,5 l	glass	53,25
1,4-Dioxane	HPLC, not stabilized	X949.1	1 l	glass	57,55
		X949.2	2,5 l	glass	131,70
Ethanol	HPLC Gradient Grade	P076.1	1 l	glass	86,55
		P076.2	2,5 l	glass	177,40
n-Heptane	≥99 %, HPLC	6828.1	2,5 l	glass	102,05
	≥95 %, HPLC	7337.2	1 l	glass	43,55
		7337.1	2,5 l	glass	95,15
n-Hexane	HPLC	7339.2	1 l	glass	37,30
		7339.1	2,5 l	glass	76,25
Isohexane	HPLC	T176.2	1 l	glass	48,95
		T176.1	2,5 l	glass	96,65
Isooctane	HPLC	7340.1	2,5 l	glass	96,25
Methanol	HPLC Ultra Gradient Grade	X948.1	1 l	glass	22,80
		X948.2	2,5 l	glass	40,75
	HPLC Gradient Grade	7342.2	1 l	glass	20,35
		7342.1	2,5 l	glass	34,95
	HPLC Gradient	KK39.2	2,5 l	glass	28,50
		P717.2	1 l	glass	17,10
n-Pentane	HPLC	P717.1	2,5 l	glass	27,65
		CN99.1	1 l	glass	58,60
		CN99.2	2,5 l	glass	126,75
2-Propanol	HPLC	7343.2	1 l	glass	30,35
		7343.1	2,5 l	glass	63,45
Tetrahydrofuran	HPLC, not stabilized	7344.1	1 l	glass	46,80
		7344.2	2,5 l	glass	96,65
Toluene	HPLC	7346.2	1 l	glass	34,30
		7346.1	2,5 l	glass	70,85
Trichloromethane/ Chloroform	HPLC	7331.2	1 l	glass	36,05
		7331.1	2,5 l	glass	75,15
Water	HPLC Gradient Grade	A511.1	1 l	glass	16,25
		A511.2	2,5 l	glass	29,80
		A511.3	5 l	plastic	54,75

For additional product data and safety information, see chapter Chemicals A-Z.

Physical Data of ROTISOLV® HPLC Solvents

Arranged in order according to the polarity parameter $P^{(1)}$

	P	X_e	X_d	X_n	Group
n-Hexane	0.1				
Isooctane	0.1				
n-Heptane	0.2				
Cyclohexane	0.2				
Tetrachloromethane	1.6				
Toluene	2.4	0.25	0.28	0.47	VII
Benzene	2.7	0.23	0.32	0.45	VII
Dichloromethane	3.1	0.29	0.18	0.53	V
Isopropanol	3.9	0.55	0.19	0.27	II
Tetrahydrofuran	4.0	0.38	0.20	0.42	III
Trichloromethane	4.1	0.25	0.41	0.33	VIII
Ethyl acetate	4.4	0.34	0.23	0.43	VI
Acetone	5.1	0.35	0.23	0.42	VI
Methanol	5.1	0.48	0.22	0.31	II
Acetonitrile	5.8	0.31	0.27	0.42	VI

(1) L.R. Snyder J. Chromatogr. Sci 16, 223 (1978)

P = Polarity index acc. to Snyder
X = Selectivity parameter
 X_e = Index for proton acceptor effect
 X_d = Index for proton donor effect
 X_n = Index for dipole-dipole interaction

Arranged in order according to solvent strength⁽¹⁾

	A	B	C	D	E	F	G
n-Hexane	0.01		1.88	0.30	1.3751	69	
n-Heptane	0.01		1.92	0.40	1.3878	98.4	
Isooctane	0.01		1.94	0.47	1.3915	99.2	
Cyclohexane	0.04		2.02	0.90	1.4266	80.7	
Tetrachloromethane	0.18		2.24	0.90	1.4601	76.5	0
Toluene	0.29		0.55	0.55	1.4961	110.6	0.36
Benzene	0.32		2.3	0.60	1.5011	80.1	0
Trichloromethane	0.40		4.8	0.53	1.4459	61.7	1.01
Dichloromethane	0.42		8.9	0.41	1.4242	40	1.6
Acetone	0.56	3.4	21.4	0.30	1.3588	56.2	2.88
Tetrahydrofuran	0.57	4.4	7.6	0.46	1.4050	67	1.63
Ethyl acetate	0.58		6.0	0.43	1.3723	77.1	1.78
Acetonitrile	0.65	3.1	37.5	0.34	1.3442	81.6	3.92
2-Propanol	0.82	4.2	20.3	1.9	1.3776	82.4	1.66
Methanol	0.95	3.0	32.7	0.54	1.3288	65	1.7
Water		0.0	80	0.89	1.333	100	1.82

(1) L.R. Snyder and J.J. Kirkland: Introduction to Modern Liquid Chromatography, 2nd Ed. (Wiley-Interscience, New York, 1979)

(2) aluminium oxide as stationary phase

(3) RP-silica gel as stationary phase

(4) L.R. Snyder, J.W. Dolan and J.R. Gant: J. Chromatogr. 165, 3 (1979)

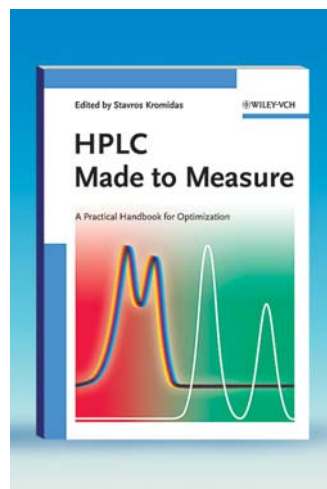
(5) Handbook of Chemistry and Physics 65th 1983 CRC Press, Boca Raton, Florida

$A = \varepsilon_o(A)^{(2)}$
 $B = \varepsilon_o(RP)^{(3,4)}$
C = relative permittivity⁽¹⁾ $\varepsilon(20^\circ\text{C})$
D = viscosity η in cp (25°C)
E = refractive index⁽⁵⁾ n_D^{20}
F = boiling point⁽⁵⁾ bp in $^\circ\text{C}$
G = dipole moment

UV Cut-off and miscibility of some HPLC solvents

UV cut-off (nm)	Solvents	Acetone	Acetonitrile	1-Butanol	tert.-Butyl methyl ether	Cyclohexane	Dichloromethane	1,4-Dioxane	Ethyl acetate	Ethanol	n-Heptane	n-Hexane	Isooctane	Methanol	n-Pentane	2-Propanol	Tetrahydrofuran	Toluene	Trichloromethane	Water
330	Acetone																			
190	Acetonitrile																			
215	1-Butanol																			
210	tert.-Butyl methyl ether																			
200	Cyclohexane																			
233	Dichloromethane																			
215	1,4-Dioxane																			
256	Ethyl acetate																			
210	Ethanol																			
200	n-Heptane																			
195	n-Hexane																			
215	Isooctane																			
206	Methanol																			
190	n-Pentane																			
205	2-Propanol																			
212	Tetrahydrofuran																			
284	Toluene																			
245	Trichloromethane																			
190	Water																			

☐ miscible
☒ not miscible



HPLC Made to Measure

A Practical Handbook for Optimization.

Kromidas, Stavros (Ed.)

1st Edition - May 2006, 753 pages, hard cover

ISBN 978-3-527-31377-8

Short description:

The only topical book to focus on optimization, this volume addresses the needs of users wishing to improve their methods in particular in terms of throughput, accuracy and cost-effectiveness. Written by bestseller authors and scientists working for major international companies.

Titel	Art. No.	Pack Qty.	Price incl. VAT, €
HPLC Made to Measure	HX93.1	1	165,00

ROTISOLV® LC-MS-Grade Solvents



Modern analysis methods such as LC-MS (combination of liquid chromatography and mass spectroscopy) call for a special solvent quality which has the required purity and which has been tested under application-oriented conditions. Very high purity and very low metal concentrations are features of these products which allow exact interpretations of the mass spectra.

- High chemical purity (≥99,95 %)
- High UV-permeability
- Low fluorescence
- Superior gradient baseline
- Metal trace impurities (≤0,05 ppm)
- Test for LC-MS suitability
- Filtered through 0,2 µm membrane
- Bottled under inert gas

Example specification:

Acetonitrile

ROTISOLV® ≥99,95 %, LC-MS Grade

Methyl cyanide, Cyanomethane

C₂H₃N • M 41,05 g/mol

Danger H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,95 %
Colour (APHA).....	≤5
Water (KF).....	≤0,01 %
Free acid (as CH ₃ COOH).....	≤0,001 %
Free alkali (as NH ₃).....	≤0,0001 %
Non volatile matter.....	≤0,0001 %
Transmission:	
240 nm.....	≥99 %
220 nm.....	≥98 %
200 nm.....	≥95 %
195 nm.....	≥78 %
Gradient test:	
UV absorption of the greatest eluted peak	
210 nm.....	≤0,005 AU
254 nm.....	≤0,002 AU
Fluorescence (as quinine):	
254 nm.....	≤0,2 ppb
365 nm.....	≤0,2 ppb
Trace impurities:	
Aluminium (Al).....	≤0,05 ppm
Calcium (Ca).....	≤0,05 ppm
Iron (Fe).....	≤0,05 ppm
Potassium (K).....	≤0,05 ppm
Magnesium (Mg).....	≤0,05 ppm
Sodium (Na).....	≤0,05 ppm
LC-MS suitability test.....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

Acetic acid ethyl ester

ROTISOLV® ≥99,9 %, LC-MS-Grade

Ethyl acetate, Acetic ester

C₄H₈O₂

M 88,11 g/mol

Danger H225-H319-H336-EUH066

AE69.1	1 l	glass	44,65 €
Original pack 6 x 1 l			42,42/1 l
AE69.2	2,5 l	glass	92,35 €
Original pack 4 x 2,5 l			87,73/2,5 l

Acetonitrile

ROTISOLV® ≥99,95 %, LC-MS Grade

Methyl cyanide, Cyanomethane

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

AE70.1	1 l	glass	69,80 €
Original pack 6 x 1 l			66,31/1 l
AE70.2	2,5 l	glass	113,45 €
Original pack 4 x 2,5 l			107,78/2,5 l

Methanol

ROTISOLV® ≥99,95 %, LC-MS-Grade

Methyl alcohol, Carbinol

CH₃OH

M 32,04 g/mol

Danger H225-H301+H311+H331-H370

AE71.1	1 l	glass	26,80 €
Original pack 6 x 1 l			25,46/1 l
AE71.2	2,5 l	glass	57,95 €
Original pack 4 x 2,5 l			55,05/2,5 l

2-Propanol

ROTISOLV® ≥99,95 %, LC-MS Grade

Isopropanol, Isopropyl alcohol, Dimethyl carbinol, IPA, 2-Hydroxypropane

C₃H₈O

M 60,10 g/mol

Danger H225-H319-H336

AE73.1	1 l	glass	35,40 €
Original pack 6 x 1 l			33,63/1 l
AE73.2	2,5 l	glass	70,85 €
Original pack 4 x 2,5 l			67,31/2,5 l

Water

ROTISOLV® LC-MS Grade

H₂O

M 18,02 g/mol

AE72.1	1 l	plastic	27,10 €
Original pack 6 x 1 l			25,75/1 l
AE72.2	5 l	plastic	122,05 €
Original pack 2 x 5 l			115,95/5 l

Safety data sheets

can be found on the Internet next to the product description.

ROTISOLV® Ultra LC-MS Solvents



Short analysis times in ultrafast HPLC as well as systems coupled to a mass spectrometer require solvents which offer utmost reliability, sensitivity and reproducibility. Our **ROTISOLV® Ultra LC-MS solvents** are specially suited for meeting these demands and have undergone extremely intensive production and quality controls.

Properties:

- Filtered through **0,1 µm membrane**
- Extra high purity (**≥99,98 %**)
- Bottled under protective gas
- High UV-permeability
- Low fluorescence
- LC-MS suitability tested
- Solid residue from evaporation max. 1 ppm
- Metal trace impurities max. 100 ppb

Example specification:

Acetonitrile

ROTISOLV® ≥99,98 %, Ultra LC-MS

Methyl cyanide, Cyanomethane

C_2H_3N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,98 %
Colour (APHA).....	≤5
Water (KF).....	≤0,01 %
Free acid (as CH_3COOH).....	≤0,001 %
Free alkali (as NH_3).....	≤0,0001 %
Non volatile matter.....	≤0,0001 %
Transmission:	
230 nm.....	≥99 %
215 nm.....	≥98 %
200 nm.....	≥97 %
195 nm.....	≥85 %
191 nm.....	≥30 %
Gradient test:	
UV-absorption of the greatest eluted peak.	
210 nm.....	≤0,001 AU
254 nm.....	≤0,0003 AU
Fluorescence (as quinine):	
254 nm.....	≤0,25 ppb
365 nm.....	≤0,25 ppb
Trace impurities:	
Aluminium (Al).....	≤20 ppb
Calcium (Ca).....	≤50 ppb
Iron (Fe).....	≤20 ppb
Potassium (K).....	≤50 ppb
Magnesium (Mg).....	≤20 ppb
Sodium (Na).....	≤100 ppb
Filtered through 0,1 µm membrane and filled under protective gas.	

Acetonitrile

ROTISOLV® ≥99,98 %, Ultra LC-MS

Methyl cyanide, Cyanomethane

C_2H_3N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

HN40.1	1 l	glass	75,15 €
Original pack 6 x 1 l			71,39/1 l
HN40.2	2,5 l	glass	141,80 €
Original pack 4 x 2,5 l			134,71/2,5 l

Methanol

ROTISOLV® ≥99,98 %, Ultra LC-MS

Methyl alcohol, Carbinol

CH_3OH

M 32,04 g/mol

Danger H225-H301+H311+H331-H370

HN41.1	1 l	glass	31,10 €
Original pack 6 x 1 l			29,55/1 l
HN41.2	2,5 l	glass	70,85 €
Original pack 4 x 2,5 l			67,31/2,5 l

Water

ROTISOLV® Ultra LC-MS

H_2O

M 18,02 g/mol

HN43.1	1 l	glass	33,65 €
Original pack 6 x 1 l			31,97/1 l
HN43.2	2,5 l	glass	72,60 €
Original pack 4 x 2,5 l			68,97/2,5 l

► Vials for automatic samplers and accessories see chapter Labware - Labware & Aids page 57

► HPLC-bottle dispensing systems and accessories see chapter Labware - Labware & Aids page 42

ROTISOLV® Acetonitriles

Overview of ROTISOLV® acetonitriles

We supply you with the ideal acetonitrile for any LC application, from our proven HPLC grade acetonitriles for simple, routine tasks and preparative separations to our premium grade for efficient and super-fast Ultra LC-MS applications.

Specification	ROTISOLV® Ultra LC-MS	ROTISOLV® LC-MS Grade	ROTISOLV® HPLC Ultra Gradient Grade	ROTISOLV® HPLC Gradient Grade	ROTISOLV® HPLC Gradient	ROTISOLV® HPLC	ROTISOLV® HPLC, isocratic	ROTISOLV® for preparative HPLC
Assay	≥99,98 %	≥99,95 %	≥99,95 %	≥99,9 %	≥99,9 %	≥99,9 %	≥99,9 %	≥99,8 %
Water (KF)	≤0,01 %	≤0,01 %	≤0,01 %	≤0,02 %	≤0,02 %	≤0,03 %	≤0,015 %	≤0,05 %
free acid (as CH ₃ COOH)/acidity	≤0,001 %	≤0,001 %	≤0,001 %	≤0,001 %	≤0,002 %	≤0,002 %		≤0,005 %
free alkali (as NH ₃)/alkalinity	≤0,0001 %	≤0,0001 %	≤0,0001 %		≤0,0002 %			≤0,0005 %
Non volatile matter	≤0,0001 %	≤0,0001 %	≤0,0001 %	≤0,0002 %	≤0,0002 %	≤0,0003 %	≤0,0005 %	
UV transmission								
254 nm					≥99 %			
≥240 nm							≥99 %	
240 nm		≥99 %						
>230 nm						≥99 %		
230 nm	≥99 %		≥99 %				≥96 %	≥96 %
≥220 nm				≥99 %				
220 nm		≥98 %		≥98 %	≥98 %			≥90 %
215 nm	≥98 %		≥98 %			≥95 %		
210 nm								
200 nm	≥97 %	≥95 %	≥96 %	≥96 %	≥95 %		≥80 %	
195 nm	≥85 %	≥78 %	≥85 %	≥85 %	≥80 %	≥80 %		
193 nm					≥60 %			
192 nm				≥50 %				
191 nm	≥30 %		≥25 %					
190 nm				≥10 %				
Gradient test: UV absorption of the greatest eluted peak								
210 nm	≤0,001 AU	≤0,005 AU	≤1,0 mAU	≤1,0 mAU	≤2,0 mAU			
254 nm	≤0,0003 AU	≤0,002 AU	≤0,2 mAU	≤0,5 mAU				
Fluorescence (as quinine)								
254 nm	≤0,25 ppb	≤0,2 ppb	≤0,2 ppb	≤1,0 ppb	≤0,5 ppb			
365 nm	≤0,25 ppb	≤0,2 ppb	≤0,2 ppb	≤0,5 ppb	≤0,5 ppb			
PAH-test (<2 ppb, HPLC)			complies					
Trace elements								
Aluminium (Al)	≤20 ppb	≤0,05 ppm						
Calcium (Ca)	≤50 ppb	≤0,05 ppm						
Iron (Fe)	≤20 ppb	≤0,05 ppm						
Potassium (K)	≤50 ppb	≤0,05 ppm						
Magnesium (Mg)	≤20 ppb	≤0,05 ppm						
Sodium (Na)	≤100 ppb	≤0,05 ppm						
Particle filtration through membrane	0,1 µm	0,2 µm	0,2 µm	0,2 µm	0,2 µm	0,2 µm	0,2 µm	0,2 µm
Pack quantities and order numbers								
1 l (glass)	HN40.1	AE70.1	T195.1	8825.1	HN44.1	7330.1	CN20.1	–
2,5 l (glass)	HN40.2	AE70.2	T195.2	8825.2	HN44.2	7330.2	CN20.2	6827.1
25 l (tinplate)	–	–	–	–	–	–	–	6827.2

ROTISOLV® LC-MS-Eluent Mixtures



ready-to-use

Features:

- Ready-to-use solvent blends for easy handling
- High chemical purity of the used raw material: HPLC solvents (≥99,9 %) and acids (≥99,9 %)
- High accuracy of the ratio of ingredients
- High UV-permeability
- Metal trace impurities: ≤0,05 ppm
- LC-MS suitability tested
- Filtered through 0,2 µm membrane
- Bottled under inert gas

Acetonitrile with 0,1 % Acetic acid ROTISOLV® ≥99,9 %, LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Acetonitrile mixture

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

CP01.1	1 l	glass	75,15 €
Original pack 6 x 1 l			71,39/1 l
CP01.2	2,5 l	glass	166,65 €
Original pack 4 x 2,5 l			158,32/2,5 l

Acetonitrile with 0,1 % Formic acid ROTISOLV® ≥99,9 %, LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Acetonitrile mixture

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

CP00.1	1 l	glass	75,15 €
Original pack 6 x 1 l			71,39/1 l
CP00.2	2,5 l	glass	166,65 €
Original pack 4 x 2,5 l			158,32/2,5 l

Acetonitrile with 0,1 % Trifluoroacetic acid ROTISOLV® ≥99,9 %, LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Acetonitrile mixture

C₂H₃N

M 41,05 g/mol

Danger H225-H302+H312+H332-H319

CP02.1	1 l	glass	75,15 €
Original pack 6 x 1 l			71,39/1 l
CP02.2	2,5 l	glass	166,65 €
Original pack 4 x 2,5 l			158,32/2,5 l

Methanol with 0,1 % trifluoroacetic acid ROTISOLV® ≥99,95 %, LC-MS Grade

Eluent mixture for high performance liquid chromatography.

Methanol mixture

CH₃OH

M 32,04 g/mol

Danger H225-H370-H301+H311+H331

CP06.1	1 l	glass	40,00 €
Original pack 6 x 1 l			38,00/1 l

Water with 0,1 % acetic acid ROTISOLV® LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Water mixture

H₂O

M 18,01 g/mol

CP04.1	1 l	glass	41,85 €
Original pack 6 x 1 l			39,76/1 l
CP04.2	2,5 l	glass	80,55 €
Original pack 4 x 2,5 l			76,52/2,5 l

Water with 0,1 % formic acid ROTISOLV® LC-MS Grade

Eluent mixture for high performance liquid chromatography.

Water mixture

H₂O

M 18,01 g/mol

CP03.1	1 l	glass	40,35 €
Original pack 6 x 1 l			38,33/1 l
CP03.2	2,5 l	glass	71,95 €
Original pack 4 x 2,5 l			68,35/2,5 l

Water with 0,1 % trifluoroacetic acid ROTISOLV® LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Water mixture

H₂O

M 18,01 g/mol

CP05.2	2,5 l	glass	79,05 €
Original pack 4 x 2,5 l			75,10/2,5 l

► More details on specifications
see chapter Chemicals A-Z.

Starting material for eluent mixtures

For the preparation of individual eluent mixtures
we offer acids and salts of highest purity:

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Acetic acid	100 %, p.a.	3738.1	1 l	glass	22,50
		3738.4	1 l	plastic	21,40
		3738.2	2,5 l	glass	48,95
		3738.5	2,5 l	plastic	46,15
		3738.3	10 l	plastic	115,60
Ammonium acetate	≥97 %, p.a., ACS	7869.2	500 g	plastic	25,70
		7869.1	1 kg	plastic	36,45
		7869.3	2,5 kg	plastic	62,25
Formic acid	≥98 %, p.a., ACS	4724.3	500 ml	glass	18,20
		4724.1	1 l	glass	31,10
		4724.2	2,5 l	glass	66,15
Trifluoroacetic acid	≥99,9 %, for (peptide-)synthesis	P088.1	100 ml	glass	56,90
		P088.2	500 ml	glass	166,65
		P088.3	1 l	glass	292,40

For additional product data and safety information, see chapter Chemicals A-Z.



Accessories



**Programm-
erweiterung!**

Rotilabo®-syringe filters

With hydrophilic or hydrophobic membranes.

Hydrophilic membrane: Polyethersulfone (PES)

For removing finest particles from **aqueous** solutions.

Hydrophilic membrane: Cellulose mixed ester (CME = Cellulose acetate and -nitrate)

For clear filtration of aqueous solutions.

Hydrophilic membrane: Polyvinylidene fluoride (PVDF)

For clear filtration of **aqueous and slightly organic** solutions.

Hydrophilic membrane: Nylon

For clear filtration of **aqueous and organic** solutions.

Hydrophobic membrane: Polytetrafluoroethylene (PTFE)

For clear filtration of **organic** solutions and for air filtration.

Technical specifications:

Nominal-Ø(mm)	13	25	33
Sample capacity (ml)	up to 10	up to 100	up to 100
Dead capacity (µl)	<15	<100	<80
Max. input pressure (bar)	10	5	8.6
Max. operating temperature (°C)	45	45	45
Filter surface (cm²)	0,8	3,9	4,52
Connection	Luer-Lock inlet / Luer outlet		

Unsterile, nominal-Ø 13 mm, Ø outer 19 mm

Pore size (µm)	Membrane material	Material housing	Art. No.	Pack Qty.	€
0,20	Nylon	PP	CCX8.1	100	130,10
0,45	Nylon	PP	CCX9.1	100	130,10
0,22	PVDF	PP	CCY0.1	100	130,10
0,45	PVDF	PP	CCY1.1	100	130,10
0,20	PTFE	PP	CCY2.1	100	130,10
0,45	PTFE	PP	CCY3.1	100	130,10

Unsterile, nominal-Ø 25 mm, Ø outer 29 mm

Pore size (µm)	Membrane material	Material housing	Art. No.	Pack Qty.	€
0,20	PTFE	PE	P815.1	100	132,25
0,45	PTFE	PE	P816.1	100	132,25
5,0	PTFE	PE	P817.1	100	132,25
0,22	CME	PVC	P818.1	100	126,85
0,45	CME	PVC	P819.1	100	126,85
0,8	CME	PVC	P820.1	100	126,85

Unsterile, Ø outer 33 mm. Increased speed of flow due to larger filter surface and higher allowable operating pressure.

Pore size (µm)	Membrane material	Material housing	Art. No.	Pack Qty.	€
0,22	PES	Co-Polymer	P821.1	100	126,85
0,20	Nylon	PP	KY61.1	100	132,25
0,45	Nylon	PP	KY64.1	100	132,25
0,22	PVDF	PP	KY62.1	100	132,25
0,45	PVDF	PP	KY63.1	100	132,25



S

DynaGard® Filter Tips

For sterilisation, clarification and filtration of solutions and fluids.

Easy aspiration and injection of fluids into and out of vials, ampoules, test tubes and other vessels with small openings.

- Easy to handle
- Time-saving
- High flow-rate
- Maximum sample recovery
- No needle needed

Suitable for all standard luer lock syringes. Maximum operating pressure at room temperature: 5 bar (75 psi).

DynaGard® Polypropylene Filter Tips for HPLC (CL60.1 - CL63.1) are made from hollow polypropylene fibre membranes and are compatible with all of the common chemicals used as organic and aqueous HPLC solvents. Particularly suited for sample preparation prior to HPLC. Fluids can be clarified simply by aspiration into the syringe and loaded directly onto the column. **Autoclavable.**

Filtration surface (cm²)	Filtration volume	Max. hold-up volume
0,8	<5 ml	8 µl
3,9	>5 ml	30 µl

Filtration surface (cm²)	Pore size (µm)	Type	Art. No.	Pack Qty.	€
0,8	0,2	non sterile	CL60.1	200	507,40
3,9	0,2	non sterile	CL61.1	100	377,35

► Disposable syringes, see chapter Labware - syringes/needles page 391

Chromatography · Sample Preparation

Sorbents for Column Chromatography

We offer a wide range of sorbents for conventional column chromatography. A variety of different particle sizes and modified silica gels means that the right filling material is available for all your separation applications.

Silica Gels

Silica gel types are the most important sorbents in column chromatography and can be used for numerous separation problems.



Applications

Pore size	35-150 Å			250-1000 Å
Fields	Pharmacy	Foods and Cosmetics	Chemistry	Biotechnology
Applications	Vitamins Antibiotics Vaccines Organic synthesis Lubricants Functional Food	Oils and Fats Natural Products Stripping Agents Chemical Synthesis	Pesticides Lipids	Vaccines DNA Enzymes Carriers Biomolecules

3 Steps to the appropriate silica gel

Step 1: The pore size is selected based on the molar mass of the sample.

Molar mass (g/mol)	Pore size (Å)
< 350	35
< 800	60
< 15 000	150
< 100 000	250
< 250 000	500
>250 000	>1000

Step 2: The grain size is selected with respect to the pressure within the system.

Pressure (bar)	Grain size (mm)
65	0,01
20	0,016-0,024
15	0,02-0,045
5	0,04-0,063
2	0,07-0,2
< 1	>0,2



Step 3: The surface functionality is adapted to the solubility of the sample and the required degree of separation.

Polarity series: Silica gel > Diol > Amino > Cyano > C18.

Mobile phase	Stationary phase
Nonpolar to medium polar solvents (normal phase)	Silica gel
Nonpolar to polar solvents (normal phase, reversed phase)	Diol
	Amino
	Cyano
Polar solvents (reversed phase)	C18

Silica Gel, unmodified

Product	Purity	Art. No.	Pack Qty.	€	Product	Purity	Art. No.	Pack Qty.	€	
Silica gel 35	0,04-0,063 mm (400-230 mesh)	5400.1	250 g	36,05	Silica gel 150	0,035-0,07 mm (400-220 mesh)	5402.1	250 g	25,30	
		5400.2	500 g	63,45			5402.2	500 g	39,25	
		5400.3	1 kg	103,10			5402.3	1 kg	60,10	
		5400.4	2,5 kg	203,20			5402.4	2,5 kg	131,70	
Silica gel 60	0,02-0,045 mm	0712.1	250 g	25,30		0,07-0,2 mm (220-70 mesh)	5403.1	250 g	25,30	
		0712.2	500 g	39,25			5403.2	500 g	39,25	
		0712.3	2,5 kg	150,50			5403.3	1 kg	60,10	
	0,03-0,2 mm	P090.1	500 g	31,10		0,04-0,063 mm (400-230 mesh)	5403.4	2,5 kg	131,70	
		P090.2	1 kg	54,30	5405.1		250 g	45,05		
		P090.3	2,5 kg	128,50	5405.2		500 g	85,90		
	0,035-0,07 mm (400-220 mesh)	P090.5	25 kg	557,95	0,035-0,07 mm (400-220 mesh)	5405.3	1 kg	163,95		
		5401.1	250 g	25,70		5405.4	2,5 kg	396,70		
		5401.2	500 g	41,40		5407.1	250 g	107,40		
		5401.3	1 kg	67,20		5407.2	500 g	203,20		
	0,04-0,063 mm (400-230 mesh)	5401.4	2,5 kg	152,55	0,035-0,07 mm (400-220 mesh)	5407.3	1 kg	353,70		
		P091.1	250 g	27,45		5407.4	2,5 kg	837,45		
		P091.2	1 kg	76,25		5409.1	250 g	107,40		
		P091.3	2,5 kg	176,30		5409.2	500 g	203,20		
	0,2-0,5 mm	P091.5	25 kg	848,20	0,035-0,07 mm (400-220 mesh)	5409.3	1 kg	353,70		
		CN18.1	500 g	34,30		5409.4	2,5 kg	837,45		
		CN18.2	1 kg	56,45		For additional product data and safety information, see chapter Chemicals A-Z.				
			CN18.3	2,5 kg	128,50					

Silica Gel 60, modified

Product	Purity	Application	Art. No.	Pack Qty.	€
Silica gel 60 amino	0,035-0,07 mm (400-220 mesh)	For liquid chromatography. Normal or reversed-phase separations.	5475.1	50 g	141,80
			5475.2	100 g	246,20
			5475.3	250 g	557,95
Silica gel 60 C ₁₈	0,01-0,014 mm	For liquid chromatography. Reversed-phase separations.	5509.1	50 g	127,95
			5509.2	100 g	241,90
			5509.3	250 g	504,20
	0,035-0,07 mm (400-220 mesh)	For liquid chromatography. Reversed-phase separations.	5504.1	50 g	99,90
			5504.2	100 g	192,45
			5504.3	250 g	396,70
Silica gel 60 cyano	0,01-0,014 mm	For liquid chromatography. Normal or reversed-phase separations.	5531.1	50 g	161,15
			5531.2	100 g	278,45
			5531.3	250 g	633,20
	0,035-0,07 mm (400-220 mesh)	For liquid chromatography. Normal or reversed-phase separations.	5499.1	50 g	146,10
			5499.2	100 g	256,95
			5499.3	250 g	596,65
Silica gel 60 diol	0,035-0,07 mm (400-220 mesh)	For liquid chromatography. Normal or reversed-phase separations.	5458.1	50 g	134,40
			5458.2	100 g	241,90
			5458.3	250 g	536,45

For additional product data and safety information, see chapter Chemicals A-Z.

Silica Gel 60 for special applications

Product	Purity	Application	Art. No.	Pack Qty.	€
Silica gel 60 C ₁₈ ec	0,045 mm	For SPE and QuEChERS method	6070.1	10 g	52,50
			6070.2	25 g	106,90
Silica gel 60 diamino	0,045 mm	For the QuEChERS method. Aminopropylmodified silica gel for pesticide residue analysis in food.	4878.1	10 g	72,50
			4878.2	25 g	155,50
Silica gel 60 G	for TLC (with gypsum)	For preparation of TLC plates.	CN44.3	250 g	27,90
			CN44.1	500 g	48,90
			CN44.2	1 kg	85,50
Silica gel 60 G/F ₂₅₄	for TLC (with gypsum)	For preparation of TLC plates.	CN45.3	250 g	29,90
			CN45.1	500 g	55,50
			CN45.2	1 kg	102,90
Silica gel 60 P	for preparative TLC	For preparation of TLC plates.	CN47.3	250 g	28,90
			CN47.1	500 g	49,90
			CN47.2	1 kg	82,90

For additional product data and safety information, see chapter Chemicals A-Z.

Chromatography · Sample Preparation

Aluminium Oxide



Our range of aluminium oxides (neutral - alkaline - acidic) for conventional column chromatography most certainly includes the right one for you!

All aluminium oxides are available in activity grade I. Activity grades II to V can be set up by adding water:

- Activity grade I - 0 % water
- Activity grade II - 3 % water
- Activity grade III - 6 % water
- Activity grade IV - 10 % water
- Activity grade V - 15 % water

Aluminium oxide 90 neutral for column chromatography

Al_2O_3

M 101,94 g/mol

pH-value (10 %) 6,8-7,8

P092.1	500 g	plastic	58,60 €
Original pack 6 x 500 g			55,67/500 g
P092.2	1 kg	plastic	105,25 €
Original pack 6 x 1 kg			99,99/1 kg
P092.3	2,5 kg	plastic	228,90 €

Aluminium oxide 90 acidic for column chromatography

Al_2O_3

M 101,94 g/mol

pH-value (10 %) 3,5-4,5

X909.1	500 g	plastic	54,75 €
Original pack 6 x 500 g			52,01/500 g
X909.2	1 kg	plastic	101,60 €
Original pack 6 x 1 kg			96,52/1 kg
X909.3	2,5 kg	plastic	213,95 €

Aluminium oxide 90 basic for column chromatography

Al_2O_3

M 101,94 g/mol

pH-value (10 %) 8,5-10,5

X908.1	500 g	plastic	57,95 €
Original pack 6 x 500 g			55,05/500 g
X908.2	1 kg	plastic	103,10 €
Original pack 6 x 1 kg			97,95/1 kg
X908.3	2,5 kg	plastic	224,70 €

Florisil®



Highly selective magnesium silicate adsorbent for preparative and analytical chromatography. Ideal for sample preparation, for column chromatography, for clean-up methods and for isolating, purifying and separating samples.

Florisil®

for Hydrocarbon Index analysis, 60-100 mesh

For Hydrocarbon Index determination according to EN ISO 9377-2 (H53).

CN39.1	100 g	plastic	37,55 €
CN39.3	500 g	plastic	126,35 €
Original pack 6 x 500 g			120,03/500 g
CN39.2	1 kg	plastic	201,05 €
Original pack 6 x 1 kg			191,00/1 kg

Florisil® PR

for (pesticides) residue analysis 60-100 mesh specially activated.

T201.1	100 g	plastic	39,25 €
T201.2	500 g	plastic	134,40 €
Original pack 6 x 500 g			127,68/500 g
T201.3	1 kg	plastic	231,15 €
Original pack 6 x 1 kg			219,59/1 kg

Florisil®

for chromatography 60-100 mesh Standard adsorbent

0101.1	100 g	plastic	37,55 €
0101.2	500 g	plastic	126,35 €
Original pack 6 x 500 g			120,03/500 g

Florisil®

for chromatography 100-200 mesh

0102.1	100 g	plastic	37,55 €
0102.2	500 g	plastic	126,35 €
Original pack 6 x 500 g			120,03/500 g

Chromatography · Sample Preparation

Celite® - Silicate Basis



Prepared and standardized celite is used as a filtering aid or as adsorbent in column chromatography.

Composition:

approx. 90 % SiO_2 , 2-5 % Al_2O_3 , 1-4 % Fe_2O_3 and various other oxides in a low concentration, that is why the Celites® may be slightly tinted.

The complete Celite® range at a glance

Product	Permeability (Darcy)	Art. No.	Pack Qty.	€
Celite® 503	1,27-2,4	0007.2	1 kg	23,90
		0007.1	2,5 kg	48,30
Celite® 512	0,28-0,76	0050.2	1 kg	19,90
		0050.1	2,5 kg	37,55
Celite® 535	1,8-3,9	0009.2	1 kg	18,50
		0009.1	2,5 kg	37,55
Celite® 545	3,5-5,5	0011.3	250 g	11,00
		0011.2	1 kg	21,00
		0011.1	2,5 kg	30,00
		0011.4	10 kg	88,70
		0011.5	25 kg	166,65
Celite® Standard Super Cel®	0,16-0,36	0003.2	1 kg	20,65
		0003.1	2,5 kg	38,20
Celite® Hyflo Super Cel®	0,73-1,64	0005.2	1 kg	22,05
		0005.1	2,5 kg	40,75

For additional product data and safety information, see chapter Chemicals A-Z.

- Chromatography columns made of Duran® see chapter Labware - Labware & Aids page 145

Cellulose



Cellulose powders are used mainly for qualitative and preparative separation and purification in column chromatography.

Cellulose

for column chromatography

Fibre length 0,02-0,1 mm

5873.1	500 g	plastic	32,50 €
Original pack 6 x 500 g			30,88/500 g
5873.2	1 kg	plastic	53,90 €
Original pack 6 x 1 kg			51,21/1 kg

- Glutathione cellulose for purification of proteins see page 1248

Polyamide



Polyamide 6 (ϵ -aminopolycaprolactam) is used in conventional column chromatography for separating, purifying and isolating samples.

Polyamide

for column chromatography

Particle size 0,05-0,16 mm. Excellent for purification of plant extracts.

Polyamide 6

9620.2	100 g	plastic	54,90 €
9620.1	250 g	plastic	119,00 €

Flash chromatography



Flash chromatography is, on account of its superior properties, replacing column chromatography in many laboratories for chemical synthesis, pharmacokinetics and combinatorial chemistry. Flash chromatography can be used to clean samples inexpensively and quickly on a preparative scale up to approximately 100 g. A key factor here is the automation capacity of flash chromatography and the reduced solvent consumption compared to column chromatography. Thin-layer chromatography is often used for the development of a selective and reproducible method. In this way, it is possible to determine the optimal combination of various eluents and sorbents within a short space of time.

Our TLC plates and sheets are coated with the same base silica, which is used in our CHROMABOND® Flash cartridges. The quality of the Roth product range is reflected in the fact that our DC plates and films are coated with the same basic silica gel as that used in CHROMABOND® flash columns. This enables the developed method to be perfectly applied to flash chromatography.

CHROMABOND® Flash RS Cartridges

Heavy-duty polypropylene cartridges designed for ISCO® Companion® and other Teledyne Isco CombiFlash® systems.

Increased analytical safety: Organic solvent resistant, low bleed cartridges, thick column walls, one piece body, sophisticated length-to-diameter ratio for high plate numbers and excellent separation efficiencies. Distribution of eluent stream via highly porous frits.

High pressure stability: up to 15 bar (12 bar for cartridges >200 g)

High quality standard: All flash cartridges and adsorbents undergo comprehensive during- and after-production quality assurance measures to ensure that the products conform to the specification.

Adsorbent weights: 15 g to 330 g.

Lodability:

SiOH cartridge	Average loadability per cartridge (g)	
	Difficult separation	Easy separation
RS 15	0,15	1,5
RS 25	0,25	2,5
RS 40	0,4	4
RS 80	0,8	8
RS 120	1,2	12
RS 200	2	20
RS 330	3,3	33

CHROMABOND® Flash RS cartridges SiOH

CHROMABOND® Flash RS for Isco® Flash instruments

- Female Luer lock inlet and male Luer outlet
- Adsorbent: standard silica, unmodified (SiOH)
- Particle size 45 µm, specific surface 500 m²/g
- pH stability 2-8

ready-to-use



Product	Column length (cm)	Inner Ø (mm)	Adsorbent weight (g)	Art. No.	Pack Qty.	€
CHROMABOND® Flash RS 15 SiOH	11,6	21,2	15	8664.1	20 pieces	159,00
CHROMABOND® Flash RS 25 SiOH	16,5	21,2	25	8670.1	15 pieces	159,00
CHROMABOND® Flash RS 40 SiOH	17,1	26,4	40	8674.1	15 pieces	204,00
CHROMABOND® Flash RS 80 SiOH	24,0	30,8	80	8675.1	12 pieces	269,00
CHROMABOND® Flash RS 120 SiOH	25,2	36,0	120	8681.1	10 pieces	269,00
CHROMABOND® Flash RS 200 SiOH	20,0	60,0	200	8708.1	6 pieces	389,00
CHROMABOND® Flash RS 330 SiOH	27,0	60,0	330	8714.1	4 pieces	439,00



CHROMABOND® Flash DL empty cartridges

- Suitable as solid injection system or for self-filling and packaging of flash cartridges
- Female Luer lock inlet and male Luer outlet
- Each cartridge comes with 3 filter elements: one already inserted, two more filters aside

Product	Column length (cm)	Inner Ø (mm)	For filling quantity SiOH (g)	For filling quantity kieselguhr (g)	Volume (ml)	Art. No.	Pack Qty.	€
CHROMABOND® Flash DL 4	9,8	12,4	4	3	8	8909.1	50 pieces	129,00
CHROMABOND® Flash DL 15	11,6	21,2	15	10	30	8910.1	50 pieces	259,00
CHROMABOND® Flash DL 25	16,5	21,2	25	15	45	8912.1	50 pieces	379,00
CHROMABOND® Flash DL 40	17,1	26,4	40	30	75	8917.1	20 pieces	189,00
CHROMABOND® Flash DL 80	24,0	30,8	80	60	160	8920.1	20 pieces	379,00
CHROMABOND® Flash DL 120	25,2	36,0	120	80	220	8924.1	20 pieces	499,00
CHROMABOND® Flash DL 200	20,0	60,0	200	150	410	8928.1	10 pieces	319,00
CHROMABOND® Flash DL 330	27,0	60,0	330	250	600	8932.1	10 pieces	499,00

► Sorbents for filling the columns, page 1523

Chromatography · Sample Preparation

SPE (Solid Phase Extraction)

A fast, effective and inexpensive system for sample preparation. SPE-columns enable samples to be processed for HPLC, GC, TLC, UV/IR spectroscopy, etc.

Field of application:

- Food analysis
- Environmental analysis
- Organic chemistry
- Pharmaceutical analysis
- Biochemical analysis



Our range of phases for SPE:

Code	Matrix	Modification / Application	Similar phases **
Reversed phases			
C18 ec	Silica	Octadecyl, endcapped	Strata™ C18-E, Sep-Pak® tC18, Bond Elut® C18, DSC-18(Lt); ENVI-18, LC-18, CLEAN-UP® C18, Bakerbond® Octadecyl, Isolute C18(EC), LiChrolut® RP-18 E
C18 hydra	Silica	Octadecyl, not endcapped / for polar analytes	-
Easy	PS/DVB*	Polar, bifunctional	Strata™-X, Oasis® HLB, Porapak™ RDX, Nexus, Bond Elut® PPL, Focus™, Styre Screen® DVB, Bakerbond™ H ₂ O philic DVB, Isolute® ENV+0
HR-P	PS/DVB*		Strata™ SDB-L, Bond Elut® ENV, Bond Elut® LMS, DCS-PS/DVB, ENV PS-DVB, Bakerbond™ H ₂ O-phobic DVB, Isolute® 101, LiChrolut® EN
HR-X	PS/DVB*		ENVI-Chrom P, Strata™-X, Oasis® HLB, Nexus
Normal phases			
SiOH	Silica	unmodified	Strata™ Si-1, Bond Elut® silica, DSC-Si, LC-Si, CLEAN-UP® silica, Accubond® silica, Bakerbond® silica gel, Isolute® silica, LiChrolut® Si
NH ₂	Silica	Aminopropyl	Strata™ NH ₂ , Sep-Pak® NH ₂ , Bond Elut® NH ₂ , DSC-NH ₂ , LC-NH ₂ , CLEAN-UP® aminopropyl, Accubond® NH ₂ , Bakerbond® amino, Isolute® NH ₂ , LiChrolut® NH ₂
Florisil®	Magnesium silicate		Strata™ FL-PR, Sep-Pak® Florisil®, Bond Elut® Florisil®, ENVI-Florisil®, LC-Florisil®, CLEAN-UP® Florisil®, Accubond® Florisil®, Bakerbond™ Florisil®, Isolute® FL, LiChrolut® Florisil®
Ion exchangers			
SA	Silica	Benzene sulfonic acid cation exchanger (SCX)	Strata™ SCX, Bond Elut® SCX, DSC-SCX, LC-SCX, CLEAN-UP® Benzenesulfonic Acid, Accubond® SCX, Bakerbond™ Aromatic Sulfonic Acid, Isolute® SCX, LiChrolut® SCX
SB	Silica	Quaternary ammonium anion exchanger (SAX)	Strata™ SAX, Sep-Pak® SAX, Bond Elut® SAX, DSC-SAX, LC-SAX, CLEAN-UP® Quaternary Amine, Accubond® SAX, Bakerbond™ Quaternary Amine, Isolute® SAX, LiChrolut® SAX
HR-XA	PS/DVB*	Strong mixed mode anion exchanger for acidic analytes (MAX)	Oasis® MAX, HyperSep™ Retain™-AX, Styre Screen® QAX, Strata™-XA
HR-XAW	PS/DVB*	Weak basic mixed mode anion exchanger	Oasis® WAX, Strata™-X-AW
HR-XC	PS/DVB*	Strong mixed mode - cation exchanger for basic analytes (MCX)	Oasis® MCX, Strata™ X-C, Styre Screen® DBX, HyperSep™ Retain™-CX
HR-XCW	PS/DVB*	Weak acidic mixed mode cation exchanger	Oasis® WCX, Strata™-X-CW
Phases for special applications			
Na ₂ SO ₄ /Florisil®		Combination phase for extraction of hydrocarbons for water (DIN H 53 / ISO DIS 9377-4)	-
SA/SiOH	Silica	Combination phase for enrichment of PCB from waste oil	Bakerbond™ PCB-N
NAN	Silica / AgNO ₃ + Na ₂ SO ₄	Special combination phase for SPE analysis of PCB from sludge	-
SiOH-H ₂ SO ₄ /SA	Silica	combination phase used together with SiOH for enrichment of PCB from oil	-
CN/SiOH	Silica	Combination phase for enrichment of PAHs from soil	-
C ₁₈ PAH	Silica	Octadecyl silica for SPE analysis of PAH	Bakerbond™ Octadecyl Lightload
NH ₂ /C ₁₈	Silica	Combination phase for SPE analysis of PAH from water containing humic acid	-
HR-P-AOX	PS/DVB*	For extraction of AOX from water (DIN 38409 - H22)	-
Drug	Silica	Bifunctional C8/SA, for enrichment of drugs from urine	Strata™ Screen-C, Bond Elut® Certify I, DSC-MCAX, Clean Screen® DAU, Accubond® Evidex, Bakerbond™ Narc-2, Isolute® HCX, LiChrolut® TSC, HyperSep™ Verify CX
Drug II	Silica	Bifunctional C8/SB, for extraction of THC and derivatives as well as acidic analytes from biological fluids	Strata™ Screen-A, Bond Elut® Certify II, Clean Screen® THC, Bakerbond™ Narc-1, Isolute® HAX, HyperSep™ Verify AX
ABC 18	Silica	Octydecyl, with ion exchange character, for acrylamide analysis	Isolute® M-M

* polystyrene/divinylbenzene

** phases which provide a similar selectivity based on chemical or physical properties (list not complete)

Selection schematic for SPE phases and solvents:

Matrix / solubility of sample		Solubility of analytes	Polarity of sample	For the adsorption of recommended phases	For the elution recommended solvents ROTISOLV® Pestilyse®, Pestilyse® plus and GC Ultra Grade
aqueous	non-ionic	aqueous	non-polar	HR-X, Easy, HR-P, C18 ec, C18 Hydra	Hexane Dichloromethane Acetonitrile Alcohols
			medium polar	SiOH, NH ₂	Chloroform Dichloromethane Ethyl acetate Alcohols Water
			polar	NH ₂	Chloroform Dichloromethane Ethyl acetate Alcohols Water
	ionic	aqueous	cationic	HR-XA, SA	Acids, saline solutions, buffers
			anionic	HR-XC, SB, NH ₂	Acids, saline solutions, buffers
organic		aqueous	non-polar	HR-X, Easy, HR-P, C18 ec, C18 Hydra	Hexane Dichloromethane Acetonitrile Alcohols
		organic	medium polar	SiOH, NH ₂	Chloroform Dichloromethane Ethyl acetate Alcohols
		organic	polar	NH ₂	Chloroform Dichloromethane Ethyl acetate Alcohols

Standard phases for solid phase extraction

Reversed phases

CHROMABOND® C18 ec

Octadecyl-silica gel, endcapped

Pore size: 60 Å, particle size: 45 µm

Spec. surface: 500 m²/g, pH stability: 2-8

Please note: Extremely non-polar, hydrophobic interaction with many organic compounds.

Recommended application: non-polar compounds, preservatives, fatty acids, PAHs, pesticides, PCPs, heavy metals, vitamins, aflatoxins, amphetamines, antibiotics, antiepileptics, barbituates, caffeine, nicotine, drugs, etc. Also suitable for desalting samples.

Similar phases: Strata™ C18-E, Sep-Pak® tC18, Bond Elut® C18, DSC-18(Lt), ENVI-18, LC-18, CLEAN-UP® C18, Bakerbond® Octadecyl, Isolute C18(EC), LiChrolut® RP-18 E



SPE - glass columns



Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	200	9617.1	50	239,00
	500	9618.1	50	253,00
6	500	9619.1	30	189,00
	1000	9623.1	30	210,00

SPE - polypropylene columns

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	N745.1	100	175,00
3	200	N746.1	50	133,50
	500	N747.1	50	146,00
	500	N747.2	250 (5x50)	575,00
6	500	N748.1	30	104,50
	500	N748.2	250 (5x50)	639,00
	1000	N749.1	30	129,00
	1000	N749.2	250 (5x50)	839,00

SPE-polypropylene columns

CHROMABOND® C18 Hydra

Octadecyl-silica gel, not endcapped

Pore width: 60 Å, particle size: 45 µm

Spec. surface: 500 m²/g, pH stability: 2-8

Recommended application: polar compounds, pesticides and their polar degradation products, phenols, phenoxycarboxylic acids, nitroaromatic compounds, pharmaceuticals

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	N750.1	100	175,00
3	200	N751.1	50	133,50
	500	N752.1	50	146,00
	500	N753.1	30	104,50
6	1000	N754.1	30	129,00

Chromatography · Sample Preparation

SPE-polypropylene columns CHROMABOND® Easy

Polar modified polystyrene-divinylbenzene copolymer
with a weak ion exchanger

Pore size: 50 Å, Particle size: 80 µm

Spec. surface: 650-700 m²/g, pH-stability: 1-14

Please note: Due to its bifunctional modification it is much more hydrophilic than conventional polystyrene-divinylbenzene polymers and thus easily wettable with water.

Recommended application: Drug analysis from urine, blood, serum, plasma, pharmaceuticals/active ingredients from tablets, creams, polar herbicides/pesticides from water (acidic, neutral, basic), polar phenols from water, polyaromatic compounds, polychlorinated biphenyls

Similar phases: Strata™-X, Oasis® HLB, Porapak™ RDX, Nexus, Bond Elut® PPL, Focus™, Styre Screen® DVB, Bakerbond™ H₂O philic DVB, Isolute® ENV+0

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	60	1335.1	30	92,50
	200	1336.1	30	104,50
	200	1336.2	250 (5x50)	645,00
	500	1337.1	30	140,50
6	200	1338.1	30	133,90
	200	1338.2	250 (5x50)	879,00
	500	1339.1	30	205,00

SPE-polypropylene columns CHROMABOND® HR-P

Highly porous polystyrene-divinylbenzene copolymer

Particle size: 50-100 µm

Spec. surface: 1200 m²/g

Recommended application: Aromatic compounds, phenols from water, nitroaromatic compounds from water, pesticides from water, PAHs from oil

Similar phases: Strata™ SDB-L, Bond Elut® ENV, Bond Elut® LMS, DCS-PS/DVB, ENV PS-DVB, Bakerbond™ H₂O-phobic DVB, Isolute® 101

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	200	N760.1	30	104,50
	200	N760.2	250 (5x50)	649,00
	500	N761.1	30	119,00
6	500	N762.1	30	143,90
	1000	N763.1	30	205,00

SPE-polypropylene columns CHROMABOND® HR-X

Spherical, hydrophobic polystyrene-divinylbenzene copolymer

Pore size: 55-60 Å, particle size: 85 µm

Spec. surface: 1000 m²/g, pH stability: 1-4

RP-capacity: 390 mg/g (caffeine in water)

HR: high-purity material with homogenous surface and optimised pore structure - due to optimised production process - enables lowest blanks, outstanding recovery rates and highest reproducibility. Especially for the enrichment of pharmaceuticals and active ingredients.

Recommended application: pharmaceuticals/active ingredients from tablets, creams and water/waste water, drugs and pharmaceuticals from urine, blood, serum and plasma, trace analysis of pesticides, herbicides, phenols, PAHs and PCBs from water

Similar phases: ENVI-Chrom P, Strata™-X, Oasis® HLB, Nexus

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	30	3079.1	30	63,90
3	200	3081.1	30	104,50
	200	3081.2	250 (5x50)	639,00
6	200	3086.1	30	134,50
	200	3086.2	250 (5x50)	875,00
	500	3087.1	30	205,00

Normal phases

SPE-polypropylene columns CHROMABOND® SiOH

Unmodified, slightly acidic silica gel

Pore width: 60 Å, particle size: 45 µm

Spec. surface: 500 m²/g, pH stability: 2-8

Please note: **Extremely polar!** Absorbs air humidity. Should be kept well closed and dried if necessary prior to use. Due to its high affinity for polar compounds it should not be conditioned with polar (e.g. methanol) or water containing solvents.

Application: aflatoxines, chloramphenicol, pesticides, steroids, vitamins

Similar phases: Strata™ Si-1, Bond Elut® silica, DSC-Si, LC-Si, CLEAN-UP® silica, Accubond® silica, Bakerbond® silica gel, Isolute® silica, LiChrolut® Si

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	N755.1	100	147,50
3	200	N756.1	50	126,50
	500	N757.1	50	136,90
	500	N757.2	250 (5x50)	529,00
	500	N758.1	30	94,50
6	1000	N759.1	30	105,50
	1000	N759.2	250 (5x50)	665,00

SPE-polypropylene columns CHROMABOND® NH₂

Aminopropyl modified silica gel

Pore size: 60 Å, particle size: 45 µm

Spec. surface: 500 m²/g, pH stability: 2-8

Aminopropyl phase, carbon content 3,5 %

Polar weak anion exchanger

Recommended applications: Trace elements, lipids

Similar phases: Strata™ NH₂, Sep-Pak® NH₂, Bond Elut® NH₂, DSC-NH₂, LC-NH₂, CLEAN-UP® aminopropyl, Accubond® NH₂, Bakerbond® amino, Isolute® NH₂, LiChrolut® NH₂

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	1340.1	100	215,00
3	200	1341.1	50	165,00
	500	1342.1	50	187,00
	500	1342.2	250 (5x50)	939,00
	500	1343.1	30	124,50
6	1000	1344.1	30	181,00

SPE-polypropylene columns CHROMABOND® Florisil®

Magnesium silicate, high-purity

MgO - SiOH (15:85)

Particle size: 150-250 µm

Recommended application: PCBs, PAHs, aliphatic carboxylic acids, organic tin compounds

Similar phases: Strata™ FL-PR, Sep-Pak® Florisil®, Bond Elut® Florisil®, ENVI-Florisil®, LC-Florisil®, CLEAN-UP® Florisil®, Accubond® Florisil®, Bakerbond™ Florisil®, Isolute® FL, LiChrolut® Florisil®

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	200	N764.1	50	126,50
	500	N765.1	50	136,90
6	1000	1291.1	30	105,50
	1000	1291.2	250 (5x50)	665,00

Ion exchangers

SPE-polypropylene columns CHROMABOND® SB (SAX)

Quat. ammonium modified silica gel, strongly basic anion exchanger

Pore size: 60 Å, particle size: 45 µm
Spec. surface: 500 m²/g, pH-stability: 2-8
Exchange Capacity: approx. 0,3 meq/g

Please note: Not suited for very strong anions such as sulphonic acids, because these are difficult to elute.

Recommended applications: Organic acids, caffeine, saccharin

Similar phases: Strata™ SAX, Sep-Pak® SAX, Bond Elut® SAX, DSC-SAX, LC-SAX, CLEAN-UP® Quaternary Amine, Accubond® SAX, Bakerbond™ Quaternary Amine, Isolute® SAX, LiChrolut® SAX

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	1346.1	100	215,00
3	200	1350.1	50	165,00
	500	1351.1	50	187,00
	500	1351.2	250 (5x50)	749,00
6	500	1352.1	30	124,50
	1000	1353.1	30	181,00

SPE-polypropylene columns CHROMABOND® HR-XA

Quat. ammonium modified spherical polystyrene-divinylbenzene copolymer, strong anion exchanger (mixed mode)

Pore size: 55-65 Å, Particle size: 85 µm
Spec. surface: 850 m²/g, pH-stability: 1-14
Pore volume: 1,4 cm³/g

Exchange capacity: approx. 0,25 meq/g
RP-capacity: 350 mg/g (caffeine in water)

HR: high-purity material with homogenous surface and optimised pore structure - due to optimised production process - enables lowest blanks, outstanding recovery rates and highest reproducibility. Especially for the enrichment of acidic analytes.

Recommended application: acidic active ingredients from strongly matrix-contaminated samples like e.g. urine, plasma, serum, phenolic acids, acidic herbicides

Similar phases: Oasis® MAX, HyperSep™, Retain™-AX, StyreScreen® QAX, Strata™-X-A

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	60	3069.1	30	94,20
	200	3071.1	30	106,50
6	500	3072.1	30	224,50

SPE-polypropylene columns CHROMABOND® HR-XAW

Sec./tert. ammonium modified spherical polystyrene-divinylbenzene copolymer, weak basic anion exchanger (mixed mode)

Pore size: 55-65 Å, particle size: 85 µm
Spec. surface: 850 m²/g, pH stability: 1-14
Pore volume: 1,2-1,4 cm³/g
Exchange capacity: >0,5 meq/g
RP capacity: 350 mg/g (caffeine in water)

HR: high-purity material with homogenous surface and optimised pore structure - due to optimised production process - enables lowest blanks, outstanding recovery rates and highest reproducibility. Especially for the enrichment of strongly acidic analytes.

Recommended application: perfluorinated surfactants, acidic compounds like sulfonates, acidic active ingredients from strongly matrix-contaminated samples like e.g. urine, plasma, serum, strong acids with pKa <1

Similar phases: Oasis® WAX, Strata™-X-AW

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	60	3905.1	30	94,20
	200	3911.1	30	106,50
	500	3912.1	30	155,50

SPE-polypropylene columns CHROMABOND® SA (SCX)

Benzenesulphonic acid modified silica gel, strongly acidic cation exchanger

Pore size: 60 Å, particle size: 45 µm
Spec. surface: 500 m²/g, pH stability: 2-8
Exchange capacity: approx. 0,5 meq/g

Please note: Adsorbent with hydrophobic and π-π-interactions (benzene ring); Ion exchange of organic compounds from aqueous matrix; Elution of interesting compounds with solvent systems, which compensate the ionic and nonpolar interactions, e.g. methanolic HCl.

Recommended application: Amino acids, chlorophyll, Amines, PCBs

Similar phases: Strata™ SCX, Bond Elut® SCX, DSC-SCX, LC-SCX, CLEAN-UP® Benzenesulfonic Acid, Accubond® SCX, Bakerbond™ Aromatic Sulfonic Acid, Isolute® SCX, LiChrolut® SCX

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	1293.1	100	215,00
3	500	1295.1	50	187,00
	500	1295.2	250 (5x50)	769,00
6	1000	1297.1	30	181,00

SPE-polypropylene columns CHROMABOND® HR-XC

Benzenesulphonic acid modified spherical polystyrene-divinylbenzene copolymer, cation exchanger (mixed mode)

Pore size: 65-75 Å, particle size: 85 µm
Spec. surface: 800 m²/g, pH-stability: 1-14
Pore volume: 1,4 cm³/g

Exchange capacity: 1,0 meq/g
RP-capacity: 300 mg/g (caffeine in water)

HR: high-purity material with homogenous surface and optimised pore structure - due to optimised production process - enables lowest blanks, outstanding recovery rates and highest reproducibility. Especially for the enrichment of basic analytes.

Recommended application: Basic active ingredients from strongly matrix-contaminated samples like urine, plasma, serum, fungicides from food, basic analytes like e.g. amines

Similar phases: Oasis® MCX, Strata® X-C, Styre Screen® DBX

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	60	3090.1	30	94,20
	200	3092.1	30	106,50
6	500	3095.1	30	224,50

SPE-polypropylene columns CHROMABOND® HR-XCW

Carboxylic acid modified spherical polystyrene-divinylbenzene copolymer, weak acidic cation exchanger (mixed mode)

Pore size: 50-60 Å, particle size: 85 µm
Spec. surface: 850 m²/g, pH stability: 1-14
Pore volume: 1,2-1,4 cm³/g

Exchange capacity: >0,7 meq/g
RP capacity: 350 mg/g (caffeine in water)

HR: high-purity material with homogenous surface and optimised pore structure - due to optimised production process - enables lowest blanks, outstanding recovery rates and highest reproducibility. Especially for the enrichment of strongly basic analytes

Recommended application: Basic active ingredients from strongly matrix-contaminated samples like e.g. urine, plasma, serum, strong bases with pKa >10

Similar phases: Oasis® WCX, Strata™-X-CW

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	60	3917.1	30	94,20
	200	3919.1	30	106,50
	500	3924.1	30	155,50

Chromatography · Sample Preparation

Phases for environmental analysis



SPE-glass column CHROMABOND® Na₂SO₄/Florisol®

Extraction of hydrocarbons from water according to DIN H53 / ISO DIS 9377-4

Recommended application:

Hydrocarbons from drinking, surface and waste water

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
6	2000/2000	N744.1	30	204,00
	2000/2000 BIG PACK	N744.2	250 (5x50)	1299,00

SPE-polypropylene columns CHROMABOND® C₁₈ PAH

Enrichment of PAHs from water

Special octadecyl modified silica, not endcapped

Pore size: 60 Å, particle size: 45 µm,

specific surface: 500 m²/g, pH stability: 2-8

carbon content: 14 %

Recommended application: PAHs from water

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
6	2000	4713.1	30	249,00

SPE-polypropylene columns CHROMABOND® NH₂/C₁₈

Enrichment of PAHs from water containing humic acid

Special combination phase:

NH₂: aminopropyl phase for removal of interfering humic acids

C₁₈: octadecyl phase for enrichment of PAHs

Recommended application: PAHs from water containing humic acids

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
6	500/500	4783.1	30	204,00
	500/1000	4785.1	30	242,00

Recommended chemicals

for method H53 with SPE-glass columns
CHROMABOND® Na₂SO₄/Florisol®.

TIP

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Magnesium sulphate heptahydrate	≥99 %, p.a., ACS	P027.1	500 g	plastic	22,05
		P027.2	1 kg	plastic	35,40
		P027.3	2,5 kg	plastic	66,15
Petroleum ether 40-60 °C	Pestilysse® plus	7588.1	2,5 l	glass	64,00
Sodium sulphate	≥99 %, p.a., ACS, ISO, powdered, anhydrous	8560.3	500 g	plastic	23,90
		8560.1	1 kg	plastic	32,50
		8560.2	5 kg	plastic	132,25
		8560.5	25 kg	plastic	471,95
Water	Pestilysse®	T905.1	2,5 l	glass	43,55

SPE-polypropylene columns CHROMABOND® CN/SiOH

Enrichment of PAH from soil

Special combination phase:

CN: Cyanopropyl phase for selective adsorption of polycyclic aromatics via π-π interactions

SiOH: Unmodified silica phase for removal of polar components

Recommended application: extraction of the 16 PAHs according to EPA from soil samples

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	500/1000	2992.1	50	395,00
6	500/1000	2995.1	30	245,00
		2995.2 BIG PACK	250 (5x50)	1559,00

SPE Polypropylene column CHROMABOND®HR-P-AOX

AOX from water containing high salt loads

Special PS-DVB (polystyrene-divinylbenzene) phase.

Recommended application: extraction of AOX from waters containing high salt loads / organic pollutants in accordance with DIN 38409 - H22.

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
6	500	CN43.1	30	179,00

Recommended chemicals

For the extraction of AOX from waters in acc. with DIN 38409 - H22.

TIP

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Methanol	≥99,9 %, Pestilysse® plus	7583.1	2,5 l	glass	39,70
Nitric acid 65 %	≥65 %, p.a., ISO	4989.3	250 ml	glass	17,75
		4989.1	1 l	glass	27,45
		4989.2	2,5 l	glass	54,30
Sodium nitrate	≥99 %, p.a., ACS, ISO	A136.1	500 g	plastic	26,80
		A136.2	1 kg	plastic	42,50
		A136.3	2,5 kg	plastic	92,35
Water	Pestilysse®	T905.1	2,5 l	glass	43,55

For additional product data and safety information, see chapter Chemicals A-Z.

Recommended chemicals

for analysis of PAH from soil samples with
SPE-Polypropylene columns CHROMABOND® CN/SiOH.

TIP

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Acetonitrile	≥99,9 %, Pestilysse®	T168.2	1 l	glass	32,15
		T168.1	2,5 l	glass	68,70
		T168.3	4 l	glass	98,80
Petroleum ether 40-60 °C	Pestilysse® plus	7588.1	2,5 l	glass	64,00
		T170.2	1 l	glass	31,10
	Pestilysse®	T170.1	2,5 l	glass	64,40
		T170.3	4 l	glass	87,65
Sodium sulphate	≥99 %, p.a., ACS, ISO, powdered, anhydrous	8560.3	500 g	plastic	23,90
		8560.1	1 kg	plastic	32,50
		8560.2	5 kg	plastic	132,25
		8560.5	25 kg	plastic	471,95
Toluene	≥99,8 %, Pestilysse® plus	7591.1	2,5 l	glass	56,90
		T166.2	1 l	glass	31,10
	≥99,8 %, Pestilysse®	T166.1	2,5 l	glass	55,80
		T166.3	4 l	glass	89,80

For additional product data and safety information, see chapter Chemicals A-Z.



SPE-polypropylene columns CHROMABOND® SiOH-H₂SO₄/SA

Enrichment of PCBs from oil

SA: strongly acidic cation exchanger based on silica with benzenesulphonic acid modification for removal of ionic and sulphur-containing compounds

Special combination phase:

SiOH-H₂SO₄: H₂SO₄-impregnated silica phase for oxidation of accompanying compounds to ionic and/or polar compounds

Recommended application: extraction of PCBs from oil with reference to German industrial standard DIN 51527, part 1. This combination column is used together with a SiOH column.

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	500/500	4792.1	50	283,00
		4792.2	250 (5x50)	1199,00

Kombi-Kit

For Extraction of PCB from oil with reference to DIN 51527, part 1

Content	Art. No.	Pack Qty.	€
CHROMABOND® SiOH-H ₂ SO ₄ /SA / CHROMABOND® SiOH	4793.1	25 / 25	222,50

SPE Polypropylene column CHROMABOND® SA/SiOH

Extraction of PCBs from waste oil.

Special combination phase:

SA: strongly acidic cation exchanger based on silica with benzenesulphonic acid modification

SiOH: unmodified silica for removal of polar compounds

Recommended application: extraction of PCBs from waste oil (hexane extract)

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	500/500	CN42.1	50	241,50
		CN42.2	250 (5x50)	959,00

SPE-polypropylene columns CHROMABOND® NAN

Enrichment of PCBs from sludge

Special combination phase:

N: sodium sulphate for removal of trace water

A: SiOH/AgNO₃ phase for removal of sulphur, sulphur-containing and polar compounds

Recommended application: extraction of PCBs from sludge

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	400/1400/400	4786.1	50	409,00
		4789.1	30	319,00
6	700/2000/700	4789.2	250 (5x50)	2075,00

SPE phases for pharmaceutical applications



SPE-polypropylene columns CHROMABOND® Drug

Drug analysis

Special silica gel phase:

Bifunctional modification - C₈ / SA

(strong cation exchanger - benzenesulphonic acid)

Pore size: 60 Å, particle size: 45 µm,

specific surface: 500 m²/g, pH stability: 2-8

Recommended applications: enrichment of acidic, neutral and basic drugs from urine or plasma.

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
1	100	1354.1	100	205,00
		1355.1	50	160,50
3	200	1355.2	250 (5x50)	639,00
		1356.1	50	181,00
6	500	1357.1	30	123,50

SPE-polypropylene columns CHROMABOND® Drug II

Extraction of THC and derivatives, acidic analytes from biological fluid (urine, blood ...)

Special silica gel phase:

Bifunctional modification - C₈ / SB

(strong anion exchanger - quaternary amine)

Pore size: 60 Å, particle size: 45 µm,

specific surface: 500 m²/g, pH stability: 2-8

Recommended application: extraction of THC and derivatives from urine, blood, serum, plasma acidic analytes from biological fluids

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
3	200	3063.1	50	160,50
6	500	3064.1	30	123,50

Chromatography · Sample Preparation

SPE phase for food analysis



SPE-polypropylene columns CHROMABOND® ABC18

Acrylamide in food

Special phase:

Octadecyl silica phase with ion exchange character for acrylamide analysis

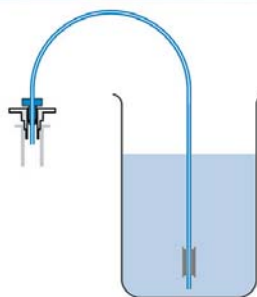
Recommended application: Clean-up of acrylamide from ultra-heated starch-containing food, such as potato chips, french fries, crispbread and cereals

Important note:

- Minimum concentration of acrylamide should be 70 µg/kg
- The procedure includes no concentration step

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
6	500	2991.1	30	123,50

Accessories for SPE



Tube adapters

For feeding large sample volumes to 1, 3 ml and 6 ml columns.

Figure: application of the CHROMABOND® tube adapter.

Material: PTFE, tube length: approx. 1 m

For glass columns

Art. No.	Pack Qty.	€
N866.1	4	205,00

For polypropylene columns

Art. No.	Pack Qty.	€
N867.1	4	133,50

Solvents ROTISOLV® GC Ultra Grade, Pestilyse® plus and Pestilyse® for SPE

Polarity	Solvent	Art. No.	Water miscibility
non-polar ↓	n-Heptane	X878, 7566	no
	n-Hexane	T165, KK48, 7565, 7573	no
	n-Pentane	T903, KK45, 7587	no
	Isooctane	T167, T904, 7580	no
	Petroleum ether 40-60 °C	T170, 7588	no
	Cyclohexane	T163, KK41, 7542	no
	Toluene	KK46, T166, 7591	no
	Diethyl ether	T900	no
	2-Propanol	T902, 7590	yes
	Tetrahydrofuran	6788	yes
	Trichloromethane/ Chloroform	T901, 7554	no
	Acetic acid ethyl ester	T164, KK42, 7565	weak
	Methanol	KK44, T169, 7583	yes
	Acetone	T161, KK40, 7535	yes
polar ↓	Acetic acid	3738	yes
	Acetonitrile	T168	yes
	Dichloromethane	6053, KK47, 7562	no
	Water	T905	yes



Adapter

For coupling of several CHROMABOND® columns of the same or different sizes or for coupling of disposable syringes with CHROMABOND® columns.

Art. No.	Pack Qty.	€
2996.1	4	40,35
2996.2	10	77,50



SPE columns

Made of **PP**. Can be used with vacuum block (H676.1ff) and other vacuum systems. Excellent chemical resistance. Column outlet: Luer (male).

Delivery without PE frits (please order separately).

Volume (ml)	Outer Ø (mm)	Art. No.	Pack Qty.	€
1	8	PX07.1	100	41,20
3	11	PX08.1	100	41,20

Frits for SPE columns

Made of **PE**. Pore size 20 µm.

Type	Ø (mm)	Art. No.	Pack Qty.	€
For 1 ml PP column	6	PX10.1	100	15,95
For 3 ml PP column	9	PX11.1	100	15,95

Accessories: Luer caps

Made of **PP**. To fit standard Luer (male) outlets, and for all column and cartridge sizes.

Art. No.	Pack Qty.	€
PX15.1	100	15,95

General column parameters:

Volume	Amount of adsorbant	Max. volume capacity of aq. solution	Waiting period before elution	Elution volume
6 ml	1 g	1 ml	5-10 min	8 ml
30 ml	4,5 g	5 ml	5-10 min	16 ml
70 ml	14,5 g	20 ml	10-15 min	40 ml

Depending on the concentration of the analytes eluates can be analysed immediately, or the organic solvent is evaporated. The pH value of the aqueous solution can be altered on the column, which enables elution of different compounds of a sample under optimised conditions. Under certain circumstances, acidic, neutral, and basic compounds can be fractionated in this way.

Solvents applicable for elution:

Diethyl ether
tert-Butyl methyl ether
Ethyl acetate
n-Hexane
Cyclohexane
Toluene
Dichloromethane (methylene chloride)
Trichloromethane (chloroform)
Trichloromethane / methanol (90/10, v/v)
Trichloromethane / methanol (85/15, v/v)
Diethyl ether / ethanol (90/10, v/v)
Diethyl ether / ethanol (80/20, v/v)
Dichloromethane / 2-propanol (90/10, v/v)
Dichloromethane / 2-propanol (85/15, v/v)

TIP

Eluents with higher alcohol contents cause an increase in volume of the aqueous phase on the CHROMABOND® XTR. In such case, the column might be overloaded which leads to a displacement of the aqueous phase from the column. Therefore a greater capacity column should be used.

Volume (ml)	Adsorbent weight (g)	Art. No.	Pack Qty.	€
6	1	3677.1	30	63,90
		3677.2	250 (5x50)	425,00
30	4,5	3678.1	30	80,50
		3679.1	30	165,00
70	14,5	3679.2	100 (5x20)	439,00

Liquid-Liquid Extraction



Polypropylene columns CHROMABOND® XTR

Kieselguhr phase for liquid-liquid extraction

Features:

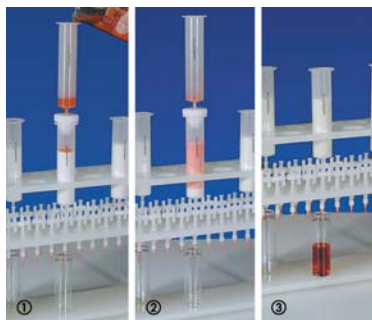
- Base material coarse-grained kieselguhr (also known as diatomaceous earth, hydromatrix, celite)
- Large pore size, high pore volume, constantly high batch-to-batch quality
- pH working range 1-13

Application:

- Liquid-liquid extraction of highly viscous aqueous solutions such as physiological fluids (blood, plasma, and serum), dyes in textiles, environmental and food analysis without use of a separation funnel
- High water loadability without breakthrough of water during elution with organic solvents
- Also suitable for removing small amounts of water from solvents which are not miscible with water

Advantages:

- Fast, reproducible and economical
- Simultaneous preparation of several samples
- No problems with phase separation, no formation of emulsions
- High recovery rates
- Saves of time and solvents
- Organic solutions don't need to be dried after separation



- ① Sample application
- ② Spreading of the sample
- ③ Sample elution

Extraction of analytes from an aqueous to an organic phase:

Column conditioning: Not required

Sample application: Aqueous solutions are applied to the dry CHROMABOND® XTR adsorbent. They are soaked up by the solid within a few minutes and spread over the surface of the kieselguhr material as a thin film.

Elution: Lipophilic analytes are eluted with water-immiscible organic solvents; the aqueous phase remains on the CHROMABOND® XTR adsorbent. Polar, water-soluble analytes, which remain in the aqueous phase on the XTR adsorbent, can be eluted e.g. with saturated NaCl.

Tip: Never exceed the volume capacities listed for each columns size!

Chromatography · Sample Preparation

QuEChERS Products

For pesticide residue analysis in food

Within a few years after its development the QuEChERS method has gained a leading position for determination of pesticide residues in food samples by GC-MS or LC-MS, allowing rapid and cheap clean-up of strongly matrix-contaminated samples.

For clean-up, the Diamino phase (PSA) removes, e.g., sugars and organic acids. Magnesium sulphate removes water, C₁₈ ec removes nonpolar interferences such as fats and the carbon phase removes pigments, sterols, and nonpolar interferences.

For selection of the proper clean-up mix see table below.



Standard clean-up in food samples:

10 g sample are homogenised with 10 ml acetonitrile. After adding the internal standard the sample is shaken with 4 g magnesium sulphate and 1 g sodium chloride and afterwards centrifuged.

1 ml of the supernatant is spiked with 25 mg CHROMABOND® Diamino and 150 mg magnesium sulphate and shaken again. After centrifugation the supernatant is injected to GC/MS.

For selection of the proper clean-up mix see table below.

Sample property	Low fat content (e.g., apples, strawberries)	Moderate content of chlorophyll and carotinoids (e.g., carrots, lettuce)	High content of chlorophyll and carotinoids (e.g., bell peppers, spinach)	High fat content (e.g., avocado)
Extraction	Mix I or Mix II Citrate or acetate extraction	Mix I or Mix II Citrate or acetate extraction	Mix I Citrate extraction	Mix I Citrate extraction
Clean up	Mix III Diamino clean-up	Mix IV Diamino/Carbon clean-up	Mix V Diamino/Carbon clean-up (higher carbon content)	Mix VI Diamino/C ₁₈ ec clean-up

Extraction mixes

Product	Type	Composition	Art. No.	Pack Qty.	€
QuEChERS Extraction Mix I	CHROMABOND® Citrate mix	Magnesium sulphate, anhydrous: 4 g / Sodium chloride: 1 g / di-Sodium hydrogen citrate 1,5-hydrate: 0,5 g / tri-Sodium citrate dihydrate: 1 g	4867.1	50 x 15 ml*	140,50
QuEChERS Extraction Mix II	CHROMABOND® Acetate mix	Magnesium sulphate, anhydrous: 6 g / Sodium acetate: 1,5 g	4868.1	50 x 15 ml*	140,50

* 15 ml PP tubes with screwing

Clean-up mixes

Product	Type	Composition	Art. No.	Pack Qty.	€
QuEChERS Clean-up Mix III	CHROMABOND® Diamino mix	Magnesium sulphate, anhydrous: 0,9 g / CHROMABOND® Diamino: 0,15 g	4870.1	50 x 15 ml*	94,90
QuEChERS Clean-up Mix IV	CHROMABOND® Diamino/Carbon mix	Magnesium sulphate, anhydrous: 0,9 g / CHROMABOND® Diamino: 0,15 g / CHROMABOND® Carbon: 0,015 g	4871.1	50 x 15 ml*	94,90
QuEChERS Clean-up Mix V	CHROMABOND® Diamino/Carbon mix	Magnesium sulphate, anhydrous: 0,9 g / CHROMABOND® Diamino: 0,15 g / CHROMABOND® Carbon: 0,045 g	4875.1	50 x 15 ml*	94,90
QuEChERS Clean-up Mix VI	CHROMABOND® Diamino/C ₁₈ ec mix	Magnesium sulphate, anhydrous: 0,9 g / CHROMABOND® Diamino: 0,15 g / CHROMABOND® C ₁₈ ec: 0,15 g	4877.1	50 x 15 ml*	94,90

* 15 ml PP tubes with screwing

Products for preparation of individual QuEChERS mixes:

Product	Particle size	Art. No.	Pack Qty.	€
Silica gel 60 C ₁₈ ec	0,045 mm	6070.1	10 g	52,50
		6070.2	25 g	106,90
Silica gel 60 diamino	0,045 mm	4878.1	10 g	72,50
		4878.2	25 g	155,50

For additional product data and safety information, see chapter Chemicals A-Z.

► Centrifuge tubes see Chapter vessels and glass bottles



Inorganic & analytical reagents

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Salts for Analysis

Our salts for analysis are manufactured under strict production guidelines. Analytical purity and best quality reliably characterize each batch.

Salts in p.a. quality made by Roth meet the high requirements for reproducible results. Most of our salts are additionally specified according to international standards like ACS and ISO.

Definition:

p.a.: pro analysi (for Analysis)

ACS: American Chemical Society

ISO: International Standard Organisation



Aluminium, Al

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Aluminium ammonium sulphate dodecahydrate	≥99 %, p.a., ACS	X862.1	500 g	plastic	27,85
		X862.2	1 kg	plastic	45,05
		X862.3	2,5 kg	plastic	91,95
Aluminium nitrate nonahydrate	≥98 %, p.a.	CN85.1	500 g	plastic	18,20
		CN85.2	1 kg	plastic	27,45
		CN85.3	2,5 kg	plastic	54,30
Aluminium sulphate hexadecahydrate	≥95 %, p.a., cryst.	5340.1	500 g	plastic	36,05
Potassium aluminium sulphate dodecahydrate	≥98 %, p.a., ACS	P724.2	500 g	plastic	23,55
		P724.1	1 kg	plastic	42,50
		P724.3	2,5 kg	plastic	90,85

Ammonium salts, NH₄⁺

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Ammonium acetate	≥97 %, p.a., ACS	7869.2	500 g	plastic	25,70
		7869.1	1 kg	plastic	36,45
		7869.3	2,5 kg	plastic	62,25
Ammonium bromide	≥99 %, p.a., ACS	HN14.1	500 g	plastic	28,95
		HN14.2	1 kg	plastic	44,00
		HN14.3	2,5 kg	plastic	96,25
Ammonium carbonate	≥30 %, p.a., ACS	CP98.1	500 g	plastic	17,45
		CP98.2	1 kg	plastic	26,35
		CP98.3	5 kg	plastic	77,30
Ammonium cerium(IV) sulphate dihydrate	≥99 %, p.a.	4386.1	100 g	plastic	41,40
		4386.2	250 g	plastic	92,35
		4386.3	500 g	plastic	145,70
Ammonium chloride	≥99,7 %, p.a., Ultra Quality	K298.1	500 g	plastic	20,65
		K298.2	1 kg	plastic	34,30
		K298.3	2,5 kg	plastic	53,65
		K298.5	25 kg	plastic	241,35
Ammonium dihydrogen phosphate	≥99 %, p.a., ACS	P727.1	500 g	plastic	38,20
		P727.2	1 kg	plastic	68,70
		P727.3	2,5 kg	plastic	148,25
Ammonium iron(II) sulphate hexahydrate	≥99 %, p.a., ISO	P728.1	500 g	plastic	24,95
		P728.2	1 kg	plastic	42,15
		P728.3	2,5 kg	plastic	95,60

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Ammonium iron(III) sulphate dodecahydrate	≥98,5 %, p.a., ACS, ISO	P734.1	500 g	plastic	27,65
		P734.2	1 kg	plastic	47,20
		P734.3	2,5 kg	plastic	99,90
Ammonium fluoride	≥98 %, p.a., ACS	6549.1	250 g	plastic	53,65
		6549.2	500 g	plastic	93,00
		6549.3	1 kg	plastic	167,20
Ammonium hepta-molybdate tetrahydrate	≥99 %, p.a.	3666.1	250 g	plastic	80,55
		3666.2	500 g	plastic	144,60
		3666.3	1 kg	plastic	256,95
Ammonium hydrogen carbonate	≥99 %, p.a.	T871.1	500 g	plastic	21,40
		T871.2	1 kg	plastic	28,95
		T871.3	2,5 kg	plastic	48,30
		T871.5	25 kg	plastic	256,95
di-Ammonium hydrogen citrate	≥98 %, p.a., ACS	P735.1	500 g	plastic	44,00
		P735.2	1 kg	plastic	78,40
		P735.3	2,5 kg	plastic	160,20
di-Ammonium hydrogen phosphate	≥98 %, p.a., ACS	P736.1	500 g	plastic	47,20
		P736.2	1 kg	plastic	75,80
		P736.3	2,5 kg	plastic	169,35
Ammonium hydrogen sulphate	≥98,5 %, p.a.	5485.2	250 g	plastic	17,45
		5485.1	500 g	plastic	28,85
		5485.3	1 kg	plastic	48,95
Ammonium monovanadate	≥99,8 %, p.a.	4232.1	50 g	plastic	22,50
		4232.2	100 g	plastic	32,15
		4232.3	250 g	plastic	66,15
		4232.4	1 kg	plastic	213,95
Ammonium nitrate	≥98 %, p.a., ACS	K299.1	500 g	plastic	25,20
		K299.2	1 kg	plastic	40,75
		K299.3	2,5 kg	plastic	88,05
di-Ammonium oxalate monohydrate	≥99,5 %, p.a., ACS	P737.1	500 g	plastic	46,15
		P737.2	1 kg	plastic	75,15
		P737.3	2,5 kg	plastic	156,85
Ammonium peroxydisulphate	≥98 %, p.a., ACS	9592.3	50 g	plastic	9,05
		9592.2	100 g	plastic	12,05
		9592.1	1 kg	plastic	33,90
		9592.4	2,5 kg	plastic	64,40
Ammonium sulphate	≥99,5 %, p.a., ACS, ISO	3746.2	250 g	plastic	11,75
		3746.1	1 kg	plastic	26,80
		3746.3	2,5 kg	plastic	47,85
		3746.4	5 kg	plastic	84,40
Ammonium thiocyanate	≥99 %, p.a., ACS, ISO	4477.1	100 g	plastic	15,20
		4477.2	250 g	plastic	20,35
		4477.3	500 g	plastic	30,25
		4477.4	1 kg	plastic	48,30

Barium, Ba

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Barium acetate	≥99 %, p.a., ACS	2553.1	250 g	plastic	34,95
		2553.2	500 g	plastic	55,40
		2553.3	1 kg	plastic	91,95
Barium carbonate	≥99 %, p.a., ACS	P008.2	25 g	plastic	11,75
		P008.3	100 g	plastic	23,15
		P008.1	500 g	plastic	84,85
Barium chloride dihydrate	≥99 %, p.a., ACS, ISO	4453.1	250 g	plastic	14,55
		4453.2	500 g	plastic	21,40
		4453.3	1 kg	plastic	35,80
		4453.4	2,5 kg	plastic	75,80
		4453.5	25 kg	plastic	633,20
Barium hydroxide octahydrate	≥98 %, p.a., ISO	P009.2	250 g	plastic	24,20
		P009.1	500 g	plastic	36,45
		P009.3	1 kg	plastic	55,80
Barium nitrate	≥99 %, p.a., ACS	4387.1	250 g	plastic	24,20
		4387.2	500 g	plastic	38,60

For additional product data and safety information, see chapter Chemicals A-Z.

Bismuth, Bi

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Bismuth(III) nitrate	≥71 %, p.a., alkaline	4447.1	50 g	plastic	40,35
		4447.2	100 g	plastic	64,00
Bismuth(III) nitrate pentahydrate	≥98 %, p.a., ACS	2554.1	250 g	plastic	42,90
		2554.2	500 g	plastic	78,40
		2554.3	1 kg	plastic	138,70
Bismuth(III) oxide	≥99,5 %, p.a.	6555.1	50 g	plastic	34,30
		6555.2	100 g	plastic	45,70
		6555.3	500 g	plastic	142,45
Sodium bismuthate	≥85 %, p.a.	4401.1	50 g	plastic	42,90
		4401.2	100 g	plastic	79,05
		4401.3	250 g	plastic	170,95

Bor, B

Product	Purity	Art. No.	Pack Qty.	Pack.	€
di-Sodium tetraborate decahydrate	≥99,5 %, p.a., ACS	T880.1	500 g	plastic	28,95
		T880.2	1 kg	plastic	42,90
		T880.3	2,5 kg	plastic	83,75
Sodium tetraphenyl borate	≥99,5 %, p.a., ACS	4385.1	10 g	plastic	38,20
		4385.2	25 g	plastic	82,70
		4385.3	100 g	plastic	256,95

Cadmium, Cd

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Cadmium acetate dihydrate	≥99 %, p.a.	KK06.1	100 g	plastic	29,60
		KK06.2	250 g	plastic	61,85
		4482.2	25 g	plastic	16,70
Cadmium sulphate hydrate	≥99 %, p.a., ACS	4482.1	100 g	plastic	51,50
		4482.3	250 g	plastic	87,00
		4482.4	500 g	plastic	130,65
		4482.5	1 kg	plastic	246,20

Caesium, Cs

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Caesium carbonate	≥99,9 %, p.a.	6873.1	5 g	plastic	15,60
		6873.2	25 g	plastic	32,15
		6873.3	100 g	plastic	131,70
		6873.4	500 g	plastic	321,45
Caesium chloride	≥99,999 %, p.a., ultra quality	8627.3	50 g	plastic	44,00
		8627.1	100 g	plastic	74,20
		8627.2	1 kg	plastic	489,15
Caesium sulphate	≥99,99 %, p.a.	9355.3	25 g	plastic	37,55
		9355.1	100 g	plastic	119,90
		9355.2	1 kg	plastic	811,65

Calcium, Ca

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Calcium acetate monohydrate	≥99 %, p.a., ACS	P011.1	500 g	plastic	32,15
		P011.2	1 kg	plastic	60,10
Calcium carbonate	≥99 %, p.a., precipitated	P012.1	500 g	plastic	63,35
		P012.2	1 kg	plastic	111,30
		P012.3	2,5 kg	plastic	223,10
Calcium chloride dihydrate	≥99 %, p.a., ACS	5239.2	500 g	plastic	16,05
		5239.1	1 kg	plastic	22,40
		5239.3	2,5 kg	plastic	48,30
Calcium chloride hexahydrate	≥98 %, p.a.	T886.2	500 g	plastic	27,85
		T886.1	1 kg	plastic	46,15
		T886.3	2,5 kg	plastic	90,85
Calcium hydroxide	≥96 %, p.a.	CN87.1	500 g	plastic	37,55
		CN87.2	1 kg	plastic	62,25
		CN87.3	2,5 kg	plastic	127,95
Calcium nitrate tetrahydrate	≥99 %, p.a., ACS	P740.1	500 g	plastic	21,75
		P740.2	1 kg	plastic	33,90
		P740.3	2,5 kg	plastic	74,75
		P741.1	500 g	plastic	27,85
Calcium sulphate dihydrate	≥98 %, p.a., ACS	P741.2	1 kg	plastic	45,70
		P741.3	2,5 kg	plastic	99,45

Cerium, Ce

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Ammonium cerium(IV) sulphate dihydrate	≥99 %, p.a.	4386.1	100 g	plastic	41,40
		4386.2	250 g	plastic	92,35
		4386.3	500 g	plastic	145,70
Cerium(IV) ammonium nitrate	≥99,5 %, p.a.	HN28.1	50 g	plastic	41,40
		HN28.2	100 g	plastic	74,75
		HN28.3	250 g	plastic	138,70
Cerium(III) nitrate hexahydrate	≥99,5 %, p.a.	HN18.1	100 g	plastic	69,35
Cerium(IV) sulphate tetrahydrate	≥98 %, p.a.	HN18.2	500 g	plastic	267,70
		P014.2	50 g	plastic	59,70
		P014.1	100 g	plastic	103,10

Chromium, Cr

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Chromium(III) potassium sulphate dodecahydrate	≥98 %, p.a., ACS	4389.1	250 g	plastic	51,10
		4389.2	500 g	plastic	97,30
Potassium chromate	≥99 %, p.a., ACS	HN33.1	100 g	plastic	34,30
		HN33.2	250 g	plastic	63,35
		HN33.3	500 g	plastic	110,65
		HN33.4	1 kg	plastic	192,45
Potassium dichromate	≥99,5 %, p.a., ACS, ISO	P744.3	100 g	plastic	24,20
		P744.1	500 g	plastic	88,05
		P744.2	1 kg	plastic	148,90
Reinecke salt monohydrate	≥93 %, p.a., ACS	6629.1	25 g	glass	53,25
		6629.2	100 g	glass	156,85

Cobalt, Co

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Cobalt(II) acetate tetrahydrate	≥98 %, p.a., ACS	HN29.1	50 g	plastic	24,20
		HN29.2	100 g	plastic	37,55
		HN29.3	250 g	plastic	79,45
Cobalt(II) chloride hexahydrate	≥99 %, p.a., ACS, ISO	T889.2	50 g	plastic	55,40
		T889.3	100 g	plastic	85,50
		T889.1	250 g	plastic	165,55
Cobalt(II) nitrate hexahydrate	≥98 %, p.a., ACS	HN16.1	50 g	plastic	26,35
		HN16.2	100 g	plastic	43,55
		HN16.3	250 g	plastic	90,20
Cobalt(II) sulphate heptahydrate	≥97 %, p.a.	4390.1	100 g	plastic	33,25
		4390.2	250 g	plastic	71,95
		4390.3	500 g	plastic	132,15
Sodium hexanitro-cobaltate(III)	p.a., ACS	4409.1	25 g	plastic	17,75
		4409.2	100 g	plastic	48,30
		4409.3	250 g	plastic	99,90

Copper, Cu

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Copper(II) acetate monohydrate	≥99 %, p.a., ACS	HN30.1	50 g	plastic	19,90
		HN30.2	100 g	plastic	29,60
		HN30.3	250 g	plastic	60,75
Copper(I) chloride	≥98 %, p.a., ACS	4391.1	100 g	plastic	18,20
		4391.2	250 g	plastic	34,95
		4391.3	500 g	plastic	61,20
		4391.4	1 kg	plastic	109,15
Copper(II) chloride dihydrate	≥99 %, p.a.	CN82.1	250 g	plastic	23,15
		CN82.2	500 g	plastic	37,85
		CN82.3	1 kg	plastic	63,35
Copper(II) nitrate trihydrate	≥99 %, p.a., ACS	P754.1	500 g	plastic	81,20
		P754.2	1 kg	plastic	152,15
Copper(II) oxide	p.a., ACS, as wire	4467.1	100 g	plastic	48,30
Copper(II) sulphate	≥98 %, p.a., anhydrous	P023.1	250 g	plastic	32,15
		P023.2	1 kg	plastic	94,10
		P023.3	2,5 kg	plastic	195,15
Copper(II) sulphate pentahydrate	≥99,5 %, p.a., ACS, ISO	P024.1	500 g	plastic	26,35
		P024.2	1 kg	plastic	44,00
		P024.3	2,5 kg	plastic	82,70

For additional product data and safety information, see chapter Chemicals A-Z.

Inorganic & analytical reagents · Classics

Gold, Au

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Tetrachloroauric(III) acid trihydrate	≥99,5 %, p.a., yellow	3867.1	1 g	glass	124,20
		3867.2	5 g	glass	504,20

Iron, Fe

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Ammonium iron(II) sulphate hexahydrate	≥99 %, p.a., ISO	P728.1	500 g	plastic	24,95
		P728.2	1 kg	plastic	42,15
		P728.3	2,5 kg	plastic	95,60
		P734.1	500 g	plastic	27,65
Ammonium iron(III) sulphate dodecahydrate	≥98,5 %, p.a., ACS, ISO	P734.2	1 kg	plastic	47,20
		P734.3	2,5 kg	plastic	99,90
		P742.1	250 g	plastic	25,30
		P742.2	1 kg	plastic	79,45
Iron(III) chloride hexahydrate	≥99 %, p.a.	P742.5	25 kg	plastic	772,95
		P015.1	500 g	plastic	22,05
Iron(II) sulphate heptahydrate	≥99 %, p.a., ACS	P015.2	1 kg	plastic	33,25
		P015.3	2,5 kg	plastic	69,80
		P015.5	25 kg	plastic	456,90
		P745.1	500 g	plastic	57,55
Potassium hexacyano-ferrate(II) trihydrate	≥99 %, p.a., ACS, ISO	P745.2	1 kg	plastic	102,05
		P745.3	2,5 kg	plastic	228,45
		P746.3	100 g	plastic	20,35
		P746.1	500 g	plastic	64,40
Potassium hexacyano-ferrate(III)	≥99 %, p.a., ACS	P746.2	1 kg	plastic	117,20
		HN34.1	25 g	plastic	25,50
Sodium nitroprusside dihydrate	≥99 %, p.a., ACS	HN34.2	100 g	plastic	67,20
		HN34.3	500 g	plastic	263,40

Lanthanum, La

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Lanthanum(III) nitrate hexahydrate	≥99,99 %, p.a.	8358.1	100 g	plastic	84,85
Lanthanum(III) oxide	≥99,99 %, p.a.	8373.1	100 g	plastic	48,30

Lead, Pb

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Lead(II) acetate, basic	≥33 %, p.a., ACS	2559.1	500 g	plastic	34,95
		2559.2	1 kg	plastic	52,15
Lead(II) acetate trihydrate	≥99,5 %, p.a., ACS, ISO	P739.1	500 g	plastic	73,00
		P739.2	1 kg	plastic	124,60
		P739.3	2,5 kg	plastic	263,40
Lead(II) carbonate	≥98 %, p.a., ACS	2558.1	100 g	plastic	35,40
		2558.2	250 g	plastic	53,65
		2558.3	500 g	plastic	84,85
Lead(II) nitrate	≥99 %, p.a., ACS	HN32.1	100 g	plastic	16,90
		HN32.2	250 g	plastic	32,80

Lithium, Li

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Lithium carbonate	≥99 %, p.a., ACS	3995.1	250 g	plastic	60,75
		3995.2	500 g	plastic	107,40
Lithium chloride	≥99,5 %, p.a., ultra quality	3739.1	250 g	plastic	45,70
		3739.2	1 kg	plastic	131,70
	≥99 %, p.a., ACS	6698.1	50 g	plastic	14,95
		6698.2	100 g	plastic	20,65
		6698.3	500 g	plastic	64,40
		6698.4	1 kg	plastic	117,20
Lithium fluoride	≥99 %, p.a.	6715.1	25 g	plastic	18,20
		6715.2	100 g	plastic	32,15
		6715.3	250 g	plastic	61,20
Lithium sulphate monohydrate	≥99 %, p.a.	4393.1	250 g	plastic	39,25
		4393.2	500 g	plastic	69,35
		4393.3	1 kg	plastic	117,75

Magnesium, Mg

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Magnesium acetate tetrahydrate	≥99,5 %, p.a., ACS	P026.1	500 g	plastic	48,30
		P026.2	1 kg	plastic	81,20
		2189.2	250 g	plastic	14,55
		2189.1	1 kg	plastic	27,85
Magnesium chloride hexahydrate	≥99 %, p.a., ACS	2189.3	2,5 kg	plastic	51,50
		2189.5	25 kg	plastic	407,45
		HN31.1	500 g	plastic	33,25
Magnesium nitrate hexahydrate	≥98 %, p.a., ACS	HN31.2	1 kg	plastic	56,45
		HN31.3	2,5 kg	plastic	126,35
		P027.1	500 g	plastic	22,05
Magnesium sulphate heptahydrate	≥99 %, p.a., ACS	P027.2	1 kg	plastic	35,40
		P027.3	2,5 kg	plastic	66,15

Manganese, Mn

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Potassium permanganate	≥99 %, p.a., ACS, max. 0,000005 % Hg	KK08.1	500 g	plastic	39,25
		KK08.2	1 kg	plastic	60,10
	≥99 %, p.a., ACS	P752.1	500 g	plastic	36,05
		P752.2	1 kg	plastic	54,30
		P752.3	2,5 kg	plastic	96,65
Manganese(II) chloride monohydrate	≥99 %, p.a.	4320.1	100 g	plastic	13,15
		4320.2	500 g	plastic	26,55
		4320.3	1 kg	plastic	42,50
		4320.4	2,5 kg	plastic	83,75
		T881.3	100 g	plastic	14,95
Manganese(II) chloride tetrahydrate	≥99 %, p.a.	T881.1	500 g	plastic	36,05
		T881.2	1 kg	plastic	56,90
		HN26.1	250 g	plastic	21,40
Manganese(II) nitrate tetrahydrate	≥98 %, p.a.	HN26.2	500 g	plastic	36,05
		HN26.3	1 kg	plastic	62,05
		HN26.4	2,5 kg	plastic	132,80
Manganese(II) sulphate monohydrate	≥99 %, p.a., ACS	4487.1	250 g	plastic	26,55
		4487.2	500 g	plastic	46,15

Mercury, Hg

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Mercury(II) acetate	≥99 %, p.a., ACS	KK05.1	50 g	glass	52,15
		KK05.2	100 g	glass	95,15
Mercury(II) bromide	≥98 %, p.a., ACS	6581.1	50 g	plastic	48,30
		6581.2	250 g	plastic	189,10
Mercury(I) chloride	≥99,5 %, p.a., ACS	6601.1	50 g	glass	50,00
		6601.2	100 g	glass	81,60
		6601.3	500 g	glass	321,45
Mercury(II) chloride	≥99,5 %, p.a., ACS	KK04.1	50 g	glass	42,50
		KK04.2	100 g	glass	76,25
Mercury(II) iodide	≥99 %, p.a., ACS, red	6590.1	50 g	plastic	46,15
		6590.2	100 g	plastic	76,90
		6590.3	500 g	plastic	299,95
Mercury(II) nitrate dihydrate	≥97 %, p.a.	6605.1	50 g	plastic	36,05
		6605.2	100 g	plastic	59,05
		6605.3	500 g	plastic	263,40
		6595.1	50 g	plastic	36,45
Mercury(II) nitrate monohydrate	≥98 %, p.a., ACS	6595.2	250 g	plastic	127,95
		6595.3	1 kg	plastic	450,45
Mercury(II) oxide	≥99 %, p.a., red	4470.2	25 g	plastic	40,35
		4470.1	50 g	plastic	70,85
Mercury(II) sulphate	≥98 %, p.a., ACS	T112.1	100 g	plastic	68,30
		T112.2	500 g	plastic	245,65
Mercury(II) thiocyanate	≥99 %, p.a.	6600.1	25 g	plastic	31,75
		6600.2	100 g	plastic	95,60
		6600.3	500 g	plastic	418,20

For additional product data and safety information, see chapter Chemicals A-Z.

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Molybdenum, Mo

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Ammonium hepta-molybdate tetrahydrate	≥99 %, p.a.	3666.1	250 g	plastic	80,55
		3666.2	500 g	plastic	144,60
		3666.3	1 kg	plastic	256,95
Sodium molybdate dihydrate	≥99,5 %, p.a.	0274.1	50 g	plastic	16,70
		0274.2	100 g	plastic	24,20
		0274.3	250 g	plastic	43,55
		0274.4	1 kg	plastic	166,65

Nickel, Ni

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Nickel(II) chloride hexahydrate	≥98 %, p.a.	4489.1	100 g	plastic	40,75
		4489.2	250 g	plastic	85,90
Nickel(II) nitrate hexahydrate	≥99 %, p.a.	4395.1	100 g	plastic	24,65
		4395.2	250 g	plastic	51,50
		4395.3	500 g	plastic	94,10
Nickel(II) sulphate hexahydrate	≥99 %, p.a., ACS	T111.1	250 g	plastic	60,10
		T111.2	1 kg	plastic	181,70

Osmium, Os

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Osmium tetroxide	≥99,95 %, p.a., for electron microscopy	8371.1	100 mg	glass	36,45
		8371.2	500 mg	glass	91,30
		8371.3	1 g	glass	141,40

Potassium, K

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Potassium acetate	≥99 %, p.a.	T874.1	500 g	plastic	31,75
		T874.2	1 kg	plastic	48,30
		T874.3	2,5 kg	plastic	94,10
		T874.5	25 kg	plastic	643,95
Potassium aluminium sulphate dodecahydrate	≥98 %, p.a., ACS	P724.2	500 g	plastic	23,55
		P724.1	1 kg	plastic	42,50
		P724.3	2,5 kg	plastic	90,85
Potassium bromate	≥99,8 %, p.a., ACS, ISO	4396.1	100 g	plastic	42,90
		4396.2	250 g	plastic	97,75
		4396.3	500 g	plastic	175,80
Potassium bromide	≥99 %, p.a., ACS	A137.1	100 g	plastic	19,25
		A137.2	500 g	plastic	36,05
		A137.3	1 kg	plastic	64,00
Potassium carbonate	≥99 %, p.a., ACS	P743.1	500 g	plastic	24,20
		P743.2	1 kg	plastic	37,55
		P743.3	2,5 kg	plastic	81,60
Potassium chlorate	≥99 %, p.a., ACS	HN27.1	100 g	plastic	14,20
		HN27.2	250 g	plastic	21,40
		HN27.3	500 g	plastic	32,80
Potassium chloride	≥99,5 %, p.a., ACS, ISO	6781.3	500 g	plastic	16,70
		6781.1	1 kg	plastic	23,35
		6781.2	5 kg	plastic	94,10
		6781.5	25 kg	plastic	364,45
Potassium chromate	≥99 %, p.a., ACS	HN33.1	100 g	plastic	34,30
		HN33.2	250 g	plastic	63,35
		HN33.3	500 g	plastic	110,65
		HN33.4	1 kg	plastic	192,45
Potassium dichromate	≥99,5 %, p.a., ACS, ISO	P744.3	100 g	plastic	24,20
		P744.1	500 g	plastic	88,05
		P744.2	1 kg	plastic	148,90
		3904.2	250 g	plastic	16,70
Potassium dihydrogen phosphate	≥99 %, p.a., ACS	3904.1	1 kg	plastic	48,30
		3904.3	5 kg	plastic	196,65
		3904.5	25 kg	plastic	815,95
Potassium disulphite	≥96 %, p.a.	P019.1	500 g	plastic	22,50
		P019.2	1 kg	plastic	32,80
		P019.3	5 kg	plastic	131,70

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Potassium fluoride	≥99 %, p.a.	CN83.1	100 g	plastic	15,60
		CN83.2	250 g	plastic	26,35
		CN83.3	500 g	plastic	48,30
		CN83.4	1 kg	plastic	81,20
Potassium hexacyano-ferrate(II) trihydrate	≥99 %, p.a., ACS, ISO	P745.1	500 g	plastic	57,55
		P745.2	1 kg	plastic	102,05
		P745.3	2,5 kg	plastic	228,45
		P746.3	100 g	plastic	20,35
Potassium hexacyano-ferrate(III)	≥99 %, p.a., ACS	P746.1	500 g	plastic	64,40
		P746.2	1 kg	plastic	117,20
		P748.1	500 g	plastic	26,80
		P748.2	1 kg	plastic	45,05
Potassium hydrogen carbonate	≥99,5 %, p.a.	P748.3	2,5 kg	plastic	101,60
		P749.1	500 g	plastic	25,70
		P749.2	1 kg	plastic	46,80
di-Potassium hydrogen phosphate	≥99 %, p.a., anhydrous	P749.3	2,5 kg	plastic	93,45
		P749.5	25 kg	plastic	751,45
di-Potassium hydrogen phosphate trihydrate	≥99 %, p.a.	6878.2	250 g	plastic	18,50
		6878.1	1 kg	plastic	43,55
		6878.3	2,5 kg	plastic	87,00
		P750.1	500 g	plastic	46,15
Potassium hydrogen phthalate	≥99,5 %, p.a., ISO	P750.2	1 kg	plastic	80,55
		P750.3	2,5 kg	plastic	176,30
		P020.1	500 g	plastic	27,45
Potassium hydrogen sulphate	≥98 %, p.a.	P020.2	1 kg	plastic	47,85
		P020.3	2,5 kg	plastic	103,75
Potassium iodate	≥99,4 %, p.a., ACS	P751.1	100 g	plastic	34,95
		P751.2	250 g	plastic	74,10
Potassium iodide	≥99,5 %, p.a., ISO	6750.1	250 g	glass	75,80
		6750.3	500 g	glass	131,70
		6750.2	1 kg	glass	239,20
Potassium sodium tartrate tetrahydrate	≥99 %, p.a., ACS, ISO	8087.2	500 g	plastic	37,10
		8087.1	1 kg	plastic	60,10
		8087.3	2,5 kg	plastic	132,80
		P021.1	500 g	plastic	20,35
Potassium nitrate	≥99 %, p.a., ISO	P021.2	1 kg	plastic	32,15
		P021.3	2,5 kg	plastic	62,25
		HN38.1	250 g	plastic	26,35
di-Potassium oxalate monohydrate	≥98,5 %, p.a., ACS	HN38.2	500 g	plastic	44,00
		HN38.3	1 kg	plastic	77,95
Potassium perchlorate	≥99 %, p.a., ACS	4400.1	250 g	plastic	56,90
		4400.2	500 g	plastic	96,65
		4400.3	1 kg	plastic	166,65
Potassium periodate	≥99,8 %, p.a., ACS	2588.1	25 g	plastic	25,30
		2588.2	100 g	plastic	59,70
		2588.3	500 g	plastic	224,70
Potassium permanganate	≥99 %, p.a., ACS, max. 0,000005 % Hg	KK08.1	500 g	plastic	39,25
		KK08.2	1 kg	plastic	60,10
		P752.1	500 g	plastic	36,05
	≥99 %, p.a., ACS	P752.2	1 kg	plastic	54,30
		P752.3	2,5 kg	plastic	96,65
		P022.1	500 g	plastic	35,40
Potassium sulphate	≥99 %, p.a., ACS, ISO	P022.2	1 kg	plastic	59,05
		P022.3	2,5 kg	plastic	134,30
		P753.1	500 g	plastic	70,45
Potassium thiocyanate	≥98,5 %, p.a., ACS	P753.2	1 kg	plastic	124,20
		P753.3	2,5 kg	plastic	287,60

Rubidium, Rb

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Rubidium chloride	≥99 %, p.a.	4471.1	10 g	plastic	107,40

For additional product data and safety information, see chapter Chemicals A-Z.

► For more qualities please see Chapter Chemicals A-Z

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Silver, Ag

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Silver nitrate	≥99,9 %, p.a., Ultra quality	6874.1	10 g	plastic	35,40
		6874.2	50 g	plastic	134,40
		6874.3	250 g	plastic	493,45
		7908.1	50 g	plastic	106,45
	≥99,9 %, p.a.	7908.2	250 g	plastic	439,70
		7908.3	1 kg	plastic	1558,75
Silver oxide	≥99 %, p.a.	5309.1	10 g	glass	48,30
		5309.2	50 g	glass	163,95
Silver sulphate	≥99,5 %, p.a.	6791.1	25 g	plastic	107,40
		6791.2	100 g	plastic	381,65

Sodium, Na

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Potassium sodium tartrate tetrahydrate	≥99 %, p.a., ACS, ISO	8087.2	500 g	plastic	37,10
		8087.1	1 kg	plastic	60,10
		8087.3	2,5 kg	plastic	132,80
Sodium acetate	≥99 %, p.a., ACS, anhydrous	6773.1	250 g	plastic	22,80
		6773.2	1 kg	plastic	59,70
		6773.3	2,5 kg	plastic	123,55
		6773.5	25 kg	plastic	751,45
Sodium acetate trihydrate	≥99,5 %, p.a., ACS, ISO	6779.2	500 g	plastic	17,10
		6779.1	1 kg	plastic	31,10
		6779.3	5 kg	plastic	94,50
		6779.5	25 kg	plastic	353,70
Sodium ammonium hydrogen phosphate tetrahydrate	≥99 %, p.a.	T882.1	500 g	plastic	60,10
		T882.2	1 kg	plastic	87,65
		T882.3	2,5 kg	plastic	197,30
Sodium azide	≥99 %, p.a.	K305.1	100 g	plastic	39,70
		K305.2	250 g	plastic	70,85
		K305.3	500 g	plastic	127,95
		K305.4	1 kg	plastic	196,20
Sodium bismuthate	≥85 %, p.a.	4401.1	50 g	plastic	42,90
		4401.2	100 g	plastic	79,05
		4401.3	250 g	plastic	170,95
Sodium bromide	≥99 %, p.a., ACS	HN15.1	250 g	plastic	14,55
		HN15.2	1 kg	plastic	36,05
		HN15.3	2,5 kg	plastic	73,85
Sodium carbonate	≥99,5 %, p.a., ACS, anhydrous	A135.1	500 g	plastic	18,50
		A135.2	1 kg	plastic	32,15
		A135.3	5 kg	plastic	123,10
Sodium carbonate monohydrate	≥99,5 %, p.a., ACS	2597.1	100 g	plastic	15,60
		2597.2	500 g	plastic	26,70
Sodium carbonate decahydrate	≥99 %, p.a., ISO	K303.2	500 g	plastic	19,60
		K303.1	1 kg	plastic	33,15
		K303.3	2,5 kg	plastic	68,30
		3957.3	500 g	plastic	15,30
Sodium chloride	≥99,5 %, p.a., ACS, ISO	3957.1	1 kg	plastic	16,70
		3957.2	5 kg	plastic	60,75
		3957.5	25 kg	plastic	181,70
		3580.4	250 g	plastic	18,85
tri-Sodium citrate dihydrate	≥99 %, p.a., ACS	3580.3	500 g	plastic	24,65
		3580.1	1 kg	plastic	39,70
		3580.2	5 kg	plastic	170,95
		3580.5	25 kg	plastic	407,45
Sodium dihydrogen phosphate monohydrate	≥98 %, p.a., ACS	K300.1	500 g	plastic	24,55
		K300.2	1 kg	plastic	36,45
		K300.3	2,5 kg	plastic	74,10
Sodium dihydrogen phosphate dihydrate	≥99 %, p.a.	K300.5	25 kg	plastic	514,95
		T879.1	500 g	plastic	21,40
		T879.2	1 kg	plastic	32,15
		T879.3	2,5 kg	plastic	66,55
tetra-Sodium diphosphate decahydrate	≥99 %, p.a.	T879.5	25 kg	plastic	557,95
		T883.1	500 g	plastic	27,75
		T883.2	1 kg	plastic	39,70
		T883.3	2,5 kg	plastic	71,50

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Sodium fluoride	≥99 %, p.a., ACS, ISO	P756.1	500 g	plastic	46,15
		P756.2	1 kg	plastic	83,35
		P756.3	2,5 kg	plastic	176,85
Sodium formate	≥99 %, p.a., ACS	4404.1	250 g	plastic	24,20
		4404.2	500 g	plastic	42,50
		4404.3	1 kg	plastic	73,00
		4409.1	25 g	plastic	17,75
Sodium hexanitro-cobaltate(III)	p.a., ACS	4409.2	100 g	plastic	48,30
		4409.3	250 g	plastic	99,90
		6885.2	500 g	plastic	14,20
Sodium hydrogen carbonate	≥99,5 %, p.a., ACS, ISO	6885.1	1 kg	plastic	21,75
		6885.3	5 kg	plastic	77,30
		6885.5	25 kg	plastic	321,45
		P030.1	500 g	plastic	28,95
di-Sodium hydrogen phosphate	≥99 %, p.a., ACS, anhydrous	P030.2	1 kg	plastic	46,15
		P030.3	2,5 kg	plastic	85,90
		4984.2	500 g	plastic	24,20
di-Sodium hydrogen phosphate dihydrate	≥99,5 %, p.a.	4984.1	1 kg	plastic	41,40
		4984.3	2,5 kg	plastic	88,05
		X987.1	500 g	plastic	20,35
di-Sodium hydrogen phosphate heptahydrate	≥98 %, p.a., ACS	X987.2	1 kg	plastic	32,15
		X987.3	2,5 kg	plastic	64,00
di-Sodium hydrogen phosphate dodecahydrate	≥99 %, p.a., ISO	T106.1	500 g	plastic	19,25
		T106.2	1 kg	plastic	31,95
		T106.3	2,5 kg	plastic	67,20
Sodium iodate	≥99 %, p.a.	HN17.1	50 g	plastic	37,10
		HN17.2	100 g	plastic	75,15
Sodium iodide	≥99,5 %, p.a., ACS	A134.3	100 g	plastic	79,05
		A134.1	250 g	plastic	181,70
		A134.2	1 kg	plastic	697,70
Sodium metabisulphite	≥97 %, p.a., ACS	P755.1	500 g	plastic	18,20
		P755.2	1 kg	plastic	27,85
		P755.5	25 kg	plastic	278,45
Sodium molybdate dihydrate	≥99,5 %, p.a.	0274.1	50 g	plastic	16,70
		0274.2	100 g	plastic	24,20
		0274.3	250 g	plastic	43,55
		0274.4	1 kg	plastic	166,65
Sodium nitrate	≥99 %, p.a., ACS, ISO	A136.1	500 g	plastic	26,80
		A136.2	1 kg	plastic	42,50
		A136.3	2,5 kg	plastic	92,35
Sodium nitrite	≥98 %, p.a., ACS	4411.1	100 g	plastic	11,30
		4411.2	500 g	plastic	24,20
		4411.3	1 kg	plastic	38,60
		4411.4	2,5 kg	plastic	79,05
di-Sodium oxalate	≥99,5 %, p.a., ACS	HN39.1	100 g	plastic	23,15
		HN39.2	250 g	plastic	46,15
		HN39.3	500 g	plastic	80,10
Sodium periodate	≥99,8 %, p.a., ACS	2603.1	50 g	plastic	38,20
		2603.2	250 g	plastic	133,30
		2603.3	500 g	plastic	241,90
Sodium peroxide	≥95 %, p.a., ACS, granulated	4412.1	100 g	plastic	53,65
		4412.2	250 g	plastic	120,95
		4412.3	500 g	plastic	217,70
tri-Sodium phosphate dodecahydrate	≥98 %, p.a., ACS	T107.2	500 g	plastic	21,40
		T107.1	1 kg	plastic	33,90
		T107.3	2,5 kg	plastic	79,45
Sodium salicylate	≥99 %, p.a.	CP39.1	250 g	plastic	24,20
		CP39.2	1 kg	plastic	72,60
		8560.3	500 g	plastic	23,90
Sodium sulphate	≥99 %, p.a., ACS, ISO, powdered, anhydrous	8560.1	1 kg	plastic	32,50
		8560.2	5 kg	plastic	132,25
		8560.5	25 kg	plastic	471,95
		0966.1	500 g	plastic	19,15
Sodium sulphate decahydrate	≥99 %, p.a., ACS	0966.2	1 kg	plastic	27,85
		0966.3	5 kg	plastic	116,65
		T108.2	500 g	plastic	17,10
		T108.1	1 kg	plastic	25,30
		T108.3	2,5 kg	plastic	51,50

For additional product data and safety information, see chapter Chemicals A-Z.

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Sodium sulphite	≥98 %, p.a., ACS, anhydrous	P033.1	500 g	plastic	17,45
		P033.2	1 kg	plastic	25,70
		P033.3	2,5 kg	plastic	45,70
di-Sodium tartrate dihydrate	≥99 %, p.a.	T110.1	500 g	plastic	48,30
		T110.2	1 kg	plastic	86,55
		T110.3	2,5 kg	plastic	203,20
		T110.5	25 kg	plastic	1666,25
di-Sodium tetraborate decahydrate	≥99,5 %, p.a., ACS	T880.1	500 g	plastic	28,95
		T880.2	1 kg	plastic	42,90
		T880.3	2,5 kg	plastic	83,75
Sodium tetraphenyl borate	≥99,5 %, p.a., ACS	4385.1	10 g	plastic	38,20
		4385.2	25 g	plastic	82,70
		4385.3	100 g	plastic	256,95
Sodium thiocyanate	≥98 %, p.a., ACS	2724.1	100 g	plastic	15,60
		2724.2	500 g	plastic	38,40
		2724.3	1 kg	plastic	60,10
Sodium thiosulphate	≥99 %, p.a., anhydrous	HN25.1	250 g	plastic	19,25
		HN25.2	500 g	plastic	28,50
		HN25.3	1 kg	plastic	50,00
		HN25.4	2,5 kg	plastic	105,25
Sodium thiosulphate pentahydrate	≥99,5 %, p.a., ACS	P034.1	500 g	plastic	18,85
		P034.2	1 kg	plastic	28,95
		P034.3	2,5 kg	plastic	58,60
		P034.5	25 kg	plastic	407,45
Sodium tungstate dihydrate	≥99 %, p.a., ACS	2604.1	100 g	plastic	36,45
		2604.2	250 g	plastic	71,50
		2604.3	500 g	plastic	128,50

Strontium, Sr

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Strontium chloride hexahydrate	≥99 %, p.a.	4473.1	100 g	plastic	20,35
		4473.2	500 g	plastic	50,45
		4473.3	1 kg	plastic	84,40
Strontium nitrate	≥99 %, p.a., ACS	4413.1	100 g	plastic	22,50
		4413.2	250 g	plastic	42,90
		4413.3	500 g	plastic	80,55

Tin, Sn

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Tin(II) chloride dihydrate	≥98 %, p.a., max. 0,000005 % Hg	KK07.1	100 g	glass	40,35
		KK07.2	250 g	glass	88,70
	≥98 %, p.a., ACS	4977.3	100 g	glass	27,85
		4977.1	250 g	glass	61,85
		4977.2	1 kg	glass	198,90
Tin(II) sulphate	≥99 %, p.a.	4382.1	100 g	plastic	31,10
		4382.2	250 g	plastic	56,90
		4382.3	1 kg	plastic	174,70

Tungsten, W

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Sodium tungstate dihydrate	≥99 %, p.a., ACS	2604.1	100 g	plastic	36,45
		2604.2	250 g	plastic	71,50
		2604.3	500 g	plastic	128,50

Vanadium, V

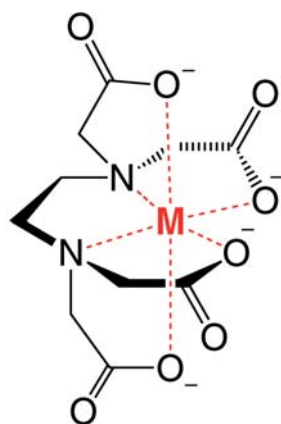
Product	Purity	Art. No.	Pack Qty.	Pack.	€
Ammonium monovanadate	≥99,8 %, p.a.	4232.1	50 g	plastic	22,50
		4232.2	100 g	plastic	32,15
		4232.3	250 g	plastic	66,15
		4232.4	1 kg	plastic	213,95

Zinc, Zn

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Zinc acetate dihydrate	≥99,5 %, p.a., ACS	P035.1	500 g	plastic	40,75
		P035.2	1 kg	plastic	66,15
Zinc chloride	≥97 %, p.a.	T887.1	500 g	plastic	48,30
		T887.2	1 kg	plastic	73,00
Zinc nitrate hexahydrate	≥99 %, p.a.	6634.1	100 g	plastic	18,20
		6634.2	500 g	plastic	37,55
		6634.3	1 kg	plastic	57,55
Zinc oxide	≥99 %, p.a., ACS	T114.1	500 g	plastic	66,55
		T114.2	1 kg	plastic	85,90
Zinc sulphate heptahydrate	≥99,5 %, p.a., ACS	K301.1	500 g	plastic	22,25
		K301.2	1 kg	plastic	39,25
		K301.3	2,5 kg	plastic	70,85
		K301.5	25 kg	plastic	600,95

For additional product data and safety information, see chapter Chemicals A-Z.

Complexometry



Salts for complexometry

Product	Purity	Art. No.	Pack Qty.	€
CDTA · H ₂ O	≥99 %, p.a., ACS	1412.1	25 g	28,95
		1412.2	100 g	85,90
		1412.3	250 g	196,20
		1412.4	500 g	364,45
	≥99 %, for synthesis	1411.1	100 g	64,00
		1411.2	250 g	150,40
		1411.3	500 g	261,80
		1411.4	1 kg	493,45
DTPA	≥99 %, for synthesis	1407.1	100 g	17,10
		1407.2	250 g	28,95
		1407.3	500 g	46,15
		1407.4	1 kg	81,60
EDTA	≥99 %, p.a., ACS	8040.1	100 g	14,55
		8040.3	500 g	32,80
		8040.2	1 kg	48,95
		8040.5	25 kg	772,95
	≥99 %	CN06.1	250 g	15,20
		CN06.2	500 g	25,50
		CN06.3	1 kg	41,40
		CN06.4	5 kg	166,65
EDTA-CaNa ₂ · 2 H ₂ O	≥98 %, Ph.Eur., USP	6506.1	250 g	41,40
		6506.2	500 g	75,80
		6506.3	1 kg	138,70
EDTA-CuNa ₂ · 2 H ₂ O	≥99 %, for synthesis	6499.1	250 g	38,20
		6499.2	500 g	68,30
		6499.3	1 kg	122,05
EDTA-FeNa · 3 H ₂ O	≥98 %, for synthesis	6498.1	250 g	34,30
		6498.2	500 g	61,20
		6498.3	1 kg	103,75
EDTA-K ₂ · 2 H ₂ O	≥99 %, p.a.	3053.1	100 g	21,40
		3053.2	250 g	41,40
		3053.3	500 g	72,25
		3053.4	1 kg	128,90
		3053.5	5 kg	525,70
		1408.1	250 g	23,15
	≥99 %, for synthesis	1408.2	500 g	40,35
		1408.3	1 kg	73,00
		1408.4	5 kg	327,90
		1409.1	100 g	26,55
		1409.2	250 g	50,45
		1409.3	1 kg	149,45
EDTA-K ₃ · 2 H ₂ O	≥99 %	1409.4	5 kg	619,20
		6508.1	250 g	30,00
		6508.2	500 g	54,30
EDTA-MgNa ₂ · 2 H ₂ O	≥96 %, for synthesis	6508.3	1 kg	96,65

Product	Purity	Art. No.	Pack Qty.	€
EDTA-MnNa ₂ · 2 H ₂ O	≥93 %, for synthesis	6510.1	250 g	38,60
		6510.2	500 g	68,70
		6510.3	1 kg	125,25
EDTA-Na ₂ · 2 H ₂ O	≥99 %, p.a., ACS	8043.3	100 g	19,90
		8043.1	250 g	31,75
		8043.2	1 kg	93,00
		8043.4	5 kg	342,95
		8043.5	25 kg	762,20
	≥99 %, USP	X986.1	250 g	17,75
		X986.2	1 kg	45,05
		X986.3	5 kg	192,45
		X986.5	25 kg	751,45
		3619.2	500 g	20,35
EDTA-Na ₄	86-88 %	3619.1	1 kg	27,85
		3619.3	5 kg	97,75
		1410.1	250 g	19,60
EDTA-Na ₄ · 2 H ₂ O	≥99 %	1410.2	500 g	33,25
		1410.3	1 kg	58,60
		1410.4	5 kg	252,65
		CP87.1	250 g	17,75
EDTA-Na ₄ · 4 H ₂ O	≥99 %, p.a.	CP87.2	500 g	27,45
		CP87.3	1 kg	45,90
		CP87.4	5 kg	188,15
		6518.1	250 g	38,60
		6518.2	500 g	68,30
EDTA-ZnNa ₂ · 2 H ₂ O	≥96 %, for synthesis	6518.3	1 kg	124,20
		3054.1	10 g	32,15
		3054.2	50 g	124,20
EGTA	≥99 %, p.a.	3054.3	100 g	216,65
		4384.1	100 g	61,85
		8653.1	100 g	20,35
NTA	≥99 %, p.a., ACS	8653.2	500 g	61,20
	NEW ≥99 %, extra pure	8653.3	1 kg	117,20

Complexing agents

Product	Purity	Art. No.	Pack Qty.	€
Acetyl acetone	≥98 %, for synthesis	6716.1	100 ml	12,80
		6716.2	500 ml	26,35
		6716.3	1 l	44,65
		6716.4	2,5 l	96,65
2-(2-Aminoethyl-amino)ethanol	≥98 %, for synthesis	6717.1	100 ml	13,90
		6717.2	500 ml	23,55
		6717.3	1 l	37,10
		6717.4	2,5 l	79,45
Citric acid	≥99,5 %, p.a., ACS, anhydrous	X863.1	500 g	18,20
		X863.2	1 kg	27,85
		X863.3	2,5 kg	55,80
		X863.5	25 kg	342,95
	≥99,5 %, Ph.Eur., anhydrous	6490.3	500 g	13,45
		6490.1	1 kg	21,75
		6490.2	5 kg	79,45
		6490.5	25 kg	231,70
Citric acid monohydrate	≥99,5 %, p.a., ACS, ISO	3958.2	500 g	17,75
		3958.1	1 kg	27,85
		3958.3	2,5 kg	51,10
		3958.4	5 kg	94,50
		3958.5	25 kg	327,90
	≥99,5 %, Ph.Eur.	5110.3	500 g	13,15
		5110.1	1 kg	21,00
		5110.2	5 kg	55,40
		5110.5	25 kg	169,35
		6723.1	100 ml	12,70
Diethylene triamine	≥98 %, for synthesis	6723.2	500 ml	25,70
		6723.3	1 l	37,55
		6723.4	2,5 l	72,60

For additional product data and safety information, see chapter Chemicals A-Z.

Product	Purity	Art. No.	Pack Qty.	€
Dimethylglyoxim	≥99 %, p.a., ACS	2677.1	50 g	38,40
		2677.2	100 g	60,10
		2677.3	500 g	228,45
Dimethylglyoxime disodium salt octahydrate	≥97,5 %, p.a.	KK24.1	25 g	34,30
		KK24.2	50 g	57,55
2,2'-Dipyridyl	≥95 %, for biochemistry	4153.1	5 g	13,65
		4153.2	25 g	36,05
Ethylenediamine	≥99,5 %, p.a., anhydrous	3049.1	250 ml	48,95
		4218.1	100 ml	12,60
		4218.2	500 ml	16,05
	≥99,5 %, for synthesis	4218.3	1 l	24,65
		4218.4	2,5 l	48,30
		4218.5	10 l	166,55
8-Hydroxyquinoline	≥99,5 %, p.a., ACS	2557.1	50 g	27,85
		2557.2	100 g	34,95
		2557.3	250 g	67,65
Oxalic acid dihydrate	≥99,5 %, p.a., ACS, ISO	T113.1	500 g	28,95
		T113.2	1 kg	47,85
		T113.3	2,5 kg	110,20
	>99 %, cryst.	8879.1	1 kg	18,85
		8879.3	5 kg	62,25
		8879.2	10 kg	116,65
Neocuproine hemihydrate	≥99 %, p.a.	KK32.1	1 g	19,60
		KK32.2	5 g	68,50
1,10-Phenanthroline monohydrate	≥99 %, p.a., ACS	9113.2	5 g	25,70
		9113.3	25 g	91,30
		9113.1	50 g	171,90
1,10-Phenanthroline hydrochloride monohydrate	≥99 %, p.a.	KK21.1	5 g	24,20
		KK21.2	10 g	41,85
		KK21.3	50 g	177,40
Potassium hydrogen tartrate NEW	≥99,5 %, extra pure	8645.1	100 g	11,75
		8645.2	500 g	26,80
		8645.3	1 kg	42,90
Potassium sodium tartrate tetrahydrate	≥99 %, p.a., ACS, ISO	8087.2	500 g	37,10
		8087.1	1 kg	60,10
		8087.3	2,5 kg	132,80
	≥99 %, USP	7998.3	500 g	26,80
		7998.1	1 kg	47,85
		7998.2	5 kg	165,55
di-Sodium tartrate dihydrate	≥99 %, p.a.	T110.1	500 g	48,30
		T110.2	1 kg	86,55
		T110.3	2,5 kg	203,20
	≥99 %, extra pure	T110.5	25 kg	1666,25
		0254.1	500 g	30,00
		0254.2	1 kg	51,10
D(-)-Tartaric acid	≥99 %, for biochemistry	0254.3	5 kg	217,70
		5529.1	25 g	45,05
DL-Tartaric acid	≥99,5 %, anhydrous	4891.2	25 g	13,15
		4891.1	100 g	23,15
		4891.3	500 g	67,20
L(+)-Tartaric acid	≥99 %, p.a., ACS	K302.1	250 g	22,50
		K302.2	1 kg	67,65
		K302.5	25 kg	1127,70
	≥99,7 %, for biochemistry	4890.3	500 g	21,40
		4890.1	1 kg	36,05
		4890.2	5 kg	133,20
		4890.5	25 kg	504,20

For additional product data and safety information, see chapter Chemicals A-Z.

Volumetric standard solutions, ready-to-use

ready-to-use



Volumetric standard solutions, ready-to-use, Reag. Ph.Eur.

Solutions are produced and tested according to chapter 4.2 of the European pharmacopoeia. Traceable to SRM from NIST.

Product	Purity	Art. No.	Pack Qty.	Pack.	€
EDTA disodium salt solution	0,1 mol/l - 0,1 N, Reag. Ph.Eur.	6764.1	1 l	plastic	23,15
Hydrochloric acid	0,1 mol/l - 0,1 N, Reag. Ph.Eur.	6789.1	1 l	plastic	19,90
	0,5 mol/l - 0,5 N, Reag. Ph.Eur.	6790.1	1 l	plastic	19,90
	1 mol/l - 1 N, Reag. Ph.Eur.	6792.1	1 l	plastic	19,90
Iodine solution	0,05 mol/l - 0,1 N, Reag. Ph.Eur.	6765.1	1 l	glass	33,25
	0,5 mol/l - 1 N, Reag. Ph.Eur.	6769.1	1 l	glass	94,10
Perchloric acid NEW	0,1 mol/l - 0,1 N, Reag. Ph.Eur.	9525.1	1 l	plastic	78,40
Potassium hydroxide solution NEW	1 mol/l - 1 N, Reag. Ph.Eur.	9522.1	1 l	plastic	24,65
Potassium permanganate solution NEW	0,02 mol/l - 0,1 N, Reag. Ph.Eur.	9523.1	1 l	glass	26,80
Silver nitrate solution NEW	0,1 mol/l - 0,1 N, Reag. Ph.Eur.	9526.1	1 l	glass	77,30
Sodium thiosulphate solution	0,1 mol/l - 0,1 N, Reag. Ph.Eur.	6782.1	1 l	plastic	18,85
Sodium hydroxide solution	0,1 mol/l - 0,1 N, Reag. Ph.Eur.	6783.1	1 l	plastic	19,90
	1 mol/l - 1 N, Reag. Ph.Eur.	6785.1	1 l	plastic	19,90
Sulphuric acid	0,05 mol/l - 0,1 N, Reag. Ph.Eur.	6793.1	1 l	plastic	19,90
	0,5 mol/l - 1 N, Reag. Ph.Eur.	6794.1	1 l	plastic	19,90

Inorganic & analytical reagents · Classics

Volumetric standard solutions, ready-to-use

- Manufactured and tested using state-of-the-art manufacturing and analytical methods
- Ready-to-use solutions
- High accuracy for precise analyses
- Application of NIST-certified reference substances for checking
- Connects directly to standard titrators
- Available in 1, 2,5 and 5 litre plastic bottles, and in 5 and 10 litre ROTI®CUBE cans



Product	Purity	Art. No.	Pack Qty.	Packaging	€
Acetic acid	1 mol/l - 1 N	KK62.1	1 l	plastic	26,15
Ammonium iron(II) sulphate solution	0,12 mol/l - 0,12 N for determination of COD	KK60.1	1 l	plastic	36,45
Ammonium thiocyanate solution	0,1 mol/l - 0,1 N	P718.1	1 l	plastic	19,25
Barium hydroxide solution	0,05 mol/l - 0,1 N	N054.1	1 l	plastic	32,50
Bariumperchlorate solution	0,005 mol/l - 0,005 N in 2-propanol/water	KK61.1	1 l	plastic	26,15
Bromide bromate solution	0,05 mol Br ₂ /l - 0,1 N	8131.1	1 l	plastic	27,85
Ceric(IV) sulphate solution	0,1 mol/l - 0,1 N	P719.1	1 l	plastic	60,75
NEW EDTA disodium salt solution	0,01 mol/l - 0,01 N	CN34.1	1 l	plastic	22,05
		CN34.2	5 l	ROTI®CUBE	66,55
		CN34.3	10 l	ROTI®CUBE	121,40
	0,05 mol/l - 0,05 N	KK75.1	1 l	plastic	20,35
		KK75.2	5 l	plastic	60,75
		KK75.3	5 l	ROTI®CUBE	64,00
	0,1 mol/l - 0,1 N	K714.1	1 l	glass	20,35
		K714.2	5 l	plastic	60,75
		K714.3	5 l	ROTI®CUBE	66,55
		K714.4	10 l	ROTI®CUBE	121,40
	0,2 mol/l - 0,2 N	8084.1	1 l	plastic	21,40
		8084.2	5 l	ROTI®CUBE	64,40
EDTA disodium salt solution A	0,1 mol/l - 0,1 N	T136.1	1 l	glass	27,45
EDTA disodium salt solution B	0,01783 mol/l - 0,01783 N	T137.1	1 l	glass	22,05
		T137.2	5 l	ROTI®CUBE	66,55
		T137.3	10 l	ROTI®CUBE	121,40
Hanus solution	0,1 mol lBr/l - 0,2 N	KK63.1	1 l	plastic	44,65
Hyamine® 1622-solution	0,004 mol/l - 0,004 M	KK64.1	1 l	plastic	23,15
NEW Hydrochloric acid	0,01 mol/l - 0,01 N	N075.1	1 l	plastic	18,20
		8085.1	1 l	plastic	17,75
		8085.2	2,5 l	plastic	32,15
	0,05 mol/l - 0,05 N	8085.3	5 l	ROTI®CUBE	51,50
		K024.1	1 l	plastic	17,45
		K024.2	5 l	plastic	52,15
	0,1 mol/l - 0,1 N	K024.3	5 l	ROTI®CUBE	56,90
		K024.4	10 l	ROTI®CUBE	83,75
	0,2 mol/l - 0,2 N	4120.1	1 l	plastic	17,10
		P708.1	1 l	plastic	17,45
	0,5 mol/l - 0,5 N	P708.2	5 l	plastic	52,15
		P708.3	5 l	ROTI®CUBE	56,90
		P708.4	10 l	ROTI®CUBE	83,75
		K025.1	1 l	plastic	17,45
	1 mol/l - 1 N	K025.2	5 l	plastic	52,15
		K025.3	5 l	ROTI®CUBE	56,90
		K025.4	10 l	ROTI®CUBE	83,75
	2 mol/l - 2 N	T134.1	1 l	plastic	17,45
		T134.2	5 l	plastic	52,15
		T134.3	5 l	ROTI®CUBE	56,90
	4 mol/l - 4 N	N076.1	1 l	plastic	27,85
	6 mol/l - 6 N	0281.1	1 l	plastic	27,85
Iodid-iodate solution	1/128 mol I ₂ /l - 1/64 N	KK65.1	1 l	plastic	27,45
Iodine solution	0,05 mol I ₂ /l - 0,1 N	K016.1	1 l	glass	31,20
	0,5 mol I ₂ /l - 1 N	K016.2	2,5 l	glass	63,35
		X868.1	1 l	glass	95,15

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Mercury(II) nitrate solution	0,05 mol/l - 0,1 N	KK72.1	1 l	plastic	29,60
Mercury(II) sulphate solution 80 g/l	in sulphuric acid potassium dichromate standard solution 0,02 mol/l	X871.1	1 l	glass	56,90
		X871.2	2,5 l	glass	144,60
Nitric acid	0,1 mol/l - 0,1 N	KK73.1	1 l	plastic	17,10
	1 mol/l - 1 N	N070.1	1 l	glass	20,10
Oxalic acid solution	0,05 mol/l - 0,1 N	CN35.1	1 l	plastic	21,75
Perchloric acid	0,1 mol/l - 0,1 N	K023.1	1 l	glass	72,60
NEW ortho-Phosphoric acid	0,1 mol/l - 0,3 N	8089.1	1 l	plastic	39,70
	1/6 mol/l - 0,5 N	8091.1	1 l	plastic	39,70
	1 mol/l - 3 N	8141.1	1 l	plastic	39,70
Potassiumbromide solution	0,1 mol/l - 0,1 N	8130.1	1 l	plastic	64,40
Potassiumchloride solution	0,2 mol/l - 0,2 N	4117.1	1 l	plastic	23,55
	3 mol/l - 3 N	T138.1	250 ml	glass	17,55
	1/60 mol/l - 0,1 N	P722.1	1 l	glass	24,20
Potassium dichromate solution	0,02 mol/l - 0,12 N for determination of COD	P720.1	1 l	plastic	23,15
	1/24 mol/l - 0,25 N for determination of COD	P721.1	1 l	glass	27,85
Potassium hydroxide solution	0,1 mol/l - 0,1 N	K018.1	1 l	plastic	20,55
		K018.2	5 l	plastic	54,30
		K018.3	5 l	ROTI®CUBE	57,95
	0,5 mol/l - 0,5 N	N071.1	1 l	plastic	20,55
		N071.2	5 l	plastic	54,30
		N071.3	5 l	ROTI®CUBE	45,70
	1 mol/l - 1 N	K017.1	1 l	plastic	20,55
		K017.2	5 l	plastic	54,30
		K017.3	5 l	ROTI®CUBE	57,95
		P706.1	1 l	plastic	36,05
Potassium hydroxide solution in ethanol	0,1 mol/l - 0,1 N	P707.1	1 l	plastic	52,15
Potassium hydroxide solution in isopropanol	0,1 mol/l - 0,1 N	KK68.1	1 l	plastic	46,15
Potassium hydroxide solution in methanol	0,1 mol/l - 0,1 N	KK66.1	1 l	plastic	29,60
Potassium permanganate solution	0,5 mol/l - 0,5 N	KK67.1	1 l	plastic	27,45
	0,02 mol/l - 0,1 N	K019.1	1 l	glass	21,75
NEW Silver nitrate solution	0,01 mol/l - 0,01 N	KK69.1	1 l	glass	25,05
		6838.1	250 ml	plastic	13,90
		6838.2	500 ml	plastic	19,25
		6838.3	1 l	plastic	27,85
	0,05 mol/l - 0,05 N	6838.4	2,5 l	plastic	55,80
		6835.1	250 ml	plastic	31,10
		6835.2	500 ml	plastic	37,55
		6835.3	1 l	plastic	52,60
	0,1 mol/l - 0,1 N	6835.4	2,5 l	plastic	96,65
		K713.2	250 ml	plastic	34,30
		K713.4	500 ml	plastic	41,40
		K713.1	1 l	plastic	69,35
		K713.3	2,5 l	plastic	107,40
		6839.1	250 ml	plastic	52,60
		6839.2	500 ml	plastic	83,75
		6839.3	1 l	plastic	133,85

For additional product data and safety information, see chapter Chemicals A-Z.

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Silver nitrate solution	1 mol/l - 1 N	6841.1	250 ml	plastic	99,90
		6841.2	500 ml	plastic	145,05
		6841.3	1 l	plastic	276,85
Silver sulphate solution	10 g/l in sulphuric acid, for determination of COD according to DIN 38409 H41-1	X870.1	1 l	glass	59,70
Sodium chloride solution	1 mol/l - 1 N	8115.1	1 l	plastic	24,65
Sodium hydroxide solution	0,01 mol/l - 0,01 N	N073.1	1 l	plastic	18,20
		K020.1	1 l	plastic	17,55
	0,1 mol/l - 0,1 N	K020.2	5 l	plastic	52,15
		K020.3	5 l	ROTI®CUBE	56,90
		K020.4	10 l	ROTI®CUBE	83,75
	0,2 mol/l - 0,2 N	N074.1	1 l	plastic	18,20
		N074.2	5 l	ROTI®CUBE	56,90
		N074.3	10 l	ROTI®CUBE	83,75
	0,25 mol/l - 0,25 N	P711.1	1 l	plastic	17,95
		P711.2	5 l	ROTI®CUBE	56,90
		P711.3	10 l	ROTI®CUBE	83,75
	0,5 mol/l - 0,5 N	P710.1	1 l	plastic	17,75
		P710.2	5 l	plastic	52,15
		P710.3	5 l	ROTI®CUBE	56,90
		P710.4	10 l	ROTI®CUBE	83,75
		K021.1	1 l	plastic	17,45
	1 mol/l - 1 N	K021.2	5 l	plastic	52,15
		K021.3	5 l	ROTI®CUBE	56,90
		K021.4	10 l	ROTI®CUBE	83,75
Sodium hydroxide solution	2 mol/l - 2 N	T135.1	1 l	plastic	17,75
		T135.2	5 l	plastic	57,95
		T135.3	5 l	ROTI®CUBE	60,75
	4 mol/l - 4 N	T198.1	1 l	plastic	33,55
	5 mol/l - 5 N	KK71.1	1 l	plastic	26,05
Sodium thiosulphate solution	0,01 mol/l - 0,01 N	X869.1	1 l	glass	20,55
		K022.1	1 l	glass	17,00
		K022.2	5 l	plastic	44,65
	0,1 mol/l - 0,1 N	K022.3	5 l	ROTI®CUBE	52,15
		K022.4	10 l	ROTI®CUBE	77,95
Sulphuric acid	0,01 mol/l - 0,02 N	X872.1	1 l	plastic	22,05
		K026.1	1 l	plastic	16,70
		K026.2	5 l	plastic	50,45
	0,05 mol/l - 0,1 N	K026.3	5 l	ROTI®CUBE	56,90
		K026.4	10 l	ROTI®CUBE	83,75
		N072.1	1 l	plastic	17,45
	0,1 mol/l - 0,2 N	P709.1	1 l	plastic	18,20
		P709.2	5 l	ROTI®CUBE	56,90
		P709.3	10 l	ROTI®CUBE	83,75
	0,5 mol/l - 1 N	K027.1	1 l	plastic	17,45
		K027.2	5 l	plastic	52,15
		K027.3	5 l	ROTI®CUBE	56,90
		K027.4	10 l	ROTI®CUBE	83,75
	1 mol/l - 2 N	X873.1	1 l	plastic	22,05
	2,5 mol/l - 5 N	KK74.1	1 l	plastic	25,05
Wijs-solution	0,1 mol ICl/l - 0,2 N	CN36.1	1 l	plastic	69,35
Zinc sulphate solution	0,1 mol/l - 0,1 M	P723.1	1 l	plastic	24,20

Roti®VOLUM, volumetric solutions in ampoules

- Ready-to-use volumetric solutions packaged in practical and low-cost ampoules
- Designed for easy handling and as a space-saving alternative to ready-to-use volumetric solutions
- Each ampoule contains an accurately defined substance concentration ($\pm 0,2\%$) which can be made up to a maximum volume of 1 litre by diluting appropriately
- High accuracy for precise analyses



Type	Purity	Art. No.	Pack Qty. (piece)	€
Ammonium thiocyanate solution	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN50.1	1	16,05
	ROTI®VOLUM 0,01 mol/l - 0,01 N	CN52.1	1	24,95
EDTA disodium salt solution	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN51.1	1	23,15
	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN61.1	1	16,15
Hydrochloric acid	ROTI®VOLUM 0,5 mol/l - 0,5 N	CN62.1	1	16,15
	ROTI®VOLUM 1 mol/l - 1 N	CN63.1	1	16,15
Nitric acid	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN69.1	1	16,15
	ROTI®VOLUM 1 mol/l - 1 N	CN60.1	1	18,50
Oxalic acid solution	ROTI®VOLUM 0,05 mol/l - 0,1 N	CN59.1	1	16,15
	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN53.1	1	16,05
Potassium hydroxide solution	ROTI®VOLUM 1 mol/l - 1 N	CN54.1	1	21,40
Silver nitrate solution	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN66.1	1	54,30
Sodium carbonate solution	ROTI®VOLUM 0,05 mol/l - 0,1 N	CN68.1	1	16,15
Sodium chloride solution	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN67.1	1	16,15
Sodiumhydroxide solution	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN56.1	1	16,15
	ROTI®VOLUM 0,5 mol/l - 0,5 N	CN57.1	1	17,75
	ROTI®VOLUM 1 mol/l - 1 N	CN58.1	1	17,75
Sodium thiosulfate solution	ROTI®VOLUM 0,1 mol/l - 0,1 N	CN55.1	1	16,15
Sulfuric acid	ROTI®VOLUM 0,05 mol/l - 0,1 N	CN64.1	1	16,15
	ROTI®VOLUM 0,5 mol/l - 1 N	CN65.1	1	20,65

For additional product data and safety information, see chapter Chemicals A-Z.

Indicators and Dyes

Roth offers many indicators and dyes of high purity, which can be used in special applications.

Indicator solution – ready to use

ready-to-use

Product	Purity	Art. No.	Pack Qty.	€
Ethidium bromide solution	1 % solution in water (10 mg/ml)	2218.1	10 ml	9,90
		2218.4	15 ml	27,85
		2218.2	30 ml	21,00
		2218.3	100 ml	51,10
Ferrouin indicator solution	for sewage analysis	T131.1	100 ml	28,95
Ferrouin solution	1/40 mol/l (1/40 M) Redox indicator	T132.1	100 ml	36,05
Methyl orange indicator solution	0,1 % in water	T119.1	500 ml	17,75
Methyl red indicator solution	0,1 % in ethanol	T121.1	250 ml	24,20
Mixed indicator 5	for ammonia titration	T125.1	250 ml	51,50
Phenolphthalein indicator solution	1 % in ethanol 90 %	K034.1	250 ml	19,25
		K034.2	500 ml	25,30
		K034.3	1 l	34,95
Starch 1% indicator solution	in water, stabilized	T133.1	500 ml	22,05
Tashiro's indicator solution	in ethanol	2624.1	250 ml	15,60



For additional product data and safety information, see chapter Chemicals A-Z.



Unisol Indicator solutions

Danger H225

By Macherey-Nagel. For pH measurement in weak buffered solutions, in pure water, in surface water and in highly diluted acids or alkalis. Droplets of an indicator solution are added to the sample and the reaction colour is compared to a colour chart.

Delivery incl. 100 ml dropper bottle containing reagent (sufficient for approx. 500 pH measurements), colour chart and 1 type 13/72 measuring cuvette.

Type	pH graduation	Art. No.	Pack Qty.	€
UNISOL 410	4,0-4,5-5,0-5,5-6,0-6,5-7,0-7,5-8,0-8,5-9,0-9,5-10,0	TK45.1	1	25,50
UNISOL 113	1-2-3-4-5-6-7-8-9-10-11-12-13	TK46.1	1	25,50

Accessories:

Replacement rectangular measuring cuvettes, made of PMMA, type 13/72	TK47.1	5	30,50



Indicator buffer tablets

for determination of water hardness with EDTA

Danger H302-H317-H319-H334

Dissolve one tablet in 100 ml water sample and bring to pH 11 with approx. 1 ml ammonia solution 30 % (art. CP17). Titrate with EDTA sodium salt volumetric solution (art. T136 or T137) from red to green.

Type analysis:

Suitability as indicator complies
Disintegration time (25 °C) 100 s

7649.1	100 pieces	16,70 €
7649.2	500 pieces	33,90 €



Universal indicator sticks pH-Fix

Test field made of colour-impregnated cellulose. Colour scale with colour grading included. Reliable, **non-bleeding**. Pack contains 100 sticks (L 85 x W 6 mm).

① In square plastic box

pH-measuring range	pH graduation	Art. No.	Pack Qty.	€
0-14	1,0	0549.2	100	10,90
0,0-6,0	0,5	C730.2	100	11,95
2,0-9,0	0,5	H913.2	100	11,30
4,5-10,0	0,5	C731.2	100	10,70
7,0-14,0	0,5	C732.2	100	11,95
0,3-2,3	0,3/0,4	H914.2	100	11,50
1,7-3,8	0,3	H915.2	100	11,50
3,6-6,1	0,3/0,5	H916.2	100	11,50
5,1-7,2	0,3	H917.2	100	11,50
6,0-7,7	0,3/0,4	H918.2	100	11,50
7,5-9,5	0,2-0,4	H919.2	100	11,50

② In round plastic box with snap-on lid

Single-handed opening and closing of lid with thumb.

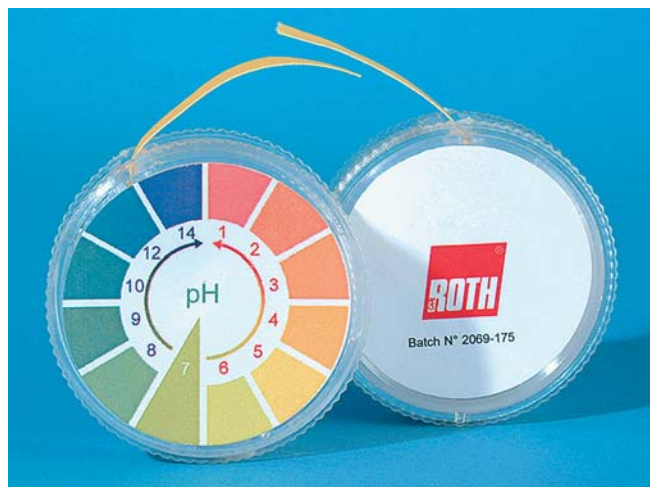
pH-measuring range	pH graduation	Art. No.	Pack Qty.	€
0-14	1,0	KH69.1	100	11,90
3,6-6,1	0,3/0,5	LH91.1	100	11,50



Universal indicator paper pH 1-11 and pH 1-14

Plastic rotating container with colour scale. Contains 1 roll, 5 m long and 7 mm wide. 1,0 pH intervals. Rolls individually packaged in refill pack.

Type	Art. No.	Pack Qty.	€
Tin pH 1-11	L861.1	1	10,80
Refill pack pH 1-11 of 3 rolls	L862.1	1	16,20
Tin pH 1-14	N360.1	1	10,50
(pH graduation 1-2-3-5-6-7-8-9-10-12-14)			
Refill pack pH 1-14 of 3 rolls	N361.1	1	15,50



Rotilabo®-universal indicator papers type Eco

For fast and exact measurement of coloured or cloudy and aqueous solutions. Plastic tin with colour scale. On rolls, 5 m long, 7 mm wide.

pH-measuring range	pH graduation	Art. No.	Pack Qty.	€
0,0-10,0	1,0	AP99.1	1	5,95
1,0-11,0	1,0	AX00.1	1	5,95
1,0-14,0	1,0/2,0	AX01.1	1	5,95
0,5-5,0	0,5	AX02.1	1	5,95
5,0-9,0	0,5	AX03.1	1	5,95
6,5-10,0	0,5	AX04.1	1	5,95
9,0-13,0	0,5	AX05.1	1	5,95
12,0-14,0	0,5	AX06.1	1	5,95

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pH indicators

Programme
extension!

Product	Purity	Transition range pH	Colour change	Application	Art. No.	Pack Qty.	€
Methyl violet 2B (C.I. 42535)	for microscopy	0,0 - 1,6	yellow - blue	0,1 g in 100 ml ethanol (96 %)	7715.1	5 g	13,15
					7715.2	25 g	22,50
					7715.3	100 g	44,00
Crystal violet (C.I. 42555)	p.a., ACS	0,0 - 2,0	yellow - violet	0,1 g in 100 ml ethanol (70 %) 	T123.2	5 g	16,05
					T123.1	25 g	24,65
					T123.3	100 g	64,40
Malachite green hydrochloride	p.a.	0,0 - 2,0	yellow - green blue	0,1 g in 100 ml water	7710.1	5 g	13,15
					7710.2	25 g	22,50
					7710.3	100 g	44,00
Malachite green oxalate (C.I. 42000)	for microscopy	0,0 - 2,0	yellow - green blue	0,1 g in 100 ml water 	5895.2	25 g	14,95
					5895.1	100 g	30,00
					5895.3	250 g	42,90
Brilliant green (C.I. 42040)	for microscopy	0,0 - 2,6	yellow - green	0,1 g in 100 ml water	0324.1	25 g	16,70
					0324.2	100 g	36,45
o-Cresol red	p.a.	0,2 - 1,8 7,0 - 8,8	red - yellow orange - purple	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 1,05 ml NaOH 0,1 mol/l and fill up with water to 100 ml	KK15.1	5 g	17,75
					KK15.2	10 g	27,85
					KK15.3	25 g	55,80
Cresol red sodium salt	p.a.	0,2 - 1,8 7,0 - 8,8	red - yellow orange - purple	0,1 g in 100 ml water	5534.1	5 g	23,70
					5534.2	25 g	97,40
Methyl green (C.I. 42590)	for microscopy	0,2 - 1,8	yellow - blue	0,1 g in 100 ml water	5159.1	5 g	19,90
					5159.2	10 g	31,75
					5159.3	25 g	62,90
Fuchsin basic (C.I. 42510)	for microscopy	1,0 - 3,1	black violett - violet pink	0,4 g in 100 ml water 	3256.2	25 g	31,10
					3256.1	50 g	55,80
					3256.3	100 g	74,20
Metanil yellow (C.I. 13065)	p.a.	1,2 - 2,3	violet red - yellow	0,1 g in 100 ml water	7714.1	5 g	13,15
					7714.2	25 g	22,50
					7714.3	100 g	44,00
4-(Phenylazo) diphenylamine	≥97 %, p.a.	1,2 - 2,5	red - yellow	insoluble in water	4538.1	5 g	30,00
					4538.2	25 g	80,55
m-Cresol purple	p.a.	1,2 - 2,8 7,4 - 9,0	red - yellow yellow - purple	Dissolve 0,04 g in 100 ml ethanol (20 %) or 0,04 g in 1,05 ml NaOH 0,1 mol/l and fill up with water to 100 ml	5160.1	1 g	11,75
					5160.2	5 g	33,25
					5160.3	10 g	56,90
Thymol blue	p.a.	1,2 - 2,8 8,0 - 9,6	red - yellow yellow - blue	Dissolve 0,04 g in 100 ml ethanol (20 %) or 0,04 g in 0,86 ml NaOH 0,1 mol/l and fill up with water to 100 ml	KK16.1	5 g	15,60
					KK16.2	10 g	22,50
					KK16.3	25 g	45,70
Thymol blue sodium salt	p.a., ACS	1,2 - 2,8 8,0 - 9,6	red - yellow yellow - blue	0,1 g in 100 ml water	2606.1	5 g	18,85
					2606.2	25 g	47,85
Xylenolblue	p.a.	1,2 - 2,8 8,0 - 9,8	red - yellow yellow - violet	0,1 g in 100 ml ethanol (50 %)	7746.1	1 g	13,15
					7746.2	5 g	33,25
					7746.3	10 g	55,80
Orange IV sodium salt (C.I. 13080)	for microscopy	1,4 - 2,6	red - yellow	0,1 g in 100 ml water	7731.1	5 g	13,15
					7731.2	25 g	22,50
					7731.3	100 g	54,75
Eosin Y (C.I. 45380)	for microscopy	1,7 - 1,8	colorless - pink fluorescent	0,5 - 2,0 % in water or ethanol	7089.1	50 g	30,00
					7089.2	100 g	51,50
					7089.3	500 g	162,90
Eosin B (C.I. 45400)	for microscopy	1,9 - 2,1	yellow - green fluorescent	0,5 - 2,0 % in water or ethanol	0306.1	10 g	15,80
					0306.2	25 g	25,30
					0306.3	50 g	39,70
Bromophenol blue	ACS, for microscopy	3,0 - 4,6	greenish yellow - blue	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 0,74 ml NaOH 0,1 mol/l and fill up with water to 100 ml 	T116.1	5 g	20,35
					T116.2	10 g	26,80
					T116.3	25 g	42,90
Bromophenol blue sodium salt	for electrophoresis	3,0 - 4,6	yellow - blue	0,1 g in 100 ml water 	A512.2	5 g	20,35
					A512.1	10 g	38,60
					A512.3	25 g	64,40
Congo red (C.I. 22120)	for microscopy	3,0 - 5,2	violet - orange red	0,2 g in 100 ml water 	0322.1	5 g	14,55
					0322.2	25 g	26,35
					0322.3	100 g	52,70
Methyl orange (C.I. 13025)	ACS, for microscopy	3,2 - 4,4	pink - yellow	0,04 g in 100 ml ethanol (20 %) or 0,4 g in 100 ml water 	T118.1	50 g	23,90
					T118.2	100 g	36,05
					T118.3	250 g	53,65
Bromochlorophenol blue sodium salt	p.a.	3,2 - 4,8	yellow - purple	0,1 g in 100 ml water	6558.1	1 g	40,35
					6558.2	5 g	95,60
Ethyl orange sodium salt	p.a.	3,4 - 4,8	pink - yellow	0,1 g in 100 ml water	7667.1	5 g	17,75
					7667.2	25 g	33,25
					7667.3	100 g	67,20

For additional product data and safety information, see chapter Chemicals A-Z.

Product	Purity	Transition range pH	Colour change	Application	Art. No.	Pack Qty.	€
Bromocresol green	ACS	3,8-5,4	yellow - blue	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 0,58 ml NaOH 0,1 mol/l and fill up with water to 100 ml	T115.1	1 g	15,60
					T115.2	5 g	24,65
					T115.3	10 g	42,90
					T115.4	25 g	80,55
Bromocresol green sodium salt	p.a.	3,8 - 5,4	yellow - blue	0,04 g in 100 ml water	KK18.1	1 g	12,05
					KK18.2	5 g	31,10
					KK18.3	25 g	107,40
Methyl red (C.I. 13020)	p.a., ACS	4,2 - 6,2	red - yellow	0,1 g in 100 ml ethanol (96 %)	T120.1	10 g	13,90
					T120.2	25 g	22,50
Methyl red hydrochloride (C.I. 13020)	p.a.	4,2 - 6,2	red - yellow	0,1 g in 100 ml ethanol (96 %)	2562.1	25 g	23,90
					2562.2	100 g	55,40
Methyl red sodium salt (C.I. 13020)	p.a., soluble in water	4,2 - 6,2	red - yellow	0,1 g in 100 ml water	5003.1	25 g	21,40
					5003.2	100 g	59,70
Ethyl red	p.a.	4,5 - 6,54,5 - 6,5	red - yellow	0,1 g in 100 ml ethanol (96 %)	7677.1	5 g	17,75
					7677.2	25 g	40,35
					7677.3	100 g	107,40
Chlorophenol red	p.a.	4,8 - 6,4	brownish yellow - red violet	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 0,74 ml NaOH 0,1 mol/l and fill up with water to 100 ml	0347.1	5 g	27,85
					0347.2	10 g	44,65
					0347.3	25 g	95,70
					0348.1	10 g	17,75
Alizarin red S (C.I. 58005)		5,0 - 6,6	yellow - violet	0,1 g in 100 ml ethanol (96 %)	0348.2	25 g	27,85
					0348.3	100 g	84,85
					0248.1	5 g	12,05
Litmus (C.I. 1242)	p.a.	5,0 - 8,0	red - blue violet	4 g in 100 ml water	0248.2	25 g	30,65
					0317.1	5 g	19,25
Bromocresol purple	p.a., ACS	5,2 - 6,8	greenish yellow - blue violet	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 0,74 ml NaOH 0,1 mol/l and fill up with water to 100 ml	0317.2	25 g	60,10
Bromocresol purple sodium salt	p.a., ACS	5,2 - 6,8	yellow - violet	0,1 g in 100 ml water	2555.1	5 g	17,75
					2555.2	25 g	44,65
Bromophenol red free acid	p.a.	5,2 - 6,8	yellow - purple	0,1 g in 100 ml ethanol (20 %)	6573.1	1 g	18,85
					6573.2	5 g	37,10
					6573.3	50 g	177,40
Bromophenol red sodium salt	p.a.	5,2 - 6,8	yellow - purple	0,1 g in 100 ml water	6579.1	1 g	18,20
					6579.2	5 g	34,95
					6579.3	50 g	160,20
Alizarin (C.I. 58000)	p.a.	5,5 - 6,8 10,1 - 12,1	yellow - violet red red - purple	0,5 g in 100 ml ethanol (96 %)	4476.2	25 g	21,40
					4476.1	50 g	32,15
					4476.3	100 g	42,90
Nitrazine yellow (C.I. 14890)	p.a.	6,0 - 7,2	yellow - blue	0,1 g in 100 ml water	7727.1	1 g	14,95
					7727.2	5 g	53,65
					7727.3	10 g	96,65
Bromothymol blue	p.a., ACS	6,0 - 7,6	yellow - blue	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 0,64 ml NaOH 0,1 mol/l and fill up with water to 100 ml	T117.1	5 g	22,40
					T117.2	25 g	53,65
					T117.3	50 g	90,20
Bromothymol blue sodium salt	p.a.	6,0 - 7,6	yellow - blue	0,04 g in 100 ml water	KK19.1	5 g	19,25
					KK19.2	10 g	29,60
					KK19.3	25 g	53,65
Bromoxylene blue	p.a.	6,0 - 7,6	yellow - blue	0,1 g in 100 ml ethanol (96 %)	KK27.1	1 g	13,15
					KK27.2	5 g	35,40
					KK27.3	10 g	59,05
Brilliant yellow (C.I. 24890)	p.a.	6,4 - 8,0	yellow - orange red	0,1 g in 100 ml water	7645.1	5 g	18,85
					7645.2	25 g	28,95
					7645.3	100 g	67,20
Xylenol orange tetrasodium salt	p.a., ACS	6,4 - 10,4	yellow - orange red	0,1 g in 100 ml water	2727.1	1 g	25,70
					2727.2	5 g	57,95
					2727.3	10 g	94,10
					2727.4	50 g	342,95
Neutral red (C.I. 50040)	p.a.	6,8 - 8,0	red - orange yellow	0,3 g in 100 ml ethanol (70 %)	T122.2	1 g	19,90
					T122.1	10 g	50,45
					T122.3	25 g	100,55
Phenol red	p.a., ACS	6,8 - 8,2	yellow - red	Dissolve 0,1 g in 100 ml ethanol (20 %) or 0,04 g in 1,13 ml NaOH 0,1 mol/l and fill up with water to 100 ml	T127.1	5 g	13,90
					T127.2	25 g	32,15
					T127.3	100 g	85,90
Phenol red sodium salt	p.a., ACS	6,8 - 8,2	yellow - red	0,1 g in 100 ml water	2566.1	5 g	19,25
					2566.2	25 g	43,75
Orange II sodium salt (C.I. 15510)	for microscopy	7,4 - 8,6 10,2 - 11,8	yellow - orange orange - red	0,1 g in 100 ml water	7729.1	5 g	13,15
					7729.2	25 g	22,50
					7729.3	100 g	54,75
Curcumin	≥90 %, nat., powdered, oil-soluble	7,8 - 9,2	yellow - maroon	0,1 g in 100 ml ethanol (96 %)	9469.1	10 g	23,55
					9469.2	25 g	42,90
					9469.3	50 g	69,80

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Product	Purity	Transition range pH	Colour change	Application	Art. No.	Pack Qty.	€
Phenolphthalein (C.I. 764)	≥99 %, p.a.	8,0 - 10,0	colorless - purple	0,1 g in 100 ml ethanol (96 %)	T126.2	50 g	15,60
					T126.1	100 g	21,75
					T126.3	500 g	56,90
Thymolphthalein	p.a., ACS	9,3 - 10,5	colorless - blue	0,1 g in 100 ml ethanol (50 %)	HN97.1	5 g	18,20
					HN97.2	10 g	30,00
					HN97.3	50 g	106,45
Alkali blue 6B (C.I. 42750)	p.a.	9,4 - 14,0	violet - pink	0,1 g in 100 ml ethanol (96 %)	5155.1	10 g	19,25
					5155.2	25 g	36,45
					5155.3	100 g	107,40
4-(4-Nitrophenylazo)-resorcinol	p.a.	11,0 - 13,0	yellow - violet	0,1 g in dil. NaOH	2563.1	10 g	23,90
					2563.2	25 g	36,05
					2700.1	25 g	22,25
Indigo carmine (C.I. 73015)	≥80 %, p.a.	11,5 - 13,0	blue - yellow	0,25 g in 100 ml ethanol (50 %) or 1 g in 100 ml water	2700.2	100 g	61,20
					5156.1	10 g	13,45
Indigo carmine (C.I. 73015)	for microscopy	11,5 - 13,0	blue - yellow	0,25 g in 100 ml ethanol (50 %) or 1 g in 100 ml water	5156.2	25 g	19,90
					5156.3	100 g	57,95
					7739.1	5 g	11,00
Titan yellow (C.I. 19540)	extra pure	12,0 - 13,0	yellow - red	0,1 g in 100 ml ethanol (20 %)	7739.2	25 g	22,50
					7739.3	100 g	55,80

For additional product data and safety information, see chapter Chemicals A-Z.

Redox indicators

Product	Purity	Art. No.	Pack Qty.	€
Barium diphenylamine sulfonate	p.a., ACS	2674.1	5 g	27,45
		2674.2	25 g	84,40
2,6-Dichlorophenol-indophenol sodium salt hydrate	p.a.	HN79.1	1 g	15,30
		HN79.2	5 g	33,90
		HN79.3	25 g	137,10
Diphenylamine-4-sulphonic acid sodium salt	p.a., ACS	2602.3	1 g	16,05
		2602.1	10 g	69,80
		2602.2	25 g	127,95
		2696.1	10 g	21,75
1,5-Diphenylcarbazine	≥97 %, p.a., ACS	2696.2	25 g	35,40
		2696.3	100 g	103,10
2,2'-Dipyridyl	≥95 %, for biochemistry	4153.1	5 g	13,65
		4153.2	25 g	36,05
		4421.1	100 mg	15,95
p-Nitrotetrazolium blue chloride	≥98 %, p.a.	4421.2	500 mg	40,75
		4421.3	1 g	77,30
		4421.4	5 g	274,15
		9113.2	5 g	25,70
1,10-Phenanthroline monohydrate	≥99 %, p.a., ACS	9113.3	25 g	91,30
		9113.1	50 g	171,90
		KK21.1	5 g	24,20
1,10-Phenanthroline hydrochloride monohydrate	≥99 %, p.a.	KK21.2	10 g	41,85
		KK21.3	50 g	177,40

Metal indicators

Product	Determination of	Application	Art. No.	Pack Qty.	€
Alizarin red S (C.I. 58005)	Al, B, Ce, Cr, Hf, La, Mo, Zr, rare earth metals, Sc, Th, Y	0,1 g in 100 ml ethanol (96 %)	0348.1	10 g	17,75
			0348.2	25 g	27,85
Arsenazo III	Ca	0,1 g in 100 ml water	KK22.1	1 g	48,30
			KK22.2	5 g	177,40
Aurin tricarboxylic acid ammonium salt	Al, Ca, Fe(III), Mg	0,2 g in 100 ml water	2670.1	10 g	16,70
			2670.2	25 g	24,20
			2670.3	100 g	59,05
Calcein	Mg, Ba, Ca, Cr, Sr, SO ₄ ²⁻	Trituration with KNO ₃ (1:99)	7688.1	5 g	33,25
			7688.2	25 g	99,90
			7688.3	100 g	274,15
Calconcarboxylic acid	Ca	Trituration with Na ₂ SO ₄ (1:99)	2676.1	5 g	24,20
			2676.2	10 g	34,95
			2676.3	50 g	91,95
Chromotrope® 2B (C.I. 16575)	Boric acid	0,005 g in conc. H ₂ SO ₄	7647.1	5 g	13,15
			7647.2	25 g	22,05
Dimethylglyoxim	Ni	0,1 g in 100 ml water	2677.1	50 g	38,40
			2677.2	100 g	60,10
			2677.3	500 g	228,45
Dimethylglyoxime disodium salt octahydrate	Ni	0,1 g in 100 ml water	KK24.1	25 g	34,30
			KK24.2	50 g	57,55

Product	Determination of	Application	Art. No.	Pack Qty.	€
Diphenylcarbazone	Cd, Hg, In, Mn, Ni, Pb, V	0,2 g in 100 ml ethanol (96 %)	2678.1	10 g	55,80
			2678.2	25 g	109,15
			2678.3	50 g	190,85
Dithizone	Heavy metal ions	0,025 - 0,05 g in 100 ml methanol	2697.1	5 g	30,00
			2697.2	25 g	96,25
			2697.3	50 g	153,65
Eriochrome® blue black B (C.I. 14640)	Ca, Cd, Mg, U(IV), Zn, Zr	0,2 - 0,4 g in 100 ml methanol 	7661.1	5 g	13,45
			7661.2	25 g	22,40
			7661.3	100 g	44,65
Eriochrome® blue black R (C.I. 15705)	Al, Ca, Cu, Fe, Ga, Zr	0,4 g in 100 ml methanol or ethanol	7663.1	5 g	13,45
			7663.2	25 g	22,40
			7663.3	100 g	44,65
Eriochrome® black T (C.I. 14645)	Ba, Cd, In, Mg, Mn, Pb, Sc, Sr, Zn, Zr, rare earth metals	Trituration with NaCl (1:99) 	K860.2	25 g	18,20
			K860.1	50 g	26,35
			K860.3	100 g	49,35
Fast sulphon black F (C.I. 26990)	Cu	0,1 % in water	7685.1	5 g	13,15
			7685.2	25 g	22,40
			7685.3	100 g	61,20
8-Hydroxyquinoline	Mg	0,1 g in 100 ml ethanol	2557.1	50 g	27,85
			2557.2	100 g	34,95
			2557.3	250 g	67,65
Hydroxy naphthol blue disodium salt	Ca	0,1 g in 100 ml water 	2556.1	5 g	18,20
			2556.2	25 g	35,40
Metal phthaleine	Ba, Ca, Cd, Mg, Sr	0,1 g in dil. NH ₃	4231.1	1 g	21,40
			4231.2	5 g	42,90
Methylthymol blue sodium salt	Ba, Bi, Ca, Cd, Cu, Fe(II), Hg, In, Mg, Mn, Pb, rare earth metals, Se, Sn(II), Th, Ti(II), Zn, Zr	Trituration with KNO ₃ (1:99)	KK17.1	1 g	14,20
			KK17.2	5 g	39,70
Morin hydrate	Al, Be, B, Ga, In, Mo, Nb, Sc, Ta, Th, Ti, W, Sn, Zr	0,1 g in 100 ml methanol 	6459.1	5 g	96,65
			6459.2	50 g	719,20
Murexide (C.I. 56085)	Ag, Ca, Co, Cu, Mn, Ni, Sc, Th, Zn	freshly made saturated solution in water	T124.1	5 g	22,50
			T124.2	25 g	53,65
			T124.3	50 g	89,15
4-(4-Nitrophenylazo)-resorcinol	Mg	0,1 g in dil. NaOH	2563.1	10 g	23,90
			2563.2	25 g	36,05
1-(2-Pyridylazo)-2-naphthol	Al, Ba, Bi, Ca, Cd, Co, Cu, Fe, Ga, Hg, In, Mg, Mn, Ni, Pb, Sc, Th, Ti, V, Zn	0,01 - 0,1 g in 100 ml ethanol (96 %)	KK12.1	1 g	17,75
			KK12.2	5 g	59,05
4-(2'-Pyridylazo)-resorcinol	Al, Ba, Bi, Cd, Cu, Fe, Hg, In, Mn, Ni, Pb, Sr, Th, Ti(III), Zn, rare earth metals	0,1 g in 100 ml water	2564.1	5 g	72,60
			2564.2	25 g	263,40
4-(2'-Pyridylazo)-resorcinol monosodium salt	Mg	0,1 g in dil. NaOH	2565.1	5 g	79,45
			2565.2	25 g	299,95
Pyrogallol red	Bi, Co, Ni, Pb	0,05 g in ethanol 96 % 	0287.1	1 g	22,50
			0287.2	5 g	44,00
Silver diethyldithiocarbamate	As	0,5 % in pyridine	KK25.1	5 g	40,75
			KK25.2	10 g	72,60
Sodium diethyldithiocarbamate trihydrate	Cu	0,1 g in 100 ml water	2601.1	25 g	20,35
			2601.2	100 g	36,05
			2601.3	500 g	120,95
Sodium nitroprusside dihydrate	Zn	0,1 g in 100 ml water or ethanol	HN34.1	25 g	25,50
			HN34.2	100 g	67,20
			HN34.3	500 g	263,40
5-Sulphosalicylic acid dihydrate	Fe(III)	1,0 - 5,0 g in 100 ml water	4119.1	100 g	29,60
			4119.2	500 g	122,05
Thorin	Bi, Th, U(IV), Sc, Y(III)	0,5 g in 100 ml water	KK34.1	5 g	48,30
			KK34.2	10 g	80,55
Tiron	Fe(III)	2 g in 100 ml water	7302.1	10 g	17,75
			7302.2	25 g	24,20
			7302.3	100 g	60,10
Titan yellow (C.I. 19540)	Mg	0,1 g in 100 ml ethanol (20 %)	7739.1	5 g	11,00
			7739.2	25 g	22,50
			7739.3	100 g	55,80
Xylenol orange tetrasodium salt	Bi, Cd, Co, Cu, Fe, Hg, In, Pb, Sc, Th, Ti(III), V(V), Zn, Zr, rare earth metals	0,1 g in 100 ml water	2727.1	1 g	25,70
			2727.2	5 g	57,95
			2727.3	10 g	94,10
			2727.4	50 g	342,95
Xylidyl blue sodium salt	Mg	0,1 g in 100 ml water	KK35.1	1 g	19,25
			KK35.2	5 g	67,65
Zincon	Cu, Zn	0,1 g in 100 ml ethanol (96 %)	5563.1	1 g	22,05
			5563.2	5 g	67,20

For additional product data and safety information, see chapter Chemicals A-Z.

Inorganic & analytical reagents · Classics



Dyes

Product	Soluble in	Art. No.	Pack Qty.	€
Acid blue 93 (C.I. 42780)	water	4002.1	10 g	68,70
		4002.2	25 g	149,45
Cotton blue (C.I. 42780)	water	5750.1	10 g	17,75
		7645.1	5 g	18,85
Brilliant yellow (C.I. 24890)	water	7645.2	25 g	28,95
		7645.3	100 g	67,20
		7643.1	5 g	17,75
Brilliant black BN (C.I. 28440)	water	7643.2	25 g	33,25
		7643.3	100 g	89,80
		7648.1	5 g	13,15
Chromotrope® FB (C.I. 14720)	water	7648.2	25 g	22,05
		7648.3	100 g	55,80
		7652.1	5 g	13,15
Crocein orange G (C.I. 15970)	water	7652.2	25 g	22,05
		7652.3	100 g	55,80
		9469.1	10 g	23,55
Curcumin	ethanol, acetic acid, DMSO	9469.2	25 g	42,90
		9469.3	50 g	69,80

Product	Soluble in	Art. No.	Pack Qty.	€
Fat brown RR (C.I. 11285)	fat/oil	7687.1	5 g	13,15
		7687.2	25 g	21,40
		7687.3	100 g	55,80
Fluorescein disodium salt (C.I. 45350)	ethanol, water	5283.3	25 g	19,25
		5283.1	100 g	31,10
		5283.2	500 g	97,75
Indigo (C.I. 73000)	acetic acid	3903.1	50 g	36,05
		3903.3	100 g	55,80
		3903.2	500 g	231,15
Lissamine green B (C.I. 44090)	water	7707.1	5 g	13,15
		7707.2	25 g	22,40
		7707.3	100 g	55,80
Nigrosin (C.I. 50415)	ethanol	7716.1	5 g	13,15
		7716.2	25 g	22,50
		7716.3	100 g	44,65
Nigrosin, water soluble (C.I. 50420)	water	7718.1	25 g	13,15
		7718.2	100 g	33,25
Nile blue A (C.I. 51180)	fat/oil	4377.2	5 g	16,05
		4377.1	10 g	26,80
		4377.3	25 g	42,90
Quercetin dihydrate (C.I. 75670)	acetic acid, hot ethanol	7138.1	25 g	46,15
		7138.2	100 g	149,45
Sudan II (C.I. 12140)	fat/oil	7732.1	5 g	11,00
		7732.2	25 g	22,50
		7732.3	100 g	53,65
Sudan III (C.I. 26100)	fat/oil	4711.2	50 g	21,40
		4711.1	100 g	40,75
Sudan IV (C.I. 26105)	fat/oil	0327.1	25 g	21,20
		0327.2	50 g	30,00
Sudan black B (C.I. 26150)	fat/oil	0292.1	10 g	21,20
		0292.2	25 g	30,00
		0292.3	50 g	46,15
Sudan orange G (C.I. 11920)	chloroform	7733.1	5 g	11,00
		7733.2	25 g	22,50
		7733.3	100 g	53,65

For additional product data and safety information, see chapter Chemicals A-Z.

Further detection reagents

Product	Application	Purity	Art. No.	Pack Qty.	€
Alizarin complexone dihydrate	Detection reagent for fluoride	≥97 %, p.a.	7634.1	1 g	28,95
			7634.2	5 g	89,80
			7634.3	10 g	149,45
4'-Aminoacetophenone	For determination of nicotinic acid and vitamin B	≥99 %	3973.2	10 g	12,80
			3973.1	25 g	22,50
4-Aminoantipyrine	Reagent for phenol detection	≥98 %, p.a., ACS	2671.1	10 g	21,40
			2671.2	25 g	32,15
			2671.3	100 g	55,80
1-Amino-2-hydroxy-4-naphthalenesulfonic acid	For determination of phosphate	≥98 %, p.a., ACS	2672.1	25 g	36,45
			2672.2	100 g	91,30
Bathocuproine sulphonate disodium salt hydrate	Reagent for Copper	≥98 %	KK28.1	250 mg	33,25
			KK28.2	1 g	103,10
Bathophenanthroline	Reagent for Iron	≥99 %, p.a.	KK29.1	500 mg	44,00
			KK29.2	1 g	77,30
4-Chloro-7-nitro-benzofurazan	For detection of amino acids, some alkaloids, sulphonamides	≥99 %, p.a.	KK31.1	1 g	16,05
			KK31.2	5 g	44,00
Chromotropic acid disodium salt dihydrate	Analytical reagent	≥98,5 %, p.a., ACS	KK30.1	10 g	32,15
			KK30.2	25 g	68,70
2,6-Dichlorophenol-indophenol sodium salt hydrate	For determination of ascorbic acid	p.a.	HN79.1	1 g	15,30
			HN79.2	5 g	33,90
			HN79.3	25 g	137,10
1,8-Dihydroxy-2-(4-sulfo-phenylazo)-naphthalene-3,6-disulfonic acid trisodium salt	Reagent for fluoride	p.a., ACS	2605.1	10 g	23,90
			2605.2	25 g	41,85
4-(Dimethylamino)-benzaldehyde	Reagent for the detection of nitrogen containing compounds	≥99 %, p.a.	X867.1	25 g	40,75
			X867.2	100 g	101,80
5-(4-Dimethylaminobenzylidene)rhodanine	Analytical reagent for silver	≥98,5 %, p.a.	KK23.1	5 g	23,15
			KK23.2	10 g	36,45
			KK23.3	50 g	142,90

Product	Application	Purity	Art. No.	Pack Qty.	€
5,5'-Dithio-bis-(2-nitrobenzoic acid)	for determination of thiol groups	≥98 %, p.a.	6334.1	1 g	18,20
			6334.2	5 g	51,10
			6334.3	25 g	183,85
Isatin	Reagent for the spectrophotometric determination of thiophene and proline	≥98 %, for biochemistry	4155.1	25 g	11,50
			4155.2	100 g	31,10
3-Methyl-2-benzothiazolinone hydrazone hydrochloride hydrate	Analytical reagent for the qualitative determination of aldehydes	≥96,5 %, p.a.	8413.1	10 g	132,80
1-Naphthol	Reagent for carbohydrates	≥99,5 %, p.a.	KK14.1	50 g	21,75
			KK14.2	100 g	33,25
N-(1-Naphthyl)-ethylenediamine dihydrochloride	For the detection of sulphonamide and the determination of nitrite	≥99 %, p.a.	4342.2	10 g	32,15
			4342.1	25 g	77,30
			4342.3	50 g	127,95
Neocuproine hemihydrate	Reagent for Copper	≥99 %, p.a.	KK32.1	1 g	19,60
			KK32.2	5 g	68,50
Ninhydrin	For the detection of amino acids	≥99 %, p.a., ACS	4378.1	25 g	35,40
			4378.2	100 g	92,35
			4378.3	500 g	342,95
Phenylhydrazine hydrochloride	Reagent for detection of sugar	≥99 %, p.a.	KK20.1	25 g	17,75
			KK20.2	100 g	47,20
			KK20.3	250 g	105,25
meta-Phosphoric acid	Reagent for protein, vitamins, urea and glucose	p.a., pieces (hyaline)	CN91.1	100 g	27,85
			CN91.2	250 g	54,75
			CN91.3	500 g	98,40
			CN91.4	1 kg	179,55
Resorcinol	Reagent on alkaloids, aldehydes and invert sugar	≥99 %, for biochemistry	5727.1	100 g	19,25
			5727.2	500 g	49,35
			5727.3	1 kg	84,85
			5727.4	2,5 kg	184,40
Semicarbazide hydrochloride	Reagent for aldehydes and ketones	≥98 %, p.a.	4681.1	100 g	30,00
			4681.2	500 g	107,40
Silver diethyldithiocarbamate	Reagent for arsenic	≥97 %, p.a.	KK25.1	5 g	40,75
			KK25.2	10 g	72,60
Silver nitrate	For detection of halogenides. For volumetric solutions in argentometry. For protein staining. For molecular biology	≥99,9 %, p.a.	7908.1	50 g	106,45
			7908.2	250 g	439,70
			7908.3	1 kg	1558,75
Sodium ammonium hydrogen phosphate tetrahydrate	Reagent for Mg; phosphorus salt bead	≥99 %, p.a.	T882.1	500 g	60,10
			T882.2	1 kg	87,65
			T882.3	2,5 kg	197,30
Sodium bismuthate	Oxidation reagent, determination of manganese in iron and steel	≥85 %, p.a.	4401.1	50 g	42,90
			4401.2	100 g	79,05
			4401.3	250 g	170,95
Sodium diethyldithiocarbamate trihydrate	Reagent for copper	p.a., ACS	2601.1	25 g	20,35
			2601.2	100 g	36,05
			2601.3	500 g	120,95
Sodium hexanitrocobaltate(III)	Determination of potassium	p.a., ACS	4409.1	25 g	17,75
			4409.2	100 g	48,30
			4409.3	250 g	99,90
di-Sodium hydrogen phosphate	Reagent for the detection of Mg, Li, Pb and uric acid	≥99 %, p.a., ACS, anhydrous	P030.1	500 g	28,95
			P030.2	1 kg	46,15
			P030.3	2,5 kg	85,90
Sodium molybdate dihydrate	Reagent for alkaloids and for biochemical purposes	≥99,5 %, p.a.	0274.1	50 g	16,70
			0274.2	100 g	24,20
			0274.3	250 g	43,55
			0274.4	1 kg	166,65
Sodium nitroprusside dihydrate	Reagent for Zn, SO ₂ , aldehydes	≥99 %, p.a., ACS	HN34.1	25 g	25,50
			HN34.2	100 g	67,20
			HN34.3	500 g	263,40
Sodium salicylate	For determination of glucose at urine	≥99 %, p.a.	CP39.1	250 g	24,20
			CP39.2	1 kg	72,60
Sodium sulphite	For removal of chlorine and dissolution of cellulose, reagent for detection of iodate in the presence of chlorate and bromate, for absorption of NO _x in gas analysis	≥98 %, p.a., ACS, anhydrous	P033.1	500 g	17,45
			P033.2	1 kg	25,70
			P033.3	2,5 kg	45,70
Sodium tetraphenyl borate	Reagent for K, Pb, Cs, NH ₄ and Alkaloids	≥99,5 %, p.a., ACS	4385.1	10 g	38,20
			4385.2	25 g	82,70
			4385.3	100 g	256,95
Sodium thiosulphate pentahydrate	Photographic fixer; for volumetric solutions in iodometry; for detection of hydrocyanic acid, quinine, chlorate hydrate and cobalt	≥99,5 %, p.a., ACS	P034.1	500 g	18,85
			P034.2	1 kg	28,95
			P034.3	2,5 kg	58,60
			P034.5	25 kg	407,45

For additional product data and safety information, see chapter Chemicals A-Z.

Karl Fischer Reagents Roti®hydroquant

Karl Fischer Roti®hydroquant

- Easy and safe to use
- Stable end point detection
- Suitable for all commercial titrators
- Quick and reliable water content determination



Single-component reagents

Karl Fischer Roti®hydroquant C2

2 mg H₂O/ml, free of pyridine

Single-component reagent

Danger H314-H332-H360D-H373

Guarantee analysis:

Efficiency. ≥2 mg H₂O/ml
at the time of manufacture

T194.1	1 l	glass	88,70 €
Original pack 6 x 1 l			84,27/1 l

Karl Fischer Roti®hydroquant C5

5 mg H₂O/ml, free of pyridine

Single-component reagent

Danger H314-H332-H360D-H372

Guarantee analysis:

Efficiency. ≥5 mg H₂O/ml
at the time of manufacture

T190.1	1 l	glass	95,15 €
Original pack 6 x 1 l			90,39/1 l

Karl Fischer methanol Roti®hydroquant D dry, for KF titration

Methanol, Methyl alcohol

CH₄O

M 32,04 g/mol

Danger H225-H301+H311+H331-H370

Guarantee analysis:

Water (H₂O). ≤0,01 %
Application test. complies

T193.1	1 l	glass	22,50 €
Original pack 6 x 1 l			21,38/1 l
T193.2	2,5 l	glass	44,00 €
Original pack 4 x 2,5 l			41,80/2,5 l

Karl Fischer Roti®hydroquant Working Medium K

For KF-titration for aldehydes and ketones

Solvent component.

Danger H300+H310+H330-H315-H319-H351-H361d-H372

Use with Karl Fischer Roti®hydroquant C5 K.

Guarantee analysis:

Application test. complies

5215.1	1 l	glass	64,00 €
Original pack 6 x 1 l			60,80/1 l

Karl Fischer Roti®hydroquant C5 K

5 mg H₂O/ml, for aldehydes and ketones

Single component reagent

Danger H314-H360d-H372

Guarantee analysis:

Efficiency. ≥5 mg H₂O/ml
at the time of manufacture

5211.1	1 l	glass	99,90 €
Original pack 6 x 1 l			94,91/1 l

The volumetric Karl Fischer reagents are suitable for water contents between 0,1 % and 100 %. Free water and water of hydration can be determined, respectively. Our solutions are based on methanol and free of pyridine.

Using single-component reagents:

Add Methanol to the reaction vessel and titrate to dryness with the C-component. Then add the sample and titrate again to dryness.

Using two-component reagents:

Add solvent S to the reaction vessel and titrate to dryness with the T-component. Then add the sample and titrate again to dryness.

Two-components reagents

Karl Fischer Roti®hydroquant T2

2 mg H₂O/ml, free of pyridine

Titrant component

Two-components reagent

Danger H225-H301+H311+H331-H370-H373

Guarantee analysis:

Efficiency ≥2 mg H₂O/ml
at the time of manufacture

X947.1	1 l	glass	47,85 €
Original pack 6 x 1 l			45,46/1 l

Karl Fischer Roti®hydroquant T5

5 mg H₂O/ml, free of pyridine

Titrant component

Two-components reagent

Danger H225-H301+H311+H331-H370-H373

Guarantee analysis:

Efficiency ≥5 mg H₂O/ml
at the time of manufacture

T191.1	1 l	glass	42,50 €
Original pack 6 x 1 l			40,38/1 l

Karl Fischer Roti®hydroquant S

for KF titration

Solvent component

Danger H225-H301+H311+H331-H314-H361d-H370

Guarantee analysis:

Application test complies

T192.1	1 l	glass	41,40 €
Original pack 6 x 1 l			39,33/1 l

Karl Fischer Roti®hydroquant S CM

For KF-titration

Solvent component

Danger

H226-H301+H311+H331-H315-H319-H351-H361d-H370-H372

For oils and fats

Guarantee analysis:

Application test complies

5218.1	1 l	glass	34,95 €
Original pack 6 x 1 l			33,20/1 l

Standards



Karl Fischer Roti®hydroquant standard sodium tartrate dihydrate

≥99 %, for KF-titration

Primary standard substance for Karl Fischer titration

C₄H₄Na₂O₆ · 2 H₂O

M 230,08 g/mol

Guarantee analysis:

Assay (perchloric acid) 99,0-101,0 %
Loss on drying (150 °C) 15,66 ±0,05 %

5229.1	100 g	glass	34,95 €



Karl Fischer Roti®hydroquant waterstandard 10.0

10 mg H₂O/g

Waterstandard

Danger H226-H312+H332-H315-H318-H335

Guarantee analysis:

Water content 10 ±0,1 mg H₂O/g

5219.1	10 x 10 ml	glass	54,30 €

Water analysis

Roth offers the essential reagents for your water analysis.

On the following pages you find

- determination of water hardness
- determination of adsorbable organic halogen compounds (AOX)
- determination of chemical oxygen demand (COD)
- determination of biological oxygen demand (BOD)
- potassium permanganate index
- determination of surfactants



Determination of water hardness

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Buffer solution pH 10,00 for complexometry	buffer solution, ready to use	T188.1	1 l	plastic	22,05
EDTA disodium salt solution	0,01 mol/l - 0,01 N	CN34.1	1 l	plastic	22,05
		CN34.2	5 l	ROTI®CUBE	66,55
		CN34.3	10 l	ROTI®CUBE	121,40
	0,1 mol/l - 0,1 N	K714.1	1 l	glass	20,35
		K714.2	5 l	plastic	60,75
		K714.3	5 l	ROTI®CUBE	66,55
		K714.4	10 l	ROTI®CUBE	121,40
EDTA disodium salt solution A	0,1 mol/l - 0,1 N	T136.1	1 l	glass	27,45
EDTA disodium salt solution B (0,01783 N)	0,01783 mol/l - 0,01783 N	T137.1	1 l	glass	22,05
		T137.2	5 l	ROTI®CUBE	66,55
		T137.3	10 l	ROTI®CUBE	121,40

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Eriochrome® black T (C.I. 14645)	Indicator 1 % in NaCl	K860.2	25 g	plastic	18,20
		K860.1	50 g	plastic	26,35
		K860.3	100 g	plastic	49,35
Hydrochloric acid	0,1 mol/l - 0,1 N	K024.1	1 l	plastic	17,45
		K024.2	5 l	plastic	52,15
		K024.3	5 l	ROTI®CUBE	56,90
		K024.4	10 l	ROTI®CUBE	83,75
	1 mol/l - 1 N	K025.1	1 l	plastic	17,45
		K025.2	5 l	plastic	52,15
		K025.3	5 l	ROTI®CUBE	56,90
		K025.4	10 l	ROTI®CUBE	83,75
Murexide (C.I. 56085)	ACS, for complexometry	T124.1	5 g	glass	22,50
		T124.2	25 g	glass	53,65
		T124.3	50 g	glass	89,15

For additional product data and safety information, see chapter Chemicals A-Z.



Indicator buffer tablets for determination of water hardness with EDTA

Danger H302-H317-H319-H334

Dissolve one tablet in 100 ml water sample and bring to pH 11 with approx. 1 ml ammonia solution 30 % (art. CP17). Titrate with EDTA disodium salt volumetric solution (art. T136 or T137) from red to green.

Type analysis:

Suitability as indicator. complies
Disintegration time (25 °C). 100 s

7649.1	100 pieces	16,70 €
7649.2	500 pieces	33,90 €



Water hardness kit

Testing reagent is added drop by drop to 5 ml water sample until colour changes. Each drop equals 1 °dH. Pack with 2 x 15 ml reagent. Test reagent in dropping bottle.

Warning H226-H319-H336

0519.1	2 x 15 ml	19,15 €

Determination of adsorbable organic halogen compounds (AOX)

4-Chlorophenol solution

200 mg AOX/l

For determination of AOX acc. to EN ISO 9562:2004, DEV H14

2495.1	100 ml	plastic	48,30 €

Charcoal activated

C

M 12,01 g/mol

for the determination of AOX (column method)

Type analysis:

Iodine value.....	≥1050 mg/g
Chloride (Cl).....	≤0,0005 %
Particle size.....	~50-150 µm

1299.1	10 g	glass	70,85 €

for the determination of AOX (shaking method)

Type analysis:

Iodine value.....	≥1050 mg/g
Chloride (Cl).....	≤0,0005 %
Particle size.....	≤50 µm

1319.1	10 g	glass	66,15 €



SPE Polypropylene column CHROMABOND®HR-P-AOX

AOX from water containing high salt loads (DIN 38409-H22)

Special PS-DVB (polystyrene-divinylbenzene) phase.

Recommended application: extraction of AOX from waters containing high salt loads / organic pollutants in accordance with DIN 38409 - H22.

Volume (ml)	Adsorbent weight (mg)	Art. No.	Pack Qty.	€
6	500	CN43.1	30	179,00

Nitric acid 65 %

ROTIPURAN® ≥65 %, p.a., ISO

HNO₃

M 63,0 g/mol

Danger H272-H290-H314

4989.3	250 ml	glass	17,75 €

4989.1	1 l	glass	27,45 €

Original pack 6 x 1 l			26,08/1 l

4989.2	2,5 l	glass	54,30 €

Original pack 4 x 2,5 l			51,59/2,5 l

Hydrochloric acid (0,01 N)

0,01 mol/l - 0,01 N volumetric standard solution

N075.1	1 l	plastic	18,20 €
Original pack 6 x 1 l			17,29/1 l

Sulphuric acid 96 %

ROTIPURAN® 96 %, p.a., ISO

H₂SO₄ • M 98,08 g/mol

Danger H314-H290

4623.3	250 ml	glass	17,75 €

4623.1	1 l	glass	29,60 €

Original pack 6 x 1 l			28,12/1 l

4623.4	1 l	plastic	25,70 €

Original pack 6 x 1 l			24,42/1 l

4623.2	2,5 l	glass	59,05 €

Original pack 4 x 2,5 l			56,10/2,5 l

4623.5	2,5 l	plastic	59,35 €

Original pack 4 x 2,5 l			56,38/2,5 l

4623.6	10 l	plastic	110,20 €

Sodium nitrate

≥99 %, p.a., ACS, ISO

Oxidizing dissolving agent

Chile saltpeter

NaNO₃ • M 84,99 g/mol

Warning H272-H319

A136.1	500 g	plastic	26,80 €

Original pack 6 x 500 g			25,46/500 g

A136.2	1 kg	plastic	42,50 €

Original pack 6 x 1 kg			40,38/1 kg

A136.3	2,5 kg	plastic	92,35 €

Sodium sulphite

≥98 %, p.a., ACS, anhydrous

For removal of chlorine and dissolution of cellulose, reagent for detection of iodate in the presence of chlorate and bromate, for absorption of NO_x in gas analysis.

Na₂SO₃ • M 126,04 g/mol

P033.1	500 g	plastic	17,45 €

Original pack 6 x 500 g			16,58/500 g

P033.2	1 kg	plastic	25,70 €

Original pack 6 x 1 kg			24,42/1 kg

P033.3	2,5 kg	plastic	45,70 €

Potassium iodide

≥99,5 %, p.a., ISO

Reagent used in iodometry and for the preparation of iodine-starch paper.

KI • M 166,01 g/mol

6750.1	250 g	glass	75,80 €

6750.3	500 g	glass	131,70 €

Original pack 6 x 500 g			125,12/500 g

6750.2	1 kg	glass	239,20 €

Original pack 6 x 1 kg			227,24/1 kg

Starch 1% indicator solution

in water, stabilized

(C₆H₁₀O₅)_n

T133.1	500 ml	plastic	22,05 €

Determination of chemical oxygen demand (COD)

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Ferriin indicator solution	for sewage analysis according to DIN 38409 H41, H 43 and H 44	T131.1	100 ml	glass	28,95
Iron(II) ammonium sulphate solution	0,12 mol/l - 0,12 N volumetric according to DIN 38409 H41	KK60.1	1 l	plastic	36,45
Mercury(II) sulphate solution	80 g/l in sulphuric acid potassium dichromate standard solution. 0,02 mol/l volumetric solution according to DIN 38409 H41	X871.1	1 l	glass	56,90
Potassium dichromate solution	0,02 mol/l - 0,12 N volumetric standard according to DIN 38409 H41, and H 43	P720.1	1 l	plastic	23,15
Potassium dichromate solution	1/24 mol/l - 0,25 N volumetric standard solution for determination of COD	P721.1	1 l	glass	27,85
Silver sulphate heptahydrate solution	10 g/l in sulphuric acid, according to DIN 38409 H41	X870.1	1 l	glass	59,70

Determination of biological oxygen demand (BOD)

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Manganese(II) chloride tetrahydrate	≥99 %, p.a.	T881.3	100 g	plastic	14,95
		T881.1	500 g	plastic	36,05
		T881.2	1 kg	plastic	56,90
Manganese(II) sulphate monohydrate	≥99 %, p.a., ACS	4487.1	250 g	plastic	26,55
		4487.2	500 g	plastic	46,15
Sodium azide	≥99 %, p.a.	K305.1	100 g	plastic	39,70
		K305.2	250 g	plastic	70,85
		K305.3	500 g	plastic	127,95
Sodium hydroxide	≥99 %, p.a., ISO, in pellets	6771.3	500 g	plastic	16,05
		6771.1	1 kg	plastic	23,90
		6771.2	5 kg	plastic	85,90
		6771.5	25 kg	plastic	260,15
Sodium thiosulphate pentahydrate	≥99,5 %, p.a., ACS	P034.1	500 g	plastic	18,85
		P034.2	1 kg	plastic	28,95
		P034.3	2,5 kg	plastic	58,60
		P034.5	25 kg	plastic	407,45
Sulphuric acid	96 %, p.a., ISO	4623.3	250 ml	glass	17,75
		4623.1	1 l	glass	29,60
		4623.4	1 l	plastic	25,70
		4623.2	2,5 l	glass	59,05
		4623.5	2,5 l	plastic	59,35
		4623.6	10 l	plastic	110,20
Starch 1% indicator solution	in water, stabilized	T133.1	500 ml	plastic	22,05
Zinc iodide	≥98 %, powder	2730.1	25 g	glass	39,70

Determination of potassium permanganate index

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Oxalic acid dihydrate	≥99,5 %, p.a., ACS, ISO	T113.1	500 g	plastic	28,95
		T113.2	1 kg	plastic	47,85
		T113.3	2,5 kg	plastic	110,20
Potassium permanganate solution	0,02 mol/l - 0,1 N volumetric standard solution	K019.1	1 l	glass	21,75
	0,1 mol/l - 0,5 N volumetric standard solution	KK69.1	1 l	glass	25,05
Sulphuric acid	96 %, p.a., ISO	4623.3	250 ml	glass	17,75
		4623.1	1 l	glass	29,60
		4623.4	1 l	plastic	25,70
		4623.2	2,5 l	glass	59,05
		4623.5	2,5 l	plastic	59,35
		4623.6	10 l	plastic	110,20

Determination of surfactants

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Hyamine® 1622-solution	0,004 mol/l - 0,004 M volumetric standard solution	KK64.1	1 l	plastic	23,15

For additional product data and safety information, see chapter Chemicals A-Z.

Analysis of Food

For the analysis of food Roth also offers the essential reagents. On the following pages you find

- determination of nitrogen according to Kjeldahl
- determination of sugar
- determination of mercury
- determination of viscosity
- determination of fat
- determination of trichina



Determination of nitrogen according to Kjeldahl

Kjeldahl tablets (free of mercury and selenium) 2,5 g/tablet

⚗ H411

Type analysis:

Appearance: light grey tablets
Composition: TiO_2 , CuSO_4 , K_2SO_4 and Na_2SO_4

HN20.1	250 pieces	plastic	93,00 €

Kjeldahl tablets (free of mercury and selenium) 5 g/tablet

⚗ H411

Type analysis:

Appearance: light grey tablets
Composition: TiO_2 , CuSO_4 , K_2SO_4 and Na_2SO_4

HN19.1	250 pieces	plastic	121,40 €

HN19.2	1000 pieces	plastic	439,70 €

Kjeldahl tablets (Wieninger catalyst) 2,5 g/tablet

⚗ H411

Type analysis:

Appearance: grey tablets
Composition: acc. to Wieninger (Na_2SO_4 , CuSO_4 and Se)

HN21.1	250 pieces	plastic	95,60 €

Kjeldahl tablets (Missouri catalyst) 2,5 g/tablet

⚗ H411

Type analysis:

Appearance: blue tablets
Composition: acc. to Missouri (K_2SO_4 , Na_2SO_4 and CuSO_4)

HN22.1	250 pieces	plastic	83,75 €

Determination of nitrogen acc. to Kjeldahl

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Ammonium sulphate	≥99,5 %, p.a., ACS, ISO	3746.2	250 g	plastic	11,75
		3746.1	1 kg	plastic	26,80
		3746.3	2,5 kg	plastic	47,85
		3746.4	5 kg	plastic	84,40
		3746.5	25 kg	plastic	292,40
Boric acid	≥99,8 %, p.a., ACS, ISO	6943.2	250 g	plastic	18,85
		6943.1	1 kg	plastic	33,25
		6943.3	5 kg	plastic	134,95
		6943.5	25 kg	plastic	618,15
Boric acid solution	4 %, p.a.	HN24.1	1 l	plastic	16,90
		HN24.2	5 l	plastic	37,10
		HN24.3	10 l	plastic	57,95
Bromocresol green	ACS	T115.1	1 g	glass	15,60
		T115.2	5 g	glass	24,65
		T115.3	10 g	glass	42,90
		T115.4	25 g	glass	80,55
Copper(II) sulphate pentahydrate	≥99,5 %, p.a., ACS, ISO	P024.1	500 g	plastic	26,35
		P024.2	1 kg	plastic	44,00
		P024.3	2,5 kg	plastic	82,70
Hydrochloric acid	0,1 mol/l - 0,1 N volumetric standard solution	K024.1	1 l	plastic	17,45
		K024.2	5 l	plastic	52,15
		K024.3	5 l	ROTI®CUBE	56,90
		K024.4	10 l	ROTI®CUBE	83,75
L-Lysine hydrochloride	≥98,5 %, USP, for biochemistry	9357.1	100 g	plastic	16,70
		9357.2	1 kg	plastic	107,40
Methyl red (C.I. 13020)	p.a., ACS	T120.1	10 g	glass	13,90
		T120.2	25 g	glass	22,50
Mixed indicator 5	for ammonia titration	T125.1	250 ml	glass	51,50
Potassium sulphate	≥99 %, p.a., ACS, ISO	P022.1	500 g	plastic	35,40
		P022.2	1 kg	plastic	59,05
		P022.3	2,5 kg	plastic	134,30
D(+)-Saccharose	Ph.Eur.	4661.1	1 kg	plastic	18,20
		4661.2	5 kg	plastic	74,10
		4661.3	50 kg	carton	295,65
Sodium hydroxide	≥99 %, p.a., ISO, in pellets	6771.3	500 g	plastic	16,05
		6771.1	1 kg	plastic	23,90
		6771.2	5 kg	plastic	85,90
Sodium hydroxide solution	≥32 %, p.a.	6771.5	25 kg	plastic	260,15
		T196.1	1 l	plastic	26,80
		T196.2	2,5 l	plastic	51,50
Sulphuric acid	98 %	T196.3	5 l	plastic	81,60
		X945.1	1 l	glass	26,35
		X945.2	2,5 l	glass	52,60
Sulphuric acid	0,05 mol/l - 0,1 N volumetric standard solution	K026.1	1 l	plastic	16,70
		K026.2	5 l	plastic	50,45
		K026.3	5 l	ROTI®CUBE	56,90
		K026.4	10 l	ROTI®CUBE	83,75
Tashiro's indicator solution	in ethanol	2624.1	250 ml	plastic	15,60
L-Tryptophane	≥98,5 %, Ph.Eur., for biochemistry	4858.1	10 g	glass	13,65
		4858.2	100 g	plastic	65,05
		4858.3	1 kg	plastic	489,15
Water	p.a., ACS	T172.1	1 l	plastic	10,25
		T172.2	2,5 l	plastic	20,35
		T172.3	5 l	plastic	28,95
		T172.5	30 l	plastic	107,40

► Kjeldahl flasks see page 122

► Weighing boats see page 174

Determination of sugar



Fehling's solution I

for sugar determination, reag. Ph.Eur.

Cupric sulphate solution, Copper(II)-sulphate solution

 **Warning H410**

N055.1	1 l	glass	28,95 €
Original pack 6 x 1 l			27,50/1 l

Fehling's solution II

for sugar determination, reag. Ph.Eur.

Alkaline potassium sodium tartrate solution

Potassium sodium tartrate solution

 **Danger H290-H314**

N056.1	1 l	glass	40,75 €
Original pack 6 x 1 l			38,71/1 l

Luff-Schoorl's solution

for sugar determination

  **Warning H319-H411**

X874.1	1 l	glass	29,60 €
Original pack 6 x 1 l			28,12/1 l

Product	Purity	Art. No.	Pack Qty.	Packaging	€
ATP disodium salt	≥98 %, for biochemistry	HN35.1	5 g	glass	21,40
		HN35.2	10 g	glass	31,10
		HN35.3	25 g	glass	57,55
		HN35.4	100 g	glass	192,45
Anthrone	p.a., ACS	2673.1	10 g	plastic	23,15
		2673.2	25 g	plastic	36,45
		2673.3	100 g	plastic	100,55
Citric acid monohydrate	≥99,5 %, p.a., ACS, ISO	3958.2	500 g	plastic	17,75
		3958.1	1 kg	plastic	27,85
		3958.3	2,5 kg	plastic	51,10
		3958.4	5 kg	plastic	94,50
		3958.5	25 kg	plastic	327,90
Lead(II) acetate, basic	≥33 %, p.a., ACS	2559.1	500 g	plastic	34,95
		2559.2	1 kg	plastic	52,15
NADP disodium salt	≥97 %, for biochemistry	AE13.1	250 mg	glass	33,25
		AE13.2	500 mg	glass	59,70
		AE13.3	1 g	glass	112,35
Potassium hexacyanoferrate(II) trihydrate	≥99 %, p.a., ACS, ISO	P745.1	500 g	plastic	57,55
		P745.2	1 kg	plastic	102,05
		P745.3	2,5 kg	plastic	228,45
Sodium hydrogen carbonate	≥99,5 %, p.a., ACS, ISO	6885.2	500 g	plastic	14,20
		6885.1	1 kg	plastic	21,75
		6885.3	5 kg	plastic	77,30
		6885.5	25 kg	plastic	321,45
Sodium hydroxide solution	2 mol/l - 2 N volumetric standard solution	T135.1	1 l	plastic	17,75
		T135.2	5 l	plastic	57,95
		T135.3	5 l	ROTI®CUBE	60,75
TRIS hydrochloride	≥99 %, p.a.	9090.1	50 g	plastic	13,15
		9090.2	500 g	plastic	81,60
		9090.3	1 kg	plastic	120,95
		9090.4	5 kg	plastic	493,45
Water	p.a., ACS	T172.1	1 l	plastic	10,25
		T172.2	2,5 l	plastic	20,35
		T172.3	5 l	plastic	28,95
		T172.5	30 l	plastic	107,40
Zinc sulphate heptahydrate	≥99,5 %, p.a., ACS	K301.1	500 g	plastic	22,25
		K301.2	1 kg	plastic	39,25
		K301.3	2,5 kg	plastic	70,85
		K301.5	25 kg	plastic	600,95

For additional product data and safety information, see chapter Chemicals A-Z.

Determination of fat



Diethyl ether

ROTIPURAN® ≥99,5 %, p.a., stab.

Ether, Ethyl ether

$C_4H_{10}O$ • M 74,12 g/mol

Danger H224-H302-H336-EUH019-EUH066

3942.1	1 l	glass	41,40 €
Original pack 6 x 1 l			39,33/1 l
3942.2	2 l	glass	72,60 €
3942.4	5 l	aluminium	146,75 €
Original pack 2 x 5 l			139,41/5 l
3942.5	25 l	tinplate	418,20 €

Isoamyl alcohol

ROTIPURAN® ≥98,5 %, p.a., ACS

3-Methyl-1-butanol, iso-Amyl alcohol, Isopentyl alcohol

$C_5H_{12}O$ • M 88,15 g/mol

Danger H226-H302+H332-H335-EUH066

T870.1	500 ml	glass	37,55 €
T870.2	1 l	glass	70,65 €
Original pack 6 x 1 l			67,12/1 l
T870.3	2,5 l	glass	160,20 €
Original pack 4 x 2,5 l			152,19/2,5 l

Petroleum ether 40-60 °C

ROTIPURAN® p.a., ACS, ISO

Petroleum benzene

Danger H225-H304-H315-H336-H411

T173.1	1 l	glass	31,10 €
Original pack 6 x 1 l			29,55/1 l
T173.2	2,5 l	glass	58,60 €
Original pack 4 x 2,5 l			55,67/2,5 l
T173.3	5 l	aluminium	97,75 €
Original pack 2 x 5 l			92,86/5 l
T173.5	25 l	tinplate	306,40 €

Sulphuric acid 90-91 %

ROTIPURAN® 90-91 %, for determination of fat

For determination of fat acc. to Gerber and determination of nitrates in milk.

H_2SO_4 • M 98,08 g/mol

Danger H314-H290

X946.1	1 l	plastic	20,35 €
Original pack 6 x 1 l			19,33/1 l
X946.2	2,5 l	plastic	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l

Sulphuric acid 62 %

ROTIPURAN® p.a., for determination of fat in cheese (d 1,52)

acc to van Gulik

H_2SO_4 • M 98,08 g/mol

Danger H314-H290

CN89.1	1 l	plastic	22,50 €
Original pack 6 x 1 l			21,38/1 l
CN89.2	2,5 l	plastic	38,20 €
Original pack 4 x 2,5 l			36,29/2,5 l
CN89.3	5 l	plastic	61,85 €
Original pack 2 x 5 l			58,76/5 l
CN89.4	10 l	plastic	102,70 €
CN89.5	25 l	plastic	227,90 €

Fat- and protein-containing samples should be cleared using Carrez reagents:

- Add sample to 60 ml water
- Subsequently add, while mixing after each step:
 - a) 5 ml Carrez-I-solution (3,6 g potassium hexacyanoferrate(II), Art. No. P745 add 100 ml)
 - b) 5 ml Carrez-II-solution (7,2 g zinc sulphate heptahydrate, Art. No. K301 add 100 ml)
- Adjust pH to 7,5 - 8,5 by adding NaOH (0,1 M)
- Fill volumetric flask up to mark, mix, and filter

Determination of trichina

Hydrochloric acid 25 %

ROTIPURAN® ≥25 %, p.a., ISO

Solvent, for neutralisation.

Hydrogen chloride

HCl • M 36,46 g/mol

Danger H314-H290-H335

6331.1	1 l	glass	17,10 €
Original pack 6 x 1 l			16,25/1 l
6331.3	1 l	plastic	14,55 €
Original pack 6 x 1 l			13,82/1 l
6331.2	2,5 l	glass	29,60 €
Original pack 4 x 2,5 l			28,12/2,5 l
6331.4	2,5 l	plastic	25,70 €
Original pack 4 x 2,5 l			24,42/2,5 l

Pepsin

≥2000 FIP-U/g, for biochemistry

From porcine gastric mucosa. For detection of trichina in meat.

M 35000 g/mol

Storage temp.: +4 °C

Danger H334-H335-H315-H319

KK38.1	50 g	plastic	52,15 €
KK38.2	100 g	plastic	84,40 €
KK38.3	250 g	plastic	177,40 €
KK38.4	1 kg	plastic	585,90 €
Original pack 6 x 1 kg			556,61/1 kg

Acids and bases for analysis (p.a.)

Roth provides suitable acids and bases for different requirements!

- high purity
- high batch consistency
- detailed specifications
- good price-performance ratio
- Selected assortment also available in 1 and 2,5 litre HDPE plastic bottles

Acids and bases for analysis (p.a.)

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Acetic acid	100 %, p.a.	3738.1	1 l	glass	22,50
		3738.4	1 l	plastic	21,40
		3738.2	2,5 l	glass	48,95
		3738.5	2,5 l	plastic	46,15
		3738.3	10 l	plastic	115,60
	≥95,9 %, p.a.	T179.1	1 l	plastic	19,90
		T179.2	2,5 l	plastic	41,40
		T179.3	10 l	plastic	99,90
Ammonia solution	30 %, p.a., ACS	CP17.1	1 l	glass	18,85
		CP17.2	2,5 l	glass	30,00
	≥25 %, p.a.	6774.1	1 l	glass	19,90
		6774.2	2,5 l	glass	31,10
Boric acid solution	4 %, p.a.	HN24.1	1 l	plastic	16,90
		HN24.2	5 l	plastic	37,10
		HN24.3	10 l	plastic	57,95
Formic acid	≥98 %, p.a., ACS	4724.3	500 ml	glass	18,20
		4724.1	1 l	glass	31,10
		4724.2	2,5 l	glass	66,15
	≥85 %, p.a.	CP16.1	500 ml	glass	20,35
		CP16.2	1 l	glass	34,95
		CP16.3	2,5 l	glass	65,50
Hydrochloric acid fuming	37 %, p.a., ACS, ISO	4625.1	1 l	glass	19,25
		4625.2	2,5 l	glass	30,00
Hydrochloric acid	≥32 %, p.a., ISO	P074.1	1 l	glass	16,70
		P074.3	1 l	plastic	14,20
		P074.2	2,5 l	glass	28,50
		P074.4	2,5 l	plastic	26,35
	≥25 %, p.a., ISO	6331.1	1 l	glass	17,10
		6331.3	1 l	plastic	14,55
		6331.2	2,5 l	glass	29,60
		6331.4	2,5 l	plastic	25,70

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Molybdato-phosphoric acid hydrate	p.a., ACS	4440.1	25 g	glass	36,35
		4440.2	50 g	glass	53,45
		4440.3	100 g	glass	96,25
Nitric acid	≥65 %, p.a., ISO	4989.3	250 ml	glass	17,75
		4989.1	1 l	glass	27,45
		4989.2	2,5 l	glass	54,30
Periodic acid	≥99 %, p.a.	3257.1	100 g	glass	62,90
		3257.2	500 g	glass	219,85
meta-Phosphoric acid	p.a., pieces (hyaline)	CN91.1	100 g	plastic	27,85
		CN91.2	250 g	plastic	54,75
		CN91.3	500 g	plastic	98,40
		CN91.4	1 kg	plastic	179,55
ortho-Phosphoric acid	≥85 %, p.a., ISO	6366.1	1 l	plastic	57,55
		6366.2	2,5 l	plastic	117,75
		6751.3	250 g	plastic	14,95
Potassium hydroxide	≥85 %, p.a., pellets	6751.1	1 kg	plastic	24,65
		6751.2	5 kg	plastic	84,40
		6751.5	25 kg	plastic	256,95
Sodium hydroxide	≥99 %, p.a., ISO, in pellets	6771.3	500 g	plastic	16,05
		6771.1	1 kg	plastic	23,90
		6771.2	5 kg	plastic	85,90
		6771.5	25 kg	plastic	260,15
Sulphuric acid	96 %, p.a., ISO	4623.3	250 ml	glass	17,75
		4623.1	1 l	glass	29,60
		4623.4	1 l	plastic	25,70
		4623.2	2,5 l	glass	59,05
		4623.5	2,5 l	plastic	59,35
		4623.6	10 l	plastic	110,20

For additional product data and safety information, see chapter Chemicals A-Z.



ROTI®CALIPURE standards for your calibration needs

ready-to-use

ROTH offers an extensive range of calibration standards. These products are manufactured from highly pure starting material and are specially tested for each application. The corresponding batch-specific certificate of analysis is available online. Each product series offers excellent value for money.

Melting point standards

The melting point of a substance is the temperature at which the transition from a solid phase to a liquid phase occurs. The determination of melting point is a quick and easy method of determining the basic purity of substances. As the melting point is a characteristic variable for pure substances, it is also used for the identification of organic compounds. **ROTH** offers a selected range of melting point standards. To allow easy handling and ensure maximum safety, the standards are filled in small quantities and protected from light and are ready to use straight away.

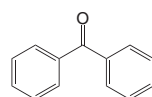
Features:

- Suitable for checking purity
- Max. measurement uncertainty $\pm 0,3$ °C
- Suitable for use independent of instrument type
- Ready-to-use

Benzophenone

ROTI®CALIPURE melting point standard 47-49 °C

Warning H373-H411



NEW

Type analysis:

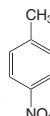
Melting point 47-49 °C

9709.1 1 g glass 27,85 €

p-Nitrotoluene

ROTI®CALIPURE melting point standard 52-54 °C

Danger H301+H311+H331-H373-H411



NEW

Type analysis:

Meniscus formation 52-54 °C

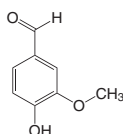
Complete liquefaction 52-54 °C

9712.1 1 g glass 27,85 €

Vanillin

ROTI®CALIPURE melting point standard 81-83 °C

Warning H302-H319



NEW

Type analysis:

Meniscus formation 81-83 °C

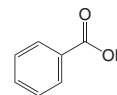
Complete liquefaction 81-83 °C

9714.1 1 g glass 27,85 €

Benzoic acid

ROTI®CALIPURE melting point standard 121-123 °C

Danger H372-H318-H315



NEW

Type analysis:

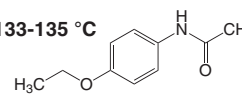
Melting point 121-123 °C

9722.1 1 g glass 27,85 €

Phenacetin

ROTI®CALIPURE melting point standard 133-135 °C

Danger H302-H350



NEW

Type analysis:

Meniscus formation 133-135 °C

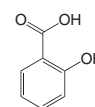
Complete liquefaction 133-135 °C

9728.1 500 mg glass 27,85 €

Salicylic acid

ROTI®CALIPURE melting point standard 158-160 °C

Danger H318-H302



NEW

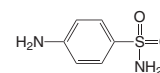
Type analysis:

Melting point 158-160 °C

9731.1 1 g glass 28,95 €

Sulphanilamide

ROTI®CALIPURE melting point standard 164-166 °C



NEW

Type analysis:

Meniscus formation 164-166 °C

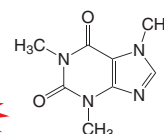
Complete liquefaction 164-166 °C

9734.1 1 g glass 27,85 €

Caffeine anhydrous

ROTI®CALIPURE melting point standard 235-237 °C

Danger H302



NEW

Type analysis:

Meniscus formation 235-237 °C

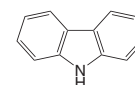
Complete liquefaction 235-237 °C

9739.1 1 g glass 27,85 €

Carbazole

ROTI®CALIPURE melting point standard 243-247 °C

Warning H411



NEW

Type analysis:

Meniscus formation 243-247 °C

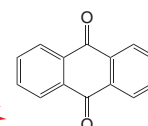
Complete liquefaction 243-247 °C

9752.1 1 g glass 27,85 €

Anthraquinone

ROTI®CALIPURE Melting point standard 283-286 °C

Warning H317



NEW

Type analysis:

Melting point 283-286 °C

9754.1 1 g glass 27,85 €



pH-buffer solutions, ROTI®CALIPURE

- Manufactured from high purity buffer substances
- No need for time-consuming drying and weighing of reagents
- The buffer solutions are adjusted to their respective pH values by comparison with standard buffer solutions (according to DIN 19266 and based on primary reference materials of the PTB and/or NIST)
- Quick and precise calibration of measuring equipment
- Stabilised against algae and bacterial action

pH-value	Type	Art. No.	Pack Qty.	Pack.	€
1,00 ±0,05 (20 °C)	colourless	T180.2	500 ml	plastic	15,60
		T180.1	1 l	plastic	22,05
1,679 ±0,03 (25 °C)	colourless	8112.1	1 l	plastic NEW	38,60
2,00 ±0,02 (20 °C)	colourless	P715.2	500 ml	plastic	15,60
		P715.1	1 l	plastic	22,05
3,00 ±0,02 (20 °C)	colourless	T181.2	500 ml	plastic	15,60
		T181.1	1 l	plastic	22,05
3,776 ±0,012 (25 °C)	colourless	4280.1	500 ml	plastic	16,70
		4280.2	1 l	plastic	24,20
4,00 ±0,02 (20 °C)	colourless	P712.3	500 ml	plastic	15,60
		P712.1	1 l	plastic	22,05
		P712.2	10 l	plastic	143,55
4,00 ±0,02 (20 °C)	tinted red	A517.3	250 ml	twin neck bottle	12,40
		A517.2	500 ml	plastic	15,60
		A517.4	500 ml	twin neck bottle	17,10
		A517.1	1 l	plastic	22,05
4,005 ±0,02 (25 °C)	colourless	4281.1	500 ml	plastic	16,70
		4281.2	1 l	plastic	24,20
4,62 ±0,02 (20 °C)	colourless	T182.1	1 l	plastic	22,50
5,00 ±0,02 (20 °C)	colourless	T183.2	500 ml	plastic	15,60
		T183.1	1 l	plastic	22,05
6,00 ±0,02 (20 °C)	colourless	T184.2	500 ml	plastic	15,60
		T184.1	1 l	plastic	22,05
		4284.1	500 ml	plastic	16,70
6,865 ±0,02 (25 °C)	colourless	4284.2	1 l	plastic	24,20
		T185.1	1 l	plastic	22,50
7,00 ±0,02 (20 °C)	colourless	A518.3	500 ml	plastic	15,60
		A518.1	1 l	plastic	22,05
		A518.2	10 l	plastic	143,55
7,00 ±0,02 (20 °C)	tinted green	P713.3	250 ml	twin neck bottle	12,40
		P713.2	500 ml	plastic	15,60
		P713.4	500 ml	twin neck bottle	17,10
		P713.1	1 l	plastic	22,05
7,413 ±0,02 (25 °C)	colourless	4285.1	500 ml	plastic	16,70
		4285.2	1 l	plastic	24,20
8,00 ±0,02 (20 °C)	colourless	T186.2	500 ml	plastic	15,60
		T186.1	1 l	plastic	22,05
9,00 ±0,02 (20 °C)	colourless	A519.3	500 ml	plastic	15,60
		A519.1	1 l	plastic	22,05
		A519.2	10 l	plastic	143,55

pH-value	Type	Art. No.	Pack Qty.	Pack.	€
9,00 ±0,02 (20 °C)	tinted blue	P714.3	250 ml	twin neck bottle	12,40
		P714.2	500 ml	plastic	15,60
		P714.1	1 l	plastic	22,05
9,180 ±0,02 (25 °C)	colourless	4294.1	500 ml	plastic	16,70
		4294.2	1 l	plastic	24,20
10,00 ±0,02 (20 °C)	colourless	P716.2	500 ml	plastic	15,60
		P716.1	1 l	plastic	22,05
10,00 ±0,02 (20 °C)	tinted blue	8086.1	250 ml	twin neck bottle	14,55
		8086.2	500 ml	plastic	15,60
		8086.3	500 ml	twin neck bottle	17,75
		8086.4	1 l	plastic NEW	23,15
10,00 (20 °C)	for complexometric titration	T188.1	1 l	plastic	22,05
11,00 ±0,05 (20 °C)	colourless	T187.2	500 ml	plastic	15,60
		T187.1	1 l	plastic	22,05
12,00 ±0,05 (20 °C)	colourless	T189.2	500 ml	plastic	15,60
		T189.1	1 l	plastic	22,05

For additional product data and safety information, see chapter Chemicals A-Z.



ready-to-use

Conductivity standards ROTI®CALIPURE

Our conductivity standard solutions are made from high-quality reagents and therefore ensure maximum precision during calibration. They are ready for use and come supplied with a batch-specific certificate of analysis.

- 10 conductivity standards
- Variation in conductivity ±1 % (25 °C)
- Traceable to SRM from NIST

Product	Art. No.	Pack Qty. (l)	€
Conductivity standard 84 µS/cm	2432.1	0,5	23,55
	2432.2	1	31,95
Conductivity standard 147 µS/cm	2433.1	0,5	23,55
	2433.2	1	31,95
Conductivity standard 1413 µS/cm	2434.1	0,5	23,55
	2434.2	1	31,95
Conductivity standard 12 880 µS/cm	2435.1	0,5	23,55
	2435.2	1	31,95
Conductivity standard 5 µS/cm	2462.1	0,5	131,70
Conductivity standard 100 µS/cm	2463.1	0,5	56,90
Conductivity standard 500 µS/cm	2464.1	0,5	56,90
Conductivity standard 1 000 µS/cm	2465.1	0,5	56,90
Conductivity standard 10 000 µS/cm	2466.1	0,5	56,90
Conductivity standard 500 000 µS/cm	2467.1	0,5	56,90

► Further informations see chapter Chemicals A-Z.

ROTI®STAR Standards for AAS and ICP

ROTH has an extensive range of products which meets the highest standards of quality in the field of element standards and ion standards. The solutions and mixtures are made using materials of the highest purity, and therefore meet the requirements for instrumental analysis by AAS and ICP. All solutions are certified and can be traced to NIST standard reference solutions. Solutions are produced according to ISO Guide 34 in an accredited environment. The solutions are tested in a laboratory accredited to ISO/IEC 17025 and supplied with a detailed, batch-specific certificate of analysis.

Single Element Standards for AAS (Atomic Absorption Spectroscopy)



AAS standard solutions are made from high-quality reagents, and therefore ensure maximum precision during calibration. Accuracy and precision for reliable measurement results.

- 42 single element standards
- Concentration 1000 mg/l (1 g/l)
- Guaranteed accuracy $\pm 0,2\%$
- Container sizes: 100 ml and 500 ml
- 24 months shelf life for unopened bottle & 12 months after the bottle has been opened

Single Element Standards for AAS 1000 mg/l (1 g/l) - ready to use

Element	Compound	Matrix	Art. No.	Pack qty. (ml)	€
Aluminium	Al	Al(NO ₃) ₃	2212.1	100	14,95
			2212.2	500	22,40
Antimony	Sb	20 % HCl	2223.1	100	14,95
			2223.2	500	22,40
Arsenic	As	2 % HNO ₃	2224.1	100	14,95
			2224.2	500	22,40
Barium	Ba	1 % HNO ₃	2225.1	100	14,95
			2225.2	500	22,40
Beryllium	Be	2 % HNO ₃ / 0,5 % HF	2226.1	100	24,20
			2226.2	500	43,55
Bismuth	Bi	3 % HNO ₃	2227.1	100	14,95
			2227.2	500	22,40
Boron	B	H ₃ BO ₃	2237.1	100	14,95
			2237.2	500	22,40
Cadmium	Cd	2 % HNO ₃	2238.1	100	14,95
			2238.2	500	22,40
Caesium	Cs	2 % HNO ₃	2239.1	100	25,30
			2239.2	500	39,70
Calcium	Ca	2 % HNO ₃	2240.1	100	14,95
			2240.2	500	22,40
Chromium	Cr	2 % HNO ₃	2250.1	100	14,95
			2250.2	500	22,40
Cobalt	Co	2 % HNO ₃	2251.1	100	14,95
			2251.2	500	22,40
Copper	Cu	2 % HNO ₃	2329.1	100	14,95
			2329.2	500	22,40
Gold	Au	2 % HCl	2258.1	100	41,85
			2258.2	500	113,45
Iron	Fe	2 % HNO ₃	2252.1	100	14,95
			2252.2	500	22,40
Indium	In	2 % HNO ₃	2284.1	100	29,80
			2228.1	100	14,95
Lead	Pb	2 % HNO ₃	2228.2	500	22,40
			2332.1	100	14,95
Lithium	Li	2 % HNO ₃	2332.2	500	22,40
			2333.1	100	14,95
Magnesium	Mg	2 % HNO ₃	2333.2	500	22,40
			2334.1	100	14,95
Manganese	Mn	2 % HNO ₃	2334.2	500	22,40
			2335.1	100	14,95
Molybdenum	Mo	4 % NH ₃	2335.2	500	22,40
			2346.1	100	14,95
Mercury	Hg	10 % HNO ₃	2346.2	500	22,40

Element	Compound	Matrix	Art. No.	Pack qty. (ml)	€
Nickel	Ni	2 % HNO ₃	2339.1	100	14,95
			2339.2	500	22,40
Palladium	Pd	3 % HNO ₃	2340.1	100	62,90
Phosphorus	P	NH ₄ H ₂ PO ₄	2599.1	100	14,95
			2599.2	500	22,40
Platinum	Pt	10 % HCl	2341.1	100	104,85
			2341.2	500	403,15
Potassium	K	2 % HNO ₃	2327.1	100	14,95
			2327.2	500	22,40
Scandium	Sc	2 % HNO ₃	2347.1	100	68,50
			2347.2	500	211,25
Selenium	Se	2 % HNO ₃	2348.1	100	14,95
			2348.2	500	22,40
Silver	Ag	2 % HNO ₃	2349.1	100	14,95
			2349.2	500	22,40
Silicon	Si	(NH ₄) ₂ SiF ₆	2350.1	100	14,95
			2350.2	500	22,40
Silicon	Si	0,5 % NaOH	2351.1	100	14,95
Sodium	Na	2 % HNO ₃	2337.1	100	14,95
			2337.2	500	22,40
Strontium	Sr	2 % HNO ₃	2352.1	100	14,95
			2352.2	500	22,40
Tellurium	Te	2 % HNO ₃	2353.1	100	19,05
			2353.2	500	26,80
Thallium	Tl	2 % HNO ₃	2354.1	100	19,05
			2354.2	500	26,80
Tin	Sn	10 % HCl	2384.1	100	14,95
			2384.2	500	22,40
Titanium	Ti	2 % HNO ₃ / 0,1 % HF	2355.1	100	14,95
			2355.2	500	22,40
Tungsten	W	4 % NH ₃	2361.1	100	19,05
			2361.2	500	26,80
Vanadium	V	2 % HNO ₃	2360.1	100	14,95
			2360.2	500	22,40
Yttrium	Y	2 % HNO ₃	2371.1	100	19,05
			2371.2	500	31,10
Zinc	Zn	2 % HNO ₃	2383.1	100	14,95
			2383.2	500	22,40
Zircon	Zr	5 % HCl/ 0,5 % HF	2396.1	100	19,05
			2396.2	500	26,80

For additional product data and safety information, see chapter Chemicals A-Z.

Matrix Modifier Solutions for Graphite Furnace AAS

Matrix modifier solutions by ROTH are made from high purity starting materials ($\geq 99,999\%$) and delivered with a detailed batch specific certificate of analysis. The solutions can be used either diluted or as mixtures, and are suitable for eliminating matrix effects in graphite furnace AAS.

- Up to 70 measured trace impurities in ppm range and lower
- Guaranteed accuracy: $\pm 1\%$
- Container size: 50 ml
- Two expiration dates: 24 months shelf life for unopened bottle & 12 months after the bottle has been opened



Matrix Modifier Solutions for Graphite Furnace AAS

Compound	Matrix	Concentration	Art. No.	Pack qty. (ml)	€
Ammonium dihydrogen phosphate	1 % HNO_3	20 g/l	5150.1	50	56,90
		100 g/l	5148.1	50	109,55
Ammonium nitrate	H_2O	50 g/l	5145.1	50	106,35
Magnesium nitrate	H_2O	10 g/l	5140.1	50	56,90
		20 g/l	5142.1	50	74,10
Nickel nitrate	1 % HNO_3	10 g/l	5146.1	50	56,90
Palladium nitrate	1 % HNO_3	2 g/l	5143.1	50	74,10
		5 g/l	5144.1	50	109,55
		10 g/l	4842.1	50	167,60
Palladium nitrate & Magnesium nitrate	1 % HNO_3	2 g/l & 10 g/l	5139.1	50	109,55

For additional product data and safety information, see chapter Chemicals A-Z.

Single Element Standards for ICP (Inductively Coupled Spectroscopy)

ready-
to-use



Each standard solution is made of high purity starting materials (mostly $\geq 99,999\%$), and its content is determined gravimetrically and by ICP. High quality acids (purified by subboiling distillation) and water are used for production of the solutions. This gives you first-class reference materials of the highest purity and quality.

- 68 single element standards
- Concentration 1000 mg/l (1 g/l) and 10 000 mg/l (10 g/l)
- Up to 70 measured trace impurities in the ppt range
- Guaranteed accuracy: $\pm 0,2\%$
- Container size: 100 ml
- 24 months shelf life for unopened bottle & 12 months after the bottle has been opened

Element	Verbindung	Matrix	1 000 mg/l (1 g/l)			10 000 mg/l (10 g/l)		
			Art. No.	Pack qty. (ml)	€	Art. No.	Pack qty. (ml)	€
Aluminium	Al	$\text{Al}(\text{NO}_3)_3$	2397.1	100	46,15	2488.1	100	82,70
Antimony	Sb	20 % HCl	2398.1	100	46,15	2489.1	100	82,70
Arsenic	As	H_3AsO_4	2399.1	100	46,15	2491.1	100	82,70
Barium	Ba	$\text{Ba}(\text{NO}_3)_2$	2400.1	100	46,15	2492.1	100	82,70
Beryllium	Be	$\text{Be}_4\text{O}(\text{C}_2\text{H}_3\text{O}_2)_6$	2401.1	100	46,15	2496.1	100	82,70
Bismuth	Bi	3 % HNO_3	2402.1	100	46,15	2497.1	100	82,70
Boron	B	H_2BO_3	2404.1	100	46,15	2500.1	100	82,70
Cadmium	Cd	2 % HNO_3	2405.1	100	46,15	2501.1	100	82,70
Caesium	Cs	CsNO_3	2406.1	100	46,15	2502.1	100	82,70
Calcium	Ca	CaCO_3	2407.1	100	46,15	2503.1	100	82,70
Cerium	Ce	$\text{Ce}(\text{NO}_3)_3$	2408.1	100	46,15	2504.1	100	90,85
Chromium	Cr	$\text{Cr}(\text{NO}_3)_3$	2409.1	100	46,15	2505.1	100	82,70
Cobalt	Co	2-3 % HNO_3	2410.1	100	46,15	2506.1	100	82,70
Copper	Cu	2-3 % HNO_3	2426.1	100	46,15	2520.1	100	82,70
Dysprosium	Dy	Dy_2O_3	2411.1	100	49,35	2507.1	100	98,80
Erbium	Er	Er_2O_3	2413.1	100	49,35	2509.1	100	90,85
Europium	Eu	Eu_2O_3	2414.1	100	49,35	2510.1	100	109,55
Gadolinium	Gd	Gd_2O_3	2416.1	100	49,35	2511.1	100	98,80
Gallium	Ga	2-3 % HNO_3	2418.1	100	49,35	2512.1	100	98,80
Germanium	Ge	2 % HNO_3 / 0,5 % HF	2419.1	100	49,35	2513.1	100	109,55
Gold	Au	2-5 % HCl	2420.1	100	144,60	2514.1	100	418,20
Hafnium	Hf	HfO_2	2421.1	100	133,85	2515.1	100	332,20
Holmium	Ho	Ho_2O_3	2422.1	100	63,45	2516.1	100	252,10
Indium	In	2-3 % HNO_3	2423.1	100	49,35	2517.1	100	98,80
Iridium	Ir	10 % HCl	2424.1	100	170,95	2518.1	100	611,70
Iron	Fe	$\text{Fe}(\text{NO}_3)_3$	2412.1	100	46,15	2508.1	100	82,70
Potassium	K	KNO_3	2425.1	100	46,15	2519.1	100	82,70
Lanthanum	La	La_2O_3	2427.1	100	46,15	2521.1	100	82,70
Lead	Pb	$\text{Pb}(\text{NO}_3)_2$	2403.1	100	46,15	2499.1	100	82,70
Lithium	Li	Li_2CO_3	2428.1	100	46,15	2522.1	100	82,70
Lutetium	Lu	Lu_2O_3	2429.1	100	121,40	2523.1	100	424,65
Magnesium	Mg	2 % HNO_3	2430.1	100	46,15	2524.1	100	82,70
Manganese	Mn	2-3 % HNO_3	2437.1	100	46,15	2525.1	100	82,70
Mercury	Hg	10 % HNO_3	2453.1	100	46,15	2537.1	100	82,70
Molybdenum	Mo	MoO_3	2438.1	100	46,15	2526.1	100	82,70
Neodymium	Nd	Nd_2O_3	2443.1	100	49,35	2528.1	100	109,55
Nickel	Ni	2-3 % HNO_3	2444.1	100	46,15	2529.1	100	82,70
Niobium	Nb	2-5 % HNO_3 / 0,5 % HF	2445.1	100	46,15	2531.1	100	82,70
Osmium	Os	2 % HCl	2446.1	100	268,25			
Palladium	Pd	3-4 % HNO_3	2447.1	100	147,85	2532.1	100	534,85
Platinum	Pt	10 % HCl	2448.1	100	170,95	2533.1	100	654,70
Phosphorus	P	$\text{NH}_4\text{H}_2\text{PO}_4$	2451.1	100	46,15	2534.1	100	82,70
Praseodymium	Pr	Pr_6O_{11}	2452.1	100	49,35	2536.1	100	90,85
Rhenium	Re	2 % HNO_3	2454.1	100	68,70	2538.1	100	278,45
Rhodium	Rh	RhCl_3	2455.1	100	360,15			
Rubidium	Rb	RbNO_3	2456.1	100	46,15	2539.1	100	235,45
Ruthenium	Ru	RuCl_3	2457.1	100	192,45	2540.1	100	611,70

Single Element Standards for ICP 1000 mg/l (1 g/l) and 10000 mg/l (10 g/l) - ready to use

Element		Verbindung	Matrix	1 000 mg/l (1 g/l)			10 000 mg/l (10 g/l)		
				Art. No.	Pack qty. (ml)	€	Art. No.	Pack qty. (ml)	€
Samarium	Sm	Sm ₂ O ₃	2 % HNO ₃	2458.1	100	49,35	2541.1	100	107,40
Scandium	Sc	Sc ₂ O ₃	2 % HNO ₃	2459.1	100	97,75	—		
Sodium	Na	NaNO ₃	2 % HNO ₃	2439.1	100	46,15	2527.1	100	82,70
Sulphur	S	(NH ₄) ₂ SO ₄	H ₂ O	2460.1	100	46,15	2542.1	100	82,70
Selenium	Se	Se	2-3 % HNO ₃	2461.1	100	46,15	2543.1	100	82,70
Silver	Ag	AgNO ₃	2-4 % HNO ₃	2468.1	100	46,15	2544.1	100	82,70
Silicon	Si	(NH ₄) ₂ SiF ₆	H ₂ O	2469.1	100	46,15	2546.1	100	82,70
Strontium	Sr	Sr(NO ₃) ₂	2 % HNO ₃	2470.1	100	46,15	2547.1	100	82,70
Tantalum	Ta	Ta	1 % HNO ₃ / 0,5 % HF	2471.1	100	49,35	2548.1	100	90,85
Tellurium	Te	Te	2 % HNO ₃ or 20 % HNO ₃	2472.1	100	51,50	2549.1	100	90,85
Terbium	Tb	Tb ₄ O ₇	2-3 % HNO ₃	2476.1	100	97,75	2550.1	100	568,70
Thallium	Tl	TlNO ₃	2-5 % HNO ₃	2477.1	100	46,15	2552.1	100	82,70
Thulium	Tm	Tm ₂ O ₃	2-5 % HNO ₃	2478.1	100	177,95	—		
Tin	Sn	Sn	10 % HCl or 20 % HCl	2486.1	100	46,15	2583.1	100	82,70
Titanium	Ti	(NH ₄) ₂ TiF ₆	2 % HNO ₃ / 0,1 % HF	2479.1	100	46,15	2561.1	100	82,70
Tungsten	W	WO ₃	4-10 % NH ₃	2482.1	100	49,35	2571.1	100	90,85
Vanadium	V	NH ₄ VO ₃	2-3 % HNO ₃	2480.1	100	46,15	2567.1	100	82,70
Ytterbium	Yb	Yb ₂ O ₃	2-3 % HNO ₃	2483.1	100	49,35	2572.1	100	150,40
Yttrium	Y	Y ₂ O ₃	2 % HNO ₃ or 5 % HNO ₃	2484.1	100	49,35	2574.1	100	90,85
Zinc	Zn	Zn	2-3 % HNO ₃	2485.1	100	46,15	2576.1	100	82,70
Zircon	Zr	ZrOCl ₂	5 % HCl / 0,5 % HF	2487.1	100	49,35	2584.1	100	90,85

For additional product data and safety information, see chapter Chemicals A-Z.

Multi Element Standards for ICP (Inductively Coupled Spectroscopy)

A series of mixtures of different element combinations and concentrations for standard environmental analyses.

- 14 different multi element standards
- Quality control standards
- Surface water analysis ①
- Sewage sludge analysis ②

ready-to-use



Multi-Element Standards for ICP - ready to use

Designation	Elements	Composition	Matrix	Art. No.	Pack qty. (ml)	€
ICP Multi-Element Standard Solution I (concentration in mg/l)	19	Ag (50), Al (100), B (15), Ba (5), Be (1), Bi (200), Cd (20), Co (20), Cr (25), Cu (20), Fe (15), Ga (150), In (200), Mn (5), Ni (50), Pb (200), Sr (1), Ti (400), Zn (20)	5 % HNO ₃	2636.1	100	97,75
ICP Multi-Element Standard Solution III, 1000 mg/l	4	Ba, Ca, Mg, Sr	2 % HNO ₃	2637.1	100	74,10
ICP Multi-Element Standard Solution IV, 1000 mg/l	23	Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Ti, Zn	2 % HNO ₃	2638.1	100	181,70
ICP Multi-Element Standard Solution VIII, 100 mg/l	24	Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Te, Ti, Zn	2 % HNO ₃	2639.1	100	128,50
ICP Multi-Element Standard Solution IX, 100 mg/l	9	As, Be, Pb, Cd, Cr, Ni, Hg, Se, Ti	2 % HNO ₃	2640.1	100	95,15
ICP Multi-Element Standard Solution X (concentration in µg/l) ①	23	Ca (35000), Mg (15000), Na (8000), K (3000), B (100), Fe (100), Mo (100), Sr (100), As (50), Ba (50), Ni (50), V (50), Zn (50), Mn (30), Co (25), Pb (25), Be (20), Cd (20), Cr (20), Cu (20), Bi (10), Se (10), Ti (10)	2 % HNO ₃	2642.1	100	117,75
ICP Multi-Element Standard Solution XI (concentration in mg/l) ②	7	Cd (10), Cr (900), Cu (800), Hg (8), Ni (200), Pb (900), Zn (2500)	2 % HNO ₃	2643.1	100	95,15
ICP Multi-Element Standard Solution XIII (concentration in mg/l)	15	Al (500), As (100), Be (100), Cd (25,0), Co (100), Cr (100), Cu (100), Fe (100), Hg (5,0), Mn (100), Ni (100), Pb (100), Se (25,0), V (250), Zn (100)	2 % HNO ₃	2644.1	100	170,95
ICP Multi-Element Standard Solution XVI, 100 mg/l	21	As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, V, Zn	2 % HNO ₃	2645.1	100	160,75
ICP Multi-Element Standard Solution XVII, 100 mg/l	7	Hf, Ir, Sb, Sn, Ta, Ti, Zr	15 % HCl	2646.1	100	132,15
ICP Multi-Element Standard Solution, 1 mg/l	22	As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, V, Zn	5 % HNO ₃	2647.1	100	53,65
ICP Multi-Element Standard Solution, 100 mg/l	22	As, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, V, Zn	5 % HNO ₃	2648.1	100	181,70
ICP Multi-Element Standard Solution, 1 mg/l	28	Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Ti, V, Zn	5 % HNO ₃	2649.1	100	73,00
ICP Multi-Element Standard Solution, 100 mg/l	28	Al, Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sr, Ti, V, Zn	5 % HNO ₃	2650.1	100	192,45

For additional product data and safety information, see chapter Chemicals A-Z.

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ROTIPURAN® Ultra products at a glance

Programme
extension!

Product		Purity	Art. No.	Pack Qty.	Packaging	€
Acetic acid	ROTIPURAN® Ultra	100 % 	HN65.2	250 ml	plastic (FEP)	327,90
			HN65.1	500 ml	plastic (FEP)	467,65
			HN65.3	1 l	plastic (FEP)	740,70
Ammonia solution	ROTIPURAN® Ultra	20 % 	HN66.2	250 ml	HDPE	203,20
			HN66.1	500 ml	HDPE	342,95
			HN66.3	1 l	HDPE	564,40
Hydrobromic acid	ROTIPURAN® Ultra	48 % 	HN67.3	250 ml	plastic (FEP)	507,40
			HN67.1	500 ml	plastic (FEP)	697,70
			HN67.2	1 l	plastic (FEP)	1073,95
			HN67.4	2 l	plastic (FEP)	1574,90
Hydrochloric acid	ROTIPURAN® Ultra	34 %	HN63.1	250 ml	plastic (PFA)	310,70
			HN63.2	500 ml	plastic (PFA)	467,65
			HN63.3	1 l	plastic (PFA)	779,40
			HN63.4	2 l	plastic (PFA)	1127,70
Hydrofluoric acid	ROTIPURAN® Ultra	~48 % 	HN64.2	250 ml	plastic (PFA)	413,90
			HN64.1	500 ml	plastic (PFA)	622,45
			HN64.3	1 l	plastic (PFA)	1001,90
			HN64.4	2 l	plastic (FEP)	1682,40
Hydrogen peroxide	ROTIPURAN® Ultra	31 %	HN69.1	500 ml	plastic (FEP)	456,90
Nitric acid	ROTIPURAN® Ultra	69 %	HN60.1	250 ml	plastic (FEP)	332,20
			HN60.2	500 ml	plastic (FEP)	461,20
			HN60.3	1 l	plastic (FEP)	740,70
			HN60.4	2 l	plastic (FEP)	1138,45
Perchloric acid	ROTIPURAN® Ultra	70 % 	HN61.2	250 ml	plastic (FEP)	418,20
			HN61.1	500 ml	plastic (FEP)	568,70
			HN61.3	1 l	plastic (FEP)	934,20
			HN61.4	2 l	plastic (FEP)	1494,25
Sulphuric acid	ROTIPURAN® Ultra	95 % 	HN62.1	250 ml	plastic (FEP)	349,40
			HN62.2	500 ml	plastic (FEP)	499,90
			HN62.3	1 l	plastic (FEP)	837,45
			HN62.4	2 l	plastic (FEP)	1385,70
Water	ROTIPURAN®	Ultra 	HN68.1	500 ml	LDPE	46,15
			HN68.2	1 l	LDPE	69,35
			HN68.3	2 l	LDPE	131,70

ROTIPURAN® Supra products at a glance

Product		Purity	Art. No.	Pack Qty.	Packaging	€
Acetic acid	ROTIPURAN® Supra	100 %	HN55.1	500 ml	plastic	71,95
			HN55.3	1 l	plastic	110,65
			HN55.4	2,5 l	plastic	136,55
Ammonia solution	ROTIPURAN® Supra	20 %	HN56.1	500 ml	plastic	61,20
Hydrochloric acid	ROTIPURAN® Supra	35 %	HN53.1	500 ml	plastic	66,15
			HN53.2	1 l	plastic	102,70
			HN53.3	2,5 l	plastic	113,45
Hydrofluoric acid	ROTIPURAN® Supra	~48 %	HN54.1	500 ml	LDPE	124,60
Nitric acid	ROTIPURAN® Supra	69 %	HN50.1	500 ml	plastic	69,35
			HN50.2	1 l	plastic	109,15
			HN50.3	2,5 l	plastic	121,40
Perchloric acid	ROTIPURAN® Supra	70 %	HN51.1	500 ml	glass PVC coated	149,45
			HN51.3	1 l	glass PVC coated	241,90
			HN51.4	2,5 l	glass PVC coated	364,45
Sulphuric acid	ROTIPURAN® Supra	95 %	HN52.1	500 ml	plastic	66,15
			HN52.2	1 l	plastic	117,20
			HN52.5	2,5 l	plastic	134,95

ROTIPURAN® Low organic

Product		Purity	Art. No.	Pack Qty.	Packaging	€
Water	ROTIPURAN®	Low organic	HN57.1	1 l	glass	59,70
			HN57.2	4 l	glass	97,75

► For safety information and product specification, see chapter Chemicals A-Z.



Ultra / Ultra HF dispenser

For dispensing highly pure acids and alkalis.
Suitable for use in ultratrace analysis.

Features:

- **Free of metals**
- Made of high quality and highly pure plastics (PTFE, TFM and PFA)
- Calibrated and mechanically tested for precision and accuracy
- 38-430 thread (fits ROTIPURAN® Ultra products)

Special features of Ultra dispenser:

- Acid cleansed
- Manufactured in cleanroom (class 100)

Special features of Ultra HF dispenser:

- Specially for dispensing hydrofluoric acids
- Also suitable for analytical acids

When using bottles with a GL45 thread, please order fastening for Dispenser KK11.1 separately.

Model	Volume (ml)	Graduations (ml)	Tolerance (±ml)	Art. No.	Pack Qty.	€
Ultra	0,5-5	0,5	0,02	KK97.1	1 piece	2041,45
Ultra HF	0,5-5	0,5	0,02	KK98.1	1 piece	1600,70



Accessories for Ultra/Ultra HF dispenser

Bottle holder

Stabilises bottles when using a dispenser. The four-screw system is suitable for both square bottles and round bottles. The bottle holder is designed for ROTIPURAN® Supra and Ultra bottles with capacities from 250 ml to 2 litres.

Product	Art. No.	Pack Qty.	€
Bottle holder	KK99.1	1	84,85

Fastening for Ultra/Ultra HF dispenser to GL45

Made of PTFE. For bottles with GL45 thread, specially for the use of ROTIPURAN® Supra products with Ultra and Ultra HF dispensers.

Product	Art. No.	Pack Qty.	€
Fastening for ROTIPURAN® Supra (GL45)	KK11.1	1	235,45

- Bottles made of PTFE see chapter Labware page 103
- Beakers made of PTFE see chapter Labware page 12

ROTI®METIC

(Metal Inorganic Compounds) Ultra Pure Metals and Inorganic Compounds



The ROTI®METIC product range comprises more than 140 high purity inorganic metals and metal compounds with purity levels ranging from 99,9 % (3N) to 99,9999 % (6N). Modern production technology as well as high quality and safety standards make it possible to achieve these high purity levels of metal traces from 100 ppm to 1 ppm.

Up to 60 trace metal compounds are analysed by HR-ICP, ICP-OES, AA, GD-MS and documented in the batch specific certificate of analysis supplied with the product. Our ultra high purity metals and metal compounds are ideal for the following applications:

- Instrumental Analytics
- Chemical analyses & syntheses
- Crystal growth technology
- Nanotechnology
- Photovoltaic technology
- Optical fibres
- Laser technology
- Photonics
- Fuel cells
- Catalysis

Our mission is to offer the quality and service you require in research & development and in production.

Excellent value for money and the option of ordering in semi-bulk are strong arguments in favour of the ROTI®METIC product range.

Product	Purity	Art. No.	Pack Qty. (g)	€
Aluminium granulate	99,9995 % (5N5)	5577.1	25	40,35
		5577.2	100	109,65
Aluminium chloride hexahydrate	99,9999 % (6N)	5368.1	25	83,75
		5368.2	100	310,70
Aluminium fluoride	99,99 % (4N), anhydrous	5395.1	10	75,15
		5395.2	50	267,70
Aluminium nitrate nonahydrate	99,999 % (5N)	5567.1	10	36,05
		5567.2	50	104,85
Aluminium oxide	99,995 % (4N5)	5575.1	5	36,05
		5575.2	25	97,75
Ammonium chloride	99,999 % (5N)	5050.1	50	96,65
		5050.2	100	165,05
Ammonium dihydrogen phosphate	99,999 % (5N)	5580.1	25	45,05
		5580.2	100	103,10
Ammonium hexachloro-osmate (IV)	99,99 % (4N)	5585.1	1	181,70
Ammonium hexachloro-rhodate(III)	99,995 % (4N5)	5586.1	1	450,45
Ammonium hexafluoro-silicate	99,999 % (5N)	5587.1	10	53,25
		5587.2	25	107,40
		5587.3	50	181,70
Ammonium hexafluoro-titanate(IV)	99,999 % (5N)	5589.1	10	51,50
		5589.2	25	107,40
		5589.3	100	321,45
Ammonium hydrogen fluoride	99,999 % (5N)	5363.1	25	100,95
di-Ammonium hydrogen phosphate	99,999 % (5N)	5596.1	100	209,65
Ammonium molybdate(VI)	99,99 % (4N)	5591.1	5	41,40
		5591.2	25	138,70
Ammonium monovanadate	99,995 % (4N5)	5590.3	1	21,40
		5590.2	25	338,65
Ammonium nitrate	99,999 % (5N)	5365.1	10	32,80
		5365.2	50	104,85
Ammonium sulphate	99,999 % (5N)	5606.1	10	26,80
		5606.2	50	71,50
Ammonium tetraborate tetrahydrate	99,999 % (5N)	5396.1	25	90,85
Ammonium tetrathiomolybdate	99,99 % (4N)	5608.1	1	35,40
		5608.2	5	69,80
Ammonium tetrathiotungstate	99,9 % (3N)	5397.1	5	134,40
		5397.2	25	471,95
Antimony shot	99,999 % (5N)	4516.2	50	170,95
Arsenic pieces	99,9999 % (6N)	5103.1	5	59,05
		5103.2	25	192,45
Barium carbonate	99,999 % (5N)	5321.1	25	107,40
		5321.2	100	342,95
Barium chloride	99,999 % (5N), anhydrous	5051.1	25	89,15
		5115.1	50	155,90
Barium chloride dihydrate	99,999 % (5N)	5115.2	100	241,90
Barium fluoride	99,995 % (4N5)	5055.1	25	112,35
Barium hydroxide hydrate	99,995 % (4N5)	5609.1	5	59,05
		5609.2	25	224,70
Barium nitrate	99,9995 % (5N5)	5138.1	50	145,15
		5138.2	100	246,20
Beryllium acetate basic	99,999 % (5N)	5612.1	5	64,00
		5612.2	25	224,70
Boric acid	99,999 % (5N)	5614.1	25	47,20
		5614.2	100	117,20
Cadmium acetate	99,999 % (5N), anhydrous	5247.1	10	86,55
		5247.2	25	138,70
Caesium carbonate	99,995 % (4N5)	5618.1	5	32,15
		5618.2	25	112,35
Caesium chloride	99,999 % (5N)	5061.1	10	49,35
		5061.2	50	145,15
Caesium nitrate	99,999 % (5N)	4505.1	10	85,90
		4505.2	50	321,45
Calcium carbonate	99,999 % (5N)	5616.1	5	42,90
		5616.2	25	133,85

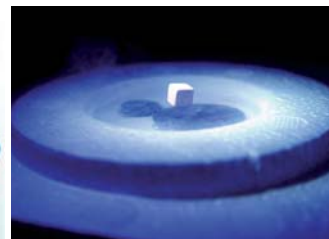
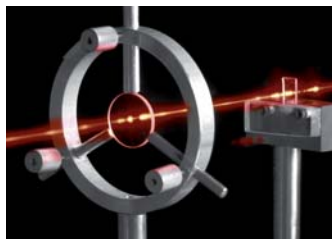
For additional product data and safety information, see chapter Chemicals A-Z.

Inorganic & analytical reagents · High purity



Product	Purity	Art. No.	Pack Qty. (g)	€
Calcium chloride hydrate	99,999 % (5N)	5056.1	10	107,40
Calcium hydroxide	99,995 % (4N5)	5617.1	5	53,65
		5617.2	25	181,70
Calcium nitrate hydrate	99,999 % (5N)	5058.1	5	46,15
		5058.2	25	149,45
Cerium(III) nitrate hexahydrate	99,999 % (5N)	5312.1	5	59,05
Cerium(III) acetate hydrate	99,999 % (5N)	5372.1	10	74,10
		5372.2	50	289,20
Cerium(III) sulphate	99,99 % (4N), anhydrous	5603.1	25	181,70
Cerium(III) sulphate octahydrate	99,995 % (4N5)	5601.1	50	170,95
		5601.2	250	665,45
Chromium(III) nitrate nonahydrate	99,999 % (5N)	5619.1	5	55,80
		5619.2	25	166,65
Chromium(III) oxide	99,9 % (3N)	4498.1	5	33,25
		4498.2	25	134,40
Cobalt powder	99,999 % (5N)	5620.1	5	78,40
		5620.2	25	256,95
Cobalt(II) nitrate hexahydrate	99,999 % (5N)	5291.1	10	160,20
		5291.2	25	396,70
Cobalt(II) sulphate hydrate	99,999 % (5N)	5326.1	10	67,65
Copper shot	99,9995 % (5N5)	5621.1	25	53,65
		5621.2	100	133,20
Copper powder	99,999 % (5N)	5386.1	10	117,20
		5386.2	50	482,70
Copper(I) chloride	99,995 % (4N5)	5379.1	10	78,40
		5379.2	50	256,95
Copper(I) iodide	99,995 % (4N5)	5300.1	10	59,05
		5300.2	50	213,95
Europium(III) oxide	99,995 % (4N5)	5394.1	5	246,20
Gallium	99,9999 % (6N)	4507.1	10	134,40
		4507.2	25	256,95
Gallium(III) nitrate hydrate	99,9995 % (5N5)	5548.1	25	241,90
Gallium(III) oxide	99,999 % (5N)	5377.1	10	127,95
Gold shot	99,999 % (5N)	5622.1	1	203,20
		5622.2	5	966,45
Gold(III) chloride	99,99 % (4N)	5624.1	1	224,70
Holmium(III) oxide	99,99 % (4N)	5338.1	10	203,20
		5338.2	50	643,95
Hydrogen hexachloro-platinate(IV) hydrate	99,995 % (4N5)	5626.1	1	155,90
Hydrogen hexachloro-platinate(IV) hydrate	99,995 % (4N5)	5626.2	5	740,70
Hydrogen tetrachloro-aurate(III) hydrate	99,999 % (5N)	5628.1	1	149,45
Indium shot	99,999 % (5N)	5629.1	5	49,35
		5629.2	25	170,95
Indium(III) bromide	99,999 % (5N)	5322.1	5	40,35
		5322.2	25	155,90
Indium(III) nitrate pentahydrate	99,999 % (5N)	5384.1	10	82,70
Indium(III) oxide	99,999 % (5N)	5630.1	5	43,55
		5630.2	25	145,15
Iodine(V) oxide	99,99 % (4N)	5364.1	5	36,45
		5364.2	25	138,70
Iron granules	99,99 % (4N)	5631.1	5	38,60
		5631.2	25	123,55
Iron(III) nitrate nonahydrate	99,9995 % (5N5)	5632.1	5	72,60
		5632.2	25	274,15

Product	Purity	Art. No.	Pack Qty. (g)	€
Iron(III) oxide	99,98 % (3N8)	5634.1	5	33,25
		5634.2	25	102,05
Lanthanum(III) nitrate hexahydrate	99,995 % (4N5)	5366.1	25	88,05
		5366.2	100	220,40
Lithium bromide	99,999 % (5N)	5062.1	25	115,60
		5062.2	50	177,40
Lithium carbonate	99,999 % (5N)	5635.1	10	38,20
		5635.2	25	66,55
		5635.3	100	209,65
Lithium chloride	99,999 % (5N), anhydrous	5079.1	25	110,65
		5079.2	50	177,40
Lithium fluoride	99,99 % (4N)	5082.1	5	50,45
		5082.2	25	155,90
Lithium nitrate	99,999 % (5N), anhydrous	5281.1	10	67,20
		5281.2	25	133,85
Lutetium(III) oxide	99,995 % (4N5)	5296.1	1	78,40
Magnesium chloride hexahydrate	99,999 % (5N)	5347.1	25	177,40
		5347.2	100	536,45
Magnesium nitrate hexahydrate	99,999 % (5N)	5420.1	10	45,05
		5420.2	50	92,35
Magnesium oxide	99,999 % (5N)	5639.1	10	96,65
Magnesium oxide	99,999 % (5N)	5639.2	50	407,45
Manganese flakes	99,99 % (4N)	4509.1	25	80,55
		4509.2	50	117,20
Manganese(II) acetate tetrahydrate	99,999 % (5N)	5641.1	5	53,65
		5641.2	25	138,70
Manganese(II) chloride tetrahydrate	99,995 % (4N5)	5304.1	25	100,95
		5304.2	100	310,70
Manganese(II) nitrate hydrate	99,995 % (4N5)	5392.1	10	91,30
		5392.2	25	192,45
Manganese(IV) oxide	99,995 % (4N5)	5383.1	5	40,35
		5383.2	25	138,70
Molybdenum(VI) oxide	99,98 % (3N8)	4548.1	5	44,00
		4548.2	10	73,00
Nickel powder	99,995 % (4N5)	5643.1	25	69,80
		5643.2	100	220,40
Nickel(II) chloride hexahydrate	99,999 % (5N)	5373.1	50	310,70
Nickel(II) nitrate hexahydrate	99,999 % (5N)	5387.1	100	203,20
		5387.2	500	697,70
Nickel(II) oxide	99,999 % (5N)	5388.1	50	209,65
		5388.2	100	375,20
Palladium powder	99,999 % (5N)	5648.1	1	192,45
Palladium(II) chloride	99,999 % (5N)	5653.1	1	117,20
		5653.2	5	504,20
Palladium(II) oxide	99,995 % (4N5)	5393.1	1	149,45
		5393.2	5	557,95
Platinum powder	99,999 % (5N)	5654.1	1	375,20
Potassium bromide	99,995 % (4N5)	5064.1	10	96,65
		5064.2	50	342,95
Potassium carbonate	99,995 % (4N5)	5335.1	10	42,90
		5335.2	50	134,40
Potassium chloride	99,995 % (4N5)	5346.1	25	67,65
		5346.2	100	198,90
Potassium fluoride	99,99 % (4N)	5656.1	5	47,85
		5656.2	25	166,65
di-Potassium hydrogen phosphate	99,99 % (4N), anhydrous	5066.1	25	149,45
Potassium hydroxide	99,98 % (3N8)	5658.1	100	99,90



Product	Purity	Art. No.	Pack Qty. (g)	€
Potassium iodide	99,999 % (5N)	5067.1	25	110,65
Potassium nitrate	99,999 % (5N)	5659.1	10	48,30
		5659.2	50	149,45
Potassium persulphate	99,99 % (4N)	5325.1	5	44,65
		5325.2	25	166,65
Potassium sulphate	99,995 % (4N5)	5071.1	10	83,75
Potassium tetrachloroaurate(III)	99,995 % (4N5)	5114.1	1	213,95
		5114.2	5	912,70
Potassium tetrachloroplatinate(II)	99,95 % (3N5)	5660.1	1	213,95
Rhodium(III) chloride hydrate	99,95 % (3N5)	5668.1	1	482,70
		5679.1	5	192,45
Rubidium chloride	99,98 % (3N8)	5679.2	10	321,45
		5293.1	5	138,70
Rubidium nitrate	99,99 % (4N)	5293.2	25	600,95
Ruthenium(III) chloride	99,9 % (3N), anhydrous	5686.1	1	81,60
		5686.2	5	353,70
Scandium(III) oxide	99,995 % (4N5)	5735.1	1	138,70
		5737.1	25	84,95
Selenious acid	99,999 % (5N)	5737.2	100	321,45
		4547.1	10	42,90
Selenium pellets	99,999 % (5N)	4547.2	50	160,20
Selenium(IV) oxide	99,999 % (5N)	5324.1	10	123,65
Silicon dioxide	99,998 % (4N8)	5738.1	5	39,25
		5738.2	25	97,75
Silver bromide	99,999 % (5N)	5739.1	5	55,80
		5739.2	25	203,20
		5302.1	1	42,50
Silver chloride	99,9999 % (6N)	5302.2	5	75,15
		5302.3	25	299,95
Silver nitrate	99,9999 % (6N)	4500.1	10	66,55
		4500.2	50	299,95
Silver nitrite	99,99 % (4N)	5065.1	10	149,45
		5065.2	50	493,45
Sodium acetate	99,99 % (4N), anhydrous	5380.1	25	74,10
Sodium bromide	99,999 % (5N)	5086.1	25	134,40
Sodium carbonate	99,999 % (5N), anhydrous	5740.1	5	40,75
		5740.2	25	138,70
		5741.1	5	34,30
Sodium chloride	99,999 % (5N)	5741.2	25	67,65
		5741.3	100	235,45

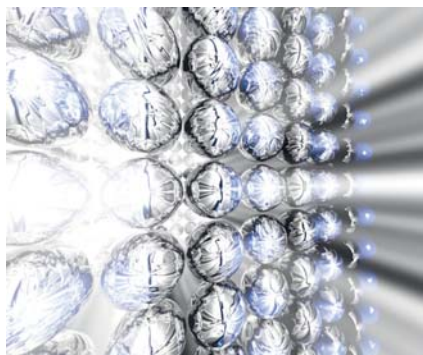
Product	Purity	Art. No.	Pack Qty. (g)	€
Sodium dihydrogen phosphate	99,999 % (5N), anhydrous	5075.1	25	138,70
Sodium fluoride	99,995 % (4N5)	4503.1	10	50,45
		4503.2	50	160,20
Sodium nitrate	99,999 % (5N)	5742.1	25	155,90
Sodium sulphate	99,999 % (5N)	5076.1	10	70,85
		5076.2	25	145,15
Strontium carbonate	99,998 % (4N8)	5376.1	5	46,15
		5376.2	25	123,65
Strontium nitrate	99,999 % (5N)	5078.1	25	138,70
		5745.1	5	41,40
Tellurium(IV) oxide	99,999 % (5N)	5745.2	10	71,50
		5745.3	50	235,45
Tetraammineplatinum(II) nitrate	99,995 % (4N5)	5746.1	1	299,95
Tin shot	99,999 % (5N)	5097.1	5	75,15
		5097.2	10	117,20
Titanium(IV) oxide	99,999 % (5N)	5747.1	5	48,30
		5747.2	25	145,15
Tungsten(VI) oxide	99,995 % (4N5)	5399.1	50	252,65
		5399.2	100	439,70
Vanadium(V) oxide	99,995 % (4N5)	5370.1	5	69,35
		5370.2	25	278,45
Ytterbium(III) chloride hexahydrate	99,999 % (5N)	5749.1	10	160,20
Ytterbium(III) oxide	99,999 % (5N)	5303.1	5	75,15
		5303.2	25	267,70
Yttrium(III) oxide	99,999 % (5N)	5751.1	10	63,35
		5751.2	50	188,15
Zinc shot	99,999 % (5N)	5345.1	25	41,40
		5345.2	100	127,95
Zinc oxide	99,999 % (5N)	5421.1	25	109,55
		5421.2	100	353,70
Zirconyl chloride octahydrate	99,995 % (4N5)	4502.1	10	55,80
Zirconyl nitrate hydrate	99,99 % (4N)	5415.1	25	224,70
		5415.2	100	665,45

For additional product data and safety information, see chapter Chemicals A-Z.

► Ultra pure acids, alkaline solutions and water
see page 1573

ROTI®REMETIC

Rare Earth Metal Inorganic Compounds



Our **ultra high purity rare earth metal compounds** work excellent for:

- Instrumental analytics
- Chemical analyses & syntheses
- Crystal growth technology
- Catalysis
- Doping agents
- Luminescent & fluorescent compounds
- Glas fibre technology
- Laser technology
- Fuel cells
- Oxidizing agents
- Electronic industry
- Ceramic manufacturing

Our mission is to offer the quality and service you require in research & development and in production. Excellent value for money and the option of ordering in semi-bulk are strong arguments in favour of the ROTI®REMETIC product range.

Ultra-high-purity metals compounds

Type	Purity*	CAS-Nr.	Art. No.	Pack Qty. (g)	€
Cerium(III) nitrate hexahydrate	99,99 %	10294-41-4	7049.1	5	50,45
			7049.2	25	75,15
Cerium(III) acetate hydrate	99,99 %	537-00-8	7084.1	10	68,70
			7084.2	50	213,95
Cerium(III) chloride	99,99 %	7790-86-5	7078.1	5	33,25
			7078.2	25	76,25
Cerium(III) oxalate hydrate	99,9 %	15750-47-7	7067.1	10	68,70
			7067.2	50	235,45
Cerium(IV) oxide	99,99 %	1306-38-3	7042.1	10	33,25
			7042.2	50	111,30
Dysprosium(III) oxide	99,9 %	1308-87-8	7145.1	5	22,40
			7145.2	25	67,20
Erbium(III) oxide	99,9 %	12061-16-4	7160.1	5	22,40
			7160.2	25	78,40
Europium(III) fluoride	99,99 %	13765-25-8	7134.1	1	67,20
			7127.1	1	44,65
Europium(III) oxide	99,999 %	1308-96-9	7127.2	5	143,55
			7187.1	5	111,30
			7187.2	10	198,90
			7187.3	50	665,45
Gadolinium(III) chloride hexahydrate	99,99 %	13450-84-5	7209.1	1	18,20
			7209.2	10	111,30
Gadolinium(III) oxide	99,999 %	12064-62-9	7189.1	1	16,70
			7189.2	5	26,80
			7189.3	50	213,95
	99,99 %	12064-62-9	7136.1	1	13,45
			7136.2	5	23,55
			7136.3	25	92,35
Holmium(III) fluoride	99,99 %	13760-78-6	7155.1	5	321,45
Holmium(III) oxide	99,99 %	12055-62-8	7149.2	5	90,20
Lanthanum(III) acetate hydrate	99,9 %	25721-92-0	7031.1	100	67,65
			7031.2	250	155,90
Lanthanum(III) carbonate hydrate	99,99 %	54451-24-0	7182.1	25	55,80
			7182.2	100	188,15
	99,9 %	54451-24-0	7026.1	50	32,15
			7026.2	250	127,95
Lanthanum(III) chloride hydrate	99,999 %	20211-76-1	7184.1	25	67,65
			7184.2	100	177,40
	99,99 %		7030.1	50	55,80
			7030.2	250	235,45
Lanthanum(III) fluoride	99,9 %	13709-38-1	7028.1	10	30,00
			7028.2	50	100,95
Lanthanum(III) nitrate hexahydrate	99,999 %	10277-43-7	7019.1	25	50,45
			7019.2	100	155,35
	99,99 %	10277-43-7	7180.1	50	55,80
			7180.2	250	220,40
Lanthanum(III) oxalate	99,999 %	537-03-1	7191.1	25	50,45
			7191.2	100	144,60

* TREO (Total Rare Earth Oxides)

For additional product data and safety information, see chapter Chemicals A-Z.



Type	Purity*	CAS-Nr.	Art. No.	Pack Qty. (g)	€
Lanthanum(III) oxide	99,999 %	1312-81-8	7410.2	100	198,90
Lanthanum(III) phosphate hydrate	99,99 %	14913-14-5	7203.1	5	55,80
			7203.2	25	155,90
Lutetium(III) nitrate hydrate	99,99 %	100641-16-5	7265.1	1	78,40
Lutetium(III) oxide	99,99 %	12032-20-1	7177.1	1	90,20
			7177.2	5	407,45
Neodymium(III) acetate hydrate	99,9 %	6192-13-8	7107.1	50	67,20
			7107.2	100	122,45
Neodymium(III) carbonate hydrate	99,9 %	38245-38-4	7103.1	10	33,25
			7103.2	50	112,35
Neodymium(III) chloride hexahydrate	99,99 %	13477-89-9	7283.1	1	17,10
Neodymium(III) oxide	99,999 %	1313-97-9	7092.1	5	55,80
			7092.2	25	220,40
Neodymium(III) nitrate hexahydrate	99,9 %	16454-60-7	7097.1	25	33,25
			7097.2	100	104,85
Praseodymium(III) carbonate octahydrate	99 %	14948-62-0	7090.1	5	55,80
			7090.2	25	133,85
Praseodymium(III) nitrate pentahydrate	99,5 %	14483-17-1	7088.1	10	27,85
			7088.2	50	96,25
Praseodymium (III,IV) oxide	99,99 %	12037-29-5	7087.1	1	22,40
			7087.2	5	90,20
Samarium(III) carbonate hydrate	99,98 %	38245-37-3	7120.1	10	85,90
			7120.2	50	289,20

Type	Purity*	CAS-Nr.	Art. No.	Pack Qty. (g)	€
Samarium(III) oxide	99,95 %	12060-58-1	7108.1	5	27,85
			7108.2	25	90,20
	7186.1		10	24,65	
	7186.2		50	98,80	
	7186.3		100	177,40	
Scandium(III) oxide	99,999 %	12060-08-1	7011.1	1	127,95
			7011.2	5	364,45
Terbium(III) nitrate pentahydrate	99,9 %	57584-27-7	7141.1	1	18,20
Terbium(III,IV) oxide	99,99 %	12738-76-0	7140.1	1	66,15
Thulium(III) nitrate pentahydrate	99,9 %	36548-87-5	7282.1	1	40,35
			7282.2	5	144,60
Thulium(III) oxide	99,95 %	12036-44-1	7172.1	1	127,95
Ytterbium(III) nitrate pentahydrate	99,9 %	35725-34-9	7257.1	5	37,10
			7257.2	25	78,40
Ytterbium(III) oxide	99,99 %	1314-37-0	7353.1	10	80,55
Yttrium(III) carbonate hydrate	99,99 %	38245-39-5	7284.1	25	112,35
			7284.2	50	203,20
Yttrium(III) oxide	99,99 %	1314-36-9	7352.1	25	81,60
			7352.2	100	144,60

* TREO (Total Rare Earth Oxides)

For additional product data and safety information, see chapter Chemicals A-Z.

► Ultra pure acids, alkaline solutions and water
see page 1573

ROTI® nanoMETIC

Nanoparticles



Our nanoparticles are well suited for many applications and are supplied as a hydrophilic powder that can be easily suspended in aqueous solutions.

Product	Purity	Art. No.	Pack Qty. (g)	€
Aluminium oxide, nano	≥99,9 %, 40 nm	8250.1	10	20,10
		8250.2	50	75,15
		8250.3	100	122,45
Copper, nano	≥97 %, 40 nm	8279.1	5	31,10
		8279.2	25	120,30
		8279.3	100	439,70
Copper(II) oxide, nano	≥99 %, 15-35 nm	8251.1	10	19,25
		8251.2	50	72,60
		8251.3	100	117,20
Titanium(IV) oxide, nano	≥99,9 %, 4-8 nm	8254.1	10	51,50
		8254.2	50	209,65
Zinc oxide, nano	≥99,5 %, 25 nm	8278.1	10	26,80
		8278.2	50	100,95
		8278.3	100	188,15
Zirconium(IV) oxide, nano	≥92,5 %, 10-30 nm	8255.1	10	25,70
		8255.2	50	98,40
		8255.3	100	184,90

For additional product data and safety information, see chapter Chemicals A-Z.

Phosphonic acids

Alkylphosphonic acids are perfect hydrophobization ligands, owing to their classical bifunctional chemical structure. They contain an non-polar organic hydrophobic alkyl chain and an active hydrophilic phosphonic acid group. These molecules are capable to strongly bind to the surface of different inorganic materials (SiO₂, Al₂O₃, TiO₂, Fe_xO_y, ZrO₂, ZnS etc.) forming a selfassembled coating layer. Phosphonic acids can also be used as ligands for the synthesis of nanoparticles to control the size and hydrophobic properties of the particles. Further they are well soluble in non-polar and many polar solvents. The acids are also soluble in water (especially upon addition of alkali) at lower concentrations.

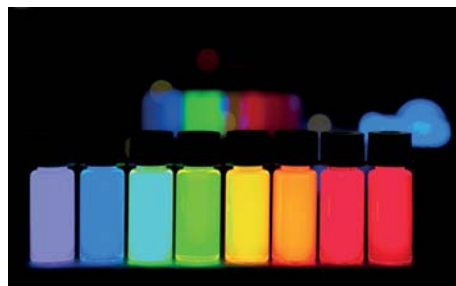
Phosphonic acids suitable for the production and modification of nanoparticles

Product	Art. No.	Pack Qty.	€
Hexadecylphosphonic acid	8466.1	1 g	34,95
	8466.2	5 g	128,90
Octadecylphosphonic acid	8468.1	1 g	35,40
	8468.2	5 g	127,95
Tetradecylphosphonic acid	8465.1	1 g	35,40
	8465.2	5 g	127,95

For additional product data and safety information, see chapter Chemicals A-Z.

Quantum Dots (QD)

Quantum dots are fluorescent nanoparticles of certain semiconducting materials, whose electronic properties closely depend on the size of the particles. The fluorescence wavelength shifts towards red for larger particles, and to blue for the smaller ones. This allows coverage of the complete visible colour spectrum with quantum dots of different sizes and yet the same material. The possibility to control the size of the particles during their manufacturing, allows to precisely adjust their electronic and fluorescent properties. The inorganic nature of quantum dots makes them far more stable than organic fluorescent dyes. Moreover, the surface of quantum dot particles is modified with carboxylic groups, which makes them highly soluble in water and enables covalent conjugation with proteins and other molecules.



Quantum Dots, hydrophilic

⚠ Warning H302+H312+H332-H400-H410

Product	Purity	Art. No.	Pack Qty. (mg)	€
Cadmium telluride	λ max. 510 ±5 nm	8256.1	5	57,95
		8256.2	10	93,00
Cadmium telluride	λ max. 570 ±5 nm	8257.1	5	57,95
		8257.2	10	93,00
Cadmium telluride	λ max. 610 ±5 nm	8258.1	5	57,95
		8258.2	10	93,00
Cadmium telluride	λ max. 710 ±5 nm	8260.1	5	57,95
		8260.2	10	93,00
Cadmium telluride	λ max. 780 ±5 nm	8261.1	5	57,95
		8261.2	10	93,00

Quantum Dots, hydrophobic

⚠ Warning H302+H332-H315-H319-H335

Cd-free

Product	Purity	Art. No.	Pack Qty. (mg)	€
Zn-Cu-In-S/ZnS	Cd-free, λ max. 530 ±15 nm	8609.1	5	46,80
		8609.2	10	69,80
Zn-Cu-In-S/ZnS	Cd-free, λ max. 560 ±15 nm	8610.1	5	46,80
		8610.2	10	69,80
Zn-Cu-In-S/ZnS	Cd-free, λ max. 590 ±15 nm	8618.1	5	46,80
		8618.2	10	69,80
Zn-Cu-In-S/ZnS	Cd-free, λ max. 610 ±15 nm	8614.1	5	46,80
		8614.2	10	69,80
Zn-Cu-In-S/ZnS	Cd-free, λ max. 650 ±15 nm	8616.1	5	46,80
		8616.2	10	69,80
Zn-Cu-In-S/ZnS	Cd-free, λ max. 700 ±15 nm	8615.1	5	46,80
		8615.2	10	69,80

Elements



Alloy

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Alloy acc. to Wood	used for metal heating baths	1980.1	250 g	plastic	33,25
		1980.2	1 kg	plastic	101,60

Aluminium, Al

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Aluminium granulate	≥99,5 %, gran., ~1-5 mm	5280.1	250 g	glass	17,75
		5280.2	1 kg	glass	31,75
Aluminium powder	≥99,5 %, powdered, <160 µm	5285.1	250 g	glass	25,30
		5285.2	1 kg	glass	64,40

Antimony, Sb

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Antimony	≥99,5 %, powder	9258.1	100 g	plastic	40,75
		9258.2	500 g	plastic	150,40

Bismuth, Bi

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Bismuth	≥99,5 %, powder	2735.1	50 g	glass	45,70
		2735.2	100 g	glass	78,40

Calcium, Ca

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Calcium	≥99,5 %, granules	2729.1	50 g	glass	65,05

Carbon, C

Product	Purity	Art. No.	Pack Qty.	Verp.	€
Graphite	natural, amorphous	7614.2	500 g	plastic	16,15
		7614.3	1 kg	plastic	24,20
		7614.1	3 kg	plastic	39,70

Copper, Cu

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Copper beads	≥99,9 %, beads	2728.1	100 g	glass	36,45
Copper sheet	sheet: 0,1 mm thick, 60 cm wide	8540.1	250 g	card board	32,80
		8540.2	1 kg	card board	70,25
Copper powder	≥99,8 %, p.a., <63 µm	CP21.1	100 g	plastic	16,35
		CP21.2	500 g	plastic	49,35
Copper wool 	~99 %	9597.1	100 g	plastic	16,05
		9597.2	250 g	plastic	28,95

Gallium, Ga

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Gallium	99,9999 %	3761.1	5 g	glass	72,60

Gold, Au

Product	Purity	Art. No.	Pack Qty.		€
Sheets of gold	22 carat, sheet 80 x 80 mm	7605.1	25 sheets		100,55

Indium, In

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Indium foil	99,99 % (4N)	9803.1	10 g	plastic	213,95
Indium shot	>99,97 %, granulated	3906.1	10 g	glass	48,30

Iodine, I

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Iodine	≥99,8 %, p.a., ACS, resublimated	X864.1	100 g	glass	60,10
		X864.2	250 g	glass	109,55
		X864.3	1 kg	glass	382,60
	≥99,5 %, Ph.Eur., resublimated	7935.3	100 g	glass	45,05
		7935.1	250 g	glass	103,75
		7935.2	1 kg	glass	364,45
		7335.1	250 g	glass	77,30
	≥99,5 %, resublimated	7335.2	500 g	glass	137,10
		7335.3	1 kg	glass	256,95
		7335.4	2,5 kg	glass	514,95

Iron, Fe

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Iron	≥99,5 %, p.a., powdered	3718.3	100 g	plastic	16,70
		3718.1	250 g	plastic	31,10
		3718.4	1 kg	plastic	78,40
		3718.2	2,5 kg	plastic	165,05
Iron, reduced 	≥96 %, powdered, extra pure	9454.1	250 g	plastic	16,05
		9454.2	1 kg	plastic	39,70
		9454.3	2,5 kg	plastic	75,15
Iron wool 	~97 %	9588.1	100 g	plastic	10,65
		9588.2	250 g	plastic	18,20

Lead, Pb

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Lead	≥99,9 %, granules	2734.1	50 g	plastic	37,55
		2734.2	100 g	plastic	64,00

Magnesium, Mg

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Magnesium Ribbon	≥99,5 %, tape	4468.1	1 roll	Box	93,45
Magnesium Filings	≥99,9 %, acc. to Grignard, for synthesis	AE61.1	250 g	tin	16,35
		AE61.2	500 g	tin	24,95
		AE61.3	1 kg	tin	40,75
Magnesium Powder	≥99,8 %, <75 µm	CP20.1	100 g	plastic	12,70
		CP20.2	500 g	plastic	35,40

Mercury, Hg

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Mercury	≥99,9995 %, p.a.	8530.1	100 g	glass	38,60
		8530.2	1 kg	plastic	185,90
	≥99,999 %	7593.1	100 g	glass	28,95
		7593.3	500 g	glass	105,90
		7593.2	1 kg	plastic	175,15
	≥99,9 %	7594.2	100 g	glass	25,30
		7594.1	1 kg	plastic	166,10

Nickel, Ni

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Nickel powder	≥99 %, <63 µm	CP22.1	100 g	plastic	26,70

For additional product data and safety information, see chapter Chemicals A-Z.

Inorganic & analytical reagents · Auxiliary reagents

Platinum, Pt

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Platinum wire	99,9 %	8415.1	100 mm	plastic	67,65
		8415.2	500 mm	plastic	224,70
Platinum black	98,2-98,7 %	8408.1	250 mg	glass	40,35
		8408.2	1 g	glass	144,60

Silver, Ag

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Silver sheet	Sheet 100 x 100 x 0,1 mm	8816.1	1 sheet		67,20
Silver wire	wire, Ø 0,1 mm	8819.1	310 m	plastic	138,70
	wire, Ø 0,5 mm	8821.1	25 g	plastic	128,50
		8821.2	100 g	plastic	435,40
Silver wool	≥99,9 %, for elementary analysis	9373.1	10 g	plastic	62,25
Sheets of silver	thickness 0,004 mm, sheet 95 x 95 mm	9367.1	25 sheets)		34,10

Sodium, Na

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Sodium	≥99 %, rods, in paraffin oil	4469.1	250 g	plastic	143,55

Sulphur, S

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Sulphur	>99,999 %	4669.1	10 g	plastic	55,40
		9304.1	1 kg	plastic	16,70
	>99,5 %, ground	9304.2	5 kg	carton	50,45
		9304.5	25 kg	plastic	138,70

Tin, Sn

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Tin beads	≥99,8 %, beads	2731.1	50 g	plastic	34,30
		2731.2	100 g	plastic	62,90
Tin granules	p.a., granulated	4016.2	50 g	plastic	38,20
		4016.1	250 g	plastic	128,50
Tin foil	pure	9296.1	250 g	roll	63,45

Zinc, Zn

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Zinc granule	≥99,99 %, p.a., particle size: 5-15 mm	AE99.1	250 g	plastic	16,05
		AE99.2	500 g	plastic	24,20
		AE99.3	1 kg	plastic	34,30
Zinc dust	>98 %, particle size <63 µm	9524.2	500 g	glass	26,80
		9524.3	1 kg	glass	37,55
		9524.1	2,5 kg	glass	66,55

For additional product data and safety information, see chapter Chemicals A-Z.

Desiccants

Desiccants can absorb water and bind it chemically (reversibly or irreversibly) or physically.

The main desiccants can be subdivided into four categories:

- non-renewable chemical desiccants
- renewable chemical desiccants
- silica gels
- molecular sieves



Non-renewable desiccant

Desiccant	Suitable for	Not suitable for	Purity	Art. No.	Pack Qty.	Packaging	€
Aluminium	Alcohols	-	≥99,5 %, powdered, <160 µm	5285.1	250 g	glass	25,30
				5285.2	1 kg	glass	64,40
			≥99,5 %, gran., ~1-5 mm	5280.1	250 g	glass	17,75
				5280.2	1 kg	glass	31,75
Calcium	Alcohols	-	≥99,5 %, granules	2729.1	50 g	glass	65,05
Magnesium	Alcohols	-	≥99,5 %, tape	4468.1	1 roll	Box	93,45
			≥99,8 %, <75 µm	CP20.1	100 g	plastic	12,70
				CP20.2	500 g	plastic	35,40
			≥99,9 %, acc. to Grignard, for synthesis	AE61.1	250 g	tin	16,35
				AE61.2	500 g	tin	24,95
				AE61.3	1 kg	tin	40,75
Phosphorous pentoxide	Neutral and acidic gases, saturated aliphatic and aromatic hydrocarbons, acetylene, anhydrides, nitriles, alkyl and aryl halides, hydrogen sulphide	Alcohols, amines, acids, ketones, ethers, hydrogen chloride, hydrogen fluoride	≥99 %, powdered	9076.1	500 g	plastic	21,75
				9076.2	1 kg	plastic	32,15
				9076.3	2,5 kg	plastic	71,50
Potassium hydroxide	Alkaline fluids (e.g. amines)	Acids, esters, amides, phenols	≥85 %, p.a., pellets	6751.3	250 g	plastic	14,95
				6751.1	1 kg	plastic	24,65
				6751.2	5 kg	plastic	84,40
				6751.5	25 kg	plastic	256,95
Sodium	Ethers, saturated aliphatic and aromatic hydrocarbons, tertiary amines	Acids, acid derivatives, alcohols, aldehydes, ketones, alkyl and aryl halides	≥99 %, rods, in paraffin oil	4469.1	250 g	plastic	143,55
Sodium hydroxide	Alkaline fluids (e.g. amines)	Acids, acid derivatives, phenols	≥99 %, p.a., ISO, in pellets	6771.3	500 g	plastic	16,05
				6771.1	1 kg	plastic	23,90
				6771.2	5 kg	plastic	85,90
				6771.5	25 kg	plastic	260,15
Sulphuric acid, concentrated	Inert neutral and acidic gases and in dessicators	Unsaturated and other organic compounds, hydrogen sulphide, hydrogen iodide	96 %, p.a., ISO	4623.3	250 ml	glass	17,75
				4623.1	1 l	glass	29,60
				4623.4	1 l	plastic	25,70
				4623.2	2,5 l	glass	59,05
				4623.5	2,5 l	plastic	59,35
				4623.6	10 l	plastic	110,20

For additional product data and safety information, see chapter Chemicals A-Z.



Inorganic & analytical reagents · Auxiliary reagents

Renewable desiccants

Desiccant	Suitable for	Not suitable for	Regeneration	Purity	Art. No.	Pack Qty.	Pack.	€
Calcium chloride	Saturated, olefin and aromatic hydrocarbons, alkyl halides, ethers, multiple esters, acetone	Ammonia, amines, alcohols, aldehydes, phenols, several esters, ketones	250 °C	≥98 %, dehydrated, powder	CN93.1	500 g	plastic	23,90
					CN93.2	1 kg	plastic	35,40
					CN93.3	2,5 kg	plastic	74,20
				≥96 %, dehydrated, granular material	CN92.1	500 g	plastic	22,80
					CN92.2	1 kg	plastic	34,95
					CN92.3	2,5 kg	plastic	72,60
				≥94 %, dehydrated	A119.1	1 kg	plastic	17,10
					A119.2	5 kg	plastic	44,65
					A119.5	25 kg	plastic	107,40
Calcium oxide	Ammonia, amines, alcohols, nitrous oxide, ether	Acids, acid derivatives, aldehydes, ketones, ester	1000 °C	≥96 %, powdered, extra pure	CN88.1	500 g	plastic	13,90
					CN88.2	1 kg	plastic	21,75
					CN88.3	5 kg	plastic	76,90
Calcium carbonate	Alkaline solvents (e.g. ammonia, amines), nitriles, chlorinated hydrocarbons, acetone	Acids	158 °C, finely powdered from as low as 100 °C	≥99 %, p.a., ACS	P743.1	500 g	plastic	24,20
					P743.2	1 kg	plastic	37,55
					P743.3	2,5 kg	plastic	81,60
Copper (II) sulphate	Low fatty acids, alcohols, ester	Amines, nitriles, ammonia	Above 50 °C under vacuum	≥98 %, p.a., anhydrous	P023.1	250 g	plastic	32,15
					P023.2	1 kg	plastic	94,10
					P023.3	2,5 kg	plastic	195,15
Magnesium oxide	Alkaline fluids, hydrocarbons, alcohols	Acidic compounds	800 °C	≥98 %, Ph.Eur., light	8280.2	500 g	plastic	18,50
					8280.1	1 kg	plastic	25,30
					8280.3	5 kg	plastic	105,90
Magnesium sulphate	Almost all compounds including acids, acid derivatives, aldehydes, esters, nitriles and ketones	-	First 200 °C then red heat	≥99 %, dried, extra pure, DAC	0261.1	500 g	plastic	14,20
					0261.2	1 kg	plastic	18,20
					0261.3	2,5 kg	plastic	33,25
Sodium sulphate	Alkyl and aryl halides, fatty acids, ester, aldehydes, ketones	-	150 °C	≥99 %, p.a., ACS, ISO, powdered, anhydrous	8560.3	500 g	plastic	23,90
					8560.1	1 kg	plastic	32,50
					8560.2	5 kg	plastic	132,25
					8560.5	25 kg	plastic	471,95

For further product information and safety guidelines, refer to Chemicals A-Z.

Drying methods for solvents

TIPP

Solvent	Molecular sieve	Potassium carbonate	Calcium chloride	Phosphorus pentoxide
Acetic acid	-	-	-	+
Acetic acid anhydride	-	-	+	-
Acetic acid ethyl ester	4 Å	+	-	+
Acetic acid methyl ester	4 Å	+	-	+
Acetone	3 Å	+	+	-
Acetonitrile	3 Å	+	+	+
Benzene	4 Å	-	+	-
1-Butanol	-	+	-	-
2-Butanol	-	+	-	-
1-Butanone	-	+	+	-
Chloroform	4 Å	-	+	+
Cyclohexane	4 Å	-	-	-
Dichloromethane	4 Å	-	-	-
Diethylether	4 Å	-	+	-
Diisopropyl ether	4 Å	-	+	-
Dimethyl formamide	4 Å	-	-	-
Dioxan	4 Å	-	+	-
Ethanol	3 Å	-	-	-
Ethyle formate	-	-	+	-
n-Hexane	4 Å	-	-	-
Methanol	3 Å	-	+	-
2-Propanol	3 Å	-	-	-
Pyridine	4 Å	-	-	-
Tetrahydrofurane	4 Å	-	+	-
Toluene	4 Å	-	+	-
Trichloroethylene	-	+	-	-
Xylene (Isomer compound)	4 Å	-	+	-



Silica Gels

Silica gels protect moisture sensitive goods or chemicals during storage and transport. They are suitable for drying virtually all gases and solids.

Silica gels have a broad spectrum of application in the laboratory and in technical and industrial sectors:

- Possible applications in the laboratory are in desiccators, drying towers and in absorption tubes
- In the industrial sector they are mainly used in drying plants and with various types of packaging
- Are not suitable for drying liquids and alkaline substances

Silica Gel Blue

Alternative product: economically priced and environmentally friendly silica gel.

- **Free of cobalt(II) chloride**
- Colour change from blue to fuchsia
- Regeneration in drying cabinet at approx. 130 °C, for approx. 4 hours



Silica gel blue

2-4 mm, with colour indicator, pearls

Drying agent, drying pearls blue

Type analysis:

Particle size. 2-4 mm
 Adsorption capacity:
 20 % rel. humidity. approx. 8 %
 50 % rel. humidity. approx. 20 %
 Filled under protective gas. Colour change from blue to fuchsia.
 Regeneration at ~130 °C, approximately 4 hours.

2440.1	500 g	plastic	16,70 €
Original pack 6 x 500 g			15,87/500 g
2440.2	1 kg	plastic	25,30 €
Original pack 6 x 1 kg			24,04/1 kg
2440.3	2,5 kg	plastic	50,45 €
2440.4	10 kg	plastic	169,35 €

Silica Gel Orange

The environmentally friendly, alternative product to Blue Gel, used in the past.

Properties:

- Total adsorption capacity is similar to blue gel (Silica Gel Blue)
- Large surface (approx. 750 m²/g), enables high absorption capacity of steam
- Adsorption capacity: approx. 40 wt % at 80 % relative humidity
- Patented humidity indicator - **heavy metal free**
- **Colour change from orange to colourless at approx. 6 wt% load**



Silica gel orange

2-5 mm, with colour indicator, pearls

Drying agent, Drying pearls orange.

Colour change from orange to colourless.

Type analysis:

Particle size. 2-5 mm
 BET-surface. approx. 750 m²/g
 Adsorptive capacity:
 10 % rel. humidity. approx. 6,5 weight %
 80 % rel. humidity. approx. 42 weight %
 Filled under protective gas. Colour change from orange to colourless at approx. 6 weight-% load. Regeneration at 130 °C, approx. 4 hours.

P077.4	500 g	plastic	23,90 €
Original pack 6 x 500 g			22,71/500 g
P077.1	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			34,25/1 kg
P077.2	2,5 kg	plastic	69,80 €
P077.3	10 kg	plastic	211,80 €

Desiccant Sachets

Desiccant sachets protect valuable and sensitive goods against dampness.

Properties:

- Manufactured from white long fiber paper
- Filling: Silica Gel Orange (colour change from orange to colourless at 15-20 wt% shows the degree of saturation of the sachet)
- The different sized bags (4 x 9 cm, 10 x 10 cm, 9 x 12 cm) and different volumes (10 g, 25 g, 50 g) enable multi-purpose application.

Application:

Used in packaging for storage and transport to protect sensitive electronic instruments, equipment, machine parts, chemical products and goods against dampness.

Regeneration:

Is not possible for the desiccant bags, as the long fiber paper is not temperature-stable.



Desiccant sachet Silica gel orange

Type analysis:

Adsorption capacity:

20 % rel. humidity.	approx. 10 %
40 % rel. humidity.	approx. 19 %
50 % rel. humidity.	approx. 23 %
Colour change from orange to colourless.	

Packaging	Art. No.	Pack Qty.	€
10 g (4 x 9 cm)	N077.2	75 pieces/box	30,00
25 g (10 x 10 cm)	N078.1	30 pieces/box	25,30
50 g (9 x 12 cm)	N079.1	20 pieces/box	36,05

In order to achieve low residual water content over the silica gel, the capacity can only be utilised partially. The less silica gel is loaded with water the more intensively it dries. For example, to achieve a residual water content of 1 mg/l the loading must not be higher than 5,2 g water / 100 g silica gel.

Silica Gel without colour indicator

- Non toxic
- Regeneration at approx. 130 °C; approx. 4 hours
- Easy to handle
- Can be mixed with Silica Gel Orange/Blue
- Straightforward disposal



Drying Agent
Silica Gel
SiO₂

Silica gel industry grade pearls, without indicator

Universal drying agent, drying of buildings.

Suitable, for example, for:

- drying buildings
- drying carpets and furniture
- and much more

Application:

- distributing approx. 6-8 kg/m². Caution! Standing water must be removed beforehand
- keep windows and doors closed. Turn off heating.
- depending on moisture level, the dry pearls can be removed after approx. 1-10 days
- checking for water absorption: dry 1 kg of moist product in oven for approx. 4 hours at 150 °C and weigh subsequently. If the weight difference (=water absorption) is approx. 360 g, the product should be replaced

Type analysis:

Appearance.	pearls, colourless to brown
Particle size.	1-2,3 mm
BET-surface.	approx. 750 m ² /g
Adsorption capacity:	
10 % rel. humidity.	approx. 6 weight %
80 % rel. humidity.	approx. 45 weight %
Regeneration at 130-150 °C.	

CN70.1	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			34,25/1 kg
CN70.2	5 kg	plastic	131,70 €
CN70.3	10 kg	plastic	239,75 €
CN70.4	25 kg	plastic	547,20 €

Silica gel white 0,5-1 mm, granules

Type analysis:

Absorption capacity:

10 % rel. humidity.	approx. 5 weight %
80 % rel. humidity.	approx. 28 weight %
Regeneration at ~130 °C, approximately 4 hours.	

9376.1	1 kg	plastic	30,65 €
Original pack 6 x 1 kg			29,12/1 kg
9376.2	5 kg	plastic	107,40 €

1-3 mm, granules

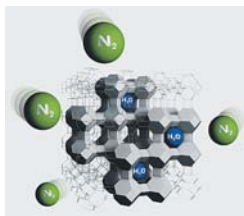
Type analysis:

Absorption capacity:

10 % rel. humidity.	approx. 6 weight %
80 % rel. humidity.	approx. 32 weight %
Regeneration at ~130 °C, approximately 4 hours.	

T858.1	1 kg	plastic	34,95 €
Original pack 6 x 1 kg			33,20/1 kg
T858.2	5 kg	plastic	113,45 €

Molecular Sieves



For drying, cleaning or separating liquids and gases.

Properties:

- Spherical metal aluminium silicates
- Spheres Ø 1,6-2,5 mm and 2,5-5,0 mm
- Active surface: 600-700 m²/g
- Activated at 500-600 °C

Typical application:

- In desiccators, drying tubes, columns
- For drying streaming gases
- For absoluting organic solvents (Molecular sieves with pore sizes 3, 4, 5 and 10 Å are most suitable)
- For keeping absolute solvents dry
- For separating organic solvents

Critical molecular diameter of frequent molecules,
in Å (1 Ångström = 10⁻¹⁰ m = 0,1 nm)

Acetylene	2,4	Ethyl mercaptane	5,1
Ammonia	3,6	Helium	2,0
Argon	3,8	Hydrogen	2,4
Benzene	6,8	Hydrogen sulphide	3,6
n-Butane and superior n-hydrocarbons	4,9	Methane	4,0
i-Butane and superior i-hydrocarbons	5,6	Methanol	4,4
Carbon dioxide	2,8	Methyl mercaptane	4,5
Carbon monoxide	2,8	Nitrogen	3,0
Chlorodifluoromethane	4,9	Oxygen	2,8
Cyclohexane	6,1	Propane	4,9
Dichlorodifluoromethane	4,9	Propylene	5,0
Ethane	4,4	Water	2,8
Ethanol	4,4	o-Xylene	7,4
Ethylene	4,2		

Regenerating:

- In drying cabinets at 200-300 °C
- Through pressure change or rinsing



Molecular sieve 3 Å

activated, under argon

Suitable for PolyGen® synthesiser, 3 Å.

Storage temp.: +20 °C

N893.1	100 ml	glass	11,50 €

Molecular sieve 3 Å

0,3 nm, type 564, pearls

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Storage temp.: +20 °C

Type analysis:

H ₂ O ads. capacity (10 % R.H./25 °C).	≥15,5 %
Loss on ignition.	≤2,5 %

8487.1	250 g	glass	25,30 €

8487.2	750 g	glass	56,90 €

Molecular sieve 3 Å

0,3 nm, type 562 C, pearls

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 2,5-5,0 mm.

Storage temp.: +20 °C

Type analysis:

H ₂ O ads. capacity (10 % R.H./25 °C).	≥15,5 %
Loss on ignition.	≤2,5 %
Globe diameter.	2,5-5,0 mm

P729.1	250 g	glass	25,30 €

P729.2	750 g	glass	56,90 €

Molecular sieve 4 Å

0,4 nm, type 514, pearls

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Storage temp.: +20 °C

Type analysis:

H ₂ O ads. capacity (10 % R.H./25 °C).	≥17,5 %
Loss on ignition.	≤2,5 %

8471.1	250 g	glass	27,85 €

8471.2	750 g	glass	58,60 €

Molecular sieve 5 Å

0,5 nm, type 522, pearls

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Storage temp.: +20 °C

Type analysis:

H ₂ O ads. capacity (10 % R.H./25 °C).	≥17,0 %
Water content.	≤0,9 %

8475.1	250 g	glass	27,85 €

8475.2	750 g	glass	58,60 €

Molecular sieve 10 Å

1,0 nm, type 544, pearls

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Storage temp.: +20 °C

Type analysis:

H ₂ O ads. capacity (10 % R.H./25 °C).	≥17,0 %
Water (KF).	≤0,8 %

8483.1	250 g	glass	27,85 €

8483.2	750 g	glass	58,60 €

Ion Exchanger

The ion exchanger offered in our range differ depending on their application and requirements. Three different types are available:

- **Mixed bed ion exchanger**
- **Classical cation and anion exchanger**
- **Cation and anion exchanger for analytical purposes**

Typical applications:

- Water treatment
- Pharmaceutical industry and biochemistry
- Production and purifying of chemicals
- Classical laboratory analysis

Amberjet™ Mixed Bed Ion Exchanger



Amberjet™

mixed bed exchanger, highly pure

Mixed bed resin made of highly regenerated strongly acidic cation exchanger and strongly basic anion exchanger. Especially suited for all demanding applications, e.g. for disposable cartridges in systems with highly purified water in the electronics industry. Manufactured by a special process allowing the production of highly purified water as far as organic impurities and others are concerned. Contains stoichiometric amounts of cation and anion exchanger capacities.

Type analysis:

Delivery form.....H⁺/OH⁻
Specific load.....10-50 BV/h
Exchanger capacity cation/anion.....1:1
Particle size.....0,3-1,2 mm

K306.1	100 g	plastic	26,35 €
K306.2	500 g	plastic	53,65 €
Original pack 6 x 500 g			50,97/500 g

Dowex® Ion Exchanger



• Anion exchanger, highly basic

Ion exchanger on a microporous styrene DVB copolymerisate base.

Active group: quaternary ammonium compound type I

• Cation exchanger, highly acidic

Matrix: polystyrene - DVB

Active group: sulphonate

DOWEX® Resin Properties

Description	DOWEX® 1 X	DOWEX® 50 WX
Type	Strongly basic anion exchanger	Strongly acid cation exchanger
Functional Group	Trimethyl ammonium	Sulphonic acid
Cross linkage (% DVB)	2 or 8	2 or 8
Ion form	Cl ⁻	H ⁺
Volume charge (%)	Cl ⁻ → OH ⁻ + 20 %	Na ⁺ → H ⁺ + 8 %
Effective working range (pH)	0 - 14	0 - 14
Selectivity for ions	I ⁻ > NO ₃ ⁻ > Br ⁻ > Cl ⁻ > Acetat ⁻ > OH ⁻ > F ⁻	Ag ⁺ > Cs ⁺ > Rb ⁺ > K ⁺ > NH ₄ ⁺ > Na ⁺ > Li ⁺ > Ba ²⁺ > Sn ²⁺ > Ca ²⁺ > Mg ²⁺ > Be ²⁺
Total exchange capacity (eq/l)	approx. 0,6 - 1,4	approx. 0,6 - 1,7
Thermal stability	OH ⁻ form max. 50 °C Cl ⁻ form max. 150 °C	Na ⁺ form max. 120 °C H ⁺ form max. 80 °C
Moisture (%)	39 - 80	40 - 82

Dowex® Ion Exchanger

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Dowex® 1 X 2	50-100 mesh, Cl ⁻ -form	0302.1	100 g	plastic	110,20
		0302.2	1 kg	plastic	848,20
Dowex® 1 X 2	100-200 mesh, Cl ⁻ -form	0303.1	100 g	plastic	110,20
		0303.2	1 kg	plastic	848,20
Dowex® 1 X 2	200-400 mesh, Cl ⁻ -form	0304.1	100 g	plastic	130,10
		0309.1	250 g	plastic	214,50
Dowex® 1 X 8	20-50 mesh, Cl ⁻ -form	0309.2	1 kg	plastic	719,20
		0310.1	250 g	plastic	306,40
Dowex® 1 X 8	50-100 mesh, Cl ⁻ -form	0310.2	1 kg	plastic	962,15
		0311.1	100 g	plastic	113,45
Dowex® 1 X 8	100-200 mesh, Cl ⁻ -form	0311.2	1 kg	plastic	962,15
		0312.1	100 g	plastic	137,10
Dowex® 1 X 8	200-400 mesh, Cl ⁻ -form	0312.2	1 kg	plastic	1052,45
		0334.1	100 g	plastic	126,35
Dowex® 50 W X 2	100-200 mesh, H ⁺ -form	N099.1	100 g	plastic	96,65
		N099.2	1 kg	plastic	811,65
Dowex® 50 W X 8	50-100 mesh, H ⁺ -form	0344.1	250 g	plastic	274,15
		0345.1	100 g	plastic	95,70
Dowex® 50 W X 8	100-200 mesh, H ⁺ -form	0346.1	100 g	plastic	112,90

For additional product data and safety information, see chapter Chemicals A-Z.

Ion Exchanger Roti® change

Roth's product range Roti®change contains ion exchanger, which are particularly suitable for analytical purposes. The corresponding polystyrene based resins were specially purified to reduce extractable residues to less than 1 mg/g resin.

Cation exchange resins

Our cation exchange resins are available as 4 % and 8 % divinylbenzene (DVB) cross-linked polymers with sulphonate as active group. All cation exchange resins are provided in hydrogen (H⁺) form.

Typical applications are: removal of ethidium bromide/propidium iodide from DNA samples; separation and preconcentration of amino acids, peptides and nucleotides; desalting (removal of cations) and separation of metal ions.



Product	Purity	Art. No.	Pack Qty.	Packaging	€
Ion exchange resin Roti®change 50 W x 4	100-200 mesh, analytical grade, H ⁺ -form	6864.1	100 g	plastic	160,20
		6864.2	250 g	plastic	332,20
		6864.3	500 g	plastic	611,70
Ion exchange resin Roti®change 50 W x 8	50-100 mesh, analytical grade, H ⁺ -form	6865.1	100 g	plastic	224,70
		6865.2	250 g	plastic	471,95
		6865.3	500 g	plastic	869,70
Ion exchange resin Roti®change 50 W x 8	100-200 mesh, analytical grade, H ⁺ -form	6866.1	100 g	plastic	192,45
		6866.2	250 g	plastic	407,45
		6866.3	500 g	plastic	729,95
Ion exchange resin Roti®change 50 W x 8	200-400 mesh, analytical grade, H ⁺ -form	6867.1	100 g	plastic	203,20
		6867.2	250 g	plastic	428,95
		6867.3	500 g	plastic	772,95

Anion exchange resins

Our anion exchange resins are also available as 4 % and 8 % divinylbenzene (DVB) cross-linked polymers but with quaternary amines as active groups. All anion exchange resins are provided in chloride (Cl⁻) form. Typical applications are: exchange of anions of salts; separation of uranium complexes (uranyl ions); cyclic nucleotide assays and fractionation of organic acids.

Product	Purity	Art. No.	Pack Qty.	Packaging	€
Ion exchange resin Roti®change 1 x 4	50-100 mesh, analytical grade, Cl ⁻ -form	6849.1	100 g	plastic	138,70
		6849.2	250 g	plastic	284,80
		6849.3	500 g	plastic	525,70
Ion exchange resin Roti®change 1 x 4	100-200 mesh, analytical grade, Cl ⁻ -form	6851.1	100 g	plastic	192,45
		6851.2	250 g	plastic	396,70
		6851.3	500 g	plastic	751,45
Ion exchange resin Roti®change 1 x 8	20-50 mesh, analytical grade, Cl ⁻ -form	6852.1	100 g	plastic	77,30
		6852.2	250 g	plastic	160,20
		6852.3	500 g	plastic	289,20
Ion exchange resin Roti®change 1 x 8	50-100 mesh, analytical grade, Cl ⁻ -form	6854.1	100 g	plastic	160,20
		6854.2	250 g	plastic	332,20
		6854.3	500 g	plastic	611,70
Ion exchange resin Roti®change 1 x 8	100-200 mesh, analytical grade, Cl ⁻ -form	6855.1	100 g	plastic	160,20
		6855.2	250 g	plastic	332,20
		6855.3	500 g	plastic	611,70
Ion exchange resin Roti®change 1 x 8	200-400 mesh, analytical grade, Cl ⁻ -form	6856.1	100 g	plastic	181,70
		6856.2	250 g	plastic	364,45
		6856.3	500 g	plastic	686,95

For additional product data and safety information, see chapter Chemicals A-Z.

Filtering Agents and Eluants

Activated Charcoal

Activated charcoals are used in many areas within the chemical and pharmaceutical industry. The charcoal is available in powder or broken coal format and as extruded charcoal, depending on the application.

Activated carbon and its application

Qualities of activated carbon	Art. No.	Air-purification	Gas-purification	Water-purification	Chemical industry	Pharmaceutical industry
Powder carbon	X865 5963	-	-	-	x	x
Carbon mould block	0998	x	x	-	-	-
Broken carbon	5966	-	x	x	x	-



Charcoal activated

p.a., powder

Adsorbent

C

M 12,01 g/mol

Analytic activated carbon with extensive trace analysis.

Methylene blue adsorption (0,15 % solution) ≥100 ml/g

X865.1	250 g	plastic	21,20 €
X865.2	500 g	plastic	32,80 €
Original pack 6 x 500 g			31,16/500 g
X865.3	1 kg	plastic	60,10 €
Original pack 6 x 1 kg			57,10/1 kg

Charcoal activated

powder, for decolourisation

Activation process: Phosphoric acid activation.

C

M 12,01 g/mol

Warning H252

Activated carbon with high absorption capacity and excellent filtering quality. Primarily used for the absorption of organic substances of high molecular weight, e.g. proteins and large colour molecules.

Methylene blue adsorption ≥25 g/100 g

5963.3	500 g	plastic	29,60 €
Original pack 6 x 500 g			28,12/500 g
5963.1	1 kg	plastic	45,70 €
Original pack 6 x 1 kg			43,42/1 kg
5963.2	5 kg	plastic	111,30 €



Charcoal activated

1-3 mm, made from peat, grey

Fractured coal

C

M 12,01 g/mol

Methylene blue adsorption 11 g/100 g

5966.1	1 kg	plastic	28,95 €
Original pack 6 x 1 kg			27,50/1 kg
5966.2	5 kg	plastic	106,45 €
5966.4	25 kg	plastic	418,20 €

Charcoal activated

~3 mm, steam activated

For gas cleaning. Extruded charcoal.

C

M 12,01 g/mol

Butane adsorption (p/p₀=0,1) 18-23 g/100 g

0998.1	500 g	plastic	35,40 €
Original pack 6 x 500 g			33,63/500 g
0998.2	1 kg	plastic	59,05 €
Original pack 6 x 1 kg			56,10/1 kg
0998.3	5 kg	plastic	212,35 €

Charcoal for determination of AOX

Charcoal activated

for the determination of AOX (column method)

C

M 12,01 g/mol

Type analysis:

Iodine value ≥1050 mg/g
Chloride (Cl) ≤0,0005 %
Particle size ~50-150 µm

1299.1	10 g	glass	70,85 €

Charcoal activated

for the determination of AOX (shaking method)

C

M 12,01 g/mol

Warning H252

Type analysis:

Iodine value ≥1050 mg/g
Chloride (Cl) ≤0,0005 %
Particle size ≤50 µm

1319.1	10 g	glass	66,15 €



Further filtration agents

Product	Purity		Art. No.	Pack Qty.	€
Glass wool	chemically pure, of borosilicate glass	Resistant against solvents and most acids and bases. For filtering or as final stopper in chromatography columns.	7377.2	500 g	20,65
			7377.1	1 kg	33,90
	for normal laboratory work, chemically resistant glass according to DIN 1259-1	Filter aid	6574.1	500 g	16,70
Infusorial earth	natural	For filtration of organic solutions.	8019.3	1 kg	16,05
			8019.1	5 kg	34,95
			8019.2	20 kg	89,15
Quarz	>99 % powdered, <125 µm	Resistant to chemicals (except very strong alkalis)	4651.2	500 g	15,80
			4651.1	1 kg	21,75
			4651.3	5 kg	47,85
	fine, cryst., 0,4-0,8 mm	Filtration aids	7897.1	2,5 kg	18,20
			7897.2	20 kg	54,75
	cryst., 0,6-1,3 mm	Filtration aids	7898.1	2,5 kg	19,25
			7898.2	20 kg	56,90
Quarz wool	chemically pure	Ideal for elementary analysis or as a final stopper in chromatography columns; filter aid.	9208.1	10 g	20,35
			9208.2	100 g	131,05
Sea sand	p.a., purified and calcinated	Filtration aids	4309.2	500 g	57,55
			4309.1	1 kg	107,00
	extra pure, purified by acid	Filtration aids	8441.3	500 g	26,80
			8441.1	1 kg	42,90
			8441.2	5 kg	170,95
Silicic acid	for chromatography	Acc. to Ramsey and Patterson.	0201.1	250 g	19,05
			0201.2	1 kg	51,50

For additional product data and safety information, see chapter Chemicals A-Z.

Celite® - Silicate Basis



Prepared and standardized celite for application as a filtering aid or as carrier material in column chromatography.

Composition:

approx. 90 % SiO_2 , 2-5 % Al_2O_3 , 1-4 % Fe_2O_3 and various other oxides in a low concentration, that is why the Celites® may be slightly tinted.

The complete Celite® range at a glance

Product	Permeability (Darcy)	Art. No.	Pack Qty.	€
Celite® 503	1,27-2,4	0007.2	1 kg	23,90
		0007.1	2,5 kg	48,30
Celite® 512	0,28-0,76	0050.2	1 kg	19,90
		0050.1	2,5 kg	37,55
Celite® 535	1,8-3,9	0009.2	1 kg	18,50
		0009.1	2,5 kg	37,55
Celite® 545	3,5-5,5	0011.3	250 g	11,00
		0011.2	1 kg	21,00
		0011.1	2,5 kg	30,00
		0011.4	10 kg	88,70
		0011.5	25 kg	166,65
Celite® Standard Super Cel®	0,16-0,36	0003.2	1 kg	20,65
		0003.1	2,5 kg	38,20
Celite® Hyflo Super Cel®	0,73-1,64	0005.2	1 kg	22,05
		0005.1	2,5 kg	40,75

For additional product data and safety information, see chapter Chemicals A-Z.

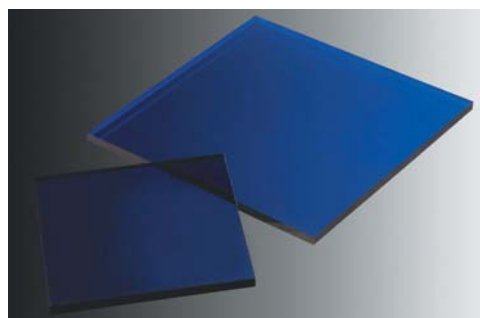
- Chromatography columns made of Duran® see chapter Labware, page 145
- For further sorbents, see chapter Chromatography, page 1523

Preliminary tests for qualitative determination

Flame colouration

Platinum wire

Product	Purity	Art. No.	Pack Qty.	€
Platinum wire	99,9 %	8415.1	100 mm	67,65
		8415.2	500 mm	224,70



Sight glasses / Cobalt glasses

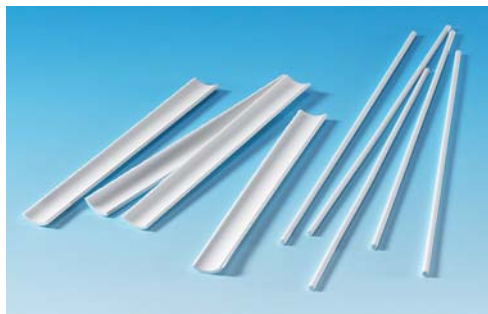
Made of cobalt glass. With cut edges. Approx. 2,5 mm thick.

Dimensions (mm)	Art. No.	Pack Qty.	€
50 x 50	P221.1	2	13,10
75 x 75	P222.1	2	21,85
100 x 100	P223.1	2	28,20

Flame colours of some metals

Metal	without glass	with glass
Barium (Ba)	yellow green	blue green
Calcium (Ca)	brickred	light green
Caesium (Cs)	blue	-
Potassium (K)	violet	crimson
Copper (Cu)	green	-
Lithium (Li)	red	-
Sodium (Na)	yellow	-
Rubidium (Rb)	violet	-
Strontium (Sr)	crimson	violet

Oxidizing melt



Magnesia scoops

For the preparation of the oxidizing melt upon detection of chromium, manganese etc. For bead tests.
W 9 mm x l 100 mm.

6537.1	25 pieces	cardboard	20,40 €

Potassium carbonate

≥99 %, p.a., ACS

Drying agent, disintegrating agent

Potash

K_2CO_3

M 138,21 g/mol

⚠ **Warning** H315-H319-H335

P743.1	500 g	plastic	24,20 €
Original pack 6 x 500 g			22,99/500 g
P743.2	1 kg	plastic	37,55 €
Original pack 6 x 1 kg			35,67/1 kg
P743.3	2,5 kg	plastic	81,60 €

Potassium nitrate

≥99 %, p.a., ISO

Reagent for the oxidative disintegration of anorganic and organic samples.

KNO_3

M 101,11 g/mol

⚠ **Danger** H272

P021.1	500 g	plastic	20,35 €
Original pack 6 x 500 g			19,33/500 g
P021.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
P021.3	2,5 kg	plastic	62,25 €

Phosphorous salt bead/ borax bead

Magnesia rods

Ideal for flame analysis of sodium etc., for borax bead analysis of cobalt and for bead tests.

Ø 1,5 mm x l 140 mm.

6543.1	25 pieces	cardboard	21,45 €

Sodium ammonium hydrogen phosphate tetrahydrate

≥99 %, p.a.

Reagent for Mg; phosphorus salt bead

Ammonium sodium phosphate, sec-Sodium ammonium phosphate

$NaNH_4HPO_4 \cdot 4 H_2O$

M 209,07 g/mol

T882.1	500 g	plastic	60,10 €
Original pack 6 x 500 g			57,10/500 g
T882.2	1 kg	plastic	87,65 €
Original pack 6 x 1 kg			83,27/1 kg
T882.3	2,5 kg	plastic	197,30 €

di-Sodium tetraborate decahydrate

≥99,5 %, p.a., ACS

For qualitative analysis. Decomposition agent.

Borax

$Na_2B_4O_7 \cdot 10 H_2O$

M 381,37 g/mol

⚠ **Danger** H360FD

T880.1	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
T880.2	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg
T880.3	2,5 kg	plastic	83,75 €

Other reagents

Hexamethylene tetramine

Urotropin, Methenamine, Hexamine

 **Warning** H228-H317

ROTIPURAN® ≥99 %, p.a., ACS



4366.1	100 g	plastic	14,85 €
4366.2	500 g	plastic	26,35 €
Original pack 6 x 500 g			25,03/500 g
4366.3	1 kg	plastic	43,55 €
Original pack 6 x 1 kg			41,37/1 kg
4366.4	2,5 kg	plastic	85,90 €

≥99 %, extra pure

4484.1	500 g	plastic	17,75 €
Original pack 6 x 500 g			16,86/500 g
4484.2	1 kg	plastic	25,30 €
Original pack 6 x 1 kg			24,04/1 kg
4484.3	2,5 kg	plastic	52,15 €

Thioacetamide

≥99 %, p.a.

TAA, Thioacetimidic acid



 **Danger** H302-H315-H319-H350-H412

8646.1	50 g	plastic	32,15 €
8646.2	100 g	plastic	53,65 €
8646.3	250 g	plastic	117,20 €
8646.4	500 g	plastic	203,20 €
Original pack 6 x 500 g			193,04/500 g

► Test sticks see page 784



② Rotilabo®-fermentation tube

Made of borosilicate glass 3.3. With NS 29/32 ground glass joint. Height 200 mm. Autoclavable.

Art. No.	Pack Qty.	€
ACL2.1	1	31,00

① Rotilabo®-fermentation tube

Made of soda-lime glass. With 2 spheres and extension. Overall length 200 mm, tube Ø approx. 10-11 mm. Autoclavable.

Art. No.	Pack Qty.	€
CKY8.1	1	3,20



Anion detection



Carbonate CO₃²⁻

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Barium hydroxide octahydrate	≥98 %, p.a., ISO	P009.2	250 g	plastic	24,20
		P009.1	500 g	plastic	36,45
		P009.3	1 kg	plastic	55,80

Chloride Cl⁻

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Silver nitrate	≥99,9 %, p.a., Ultra quality	6874.1	10 g	plastic	35,40
		6874.2	50 g	plastic	134,40
		6874.3	250 g	plastic	493,45
	≥99,9 %, p.a.	7908.1	50 g	plastic	106,45
		7908.2	250 g	plastic	439,70
		7908.3	1 kg	plastic	1558,75

Nitrate NO₃⁻

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Sulphanilic acid	≥98 %, p.a., ACS	4496.1	100 g	plastic	28,50
		4496.2	500 g	plastic	107,40
Zinc dust	>98 %, particle size <63 µm	9524.2	500 g	glass	26,80
		9524.3	1 kg	glass	37,55
		9524.1	2,5 kg	glass	66,55
Zinc granule	≥99,99 %, p.a., particle size: 5-15 mm	AE99.1	250 g	plastic	16,05
		AE99.2	500 g	plastic	24,20
		AE99.3	1 kg	plastic	34,30

Phosphate PO₄³⁻

Product	Purity	Art. No.	Pack Qty.	Pack.	€
Zirconyl nitrate hydrate	99,99 % (4N)	5415.1	25 g	plastic	224,70
		5415.2	100 g	plastic	665,45
Zirconyl chloride octahydrate	99,995 % (4N5)	4502.1	10 g	plastic	55,80

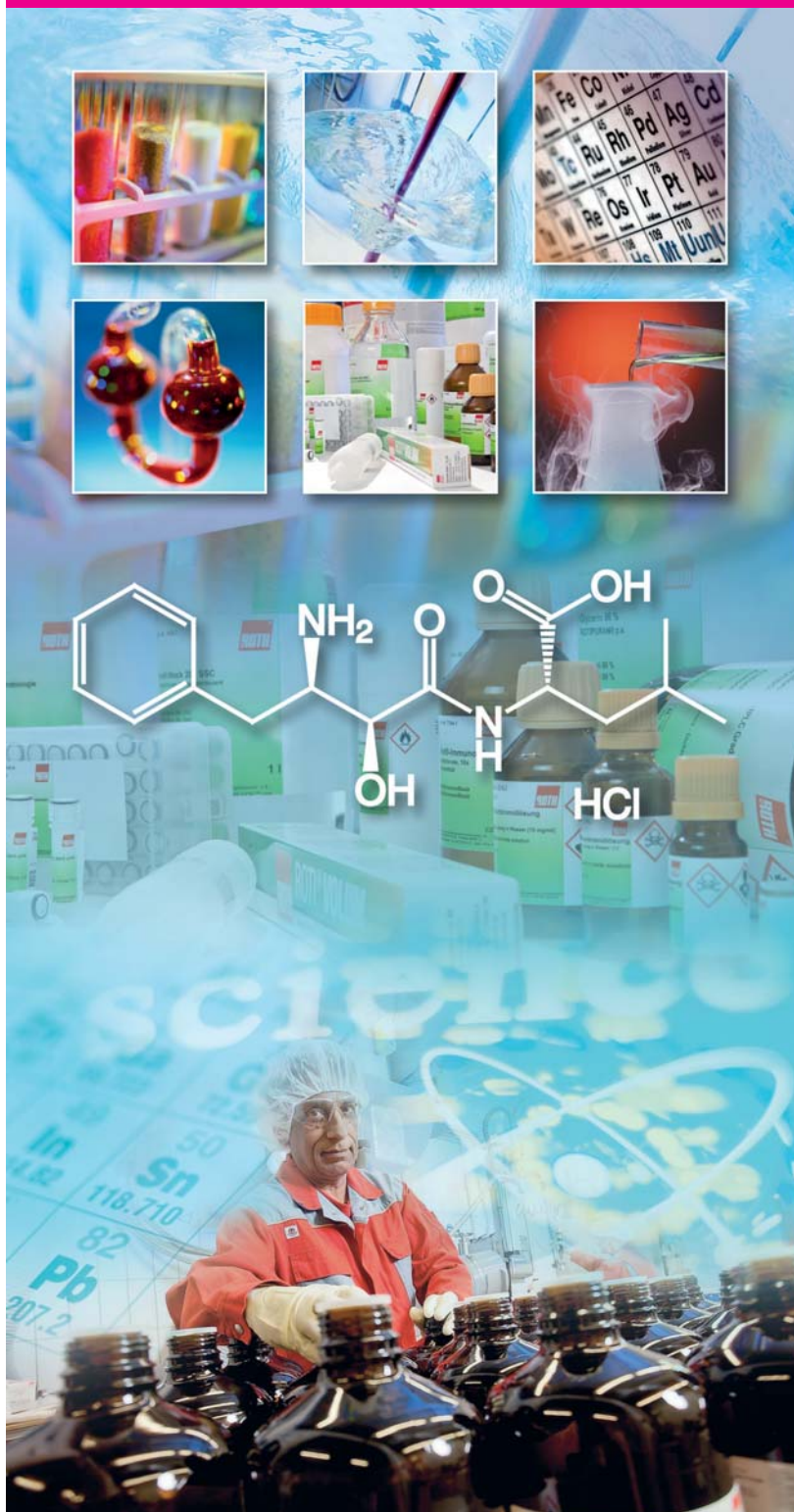
Sulphate SO₄²⁻

Product	Purity	Art. No.	Pack Qty.	Pack.g	€
Barium chloride dihydrate	≥99 %, p.a., ACS, ISO	4453.1	250 g	plastic	14,55
		4453.2	500 g	plastic	21,40
		4453.3	1 kg	plastic	35,80
		4453.4	2,5 kg	plastic	75,80
		4453.5	25 kg	plastic	633,20

For additional product data and safety information, see chapter Chemicals A-Z.

► Cation detection and metal indicators see page 1552

► Acids p.a. see page 1565



Chemicals & Natural Reagents A-Z

A	1596
B	1664
C	1702
D	1758
E	1796
F	1822
G	1843
H	1866
I	1895
J	1914
K	1915
L	1919
M	1942
N	1979
O	1997
P	2018
Q	2075
R	2078
S	2115
T	2195
U	2230
V	2234
W	2240
X	2243
Y	2247
Z	2250

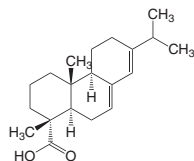
Abbreviations and Symbols	2255
Labelling acc. to 67/548/EEC	2257
Labelling acc. to GHS	2261
CAS-Numerical Index	2267

A

AAS standards

- Standards for AAS:
(Atom Absorption Spectroscopy)
Element Standards 1000 mg/l,
ready to use see p. 2167

Abietic acid



Sylvic acid
 $C_{20}H_{30}O_2$
M 302,46 g/mol
bp 250 °C
mp 175 °C
[514-10-3] • EC No. 208-178-3
UN No. 3077 • ADR 9 III

Warning

H315-H319-H335-H400-H413

Abietic acid

≥70 %

Type analysis:

Appearance..... yellow powder
Assay (GC)..... ≥70,0 %

5008.1	25 g	plastic	69,35 €

Abietic acid

pure

Type analysis:

Appearance..... pale yellow pellets
Softening point..... 92-98 °C
Acid value..... ≤15

5005.2	500 g	plastic	23,15 €
Original pack 6 x 500 g 21,99/500 g			
5005.1	1 kg	plastic	36,45 €
Original pack 6 x 1 kg 34,63/1 kg			

Absinthon

- α+β-Thujone see p. 2208

Absorbents

Art. No.	Description	Page
3287	Basosorb	1667
X865	Charcoal activated	1727
5966	Charcoal activated	1727
0998	Charcoal activated	1727
5963	Charcoal activated	1727
2888	Chemicals absorbant fleece	669
E391	Industrial sorbent	669
6153	Iodized activated coal	1903
AKX3	Laboratory emergency kit	669
9461	Mercurisorb-ROTH®	1956
CTC2	Oil binder Penta 99	668
A377	Oil sorbent	668
0411	Pyracidosorb-ROTH®	2072
T856	Sekuroka® Decon-Bags	1144
5128	Sekuroka®-Fleece wipes	
	Rhodia®-Sorb	668
8652	Soda lime	2139
9356	Sodium hydroxide	2150
1710	Universal absorber Rotisorb®	2231
EAA8	UNI-SAFE chemical and oil binder	668

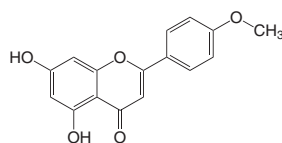
H-DL-Abu-OH

- DL-2-Aminobutyric acid see p. 1630

ACAC

- Acetyl acetone see p. 1608

Acacetin



5,7-Dihydroxy-4'-methoxyflavone, Linarigenin
 $C_{16}H_{12}O_5$
M 284,26 g/mol
mp ~265 °C
Storage temp.: +4 °C
[480-44-4] • EC No. 207-552-3
 Warning H315-H319-H335

Acacetin

ROTICHROM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

6531.1	10 mg	glass	189,10 €

Acacetin

ROTICHROM® ~CHR

5010.1	25 mg	glass	109,55 €

Acacia

- Gum arabic see p. 1866

ACC

- N-Acetyl-L-cysteine see p. 1609

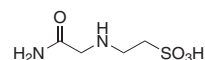
Accelerator DMP-30

- Glycidether Accelerator DMP-30 see p. 1860

Ac-Cys-OH

- N-Acetyl-L-cysteine see p. 1609

ACES



ACES

PUFFERAN® ≥99 %

N-(2-Acetamido)-2-aminoethanesulphonic acid

$C_4H_{10}N_2O_4S$

M 182,20 g/mol

mp 270-295 °C

Solubility: 40 g/l (H₂O, 20 °C)

[7365-82-4] • EC No. 230-908-4

WGK 2

Guarantee analysis:

Appearance..... white powder
Assay (titr.)..... ≥99,0 %
Loss on drying..... ≤1,0 %
pH-value (1 % solution)..... 3,6-4,4
UV-absorption (5 % in H₂O):
260 nm..... ≤0,05
280 nm..... ≤0,05

9138.1	10 g	plastic	19,25 €

9138.2	100 g	plastic	141,40 €

For further information, please see page 1214

Acetaldehyde



Acetaldehyde

≥99,5 %, p.a.

Ethanal

C₂H₄O

M 44,05 g/mol

D 0,78 • bp 21 °C

mp -123 °C • flp -20 °C

Storage temp.: +4 °C

[75-07-0] • EC No. 200-836-8

UN No. 1089 • ADR 3 I • WGK 1

Danger H224-H351-H319-H335

Guarantee analysis:

Assay (GC).....	≥99,5 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Potassium (K).....	≤0,00005 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Lithium (Li).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Molybdenum (Mo).....	≤0,00001 %
Sodium (Na).....	≤0,00005 %
Nickel (Ni).....	≤0,000002 %
Strontium (Sr).....	≤0,00001 %
Bismuth (Bi).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %
Refractive index n _D ²⁰	1,331-1,333
Evaporation residue.....	≤0,002 %
Free acid (as CH ₃ COOH).....	≤0,5 %

3004.1	100 ml	glass	21,40 €

Acetamide Broth (Solution A)

Acetamide Broth (Solution A)

DEV, EN ISO 16266:2008, for microbiology
For confirmation of *Pseudomonas aeruginosa* in water samples.

Application: Use 3,4 g for 1 l broth. Solubilise in 900 ml, add freshly prepared solution B (sodium molybdate, Art. No. 0274.1, and iron sulfate, Art. No. P015.1) and adjust with water to 1 l.

Storage temp.: +20 °C

[60-35-5] • EC No. 200-473-5

WGK 1

Warning H351

Guarantee analysis:

Potassium dihydrogen phosphate.....	1 g/l
Magnesium sulphate (MgSO ₄).....	0,2 g/l
Acetamide.....	2 g/l
Sodium chloride (NaCl).....	0,2 g/l
pH value.....	7,0 ±0,5

CP61.1	500 g	plastic	165,05 €

Original pack 6 x 500 g 156,80/500 g

For further information, please see page 1315

N-(2-Acetamido)-2-aminoethanesulphonic acid

▶ ACES see p. 1596

2-Acetamido-2-deoxy-D-galactose

▶ N-Acetyl-D-galactosamine see p. 1610

2-Acetamido-2-deoxy-D-glucopyranose

▶ N-Acetyl-D-glucosamine see p. 1610

2-Acetamido-2-deoxy-D-mannopyranose

▶ N-Acetyl-D-mannosamine see p. 1611

N-(2-Acetamido)-iminodiacetic acid

▶ ADA see p. 1614

Acetamidomalonic acid diethyl ester

▶ Diethyl acetamidomalonate see p. 1773

2-Acetamido-3-mercaptopropionic acid

▶ N-Acetyl-L-cysteine see p. 1609

L-α-Acetamido-β-mercaptopropionic acid

▶ N-Acetyl-L-cysteine see p. 1609

Acetic anhydride

▶ Acetic acid anhydride see p. 1600

Acetate Standards

▶ Acetate IC Standard Solution see p. 2180

Acetic acid Ultra-quality

Acetic acid Ultra-quality

ROTIPURAN® Ultra 100 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis.

Glacial acetic acid, Methane carboxylic acid, Methyl carbonic acid, Ethanoic acid

C₂H₄O₂

M 60,05 g/mol

D 1,05 • bp ~118 °C

mp ~17 °C • flp +40 °C

[64-19-7] • EC No. 200-580-7

UN No. 2789 • ADR 8 (3) II • WGK 1

Danger H314-H226-H290

Guarantee analysis:

Assay (w/w).....	≥99 %
Aluminium (Al).....	≤50 ppt
Antimony (Sb).....	≤50 ppt
Arsenic (As).....	≤50 ppt
Barium (Ba).....	≤10 ppt
Beryllium (Be).....	≤10 ppt
Lead (Pb).....	≤10 ppt
Cadmium (Cd).....	≤10 ppt

Cesium (Cs).....	≤10 ppt
Calcium (Ca).....	≤50 ppt
Cerium (Ce).....	≤10 ppt
Chromium (Cr).....	≤10 ppt
Dysprosium (Dy).....	≤1 ppt
Iron (Fe).....	≤50 ppt
Erbium (Er).....	≤1 ppt
Europium (Eu).....	≤1 ppt
Gadolinium (Gd).....	≤1 ppt
Gallium (Ga).....	≤10 ppt
Germanium (Ge).....	≤10 ppt
Hafnium (Hf).....	≤10 ppt
Holmium (Ho).....	≤1 ppt
Indium (In).....	≤1 ppt
Potassium (K).....	≤50 ppt
Cobalt (Co).....	≤10 ppt
Copper (Cu).....	≤10 ppt
Lanthanum (La).....	≤1 ppt
Lithium (Li).....	≤10 ppt
Lutetium (Lu).....	≤10 ppt
Magnesium (Mg).....	≤50 ppt
Manganese (Mn).....	≤10 ppt
Molybdenum (Mo).....	≤10 ppt
Sodium (Na).....	≤100 ppt
Neodymium (Nd).....	≤1 ppt
Nickel (Ni).....	≤50 ppt
Platinum (Pt).....	≤50 ppt
Praseodymium (Pr).....	≤1 ppt
Rhenium (Re).....	≤10 ppt
Rhodium (Rh).....	≤50 ppt
Rubidium (Rb).....	≤10 ppt
Ruthenium (Ru).....	≤50 ppt
Samarium (Sm).....	≤1 ppt
Scandium (Sc).....	≤10 ppt
Silver (Ag).....	≤50 ppt
Strontium (Sr).....	≤10 ppt
Tellurium (Te).....	≤1 ppt
Terbium (Tb).....	≤1 ppt
Thallium (Tl).....	≤10 ppt
Thorium (Th).....	≤1 ppt
Thulium (Tm).....	≤1 ppt
Titanium (Ti).....	≤10 ppt
Uranium (U).....	≤1 ppt
Vanadium (V).....	≤10 ppt
Bismuth (Bi).....	≤10 ppt
Tungsten (W).....	≤10 ppt
Ytterbium (Yb).....	≤1 ppt
Yttrium (Y).....	≤1 ppt
Zinc (Zn).....	≤50 ppt
Tin (Sn).....	≤50 ppt
Zirconium (Zr).....	≤10 ppt

HN65.2	250 ml	plastic (FEP)	327,90 €

HN65.1	500 ml	plastic (FEP)	467,65 €

HN65.3	1 l	plastic (FEP)	740,70 €

Original pack 6 x 1 l 703,67/1 l

For further information, please see page 1573

Acetic acid Supra-quality

Acetic acid Supra-quality

ROTIPURAN® Supra 100 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

Glacial acetic acid, Methane carboxylic acid, Methyl carbonic acid, Ethanoic acid



M 60,05 g/mol

D 1,05 • bp ~118 °C

mp ~17 °C • flp +40 °C

[64-19-7] • EC No. 200-580-7

UN No. 2789 • ADR 8 (3) II • WGK 1

  **Danger** H314-H226-H290

Guarantee analysis:

Assay (w/w).....	≥99 %
Colour (APHA).....	≤10
Chloride (Cl).....	≤0,0001 %
Phosphate (PO ₄).....	≤0,0001 %
Sulphate (SO ₄).....	≤0,00005 %
Aluminium (Al).....	≤1 ppb
Antimony (Sb).....	≤0,5 ppb
Arsenic (As).....	≤0,5 ppb
Barium (Ba).....	≤0,5 ppb
Beryllium (Be).....	≤0,1 ppb
Lead (Pb).....	≤0,1 ppb
Cadmium (Cd).....	≤0,5 ppb
Cesium (Cs).....	≤0,1 ppb
Calcium (Ca).....	≤1 ppb
Cerium (Ce).....	≤0,1 ppb
Chromium (Cr).....	≤1 ppb
Dysprosium (Dy).....	≤0,1 ppb
Iron (Fe).....	≤1 ppb
Erbium (Er).....	≤0,1 ppb
Europium (Eu).....	≤0,1 ppb
Gadolinium (Gd).....	≤0,1 ppb
Gallium (Ga).....	≤0,1 ppb
Germanium (Ge).....	≤0,5 ppb
Hafnium (Hf).....	≤0,1 ppb
Holmium (Ho).....	≤0,1 ppb
Indium (In).....	≤0,1 ppb
Potassium (K).....	≤1 ppb
Cobalt (Co).....	≤0,1 ppb
Copper (Cu).....	≤0,5 ppb
Lanthanum (La).....	≤0,1 ppb
Lithium (Li).....	≤0,1 ppb
Lutetium (Lu).....	≤0,1 ppb
Magnesium (Mg).....	≤0,5 ppb
Manganese (Mn).....	≤0,5 ppb
Molybdenum (Mo).....	≤0,5 ppb
Sodium (Na).....	≤1 ppb
Neodymium (Nd).....	≤0,1 ppb
Nickel (Ni).....	≤0,5 ppb
Platinum (Pt).....	≤0,5 ppb
Praseodymium (Pr).....	≤0,1 ppb
Mercury (Hg).....	≤1 ppb
Rhenium (Re).....	≤0,1 ppb
Rhodium (Rh).....	≤0,5 ppb
Rubidium (Rb).....	≤0,1 ppb
Ruthenium (Ru).....	≤0,5 ppb
Samarium (Sm).....	≤0,1 ppb
Scandium (Sc).....	≤0,1 ppb
Selenium (Se).....	≤1 ppb
Silver (Ag).....	≤1 ppb
Strontium (Sr).....	≤0,5 ppb
Tellurium (Te).....	≤0,5 ppb
Terbium (Tb).....	≤0,1 ppb
Thallium (Tl).....	≤0,1 ppb
Thorium (Th).....	≤0,1 ppb
Thulium (Tm).....	≤0,1 ppb
Titanium (Ti).....	≤0,5 ppb
Uranium (U).....	≤0,1 ppb
Vanadium (V).....	≤0,5 ppb
Bismuth (Bi).....	≤0,1 ppb
Tungsten (W).....	≤0,5 ppb
Ytterbium (Yb).....	≤0,1 ppb
Yttrium (Y).....	≤0,1 ppb
Zinc (Zn).....	≤1 ppb
Tin (Sn).....	≤0,5 ppb
Zirconium (Zr).....	≤0,1 ppb

KMnO₄ reducing substances..... complies
K₂Cr₂O₇ reducing substances..... complies

HN55.1	500 ml	plastic	71,95 €
HN55.3	1 l	plastic	110,65 €
Original pack 6 x 1 l			105,12/1 l
HN55.4	2,5 l	plastic	136,55 €
Original pack 4 x 2,5 l			129,72/2,5 l

For further information, please see page 1573

Acetic acid 100 %

Glacial acetic acid, Methane carboxylic acid, Methyl carbonic acid, Ethanoic acid



M 60,05 g/mol

D 1,05 • bp 118 °C

mp 16,6 °C • flp +40 °C

[64-19-7] • EC No. 200-580-7

UN No. 2789 • ADR 8 (3) II • WGK 1

  **Danger** H314-H226-H290

Acetic acid 100 %

ROTIPURAN® 100 %, p.a.

Guarantee analysis:

Assay.....	≥99,8 %
Colour (Hazen).....	≤5
Aldehydes/acetaldehyde.....	≤0,0002 %
Sulphate (SO ₄).....	≤0,0002 %
Chloride (Cl).....	≤0,0001 %
Calcium (Ca).....	≤0,00001 %
Sodium (Na).....	≤0,00005 %
Potassium (K).....	≤0,00005 %
Mercury (Hg).....	≤0,0000002 %
Aluminium (Al).....	≤0,000005 %
Cadmium (Cd).....	≤0,000001 %
Copper (Cu).....	≤0,000001 %
Iron (Fe).....	≤0,00001 %
Lead (Pb).....	≤0,000001 %
KMnO ₄ red. matter.....	complies
Evaporation residue.....	≤0,0005 %
Solidification point.....	16,5 °C

3738.1	1 l	glass	22,50 €
Original pack 6 x 1 l			21,38/1 l
3738.4	1 l	plastic	21,40 €
Original pack 6 x 1 l			20,33/1 l
3738.2	2,5 l	glass	48,95 €
Original pack 4 x 2,5 l			46,50/2,5 l
3738.5	2,5 l	plastic	46,15 €
Original pack 4 x 2,5 l			43,84/2,5 l
3738.3	10 l	plastic	115,60 €

Acetic acid 100 %

100 %, Ph.Eur., extra pure

Guarantee analysis:

Appearance.....	clear, colourless liquid
Assay.....	99,8-100,5 %
Identity.....	complies
Colour (Hazen).....	≤5
Formic acid.....	≤0,01 %
Iron (Fe).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0005 %
Chloride (Cl).....	≤0,0025 %
Sulphate (SO ₄).....	≤0,005 %
Aldehydes/acetaldehyde.....	≤0,0002 %
Potassium dichromate stable.....	complies
Potassium permanganate red. matter.....	complies
Evaporation residue.....	≤0,01 %
Solidification point.....	≥14,8 °C

6755.1	1 l	glass	20,35 €
Original pack 6 x 1 l			19,33/1 l
6755.2	2,5 l	glass	41,40 €
Original pack 4 x 2,5 l			39,33/2,5 l

Acetic acid 99-100 %

≥99 %, for synthesis

Type analysis:

Assay.....	≥99 %
Colour (Hazen).....	≤5
Formic acid.....	≤0,01 %

7332.1	1 l	plastic	17,10 €
Original pack 6 x 1 l			16,25/1 l
7332.4	2,5 l	plastic	34,30 €
Original pack 4 x 2,5 l			32,59/2,5 l
7332.2	5 l	plastic	61,20 €
Original pack 2 x 5 l			58,14/5 l
7332.3	10 l	plastic	91,95 €
7332.5	25 l	plastic	170,95 €

Acetic acid 96 %

Methane carboxylic acid, Methyl carbonic acid, Ethanoic acid



M 60,05 g/mol

D 1,05 • bp 118 °C

mp 16,6 °C • flp +40 °C

[64-19-7] • EC No. 200-580-7

UN No. 2789 • ADR 8 (3) II • WGK 1

  **Danger** H314-H226-H290

Acetic acid 96 %

ROTIPURAN® ≥95,9 %, p.a.

Guarantee analysis:

Assay.....	≥95,9 %
Colour (Hazen).....	≤10
Aldehydes/acetaldehyde.....	≤0,0002 %
Formic acid, formiate.....	≤0,01 %
Chloride (Cl).....	≤0,00005 %
Sulphate (SO ₄).....	≤0,00005 %
Aluminium (Al).....	≤0,00001 %
Lead (Pb).....	≤0,00005 %
Iron (Fe).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00002 %
Potassium (K).....	≤0,00001 %
Copper (Cu).....	≤0,000001 %
Magnesium (Mg).....	≤0,00001 %
Sodium (Na).....	≤0,00005 %
Zinc (Zn).....	≤0,000005 %
KMnO ₄ reducing substances (as O).....	≤0,002 %
K ₂ Cr ₂ O ₇ reducing substances.....	≤0,003 %
Non volatile matter.....	≤0,0005 %

T179.1	1 l	plastic	19,90 €
Original pack 6 x 1 l			18,91/1 l
T179.2	2,5 l	plastic	41,40 €
Original pack 4 x 2,5 l			39,33/2,5 l
T179.3	10 l	plastic	99,90 €

Acetic acid 96 %

≥95,9 %, extra pure

Type analysis:

Assay.....	≥95,9 %
Colour (Hazen).....	≤10
Formic acid, formiate.....	≤0,01 %
Chloride (Cl).....	≤0,0001 %
Sulphate (SO ₄).....	≤0,0001 %
Iron (Fe).....	≤0,0001 %
Copper (Cu).....	≤0,00001 %
Non volatile matter.....	≤0,0005 %

X895.1	1 l	plastic	17,10 €
Original pack 6 x 1 l			16,25/1 l
X895.2	2,5 l	plastic	32,80 €
Original pack 4 x 2,5 l			31,16/2,5 l
X895.3	10 l	plastic	78,40 €

Acetic acid 80 %

Acetic acid 80 %

80 %, pure

Methane carboxylic acid, Methyl carbonic acid,
Ethanoic acid $C_2H_4O_2$

M 60,05 g/mol

D 1,07 • bp 104 °C

mp -8 °C

[64-19-7] • EC No. 200-580-7

UN No. 2790 • ADR 8 II • WGK 1

⚠ Danger H290-H314

Type analysis:

Assay.....79,0-81,0 %
 Colour (Hazen).....≤5
 Formic acid.....≤0,05 %
 Iron (Fe).....≤0,005 %

6740.1	1 l	plastic	15,60 €
Original pack 6 x 1 l			14,82/1 l
6740.2	2,5 l	plastic	28,95 €
Original pack 4 x 2,5 l			27,50/2,5 l
6740.3	5 l	plastic	36,45 €
Original pack 2 x 5 l			34,63/5 l
6740.4	10 l	plastic	53,65 €

Acetic acid 60 %

Acetic acid 60 %

60 %

Methane carboxylic acid, Methyl carbonic acid,
Ethanoic acid $C_2H_4O_2$

M 60,05 g/mol

D 1,06-1,07 • bp ~100 °C

[64-19-7] • EC No. 200-580-7

UN No. 2790 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Assay.....59-61 %
 Colour (APHA).....≤30
 Density (20 °C).....1,062-1,080

7329.1	1 l	plastic	15,60 €
Original pack 6 x 1 l			14,82/1 l
7329.3	5 l	plastic	32,15 €
Original pack 2 x 5 l			30,54/5 l
7329.2	10 l	plastic	42,90 €

Acetic acid 25 %

Acetic acid 25 %

25 %, pure

Methane carboxylic acid, Methyl carbonic acid,
Ethanoic acid $C_2H_4O_2$

M 60,05 g/mol

D ~1,04

[64-19-7] • EC No. 200-580-7

UN No. 2790 • ADR 8 III • WGK 1

⚠ Warning H290-H314

Type analysis:

Assay.....24,0-26,0 %

4340.1	1 l	plastic	14,95 €
Original pack 6 x 1 l			14,20/1 l
4340.2	5 l	plastic	31,10 €
Original pack 2 x 5 l			29,55/5 l
4340.3	10 l	plastic	40,75 €
4340.4	25 l	plastic	77,95 €

Acetic acid 10 %

Acetic acid 10 %

10 %, pure

Methane carboxylic acid, Methyl carbonic acid,
Ethanoic acid $C_2H_4O_2$

M 60,05 g/mol

D ~1,02

[64-19-7] • EC No. 200-580-7

UN No. 2790 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

Assay.....10-11 %
 Density (20 °C).....1,013-1,015
 Colour number (Hazen).....≤30

4341.1	1 l	plastic	13,90 €
Original pack 6 x 1 l			13,21/1 l
4341.2	5 l	plastic	30,65 €
Original pack 2 x 5 l			29,12/5 l
4341.3	10 l	plastic	37,10 €
4341.4	25 l	plastic	71,95 €

Acetic acid (1N)

Acetic acid

1 mol/l - 1 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %
 Titer.....0,998-1,002

KK62.1	1 l	plastic	26,15 €
Original pack 6 x 1 l			24,84/1 l

For further information, please see page 1546

Acetic acid D4

Acetic acid D4

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

 $C_2D_4O_2$

M 64,08 g/mol

bp ~118 °C

mp 17 °C • flp 39 °C

[1186-52-3] • EC No. 214-693-4

UN No. 2789 • ADR 8 (3) II • WGK 1

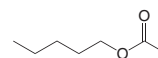
⚠ ⚠ Danger H314-H226-H290

Guarantee analysis:

Deuterising degree.....≥99,5 %
 Water (KF, H_2O+D_2O).....≤0,1 %

HN83.1	10 ml	glass	69,05 €

Acetic acid amyl ester



Acetic acid amyl ester

ROTICHROM® GC

Reference substance for GC

Amyl acetate, Pentyl acetate

 $C_7H_{14}O_2$

M 130,19 g/mol

D 0,87 • bp 149 °C

mp -71 °C • flp 41 °C

Solubility: 10 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[628-63-7] • EC No. 211-047-3

UN No. 1104 • ADR 3 III • WGK 1

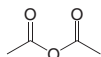
⚠ Warning H226-EUH066

Type analysis:

Purity (GC).....≥97 %

5060.1	1 g	plastic	75,15 €

Acetic acid anhydride



Acetic anhydride

 $C_4H_6O_3$

M 102,09 g/mol

D 1,08 • bp 138-140 °C

mp -73 °C • flp 49 °C

[108-24-7] • EC No. 203-564-8

UN No. 1715 • ADR 8 (3) II • WGK 1

Danger H314-H226-H302+H332

Acetic acid anhydride

ROTIPURAN® ≥99 %, p.a., ACS, ISO

Acetylation reagent

Guarantee analysis:

Assay (GC)	≥99,0 %
Chloride (Cl)	≤0,0005 %
Sulphate (SO ₄)	≤0,0005 %
Phosphate (PO ₄)	≤0,001 %
Non volatile matter	≤0,003 %
Heavy metals (as Pb)	≤0,0002 %
KMnO ₄ reducing substances	complies
Aluminium (Al)	≤0,00005 %
Boron (B)	≤0,00005 %
Barium (Ba)	≤0,00001 %
Bismuth (Bi)	≤0,000005 %
Cadmium (Cd)	≤0,000002 %
Cobalt (Co)	≤0,000002 %
Chromium (Cr)	≤0,000002 %
Copper (Cu)	≤0,000002 %
Iron (Fe)	≤0,00001 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000002 %
Nickel (Ni)	≤0,000002 %
Lead (Pb)	≤0,00001 %
Sodium (Na)	≤0,00005 %
Tin (Sn)	≤0,000005 %
Strontium (Sr)	≤0,000005 %
Zinc (Zn)	≤0,00001 %

CP28.1	1 l	glass	39,25 €
Original pack 6 x 1 l			37,29/1 l
CP28.2	2,5 l	glass	76,25 €
Original pack 4 x 2,5 l			72,44/2,5 l
CP28.3	5 l	plastic	120,95 €
Original pack 2 x 5 l			114,90/5 l
CP28.4	10 l	plastic	224,70 €
CP28.5	25 l	plastic	461,20 €

Acetic acid anhydride

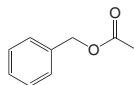
≥99 %, for synthesis

Type analysis:

Assay (GC)	≥99 %
Density (20 °C)	1,080-1,082
Refractive index (20 °C)	1,3890-1,3910

4483.1	1 l	glass	26,35 €
Original pack 6 x 1 l			25,03/1 l
4483.2	2,5 l	glass	40,35 €
Original pack 4 x 2,5 l			38,33/2,5 l
4483.3	5 l	plastic	51,50 €
Original pack 2 x 5 l			48,93/5 l
4483.4	10 l	plastic	80,55 €
4483.5	25 l	plastic	170,95 €

Acetic acid benzyl ester



Benzylacetate

 $C_9H_{10}O_2$

M 150,18 g/mol

D 1,06 • bp 214 °C

mp -51 °C • flp 102 °C

Solubility: <1 g/l (H₂O, 23 °C)

[140-11-4] • EC No. 205-399-7

WGK 1

Warning H315-H319-H335

Acetic acid benzyl ester

≥99 %, for synthesis

Type analysis:

Assay (GC)	≥99 %
Density (d 20 °C/4 °C)	1,052-1,057

4368.1	100 ml	glass	15,60 €
4368.2	500 ml	glass	32,15 €
4368.3	1 l	glass	47,20 €
Original pack 6 x 1 l			44,84/1 l
4368.4	2,5 l	glass	75,80 €
Original pack 4 x 2,5 l			72,01/2,5 l

Acetic acid benzyl ester

≥98 %

Type analysis:

Assay	 ≥98 %		
6197.1	250 ml	glass	16,70 €

Acetic acid benzyl ester

ROTICHROM® GC

Reference substance for GC

Storage temp.: +4 °C

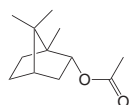
Type analysis:

Type analysis:

Purity (GC). ≥99 %

6014.1	1 g	plastic	75,15 €

Acetic acid L-bornyl ester



Acetic acid L-bornyl ester

ROTICHROM® GC

Reference substance for GC

L-Bornyl acetate

 $C_{12}H_{20}O_2$

M 196,28 g/mol

D 0,982 • bp 223-224 °C

flp 84 °C

Storage temp.: +4 °C

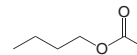
[5655-61-8] • EC No. 227-101-4

WGK 1

Type analysis:

Purity (GC).		≥98 %	
9009.1	1 g	plastic	75,15 €

Acetic acid n-butyl ester



n-Butyl acetate

 $C_6H_{12}O_2$

M 116,16 g/mol

D 0,88 • bp 124-128 °C

mp -76 °C • flp 25 °C

Solubility: 5 g/l (H₂O, 20 °C)

[123-86-4] • EC No. 204-658-1

UN No. 1123 • ADR 3 III • WGK 1

Warning H226-H336-EUH066

Acetic acid n-butyl ester

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC)	≥99,5 %
Identity (IR)	complies
Density (d 20 °C/4 °C)	0,880-0,882
Colour (APHA)	≤10
Non volatile matter	≤0,001 %
1-Butanol (GC)	≤0,2 %
iso-Butyl acetate (GC)	≤0,2 %
n-Butyl formate (GC)	≤0,05 %
n-Butyl propionate (GC)	≤0,05 %
Matter discoloured by H ₂ SO ₄	complies
Acidity	≤0,0016 meq/g
Water	≤0,1 %
Lead (Pb)	≤0,00001 %
Cadmium (Cd)	≤0,000005 %
Calcium (Ca)	≤0,00005 %
Chromium (Cr)	≤0,000002 %
Iron (Fe)	≤0,00001 %
Cobalt (Co)	≤0,000002 %
Copper (Cu)	≤0,000002 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000002 %
Nickel (Ni)	≤0,000002 %
Zinc (Zn)	≤0,00001 %

P036.1	1 l	glass	41,40 €
Original pack 6 x 1 l			39,33/1 l
P036.2	2,5 l	glass	90,85 €
Original pack 4 x 2,5 l			86,31/2,5 l

For further information, please see page 1377

Acetic acid n-butyl ester

≥99 %, for synthesis

Type analysis:

Appearance	clear, colourless liquid
Assay (GC)	≥99 %
Water	≤0,1 %
Density (20 °C)	0,878-0,882
Refractive index n _D ²⁰	1,393-1,395

4600.1	1 l	glass	21,75 €
Original pack 6 x 1 l			20,66/1 l
4600.3	2,5 l	glass	32,80 €
Original pack 4 x 2,5 l			31,16/2,5 l
4600.2	10 l	tinplate	95,60 €
4600.4	25 l	tinplate	188,15 €

Acetic acid dimethylamide

▶ N,N-Dimethylacetamide see p. 1781

Acetic acid ethyl ester

Ethyl acetate, Acetic ester

C₄H₈O₂

M 88,11 g/mol

D 0,9 • bp 77-78 °C

mp -83 °C • flp -4 °C

Solubility: 85 g/l (H₂O, 20 °C)

[141-78-6] • EC No. 205-500-4

UN No. 1173 • ADR 3 II • WGK 1

Danger H225-H319-H336-EUH066
Acetic acid ethyl ester**ROTISOLV® ≥99,9 %, LC-MS-Grade****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤5
Water (KF).....	≤0,05 %
Free acid (as CH ₃ COOH).....	≤0,001 %
Free alkali (as NH ₃).....	≤0,0005 %
Non volatile matter.....	≤0,0001 %
Transmission:	
275 nm.....	≥98 %
260 nm.....	≥75 %
Trace impurities:	
Aluminium (Al).....	≤0,05 ppm
Calcium (Ca).....	≤0,05 ppm
Iron (Fe).....	≤0,05 ppm
Potassium (K).....	≤0,05 ppm
Magnesium (Mg).....	≤0,05 ppm
Sodium (Na).....	≤0,05 ppm
LC-MS suitability test.....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

AE69.1	1 l	glass	44,65 €
Original pack 6 x 1 l			42,42/1 l
AE69.2	2,5 l	glass	92,35 €
Original pack 4 x 2,5 l			87,73/2,5 l

Acetic acid ethyl ester**ROTISOLV® HPLC****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,05 %
Free acid.....	≤0,005 %
Non volatile matter.....	≤0,0002 %
Transmission:	
300 nm.....	≥99 %
270 nm.....	≥95 %
260 nm.....	≥75 %
255 nm.....	≥20 %
Filtered through 0,2 µm membrane and filled under protective gas.	

7336.2	1 l	glass	34,30 €
Original pack 6 x 1 l			32,59/1 l
7336.1	2,5 l	glass	66,55 €
Original pack 4 x 2,5 l			63,22/2,5 l

For further information, please see page 1515

Acetic acid ethyl ester**ROTISOLV® ≥99,9 %, GC Ultra Grade**

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,02 %
Free acid (as CH ₃ COOH).....	≤0,005 %
Evaporation residue.....	≤0,0002 %
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
PAH-test (less than 2 ppb, HPLC).....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

KK42.1	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l

Acetic acid ethyl ester**ROTISOLV® ≥99,9 %, Pestilyse® plus**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,05 %
Free acid (as CH ₃ COOH).....	≤0,003 %
Evaporation residue.....	≤0,0001 %
GC/FID suitability (as 2-octanol).....	≤15 ng/ml
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
GC/ECD volatile impurities (as ethylene dibromide).....	≤5 ng/ml
PAH-test (less than 2 ppb, HPLC).....	complies
Fluorescence (as quinine):	
254 nm.....	≤1,5 ppb
365 nm.....	≤1 ppb
Transmission:	
260 nm.....	≥75 %

7565.1	2,5 l	glass	61,20 €
Original pack 4 x 2,5 l			58,14/2,5 l

Acetic acid ethyl ester**ROTISOLV® ≥99,8 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,05 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l

T164.2	1 l	glass	27,85 €
Original pack 6 x 1 l			26,46/1 l
T164.1	2,5 l	glass	59,05 €
Original pack 4 x 2,5 l			56,10/2,5 l
T164.3	4 l	glass	82,25 €

Acetic acid ethyl ester**ROTISOLV® ≥99,8 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,02 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Transmission:	
280 nm.....	≥98 %
270 nm.....	≥95 %
260 nm.....	≥75 %

4442.1	2,5 l	glass	52,15 €
Original pack 4 x 2,5 l			49,54/2,5 l

For further information, please see page 1507

Acetic acid ethyl ester**ROTIDRY® ≥99,8 % (≤100 ppm H₂O)**

Dried, for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %

4424.1	1 l	glass	26,05 €
Original pack 6 x 1 l			24,75/1 l

Acetic acid ethyl ester**ROTIPURAN® ≥99,5 %, p.a., ACS, ISO****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Colour (Hazen).....	≤10
Water.....	≤0,1 %
Acidity.....	≤0,0008 meq/g
Density (d 20 °C/20 °C).....	0,898-0,902
Matter discoloured by H ₂ SO ₄	complies
Evaporation residue.....	≤0,0001 %
Ethanol (GC).....	≤0,1 %
Methanol (GC).....	≤0,1 %
Methyl acetate (GC).....	≤0,1 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %

6784.1	1 l	glass	30,35 €
Original pack 6 x 1 l			28,83/1 l
6784.3	1 l	plastic	29,25 €
Original pack 6 x 1 l			27,79/1 l
6784.2	2,5 l	glass	55,80 €
Original pack 4 x 2,5 l			53,01/2,5 l
6784.4	2,5 l	plastic	54,30 €
Original pack 4 x 2,5 l			51,59/2,5 l
6784.5	5 l	plastic	89,80 €
Original pack 2 x 5 l			85,31/5 l

A

Acetic acid ethyl ester

≥99,5 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (GC)	.....	≥99,5 %
Identity	.....	complies
Appearance of solution	.....	complies
Acid react. substances	.....	complies
Density (d 20 °C/20 °C)	.....	0,898-0,902
Refractive index n _D ²⁰	.....	1,370-1,373
Related substances (GC)	.....	≤0,2 %
Reaction with H ₂ SO ₄	.....	complies
Evaporation residue	.....	≤0,003 %
Water (KF)	.....	≤0,1 %

CP42.1	1 l	glass	23,15 €
Original pack 6 x 1 l			21,99/1 l
CP42.2	2,5 l	glass	40,75 €
Original pack 4 x 2,5 l			38,71/2,5 l
CP42.3	2,5 l	plastic	37,55 €
Original pack 4 x 2,5 l			35,67/2,5 l
CP42.4	5 l	plastic	61,85 €
Original pack 2 x 5 l			58,76/5 l
CP42.5	10 l	tinplate	108,05 €
CP42.6	25 l	tinplate	236,00 €

Acetic acid ethyl ester

>99,5 %, for synthesis

Type analysis:

Appearance	.....	clear, colourless
Assay (GC)	.....	≥99,5 %
Water	.....	<0,05 %
Density (20 °C)	.....	0,899-0,903
Refractive index n _D ²⁰	.....	1,371-1,374

7338.1	1 l	glass	21,75 €
Original pack 6 x 1 l			20,66/1 l
7338.3	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l
7338.5	5 l	plastic	50,45 €
Original pack 2 x 5 l			47,93/5 l
7338.2	10 l	tinplate	81,60 €
7338.4	25 l	tinplate	166,65 €

Acetic acid ethyl ester

ROTICHROM® GC

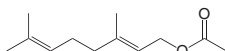
Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥99 %

6022.1	1 g	plastic	75,15 €

Acetic acid geranyl ester**Acetic acid geranyl ester**

ROTICHROM® GC

Reference substance for GC

Geranyl acetate

C₁₂H₂₀O₂

M 196,29 g/mol

D 0,92 • bp 242 °C

flp 95 °C

Storage temp.: +4 °C

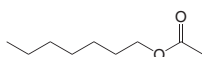
[16409-44-2] • EC No. 240-458-0

WGK 1

Type analysis:

Purity (GC)..... ≥90 %

5262.1	1 g	plastic	75,15 €

Acetic acid n-heptyl ester**Acetic acid n-heptyl ester**

ROTICHROM® GC

Reference substance for GC

n-Heptyl acetate

C₉H₁₈O₂

M 158,23 g/mol

Storage temp.: +4 °C

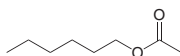
[112-06-1] • EC No. 203-932-8

WGK 2

Type analysis:

Purity (GC)..... ≥98,5 %

3155.1	1 g	plastic	75,15 €

Acetic acid hexyl ester**Acetic acid hexyl ester**

ROTICHROM® GC

Reference substance for GC

Hexyl acetate

C₈H₁₆O₂

M 144,22 g/mol

D 0,876 • bp 168-170 °C

mp -80 °C • flp 56 °C

Solubility: 0,4 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[142-92-7] • EC No. 205-572-7

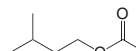
UN No. 3272 • ADR 3 III • WGK 1

⚠ Warning H226

Type analysis:

Purity (GC)..... ≥98 %

9449.1	1 g	plastic	75,15 €

Acetic acid isoamyl ester**Acetic acid isoamyl ester**

≥98 %, extra pure

Isoamyl acetate, 3-Methylbutyl acetate

C₇H₁₄O₂

M 130,19 g/mol

D 0,87 • bp 142 °C

mp -78,5 °C • flp 25 °C

Solubility: 2,1 g/l (H₂O, 19 °C)

[123-92-2] • EC No. 204-662-3

UN No. 1104 • ADR 3 III • WGK 1

⚠ Warning H226-EUH066

Type analysis:

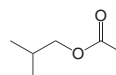
Appearance..... clear liquid

Assay (GC)..... ≥98 %

Density (d 20 °C/4 °C)..... 0,866-0,880

Refractive index n_D²⁰..... 1,398-1,404

7341.1	1 l	glass	48,30 €
Original pack 6 x 1 l			45,89/1 l
7341.2	10 l	tinplate	256,95 €

Acetic acid isobutyl ester

Isobutyl acetate

C₆H₁₂O₂

M 116,16 g/mol

D ~0,87 • bp ~117 °C

mp -99 °C • flp 18 °C

Solubility: 53 g/l (H₂O, 20 °C)

[110-19-0] • EC No. 203-745-1

UN No. 1213 • ADR 3 II • WGK 1

⚠ Danger H225-EUH066

Acetic acid isobutyl ester

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99,0 %

Density (20 °C)..... 0,868-0,873

Water..... ≤0,05 %

4370.1	100 ml	glass	11,75 €
4370.2	500 ml	glass	17,10 €
4370.3	1 l	glass	28,50 €
Original pack 6 x 1 l			27,08/1 l
4370.4	2,5 l	glass	48,20 €
Original pack 4 x 2,5 l			45,79/2,5 l

Acetic acid isobutyl ester

ROTICHROM® GC

Reference substance for GC

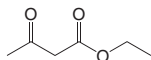
Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥97,5 %

5092.1	1 g	plastic	75,15 €

Acetoacetic acid ethyl ester



Acetoacetic acid ethyl ester

≥98 %

Ethyl acetoacetate

C₆H₁₀O₃

M 130,14 g/mol

D 1,03 • bp 181 °C

mp -43 °C • flp 65 °C

Solubility: 116 g/l (H₂O, 20 °C)

[141-97-9] • EC No. 205-516-1

WGK 1

⚠ Warning H319

Type analysis:

Assay (GC).....≥98,0 %

4474.1	500 ml	glass	38,60 €

Acetoacetophenone

► Benzoylacetone see p. 1672

Acetone

2-Propanone, Dimethyl ketone

C₃H₆O

M 58,08 g/mol

D ~0,79 • bp ~56 °C

mp -95 °C • flp -19 °C

[67-64-1] • EC No. 200-662-2

UN No. 1090 • ADR 3 II • WGK 1

⚠ ⚠ Danger H225-H319-H336-EUH066

Acetone

ROTISOLV® HPLC

Guarantee analysis:

Assay (GC).....≥99,9 %
 Water (KF).....≤0,2 %
 Free acid.....≤0,003 %
 Non volatile matter.....≤0,0002 %
 Transmission:
 350 nm.....≥99 %
 340 nm.....≥80 %
 335 nm.....≥60 %
 Filtered through 0,2 µm membrane and filled under protective gas.

7328.1	1 l	glass	26,55 €
Original pack 6 x 1 l			25,22/1 l
7328.2	2,5 l	glass	47,20 €
Original pack 4 x 2,5 l			44,84/2,5 l

For further information, please see page 1515

Acetone

ROTISOLV® ≥99,9 %, GC Ultra Grade

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC).....≥99,9 %
 Colour (APHA).....≤10
 Water (KF).....≤0,25 %
 Free acid (as CH₃COOH).....≤0,002 %
 Evaporation residue.....≤0,0002 %
 GC/ECD dioxins, furans and PCBs (as lindane).....≤5 ng/l
 GC/ECD pesticides (as lindane).....≤5 ng/l
 GC/NPD pesticides (as parathion).....≤5 ng/l
 PAH-test (less than 2 ppb, HPLC).....complies
 Filtered through 0,2 µm membrane and filled under protective gas.

KK40.1	2,5 l	glass	55,80 €
Original pack 4 x 2,5 l			53,01/2,5 l

Acetone

ROTISOLV® ≥99,9 %, Pestilyse® plus

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....≥99,9 %
 Colour (APHA).....≤10
 Water (KF).....≤0,3 %
 Free acid (as CH₃COOH).....≤0,002 %
 Evaporation residue.....≤0,0003 %
 GC/FID suitability (as 2-octanol).....≤10 ng/ml
 GC/ECD suitability (as heptachloro epoxide).....≤10 ng/l
 GC/ECD dioxins, furans and PCBs (as lindane).....≤5 ng/l
 GC/ECD pesticides (as lindane).....≤5 ng/l
 GC/NPD pesticides (as parathion).....≤10 ng/l
 Oil index (any hydrocarbon C₁₀-C₄₀).....≤0,1 mg/l
 GC/ECD volatile impurities (as ethylene dibromide).....≤5 ng/ml
 PAH-test (less than 2 ppb, HPLC).....complies
 Fluorescence (as quinine):
 254 nm.....≤1 ppb
 365 nm.....≤1 ppb

7535.1	2,5 l	glass	51,10 €
Original pack 4 x 2,5 l			48,55/2,5 l

Acetone

ROTISOLV® ≥99,8 %, Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....≥99,8 %
 Water (KF).....≤0,2 %
 Acidity.....≤0,0005 meq/g
 Evaporation residue.....≤0,0005 %
 GC/ECD (individual signal as lindane).....≤5 ng/l
 GC/PND (individual signal as ethylparathion).....≤10 ng/l

T161.2	1 l	glass	24,65 €
Original pack 6 x 1 l			23,42/1 l
T161.1	2,5 l	glass	48,30 €
Original pack 4 x 2,5 l			45,89/2,5 l
T161.3	4 l	glass	67,65 €

Acetone

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....≥99,9 %
 Water (KF).....≤0,2 %
 Acidity.....≤0,0005 meq/g
 Evaporation residue.....≤0,0005 %
 Fluorescence (as quinine):
 365 nm.....≤1,0 ppb
 Transmission:
 350 nm.....≥98 %
 342 nm.....≥90 %
 339 nm.....≥80 %
 335 nm.....≥50 %
 330 nm.....≥10 %

T906.1	2,5 l	glass	47,85 €
Original pack 4 x 2,5 l			45,46/2,5 l

Acetone

ROTIPURAN® ≥99,8 %, p.a., ACS, ISO

Guarantee analysis:

Assay (GC).....≥99,8 %
 Colour (Hazen).....≤10
 Density (d 20 °C).....0,790-0,793
 Water.....≤0,05 %
 Acidity.....≤0,0002 meq/g
 Alkalinity.....≤0,0002 meq/g
 Ethanol (GC).....≤0,01 %
 Methanol (GC).....≤0,05 %
 2-Propanol (GC).....≤0,05 %
 Aldehydes (as CH₂O).....≤0,001 %
 Aluminium (Al).....≤0,00005 %
 Barium (Ba).....≤0,00001 %
 Boron (B).....≤0,000002 %
 Calcium (Ca).....≤0,00005 %
 Iron (Fe).....≤0,00001 %
 Copper (Cu).....≤0,000002 %
 Manganese (Mn).....≤0,000002 %
 Zinc (Zn).....≤0,00001 %
 Tin (Sn).....≤0,00001 %
 Cadmium (Cd).....≤0,000005 %
 Cobalt (Co).....≤0,000002 %
 Chromium (Cr).....≤0,000002 %
 Magnesium (Mg).....≤0,00001 %
 Nickel (Ni).....≤0,000002 %
 Lead (Pb).....≤0,00001 %
 Solubility in H₂O.....complies
 Evaporation residue.....≤0,0005 %
 KMnO₄ reducing substances (as O).....≤0,00025 %

9372.1	1 l	glass	24,65 €
Original pack 6 x 1 l			23,42/1 l
9372.4	1 l	plastic	21,40 €
Original pack 6 x 1 l			20,33/1 l
9372.2	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l
9372.5	2,5 l	plastic	46,15 €
Original pack 4 x 2,5 l			43,84/2,5 l
9372.6	5 l	plastic	80,55 €
Original pack 2 x 5 l			76,52/5 l
9372.3	25 l	tinplate	233,85 €

Acetone

≥99,7 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (GC)	≥99,7 %
Identity	complies
Appearance of solution	complies
Acid or alkaline react. substances	complies
Relative density (20/20 °C)	0,790-0,793
Water	≤0,3 %
Refractive index n_D^{20}	1,358-1,361
Reducing substances	complies
Evaporation residue	≤0,005 %
Related substances:	
Methanol (GC)	≤0,05 %
Benzene (GC)	≤0,0002 %
2-Propanol (GC)	≤0,05 %
Related substances (GC)	≤0,05 %

CP40.1	1 l	glass	19,90 €
Original pack 6 x 1 l			18,91/1 l
CP40.2	2,5 l	glass	44,00 €
Original pack 4 x 2,5 l			41,80/2,5 l
CP40.3	2,5 l	plastic	39,25 €
Original pack 4 x 2,5 l			37,29/2,5 l
CP40.4	5 l	plastic	53,65 €
Original pack 2 x 5 l			50,97/5 l
CP40.5	10 l	tinplate	95,15 €
CP40.6	25 l	tinplate	192,45 €

Acetone

≥99,5 %, for synthesis

Type analysis:

Appearance	clear, colourless liquid
Assay (GC)	≥99,5 %
Colour (Hazen)	≤10
Water (KF)	≤0,3 %
Acid value	≤0,002 %
Evaporation residue	≤0,001 %

5025.1	1 l	glass	16,70 €
Original pack 6 x 1 l			15,87/1 l
5025.2	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l
5025.5	2,5 l	plastic	35,40 €
Original pack 4 x 2,5 l			33,63/2,5 l
5025.6	5 l	plastic	48,30 €
Original pack 2 x 5 l			45,89/5 l
5025.3	10 l	tinplate	85,90 €
5025.4	25 l	tinplate	181,70 €

Acetone D6

Hexadeuteroacetone

 $C_6D_{12}O$

M 63,13 g/mol

D 0,88 • bp 55,5 °C

mp ~-93,8 °C • flp -20 °C

[666-52-4] • EC No. 211-563-9

UN No. 1090 • ADR 3 II • WGK 1

⚠️⚠️ **Danger** H225-H319-H336-EUH066**Acetone D6**

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree	≥99,8 %
Water (KF, H_2O+D_2O)	≤0,03 %

AE51.1	10 ml	glass	41,40 €

AE51.4	10 ml	septum bottle	42,50 €

AE51.2	50 ml	glass	185,90 €

AE51.3	10 x 0,75 ml	glass ampoule	47,20 €

Acetone D6

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree	≥99,5 %
Water (KF, H_2O+D_2O)	≤0,05 %

7909.1	10 ml	glass	33,25 €

7909.2	50 ml	glass	142,45 €

Acetonenol acetate

► Acetic acid isopropenyl ester see p. 1603

Acetonitrile

Methyl cyanide, Cyanomethane

 C_2H_3N

M 41,05 g/mol

D 0,78 • bp 81 °C

mp -46 °C • flp 2 °C

[75-05-8] • EC No. 200-835-2

UN No. 1648 • ADR 3 II • WGK 2

⚠️⚠️ **Danger**

H225-H302+H312+H332-H319

Acetonitrile

ROTISOLV® ≥99,98 %, Ultra LC-MS

Guarantee analysis:

Assay (GC)	≥99,98 %
Colour (APHA)	≤5
Water (KF)	≤0,01 %
Free acid (as CH_3COOH)	≤0,001 %
Free alkali (as NH_3)	≤0,0001 %
Non volatile matter	≤0,0001 %
Transmission:	
230 nm	≥99 %
215 nm	≥98 %
200 nm	≥97 %
195 nm	≥85 %
191 nm	≥30 %
Gradient test:	
UV-absorption of the greatest eluted peak	
210 nm	≤0,001 AU
254 nm	≤0,0003 AU
Fluorescence (as quinine):	
254 nm	≤0,25 ppb
365 nm	≤0,25 ppb
Trace impurities:	
Aluminium (Al)	≤20 ppb
Calcium (Ca)	≤50 ppb
Iron (Fe)	≤20 ppb
Potassium (K)	≤50 ppb
Magnesium (Mg)	≤20 ppb
Sodium (Na)	≤100 ppb
Filtered through 0,1 µm membrane and filled under protective gas.	

HN40.1	1 l	glass	75,15 €

Original pack 6 x 1 l			71,39/1 l

HN40.2	2,5 l	glass	141,80 €

Original pack 4 x 2,5 l			134,71/2,5 l

Acetonitrile

ROTISOLV® ≥99,95 %, LC-MS Grade

Guarantee analysis:

Assay (GC)	≥99,95 %
Colour (APHA)	≤5
Water (KF)	≤0,01 %
Free acid (as CH_3COOH)	≤0,001 %
Free alkali (as NH_3)	≤0,0001 %
Non volatile matter	≤0,0001 %
Transmission:	
240 nm	≥99 %
220 nm	≥98 %
200 nm	≥95 %
195 nm	≥78 %
Gradient test:	
UV absorption of the greatest eluted peak	
210 nm	≤0,005 AU
254 nm	≤0,002 AU
Fluorescence (as quinine):	
254 nm	≤0,2 ppb
365 nm	≤0,2 ppb
Trace impurities:	
Aluminium (Al)	≤0,05 ppm
Calcium (Ca)	≤0,05 ppm
Iron (Fe)	≤0,05 ppm
Potassium (K)	≤0,05 ppm
Magnesium (Mg)	≤0,05 ppm
Sodium (Na)	≤0,05 ppm
LC-MS suitability test	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

AE70.1	1 l	glass	69,80 €

Original pack 6 x 1 l			66,31/1 l

AE70.2	2,5 l	glass	113,45 €

Original pack 4 x 2,5 l			107,78/2,5 l

Acetonitrile

ROTISOLV® HPLC Ultra Gradient Grade

Guarantee analysis:

Assay (GC)	≥99,95 %
Colour (Hazen)	≤5
Water (KF)	≤0,01 %
Free acid (as CH_3COOH)	≤0,001 %
Free alkali (as NH_3)	≤0,0001 %
Non volatile matter	≤0,0001 %
Transmission:	
230 nm	≥99 %
215 nm	≥98 %
200 nm	≥96 %
195 nm	≥85 %
191 nm	≥25 %
Gradient test:	
UV absorption of the greatest eluted peak	
210 nm	≤1,0 mAU
254 nm	≤0,2 mAU
Fluorescence (as quinine):	
254 nm	≤0,2 ppb
365 nm	≤0,2 ppb
Fluorescence:	
Em: 250-700 nm, Ex: 240-600 nm	≤1 ppb (quinine standard)
Suitability for PAH analysis:	
PAH-test (less than 2 ppb, HPLC)	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

T195.1	1 l	glass	64,40 €

Original pack 6 x 1 l			61,18/1 l

T195.2	2,5 l	glass	109,15 €

Original pack 4 x 2,5 l			103,69/2,5 l

For further information, please see page 1515

Acetonitrile**ROTISOLV® HPLC Gradient Grade****Guarantee analysis:**

Assay (GC)	≥99,9 %
Water (KF)	≤0,02 %
Free acid	≤0,001 %
Non volatile matter	≤0,0002 %
Transmission:	
> 220 nm	≥99 %
220 nm	≥98 %
200 nm	≥96 %
195 nm	≥85 %
192 nm	≥50 %
190 nm	≥10 %
Gradient test:	
UV absorption of the greatest eluted peak	
210 nm	≤1,0 mAU
254 nm	≤0,5 mAU
Fluorescence (as quinine):	
254 nm	≤1,0 ppb
365 nm	≤0,5 ppb
Filtered through 0,2 µm membrane and filled under protective gas.	

8825.1	1 l	glass	41,85 €
Original pack 6 x 1 l			39,76/1 l
8825.2	2,5 l	glass	85,90 €
Original pack 4 x 2,5 l			81,61/2,5 l

For further information, please see page 1515

Acetonitrile**ROTISOLV® HPLC Gradient****Guarantee analysis:**

Assay (GC)	≥99,9 %
Colour (APHA)	≤10
Water (KF)	≤0,02 %
Free alkali (as NH ₃)	≤0,0002 %
Free acid (as CH ₃ COOH)	≤0,002 %
Evaporation residue	≤0,0002 %
Fluorescence (as quinine):	
254 nm	≤0,5 ppb
365 nm	≤0,5 ppb
LC-gradient (at 210 nm)	≤2,0 mAU
UV-absorption:	
254 nm	≥99 %
220 nm	≥98 %
200 nm	≥95 %
195 nm	≥80 %
193 nm	≥60 %
Filtered through 0,2 µm membrane and filled under protective gas.	

HN44.1	1 l	glass	36,45 €
Original pack 6 x 1 l			34,63/1 l
HN44.2	2,5 l	glass	69,80 €
Original pack 4 x 2,5 l			66,31/2,5 l

For further information, please see page 1515

Acetonitrile**ROTISOLV® HPLC****Guarantee analysis:**

Assay (GC)	≥99,9 %
Water (KF)	≤0,03 %
Free acid	≤0,002 %
Non volatile matter	≤0,0003 %
Transmission:	
> 230 nm	≥99 %
215 nm	≥95 %
195 nm	≥80 %
Filtered through 0,2 µm membrane and filled under protective gas.	

7330.1	1 l	glass	36,05 €
Original pack 6 x 1 l			34,25/1 l
7330.2	2,5 l	glass	67,65 €
Original pack 4 x 2,5 l			64,27/2,5 l

For further information, please see page 1515

Acetonitrile**ROTISOLV® HPLC, isocratic****Guarantee analysis:**

Assay (GC)	≥99,9 %
Water (KF)	≤0,015 %
Transmission:	
>240 nm	≥99 %
230 nm	≥96 %
200 nm	≥80 %
Filtered through 0,2 µm membrane and filled under protective gas.	

CN20.1	1 l	glass	35,40 €
Original pack 6 x 1 l			33,63/1 l
CN20.2	2,5 l	glass	66,55 €
Original pack 4 x 2,5 l			63,22/2,5 l

For further information, please see page 1515

Acetonitrile**ROTISOLV® ≥99,8 %, for preparative HPLC****Guarantee analysis:**

Purity (GC)	≥99,8 %
Water (KF)	≤0,05 %
Acidity (as CH ₃ COOH)	≤0,005 %
Alkalinity (as NH ₃)	≤0,0005 %
Transmission:	
230 nm	≥96 %
220 nm	≥90 %
Filtered through 0,2 µm membrane and filled under protective gas.	

6827.1	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l
6827.2	25 l	tinplate	385,95 €

For further information, please see page 1515

Acetonitrile**ROTISOLV® ≥99,9 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC)	≥99,9 %
Water (KF)	≤0,2 %
Acidity	≤0,0005 meq/g
Evaporation residue	≤0,0005 %
GC/ECD (individual signal as lindane)	≤5 ng/l
GC/PND (individual signal as ethylparathion)	≤10 ng/l

T168.2	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
T168.1	2,5 l	glass	68,70 €
Original pack 4 x 2,5 l			65,27/2,5 l
T168.3	4 l	glass	98,80 €

Acetonitrile**ROTISOLV® ≥99,9 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC)	≥99,9 %
Water (KF)	≤0,01 %
Acidity	≤0,005 meq/g
Evaporation residue	≤0,005 %
Fluorescence (as quinine):	
254 nm	≤1,0 ppb
365 nm	≤1,0 ppb
Transmission:	
230 nm	≥98 %
215 nm	≥90 %
200 nm	≥80 %
195 nm	≥50 %
190 nm	≥10 %

T907.1	2,5 l	glass	83,75 €
Original pack 4 x 2,5 l			79,56/2,5 l

Acetonitrile**ROTIDRY®Sept ≥99,9 % (≤10 ppm H₂O)**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC)	≥99,9 %
Colour (APHA)	≤10
Water (KF)	≤0,001 %
Acidity (as CH ₃ COOH)	≤0,002 %
Evaporation residue	≤0,0003 %

5175.1	250 ml	glass	42,50 €

Acetonitrile**ROTIDRY® ≥99,9 % (≤10 ppm H₂O)**

Dried; for DNA synthesis and analysis.

Guarantee analysis:

Assay (GC)	≥99,9 %
Colour (Hazen)	≤10
Water (KF)	≤0,001 %
Acidity	≤0,0005 meq/g
Evaporation residue	≤0,0005 %
Filtered through a membrane and filled under protective gas.	

AE00.1	1 l	glass	33,25 €
Original pack 6 x 1 l			31,59/1 l
AE00.2	2,5 l	glass	67,65 €
Original pack 4 x 2,5 l			64,27/2,5 l
AE00.3	4 l	glass	98,80 €

Acetonitrile**ROTIPURAN® ≥99,5 %, p.a., ACS****Guarantee analysis:**

Assay (GC)	≥99,5 %
Colour (Hazen)	≤10
Water	≤0,1 %
Acidity	≤0,0002 meq/g
Alkalinity	≤0,0001 meq/g
Cyanide (CN)	≤0,005 %
Aluminium (Al)	≤0,00005 %
Barium (Ba)	≤0,00001 %
Lead (Pb)	≤0,00001 %
Cadmium (Cd)	≤0,000005 %
Calcium (Ca)	≤0,00005 %
Chromium (Cr)	≤0,000002 %
Iron (Fe)	≤0,00001 %
Cobalt (Co)	≤0,000002 %
Copper (Cu)	≤0,000002 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000002 %
Nickel (Ni)	≤0,000002 %
Zinc (Zn)	≤0,00001 %
Tin (Sn)	≤0,00001 %
Evaporation residue	≤0,001 %

4722.1	1 l	glass	34,30 €
Original pack 6 x 1 l			32,59/1 l
4722.2	2,5 l	glass	77,95 €
Original pack 4 x 2,5 l			74,05/2,5 l

Acetonitrile**≥99,5 %, extra pure****Type analysis:**

Assay (GC)	≥99,5 %
Density (20 °C/20 °C)	0,780-0,785
Colour (APHA)	≤10
Water	≤0,1 %
Acidity	≤0,008 meq/g
Alkalinity	≤0,005 meq/g
Evaporation residue	≤0,005 %

4380.1	1 l	glass	25,30 €
Original pack 6 x 1 l			24,04/1 l
4380.2	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l
4380.3	10 l	tinplate	170,95 €

4380.4	25 l	tinplate	375,20 €

Acetonitrile**ROTISOLV® ≥99,9 %, for DNA synthesis**

Water content ≤10 ppm

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,001 %
Non volatile matter.....	≤0,0001 %

8824.2	2,5 l	glass	95,60 €
Original pack 4 x 2,5 l			
8824.3	5 l	aluminium	159,00 €
Original pack 2 x 5 l			
1,00/5 l			

For further information, please see page 1431

Acetonitrile**ROTISOLV® ≥99,9 %, for DNA synthesis**

Water content ≤30 ppm

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,003 %
Free acid.....	≤0,002 %
Non volatile matter.....	≤0,0003 %

2216.2	2,5 l	glass	75,80 €
Original pack 4 x 2,5 l			
72,01/2,5 l			

For further information, please see page 1431

Acetonitrile**ROTISOLV® ≥99,9 %, for DNA synthesis**

Water content ≤30 ppm

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,003 %
Packed for Applied Biosystems and Biosearch DNA-Synthesizer.	

3620.1	100 ml	septum bottle	25,30 €

For further information, please see page 1431

Acetonitrile D3

Methyl cyanide deuterated

CD₃CN

M 44,08 g/mol

D 0,84 • bp ~80,7 °C

mp -42 °C

[2206-26-0] • EC No. 218-616-5

UN No. 1648 • ADR 3 II • WGK 2

 **Danger**

H225-H302+H312+H332-H319

Acetonitrile D3**99,8 Atom%D**

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree.....	≥99,8 %
Water (KF, H ₂ O+D ₂ O).....	≤0,03 %

7911.1	10 ml	glass	67,65 €
7911.2	10 x 0,75 ml	glass ampoule	70,85 €

Acetonitrile D3**99,5 Atom%D**

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree.....	≥99,5 %
Water (KF, H ₂ O+D ₂ O).....	≤0,05 %

AE52.1	10 ml	glass	62,25 €
AE52.3	10 ml	septum bottle	63,35 €
AE52.2	25 ml	glass	126,75 €

Acetonitrile with 0,1 % formic acid**Acetonitrile****with 0,1 % formic acid****ROTISOLV® ≥99,9 %, LC-MS-Grade**

Eluent mixture for high performance liquid chromatography.

Acetonitrile mixture

C₂H₃N

M 41,05 g/mol

UN No. 1648 • ADR 3 II • WGK 2

 **Danger**

H225-H302+H312+H332-H319

Guarantee analysis:

Assay.....	≥99,9 %
Formic acid (v/v).....	0,095-0,105 %
Transmission:	
254 nm.....	≥90 %
230 nm.....	≥15 %
210 nm.....	≥5 %
Trace impurities:	
Aluminium (Al).....	≤0,05 ppm
Calcium (Ca).....	≤0,05 ppm
Iron (Fe).....	≤0,05 ppm
Potassium (K).....	≤0,05 ppm
Magnesium (Mg).....	≤0,05 ppm
Sodium (Na).....	≤0,05 ppm
LC-MS suitability test.....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

CP00.1	1 l	glass	75,15 €
Original pack 6 x 1 l			
CP00.2	2,5 l	glass	166,65 €
Original pack 4 x 2,5 l			
158,32/2,5 l			

Acetonitrile with 0,1 % acetic acid**Acetonitrile****with 0,1 % acetic acid****ROTISOLV® ≥99,9 %, LC-MS-Grade**

Eluent mixture for high performance liquid chromatography.

Acetonitrile mixture

C₂H₃N

M 41,05 g/mol

UN No. 1648 • ADR 3 II • WGK 2

 **Danger**

H225-H302+H312+H332-H319

Guarantee analysis:

Assay (GC).....	≥99,9 %
Acetic acid (v/v).....	0,095-0,105 %
Transmission:	
254 nm.....	≥90 %
230 nm.....	≥50 %
210 nm.....	≥20 %
Trace impurities:	
Aluminium (Al).....	≤0,05 ppm
Calcium (Ca).....	≤0,05 ppm
Iron (Fe).....	≤0,05 ppm
Potassium (K).....	≤0,05 ppm
Magnesium (Mg).....	≤0,05 ppm
Sodium (Na).....	≤0,05 ppm
LC-MS suitability test.....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

CP01.1	1 l	glass	75,15 €
Original pack 6 x 1 l			
CP01.2	2,5 l	glass	166,65 €
Original pack 4 x 2,5 l			
158,32/2,5 l			

Acetonitrile with 0,1 % trifluoroacetic acid**Acetonitrile****with 0,1 % trifluoroacetic acid****ROTISOLV® ≥99,9 %, LC-MS-Grade**

Eluent mixture for high performance liquid chromatography.

Acetonitrile mixture

C₂H₃N

M 41,05 g/mol

UN No. 1648 • ADR 3 II • WGK 2

 **Danger**

H225-H302+H312+H332-H319

Guarantee analysis:

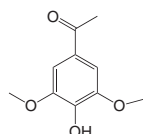
Assay (GC).....	≥99,9 %
Trifluoroacetic acid (v/v).....	0,095-0,105 %
Transmission:	
254 nm.....	≥90 %
230 nm.....	≥50 %
Trace impurities:	
Aluminium (Al).....	≤0,05 ppm
Calcium (Ca).....	≤0,05 ppm
Iron (Fe).....	≤0,05 ppm
Potassium (K).....	≤0,05 ppm
Magnesium (Mg).....	≤0,05 ppm
Sodium (Na).....	≤0,05 ppm
LC-MS suitability test.....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

CP02.1	1 l	glass	75,15 €
Original pack 6 x 1 l			
CP02.2	2,5 l	glass	166,65 €
Original pack 4 x 2,5 l			
158,32/2,5 l			

A

3-Acetopropionic acid

► Levulinic acid see p. 1930

Acetosyringone**Acetosyringone**

≥98 %

3,5-Dimethoxy-4-hydroxy-acetophenone

C₁₀H₁₂O₄

M 196,20 g/mol

mp ~125 °C

[2478-38-8] • EC No. 219-610-5

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....beige powder

Assay (GC).....≥98,0 %

6003.1	500 mg	glass	24,20 €

6003.2	1 g	glass	38,20 €

Acetovanillon

► Apocynin see p. 1652

1-Acetoxy-2-butoxyethane

► 2-Butoxyethyl acetate see p. 1698

(3α,4β)-3-Acetoxy-olean-12-en-23-acid

► 3-Acetyl-α-boswellic acid see p. 1609

Acetoxyphenyl mercury

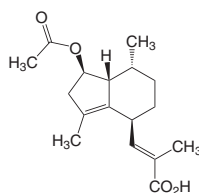
► Phenyl mercuric acetate see p. 2037

(3α,4β)-3-Acetoxy-urs-12-en-23-acid

► 3-Acetyl-β-boswellic acid see p. 1609

(3α,4β)-3-Acetoxy-urs-12-en-11-keto-23-acid

► 3-Acetyl-11-keto-β-boswellic acid see p. 1609

Acetoxyvalerenic acidC₁₇H₂₄O₄

M 292,37 g/mol

Storage temp.: -20 °C

[81397-67-3]

Acetoxyvalerenic acid**ROTI®STAR Primary Standard**

Transport temp.: cooled

Type analysis:

Assay (HPLC).....≥90,0 %

Residual solvents (GC).....≤3,0 %

Water (KF).....≤2,0 %

Assay (qNMR).....≥90,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE36.1	10 mg	glass	826,70 €

Acetoxyvalerenic acid**ROTICHROM® Working Standard**

Transport temp.: cooled

Type analysis:

Assay (HPLC).....≥90,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC36.1	10 mg	glass	299,95 €

Acetoxyvalerenic acid**with analytical records**From *Valeriana officinalis*.

Transport temp.: room temp.

Type analysis:

Purity (HPLC).....≥99,0 %

Analytical records: HPLC, TLC, ¹H-NMR, ¹³C-NMR, UV, IR, MS.

T890.1	25 mg	glass	568,70 €

Acetoxyvalerenic acid**ROTICHROM® HPLC**

Reference substance for HPLC.

From *Valeriana officinalis*.

Transport temp.: room temp.

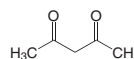
Type analysis:

Purity (HPLC).....>99 %

4446.1	25 mg	glass	439,70 €

Aceturic acid

► N-Acetylglycine see p. 1610

Acetyl acetone**Acetyl acetone**

≥98 %, for synthesis

Pentane-2,4-dione, ACAC

C₅H₈O₂

M 100,12 g/mol

D 0,973 • bp 140 °C

mp -23 °C • flp 34 °C

Solubility: 200 g/l (H₂O, 20 °C)

[123-54-6] • EC No. 204-634-0

UN No. 2310 • ADR 3(6.1) III • WGK 1

⚠ ⚠ Warning H226-H302

Type analysis:

Appearance.....clear colourless to light yellow liquid

Assay (GC).....≥98,0 %

Density.....0,971-0,974

Refractive index n_D²⁰.....1,451-1,453

6716.1	100 ml	plastic	12,80 €

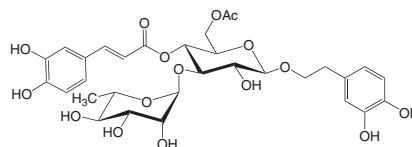
6716.2	500 ml	plastic	26,35 €

6716.3	1 l	plastic	44,65 €

Original pack 6 x 1 l 42,42/1 l

6716.4	2,5 l	plastic	96,65 €

Original pack 4 x 2,5 l 91,82/2,5 l

6-O-Acetylacteoside**6-O-Acetylacteoside****ROTICHROM® HPLC**Reference substance for HPLC. From *Harpagophytum procumbens*.C₃₁H₃₈O₁₆

M 666,63 g/mol

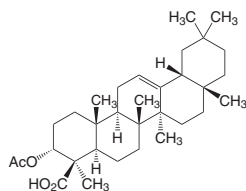
Storage temp.: +4 °C

[441769-43-3]

Type analysis:

Purity (HPLC).....>99 %

1072.1	20 mg	glass	341,85 €

3-Acetyl- α -boswellic acid**3-Acetyl- α -boswellic acid**

ROTICHROM® HPLC

Reference substance for HPLC
From *Boswellia serrata*.(3 α ,4 β)-3-Acetoxy-olean-12-en-23-acidC₃₂H₅₀O₄

M 498,73 g/mol

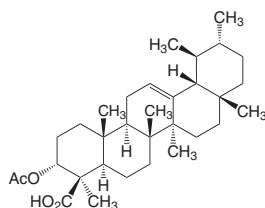
Storage temp.: +4 °C

[89913-60-0]

Type analysis:

Purity (HPLC).....>99 %

1073.1	10 mg	glass	407,45 €

3-Acetyl- β -boswellic acid**3-Acetyl- β -boswellic acid**

ROTICHROM® HPLC

Reference substance for HPLC
From *Boswellia serrata*.(3 α ,4 β)-3 α -Acetoxy-urs-12-en-23-acidC₃₂H₅₀O₄

M 498,73 g/mol

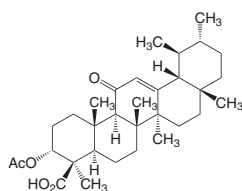
Storage temp.: +4 °C

[5968-70-7]

Type analysis:

Purity (HPLC).....>99 %

1074.1	10 mg	glass	396,70 €

3-Acetyl-11-keto- β -boswellic acid**3-Acetyl-11-keto- β -boswellic acid**

ROTICHROM® HPLC

Reference substance for HPLC
From *Boswellia serrata*.(3 α ,4 β)-3-Acetoxy-urs-12-en-11-keto-23-acidC₃₂H₄₈O₅

M 512,73 g/mol

Storage temp.: +4 °C

[67416-61-9]

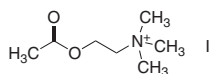
Type analysis:

Purity (HPLC).....>99 %

1075.1	10 mg	glass	353,70 €

Acetyl- γ -boswellic acid► 3-O-Acetyl-9-11-dehydro- β -boswellic acid
see p. 1609**Acetylcellulose**

► Cellulose acetate see p. 1724

Acetylcholine iodide**Acetylcholine iodide**

≥98 %

ACh

C₇H₁₆NO₂I

M 273,12 g/mol

mp 161-165 °C

Storage temp.: +4 °C

[2260-50-6] • EC No. 218-862-3

WGK 2

⚠ Warning H315-H319-H335

Guarantee analysis:

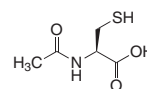
Assay (titr.).....	≥98,0 %
Solution (10 % in H ₂ O).....	colourless
pH-value (10 % in H ₂ O).....	3,9-5,7
Melting point.....	161-165 °C

5528.1	5 g	plastic	18,85 €

5528.2	25 g	plastic	56,90 €

N-Acetylchondrosamine

► N-Acetyl-D-galactosamine see p. 1610

N-Acetyl-L-cysteine**N-Acetyl-L-cysteine**

≥98 %, for biochemistry

2-Acetamido-3-mercaptopropionic acid,
L- α -Acetamido- β -mercaptopropionic acid,
ACC, NAC, Ac-Cys-OHC₅H₉NO₃S

M 163,20 g/mol

Storage temp.: +4 °C

[616-91-1] • EC No. 210-498-3

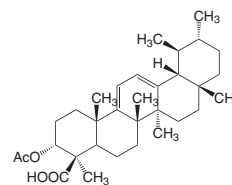
WGK 2

Type analysis:

Assay (titr.).....	≥98 %
Solution (10 % in water).....	colourless
Loss on drying (70 °C, vacuum).....	≤2,0 %
Specific rotation [α] _D ²⁰ (c=5 at pH 7).....	+21° to +27°
pH-value (c=1 in water).....	2,0-2,8

4126.1	25 g	glass	21,00 €

4126.2	100 g	glass	67,20 €

3-O-Acetyl-9-11-dehydro- β -boswellic acid**3-O-Acetyl-9-11-dehydro- β -boswellic acid**

ROTICHROM® HPLC

Reference substance for HPLC.
From *Boswellia serrata*.Acetyl- γ -boswellic acidC₃₂H₄₈O₄

M 496,71 g/mol

mp 258-263 °C

Storage temp.: +4 °C

[122651-20-1]

WGK 1

Type analysis:

Purity (HPLC).....≥98 %

6269.1	5 mg	glass	317,15 €

2-Acetyl-1,3-dihydroxybenzene

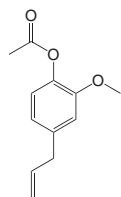
► 2,6-Dihydroxyacetophenone see p. 1777

Acetylene trichloride

► Trichloroethylene see p. 2217

A

Acetylugenol



Acetylugenol

ROTICHRON® GC

Reference substance for GC

Eugenol acetate, 4-Allyl-2-methoxyphenylacetate

$C_{12}H_{14}O_3$

M 206,23 g/mol

bp 280-281 °C

mp 30-31 °C • flp 110 °C

Storage temp.: +4 °C

[93-28-7] • EC No. 202-235-6

WGK 2

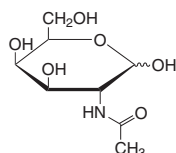
⚠ Warning H302-H315

Type analysis:

Purity (GC)..... ≥97 %

6688.1	1 g	plastic	75,15 €

N-Acetyl-D-galactosamine



N-Acetyl-D-galactosamine

≥99 %, for biochemistry

2-Acetamido-2-deoxy-D-galactose, N-Acetylchondrosamine, D-GalNAc, N-Acetyl-D-galactosaminide

$C_8H_{15}NO_6$

M 221,21 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

[14215-68-0]

Type analysis:

Assay (HPLC)..... ≥99 %

Solution (5 % in water)..... colourless, clear

Water (KF)..... ≤7 %

Specific rotation $[\alpha]_D^{25}$ (c=1 in water after 5 h)..... +80° to +90°

Methanol (GC)..... ≤0,1 %

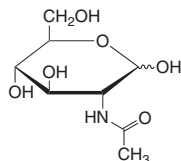
4114.1	250 mg	glass	30,00 €

4114.2	1 g	glass	90,85 €

N-Acetyl-D-galactosaminide

► N-Acetyl-D-galactosamine see p. 1610

N-Acetyl-D-glucosamine



N-Acetyl-D-glucosamine

≥99 %, for biochemistry

2-Acetamido-2-deoxy-D-glucopyranose

$C_8H_{15}NO_6$

M 221,21 g/mol

mp 195-215 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[7512-17-6] • EC No. 231-368-2

Type analysis:

Appearance..... white to whitish cryst. powder

Assay (HPLC)..... ≥99%

Specific rotation $[\alpha]_D^{25}$ (2 % in H_2O , after 2 h)..... +39° to +43°

Sulphated ash..... ≤0,1 %

Water (KF)..... ≤1,0 %

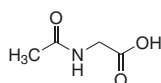
8993.3	5 g	plastic	14,55 €

8993.2	25 g	glass	36,45 €

8993.1	50 g	plastic	64,40 €

8993.4	100 g	plastic	100,95 €

N-Acetylglycine



N-Acetylglycine

≥99 %, for biochemistry

Aceturic acid, Ac-Gly-OH

$C_4H_7NO_3$

M 117,11 g/mol

bp >300 °C

mp 205-211 °C

Solubility: 26 g/l (H_2O , 15 °C)

Storage temp.: +4 °C

[543-24-8] • EC No. 208-839-6

WGK 1

Type analysis:

Assay (titr.)..... ≥99,0 %

Appearance of solution (1 % in H_2O)..... colourless

Loss on drying..... ≤1,0 %

Melting point..... 205-211 °C

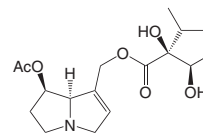
5526.1	25 g	plastic	15,60 €

5526.2	100 g	plastic	28,95 €

5526.3	500 g	plastic	106,45 €

Original pack 6 x 500 g 101,13/500 g

7-O-Acetylintermediate



NEW

7-O-Acetylintermediate

ROTICHRON® HPLC

Reference substance for HPLC. From *Symphylum*.

$C_{17}H_{27}NO_6$

M 341,40 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[74243-01-9]

WGK 1

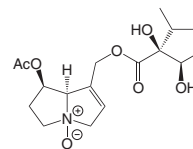
⚠ Warning H302

Type analysis:

Purity (HPLC)..... ≥95 %

7975.1	5 mg	glass	342,95 €

7-O-Acetylintermediate N-oxide



NEW

7-O-Acetylintermediate N-oxide

ROTICHRON® HPLC

Reference substance for HPLC. From *Symphylum officinale*.

$C_{17}H_{27}NO_7$

M 357,40 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

WGK 1

⚠ Warning H302

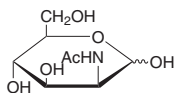
Type analysis:

Purity (HPLC)..... ≥95 %

7980.1	5 mg	glass	342,95 €

Acetyl-Leu-Leu-Argininal

► Leupeptin hemisulphate see p. 1930

N-Acetyl-D-mannosamine**N-Acetyl-D-mannosamine**

≥98 %

2-Acetamido-2-deoxy-D-mannopyranose,
N-Acetyl-D-mannosamine, ManNAcC₈H₁₅NO₆

M 221,21 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[7772-94-3]

WGK 1

Type analysis:

Assay (HPLC)..... ≥98,0 %
 Solution (1 % in H₂O)..... colourless
 Specific rotation [α]_D²⁰ (c=1 in H₂O)..... +10,0° to +11,0°
 Water (KF)..... 6,5-8,5 %

5525.1	250 mg	glass	12,80 €

5525.2	1 g	glass	41,85 €

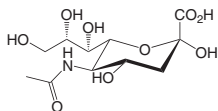
5525.3	5 g	plastic	133,85 €

N-Acetyl-D-mannosaminide

► N-Acetyl-D-mannosamine see p. 1611

N-Acetyl-5-methoxytryptamine

► Melatonin see p. 1954

N-Acetylneuraminic acid**N-Acetylneuraminic acid**

≥99 %, for biochemistry

Sialic acid

C₁₁H₁₉NO₉

M 309,27 g/mol

bp 185 °C (dec.)

Storage temp.: -20 °C

Transport temp.: room temp.

[131-48-6] • EC No. 205-023-1

WGK 3

Type analysis:

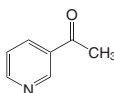
Appearance..... white to off-white solid
 Assay (GC)..... ≥99 %
 Specific rotation [α]_D²⁰ (c=1 in H₂O)..... -34° to -30°

7480.1	100 mg	glass	22,50 €

7480.2	500 mg	glass	67,20 €

7480.3	1 g	glass	110,20 €

7480.4	5 g	glass	332,20 €

3-Acetylpyridine

NEW

3-Acetylpyridine

≥99 %, for synthesis

Methyl 3-pyridyl ketone,
1-(3-Pyridinyl)-ethanoneC₇H₇NO

M 121,14 g/mol

D 1,1 • bp 220 °C

mp 11-13 °C • flp 104 °C

[350-03-8] • EC No. 206-496-7

UN No. 2810 • ADR 6.1 III • WGK 1

⚠ Danger H301-H315

Type analysis:

Appearance..... clear, colourless to light yellow liquid
 Assay (GC)..... ≥99,0 %
 2-Acetylpyridine..... ≤0,5 %
 4-Acetylpyridine..... ≤0,5 %
 Water (KF)..... ≤0,5 %

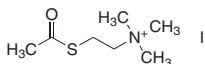
8740.1	10 g	plastic	17,10 €

8740.2	50 g	plastic	32,15 €

8740.3	100 g	plastic	53,65 €

2-Acetylresorcinol

► 2,6-Dihydroxyacetophenone see p. 1777

Acetylthiocholine iodide**Acetylthiocholine iodide**

≥99 %, for biochemistry

Substrate

S-Acetylthiocholine iodide

C₇H₁₆NOSi

M 289,18 g/mol

mp 206-210 °C

Storage temp.: +4 °C

[1866-15-5] • EC No. 217-474-1

UN No. 2811 • ADR 6.1 III • WGK 3

⚠ Danger H301-H312-H315-H319-H335

Type analysis:

Assay (arg.)..... ≥99 %
 Solution (10 % in H₂O)..... colourless
 Water (KF)..... ≤0,5 %
 Sulphated ash..... ≤0,1 %
 Thiocholine..... ≤0,1 %

4001.1	1 g	glass	22,05 €

4001.2	5 g	glass	67,20 €

4001.3	10 g	glass	120,95 €

Ac-Gly-OH

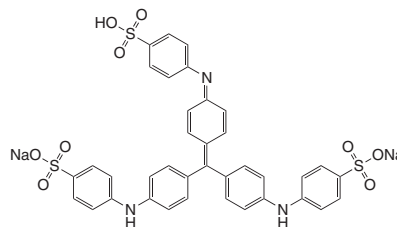
► N-Acetylglycine see p. 1610

ACh

► Acetylcholine iodide see p. 1609

Achromycin hydrochloride

► Tetracycline hydrochloride see p. 2202

Acid blue 93 (C.I. 42780)**Acid blue 93 (C.I. 42780)****p.a., water soluble**For staining of histological sections and
for cytology.

Aniline blue water soluble, Methyl blue

C₃₇H₂₇N₃O₉S₃Na₂

M 799,81 g/mol

Solubility: 70 g/l (H₂O, 20 °C)

[28983-56-4] • EC No. 249-352-9

WGK 2

Guarantee analysis:

Appearance..... brownish crystals
 Solution (1 % in H₂O)..... clear, dark blue
 Absorption max. (in H₂O)..... 594-610 nm

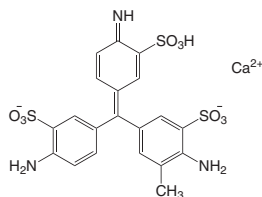
4002.1	10 g	glass	68,70 €

4002.2	25 g	glass	149,45 €

For further information, please see page 1396

Acid black 2► Nigrosin, water soluble (C.I. 50420)
see p. 1987**Acid black 32**► Fast sulphon black F (C.I. 26990)
see p. 1823

Acid fuchsin calcium salt (C.I. 42685)



Acid fuchsin calcium salt (C.I. 42685)

extra pure

$C_{20}H_{17}N_3O_9S_3Ca$

M 579,65 g/mol

mp 300 °C

[123334-10-1]

WGK 3

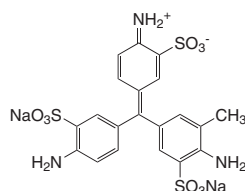
Type analysis:

Appearance.....green cryst. powder

Appearance of solution (H₂O)..... clear, violet

7690.1	5 g	glass	13,15 €
7690.2	25 g	glass	22,50 €
7690.3	100 g	glass	53,65 €

Acid fuchsin (C.I. 42685)



Acid fuchsin (C.I. 42685)

for microscopy

Fuchsine acidic

$C_{20}H_{17}N_3Na_2O_9S_3$

M 585,54 g/mol

mp >130 °C

Solubility: 200 g/l (H₂O, 20 °C)

[3244-88-0] • EC No. 221-816-5

WGK 2

Type analysis:

Absorption max. (HCl 0,005 mol/l)..... 540-545 nm

Loss on drying (135 °C)..... ≤10 %

T128.1	10 g	glass	53,65 €

For further information, please see page 1406

Acid green 1

► Naphthol green B (C.I. 10020) see p. 1980

Acid green 3

► Guinea green B (C.I. 42085) see p. 1866

Acid green 5

► Light green SF (C.I. 42095) see p. 1931

Acid green 50

► Lissamine green B (C.I. 44090) see p. 1933

Acid orange 7

► Orange II sodium salt (C.I. 15510) see p. 2014

Acid orange 10

► Orange G (C.I. 16230) see p. 2014

Acid orange 12

► Crocein orange G (C.I. 15970) see p. 1750

Acid red 14

► Chromotrope® FB (C.I. 14720) see p. 1735

Acid red 51

► Erythrosine B (C.I. 45430) see p. 1808

Acids in Ultra Quality

Art. No.	Description	Page
HN65	Acetic acid Ultra-quality	1597
HN67	Hydrobromic acid Ultra-quality	1882
HN63	Hydrochloric acid Ultra-quality	1882
HN64	Hydrofluoric acid Ultra-quality	1887
HN60	Nitric acid Ultra-quality	1988
HN61	Perchloric acid Ultra-quality	2028
HN62	Sulphuric acid Ultra-quality	2190

Acids in Supra Quality

Art. No.	Description	Page
HN55	Acetic acid Supra-quality	1598
HN53	Hydrochloric acid Supra-quality	1883
HN54	Hydrofluoric acid Supra-quality	1887
HN50	Nitric acid Supra-quality	1988
HN51	Perchloric acid Supra-quality	2028
HN52	Sulphuric acid Supra-quality	2191

Acids for Analysis

Art. No.	Description	Page
3738	Acetic acid 100 %	1598
T179	Acetic acid 96 %	1598
HN24	Boric acid solution 4 %	1685
4724	Formic acid 98 %	1839
CP16	Formic acid 85 %	1839
X942	Hydrochloric acid fuming 37 %	1883
4625	Hydrochloric acid fuming 37 %	1883
P074	Hydrochloric acid 32 %	1884
6331	Hydrochloric acid 25 %	1884
4440	Molybdato-phosphoric acid hydrate	1974
X943	Nitric acid 65 %	1989
4989	Nitric acid 65 %	1989
3257	Periodic acid	2029
CN91	meta-Phosphoric acid	2039
6366	ortho-Phosphoric acid 85 %	2039
X944	Sulphuric acid 95-98 %	2191
4623	Sulphuric acid 96 %	2191
CN89	Sulphuric acid 62 %	2192
8789	Trichloroacetic acid	2217
7437	Trichloroacetic acid solution 20 %	2217
9383	Trichloroacetic acid solution 10 %	2217

Acids in Pharmacopoeia Quality

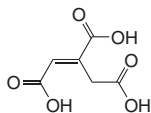
Art. No.	Description	Page
6755	Acetic acid 100 %	1598
P010	Boric acid	1685
6490	Citric acid	1738
5110	Citric acid monohydrate	1738
2607	Hydrochloric acid fuming 37 %	1883
2608	ortho-Phosphoric acid 85 %	2039
2609	Sulphuric acid 96 %	2191
3744	Trichloroacetic acid	2217

Acids in Standard Quality

Art. No.	Description	Page
7332	Acetic acid 99-100 %	1598
X895	Acetic acid 96 %	1598
6740	Acetic acid 80 %	1599
7329	Acetic acid 60 %	1599
4340	Acetic acid 25 %	1599
4341	Acetic acid 10 %	1599
5355	Formic acid 85 %	1840
4742	Formic acid 98 %	1839
6739	Formic acid 45 %	1840
9277	Hydrochloric acid 37 %	1884
7476	Hydrochloric acid 37 %	1884
X896	Hydrochloric acid 32 %	1884
9280	Hydrochloric acid 30 %	1884
X897	Hydrochloric acid 25 %	1884
0992	Hydrochloric acid 25 %	1885
4326	Hydrochloric acid 20 %	1885
4322	Hydrochloric acid 15 %	1885
0710	Hydrochloric acid 10 %	1885
4328	Hydrochloric acid 5 %	1885
2616	Nitric acid 68 %	1988
X898	Nitric acid 65 %	1989
6745	Nitric acid 60 %	1989
9274	Nitric acid 53 %	1989
6748	Nitric acid 40 %	1989
4339	Nitric acid 25 %	1989
4337	Nitric acid 20 %	1990
2612	Periodic acid	2029
9079	ortho-Phosphoric acid 85 %	2039
2614	ortho-Phosphoric acid 75 %	2039
4336	ortho-Phosphoric acid 50 %	2039
4334	ortho-Phosphoric acid 40 %	2039
4332	ortho-Phosphoric acid 25 %	2040
2620	Phosphorous acid	2040
X945	Sulphuric acid 98 %	2191
9316	Sulphuric acid 96 %	2191
0971	Sulphuric acid 96 %	2191
4363	Sulphuric acid 96 %	2191
X946	Sulphuric acid 90-91 %	2192
4319	Sulphuric acid 75 %	2192
4318	Sulphuric acid 50 %	2192
4316	Sulphuric acid 40 %	2192
4312	Sulphuric acid 37 %	2192
X876	Sulphuric acid 30 %	2192
0967	Sulphuric acid 25 %	2193
4300	Sulphuric acid 20 %	2193
9328	Sulphurous acid	2194
P088	Trifluoroacetic acid	2220
6957	Trifluoroacetic acid	2220

Acid yellow 36

► Metanil yellow (C.I. 13065) see p. 1959

trans-Aconitic acid**trans-Aconitic acid**

≥98 %

trans-Propene-1,2,3-tricarboxylic acid,
1,2,3-Propenetricarboxylic acidC₆H₆O₆

M 174,11 g/mol

D 0,56

mp 190 °C (dec.)

Storage temp.: +4 °C

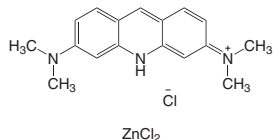
[4023-65-8] • EC No. 223-688-6

WGK 1

Guarantee analysis:

Assay (HPLC)..... ≥98,0 %
 Solution (5 % in water)..... colourless to slightly yellow
 Water (KF)..... ≤1,0 %
 Sulphated ash..... ≤0,5 %

5523.1	10 g	plastic	33,25 €
5523.2	25 g	plastic	67,65 €

Acridine orange (C.I. 46005)**Acridine orange (C.I. 46005)**

for microscopy

Fluorescence indicator

Acridine orange zinc chloride double salt,
Basic orange 14C₁₇H₂₀Cl₃N₃Zn

M 438,09 g/mol

mp 165 °C

[10127-02-3] • EC No. 233-353-6

WGK 3

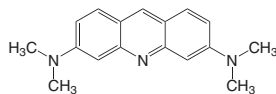
Warning H341

Type analysis:

Appearance..... orange to brownish powder
 Loss on drying (110 °C)..... ≥4 %

0249.1	10 g	glass	20,65 €
0249.2	25 g	glass	38,60 €

For further informations, please see page 1404

**Acridine orange base
(C.I. 46005)****Acridine orange base
(C.I. 46005)**

for microscopy

Fluorescence indicator

Basic orange 14

C₁₇H₁₉N₃

M 265,35 g/mol

mp 165 °C

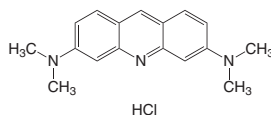
[494-38-2]

WGK 3

Type analysis:

Appearance..... brown to orange brown powder
 Appearance of solution (0,1 % in 1 M HCl)..... clear
 orange to orange red

7632.1	5 g	glass	16,70 €
7632.2	10 g	glass	25,30 €
7632.3	25 g	glass	52,60 €

**Acridine orange hydrochloride
hydrate (C.I. 46005)****Acridine orange hydrochloride
hydrate (C.I. 46005)**

for microscopy

C₁₇H₁₉N₃ · HCl · x H₂OM 301,82 + x H₂O g/mol

mp 284-287 °C

[65-61-2]

WGK 3

Type analysis:

Appearance..... burnt orange to brick red powder
 Appearance of solution (0,1 % in H₂O)..... clear orange to
 orange red

7633.1	1 g	glass	22,40 €
7633.2	5 g	glass	44,65 €
7633.3	10 g	glass	71,50 €

**Acridine orange zinc chloride
double salt**

► Acridine orange (C.I. 46005) see p. 1613

Acriflavinium chloride

► Trypaflavine see p. 2226

Acriflavinium hydrochloride

► Trypaflavine see p. 2226

Acrylamide

Propene amide, acrylic acid amide

C₃H₅NO

M 71,08 g/mol

D 1,13

mp 84-85 °C • flp 138 °C

[79-06-1] • EC No. 201-173-7

UN No. 2074 • ADR 6.1 III • WGK 3

Danger H301-H312+H332-H315-
 H319-H317-H340-H350-H361f-H372

Acrylamide, BioScience

≥99,9 %, BioScience Grade, 4 x cryst.

For molecular biology

Type analysis:

Appearance..... white crystals
 Assay..... ≥99,9 %
 Conductivity (35 % in H₂O)..... ≤5 μS/cm
 pH (10 % in 0,1 M NaCl)..... 5,5-7,0
 A (40 % in H₂O; 1 cm/410 nm)..... ≤0,05
 Water..... ≤0,3 %
 Acrylic acid..... ≤0,0005 %
 Iron (Fe)..... ≤0,0001 %
 Lead (Pb)..... ≤0,0001 %
 Magnesium (Mg)..... ≤0,0001 %

0189.1 100 g plastic 38,60 €

0189.2 500 g plastic 150,00 €

Original pack 6 x 500 g 142,50/500 g

For further information, please see page 1114

Acrylamide, 4 x cryst.

≥99,9 %, p.a., 4x cryst.

For gel electrophoresis.

Type analysis:

Appearance..... white crystals
 Assay..... ≥99,9 %
 Water..... ≤0,5 %
 Acrylic acid..... ≤0,001 %
 pH (5 % in H₂O)..... ~5
 Solution (5 % in H₂O)..... clear and colourless
 A (5 % in water, 1 cm/290 nm)..... <0,6

7906.1 100 g plastic 31,75 €

7906.3 250 g plastic 68,30 €

7906.4 500 g plastic 116,65 €

Original pack 6 x 500 g 110,82/500 g

7906.2 1 kg plastic 214,50 €

Original pack 6 x 1 kg 203,78/1 kg

For further information, please see page 1114

A

Acrylamide, 2 x cryst.

≥98 %, 2x cryst., extra pure

For gel electrophoresis

Type analysis:

Appearance.....white crystals
Assay.....≥98 %
Water.....≤2,0 %
Acrylic acid.....≤0,1 %
pH (5 % in H₂O).....~6
Solution (5 % in H₂O).....clear and colourless
A (5 % in water, 1 cm/290 nm).....<0,7

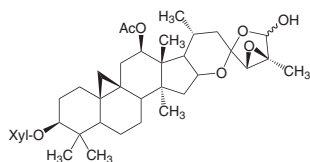
7871.1	500 g	plastic	44,65 €
Original pack 6 x 500 g			42,42/500 g
7871.2	1 kg	plastic	57,95 €
Original pack 6 x 1 kg			55,05/1 kg
7871.3	2,5 kg	plastic	114,95 €
7871.4	5 kg	plastic	192,45 €

For further information, please see page 1114

Acrylamide- and bisacrylamide stock solutions

► Rotiphorese® gel solutions see p. 1112

Actein



Actein

ROTICHROM® HPLC

Reference substance for HPLC
From *Cimicifuga racemosa*.

C₃₇H₅₆O₁₁

M 676,84 g/mol • Storage temp.: +4 °C

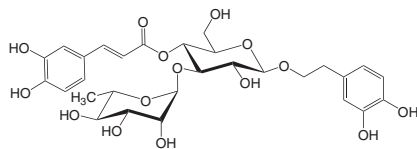
[18642-44-9]

Type analysis:

Purity (HPLC).....>99 %

1080.1	5 mg	glass	364,45 €

Acteoside



Verbascoside

C₂₉H₃₆O₁₅

M 624,60 g/mol • [61276-17-3]

Acteoside

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥93,0 %
Residual solvents (GC).....≤5,0 %
Water (KF).....≤9,0 %
Assay (qNMR).....≥80,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE33.1	10 mg	glass	740,70 €

Acteoside

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC).....≥80,0 %
Identity.....complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC33.1	50 mg	glass	240,80 €

Acteoside

with analytical records

From *Paulownia tormentosa*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>98 %
Analytical records: HPLC, TLC, ¹H-NMR, ¹³C-NMR, UV, IR, MS.

T891.1	20 mg	glass	467,65 €

Acteoside

ROTICHROM® HPLC

Reference substance for HPLC.

From *Paulownia tormentosa*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>98 %

4451.1	20 mg	glass	385,95 €

Actidione

► Cycloheximide see p. 1755

Actinomycin D

Actinomycin D

≥95 %, for biochemistry

Peptide antibiotic. Pure actinomycin C₁.

Actinomycin IV, Actinomycin C₁, Dactinomycin

C₆₂H₈₆N₁₂O₁₆

M 1255,5 g/mol

mp 241-243 °C

Solubility: 40 g/l (H₂O, 10 °C)

Storage temp.: +4 °C

[50-76-0] • EC No. 200-063-6

UN No. 3462 • ADR 6.1 II • WGK 3

⚠ Danger H300

Type analysis:

Appearance.....red to orange powder
Assay (HPLC).....≥95,0 %

8969.1	5 mg	glass	71,50 €

For further information, please see page 1363

Activation reagent

Activation reagent

for DNA synthesis with ABI™ and PolyGen® Synthesizer

Tetrazole/Acetonitrile

D 0,79 • flp +2 °C

UN No. 1648 • ADR 3 II • WGK 2

⚠ ⚠ Danger

H225-H302+H312+H332-H319

Type analysis:

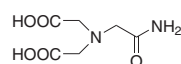
Appearance.....clear, colorless solution
Assay (tetrazole).....0,43-0,46 mol/l
Water (KF).....≤0,003 %

2253.1	200 ml	glass	99,90 €

2253.2	450 ml	glass	197,30 €

For further information, please see page 1429

ADA



ADA

PUFFERAN® ≥99 %

N-(2-Acetamido)-iminodiacetic acid

C₆H₁₀N₂O₅

M 190,16 g/mol • mp 215 °C (dec.)

[26239-55-4] • EC No. 247-530-0

Guarantee analysis:

Appearance.....white powder
Assay (titr.).....≥99,0 %
Lead (Pb).....≤0,001 %
Iron (Fe).....≤0,001 %
Loss on drying.....≤0,5 %

0250.1	50 g	plastic	20,65 €

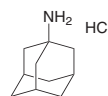
0250.2	100 g	plastic	33,55 €

0250.3	500 g	plastic	118,15 €

Original pack 6 x 500 g 112,24/500 g

For further information, please see page 1214

1-Adamantanamine hydrochloride



1-Adamantanamine hydrochloride

≥99 %, for synthesis

Amantadine hydrochloride

C₁₀H₁₇N • HCl

M 187,72 g/mol • mp >300 °C

[665-66-7] • EC No. 211-560-2 • WGK 3

⚠ Warning H302

Type analysis:

Appearance.....white to off-white powder
Assay.....≥99,0 %
Identity.....complies
pH-value (20 % in H₂O).....3,0-5,5
Heavy metals (as Pb).....≤0,001 %
Residual solvent (Acetone).....≤0,5 %

7621.1	25 g	plastic	19,90 €

7621.2	100 g	plastic	47,20 €

Adamantane



Adamantane

≥99 %, for synthesis

Tricyclo[3.3.1.1^{3,7}]decaneC₁₀H₁₆

M 136,24 g/mol • mp 266-268 °C

[281-23-2] • EC No. 206-001-4

UN No. 3077 • ADR 9 III • WGK 2

Warning H400

Type analysis:

Appearance..... white to beige cryst. powder

Assay (GC)..... ≥99,0 %

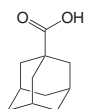
Identity (IR)..... complies

Water (KF)..... ≤0,1 %

7620.1	25 g	glass	15,60 €

7620.2	100 g	glass	30,00 €

1-Adamantanecarboxylic acid



1-Adamantanecarboxylic acid

≥99 %, for synthesis

C₁₂H₁₆O₂

M 180,25 g/mol • mp 172-174 °C

[828-51-3] • EC No. 212-584-6 • WGK 3

Type analysis:

Appearance..... white crystalline powder

Assay (titr.)..... ≥99,0 %

Loss on drying..... ≤0,5 %

Sulphated ash..... ≤0,1 %

7622.1	25 g	plastic	21,00 €

7622.2	100 g	plastic	49,35 €

1-Adamantanol



1-Adamantanol

≥98,5 %, for synthesis

1-Hydroxyadamantane

C₁₀H₁₆O

M 152,24 g/mol • mp 274-280 °C

[768-95-6] • EC No. 212-202-8 • WGK 3

Type analysis:

Appearance..... white to off-white solid

Assay..... ≥98,5 %

Identity (IR)..... complies

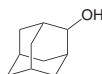
Sulphated ash..... ≤0,1 %

7745.1	10 g	glass	14,55 €

7745.2	50 g	glass	28,95 €

7745.3	250 g	glass	92,35 €

2-Adamantanol



2-Adamantanol

≥98 %, for synthesis

2-Hydroxyadamantane

C₁₀H₁₆O

M 152,24 g/mol

mp 260-265 °C

[700-57-2] • EC No. 211-846-7

WGK 3

Type analysis:

Appearance..... white to yellow solid

Assay..... ≥98,0 %

Sulphated ash..... ≤0,1 %

7863.1	5 g	glass	22,40 €

7863.2	25 g	glass	61,20 €

7863.3	50 g	glass	99,90 €

2-Adamantanone



2-Adamantanone

≥99 %, for synthesis

C₁₀H₁₄O

M 150,22 g/mol

mp 270 °C

[700-58-3] • EC No. 211-847-2

WGK 3

Type analysis:

Appearance..... white to off-white cryst. powder

Assay (GC)..... ≥99,0 %

Identity..... complies

Loss on drying..... ≤0,5 %

Sulphated ash..... ≤0,1 %

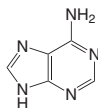
8406.1	25 g	glass	22,40 €

8406.2	100 g	glass	69,35 €

ADCP

► 2-Amino-4,6-dichloropyrimidine
see p. 1631

Adenine



Adenine

≥98 %, for biochemistry

6-Aminopurin, 1H-Purin-6-amin

C₅H₅N₅

M 135,13 g/mol

mp >300 °C

[73-24-5] • EC No. 200-796-1

UN No. 2811 • ADR 6.1 III • WGK 1

Danger H301

Type analysis:

Appearance..... white, cryst. powder

Assay (HPLC)..... ≥98 %

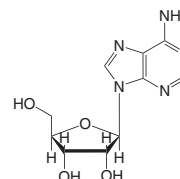
Heavy metals (as Pb)..... ≤0,001 %

Ash content (800 °C)..... ≤0,1 %

3025.1	5 g	glass	14,95 €

3025.2	25 g	glass	38,20 €

Adenosine



Adenosine

≥99 %, p.a.

9-β-D-Ribofuranosyladenine

C₁₀H₁₃N₅O₄

M 267,25 g/mol

mp 234-237 °C

[58-61-7] • EC No. 200-389-9

WGK 1

Guarantee analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99,0 %

Heavy metals..... ≤0,001 %

6122.1	5 g	plastic	14,55 €

6122.2	10 g	plastic	22,50 €

6122.3	25 g	plastic	45,05 €

Adenosine-BCE-phosphoramidite

Adenosine-BCE-phosphoramidite

For DNA-synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-dA(N-Bz)P-(OCH₂CH₂CN)-N(iPr)₂C₄₇H₅₂N₇O₇P

M 857,7 g/mol

Storage temp.: +4 °C

K921.1	1 g	glass	32,15 €

For further information, please see page 1429

Adenosine-CPG-Support

Adenosine-CPG-Support

500 Å pore size

Support material for DNA-synthesis.

dA-Icaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... ≥98,0 %

CPG loading..... 30-40 μmol/g

Coupling efficiency..... ≥99 %

2318.3	1 g	plastic	52,15 €

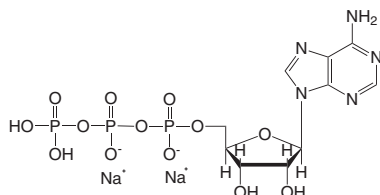
For further information, please see page 1429

A

Adenosine-5-triphosphate

- ▶ ATP solution see p. 1659
- ▶ ATP see p. 1658

Adenosin-5'-triphosphate disodium salt



Adenosin-5'-triphosphate disodium salt

≥98 %, for biochemistry

Coenzyme of kinases.

ATP disodium salt

$C_{10}H_{14}N_5Na_2O_{13}P_3$

M 551,10 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[987-65-5] • EC No. 213-579-1

WGK 1

Type analysis:

Assay	≥98 %
pH value	2,5-3,5
Chloride (Cl)	≤0,05 %
Heavy metals	≤0,002 %
Arsenic (As)	≤0,0001 %
Loss on drying	6,0-12,0 %

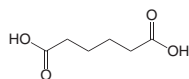
HN35.1	5 g	glass	21,40 €
HN35.2	10 g	glass	31,10 €
HN35.3	25 g	glass	57,55 €
HN35.4	100 g	glass	192,45 €

For further information, please see page 1225

Adermine hydrochloride

- ▶ Pyridoxine hydrochloride see p. 2073

Adipic acid



Adipic acid

≥99,5 %, for biochemistry

1,6-Hexanedioic acid

$C_6H_{10}O_4$

M 146,14 g/mol

D 1,37 • bp ~330 °C

mp 151 °C • flp 196 °C

Solubility: 15 g/l (H_2O , 20 °C)

[124-04-9] • EC No. 204-673-3

WGK 1

⚠ Warning H319

Type analysis:

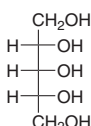
Assay (dry substance)	≥99,5 %
Water	≤0,2 %
Nitrate (NO_3)	≤0,0004 %
Ash	≤0,0002 %
Iron (Fe)	≤0,0001 %

4475.2	100 g	plastic	10,65 €
4475.1	500 g	plastic	21,40 €
Original pack 6 x 500 g 20,33/500 g			
4475.3	1 kg	plastic	36,05 €
Original pack 6 x 1 kg 34,25/1 kg			

Adonite

- ▶ Adonitol see p. 1616

Adonitol



Adonitol

≥98 %, for biochemistry

Adonite, Ribitol

$C_6H_{12}O_5$

M 152,15 g/mol

mp 101-105 °C

Storage temp.: +4 °C

[488-81-3] • EC No. 207-685-7

WGK 1

Type analysis:

Assay (HPLC)	≥98 %
Solution (10 % in water)	colourless
Water (KF)	≤0,5 %
Melting point	101-105 °C
Heavy metals (as Pb)	≤0,001 %

5522.1	1 g	glass	15,60 €
5522.2	5 g	plastic	37,55 €

AEBSF hydrochloride

AEBSF hydrochloride

≥98 %, for biochemistry

Inhibitor of serine proteases

4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride

$C_8H_{10}FNO_2S \cdot HCl$

M 239,69 g/mol

mp 175-177 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[30827-99-7]

UN No. 3261 • ADR 8 III • WGK 3

⚠ Danger H314

Type analysis:

Assay (HPLC)	≥98 %
No protected amines	complies
Solubility (20 % in H_2O)	clear, colourless

2931.1	25 mg	plastic	17,75 €
2931.2	100 mg	plastic	34,95 €
2931.3	500 mg	plastic	129,55 €

For further information, please see page 1227

Aerosil®

Aerosil®

≥99,8 %, powdered

hydrophilic type

Pyrogenous silicic acid

SiO_2

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Silicate (SiO_2)	≥99,8 %
Specific surface (BET)	200 ±25 m ² /g
pH-value (4 % dispersion)	3,7-4,7
Loss on drying (2 h, 105 °C)	≤1,5 %

9235.2	500 g	plastic	47,20 €
Original pack 6 x 500 g 44,84/500 g			
9235.1	1 kg	plastic	85,90 €
Original pack 6 x 1 kg 81,61/1 kg			

Aerosporin

- ▶ Polymyxin B sulphate see p. 2048

Aesculetine

- ▶ Esculetin see p. 1808

Aesculin

- ▶ Esculin sesquihydrate see p. 1808

Affinity chromatography columns/protein A conjugated

- ▶ Roti®garose-Protein A MINI columns see p. 2098
- ▶ Roti®garose-Protein A MIDI columns see p. 2098
- ▶ Roti®garose-Protein A MAXI columns see p. 2098

Affinity chromatography columns/cobalt charged

- ▶ Roti®garose-His/Co Columns see p. 2097

Affinity chromatography columns/nickel charged

- ▶ Roti®garose-His/Ni Cartridges see p. 2098
- ▶ Roti®garose-His/Ni Columns see p. 2098

Agar-Agar

D 0,55

Storage temp.: +20 °C

[9002-18-0] • EC No. 232-658-1

Agar-Agar, BioScience

BioScience-Grade, powdered

Agar of high purity for all culture media used in molecular- and microbiology. Recommended for plating in genetic engineering (GMOs).

Guarantee analysis:

Water content	≤10 %
Ash	≤4,5 %
Gel strength (1,5 % Nikan)	800-1100 g/cm ²
Gelling temperature (1,5 % gel)	35 ±3 °C
Melting temperature (1,5 % gel)	85 ±5 °C
Turbidity (1,5 % solution)	≤12 NTU
Absorption (450 nm)	≤0,200
pH (1,5 % gel) before autoclaving	7,0 ±0,4

6494.1	250 g	plastic	44,00 €
6494.2	500 g	plastic	76,25 €
Original pack 6 x 500 g			72,44/500 g
6494.3	1 kg	plastic	139,65 €
Original pack 6 x 1 kg			132,67/1 kg
6494.4	2,5 kg	plastic	295,65 €

For further information, please see page 1361

Agar-Agar, BioScience, granulated

BioScience-Grade, granulated

Agar of high purity for all culture media used in molecular- and microbiology. Recommended for plating in genetic engineering (GMOs).

Guarantee analysis:

Water content	≤10 %
Ash	≤4,5 %
Gel strength (1,5 % Nikan)	800-1100 g/cm ²
Gelling temperature (1,5 % gel)	35 ±3 °C
Melting temperature (1,5 % gel)	85 ±5 °C
Turbidity (1,5 % solution)	≤12 NTU
Absorption (450 nm)	≤0,200
pH (1,5 % gel) before autoclaving	7,2 ±0,4
Granulation	complies

1347.1	250 g	plastic	57,55 €
1347.2	500 g	plastic	98,80 €
Original pack 6 x 500 g			93,86/500 g
1347.3	1 kg	plastic	182,65 €
Original pack 6 x 1 kg			173,52/1 kg
1347.4	2,5 kg	plastic	389,05 €

For further information, please see page 1361

Agar-Agar, bacteriological for bacteriology, extremely pure quality

Ideal for immunodiffusion and electrophoresis and as a medium for tissue and cell cultures, bacteriology and mycology.

Guarantee analysis:

Electroendosmosis (EEO)	≤0,450
Water content	≤12 %
Ash	≤1,6 %
Gel strength (1,5 % Nikan)	500-1200 g/cm ²
Gelling temperature (1,5 % gel)	34-38 °C
Melting temperature (1,5 % gel)	85-90 °C
Turbidity (1,5 % solution)	≤10 NTU
Absorption (450 nm)	≤0,100
pH (1,5 % gel) before autoclaving	5,0-7,0
Resistance (1 % suspension)	≥20000 Ohm

2266.1	250 g	plastic	98,80 €
2266.3	500 g	plastic	169,75 €
Original pack 6 x 500 g			161,26/500 g
2266.2	1 kg	plastic	306,40 €
Original pack 6 x 1 kg			291,08/1 kg
2266.4	2,5 kg	plastic	650,40 €

For further information, please see page 1360

Agar-Agar, Kobe I

Kobe I, powdered, for microbiology

Standard-Agar for application in culture media for molecular biology (e.g. LB medium) and microbiology.

Type analysis:

Gel strength (1,5 % gel)	≥1000 g/cm ²
Gelling temperature	35-42 °C
Moisture	≤15 %
pH-value	5,0-8,0
Ash	≤1,5 %

5210.1	250 g	plastic	34,95 €
5210.3	500 g	plastic	59,05 €
Original pack 6 x 500 g			56,10/500 g
5210.2	1 kg	plastic	111,70 €
Original pack 6 x 1 kg			106,12/1 kg
5210.4	2,5 kg	plastic	235,45 €

5210.5	5 kg	plastic	418,20 €

For further information, please see page 1360

Agar-Agar, plant

Genetic engineering quality, for plants

For plant propagation and plant cell culture.

Guarantee analysis:

Water content	<18 %
Ash	3,0 ±0,5 %
Gel strength (1,5 % Nikan)	≥1000 g/cm ²
pH (1,5 % gel) before autoclaving	7,2 ±0,4
pH (1,5 % gel) after autoclaving	7,0 ±0,4
Gelling temperature	34 ±2 °C
Melting temperature	92 ±2 °C
Turbidity (1,5 % gel)	≤25 NTU

4807.1	250 g	plastic	69,80 €
4807.2	500 g	plastic	116,00 €
Original pack 6 x 500 g			110,20/500 g
4807.3	1 kg	plastic	192,45 €
Original pack 6 x 1 kg			182,83/1 kg
4807.4	2,5 kg	plastic	385,95 €

For further information, please see page 1360

Agar-Agar, danish

Agar-Agar, danish

Standardised Carrageenan mixture, sugar-containing, powdered

Mixture of highly purified Carrageenan extracts. For gelling of watery liquids like, e.g. media for cultivation of plants, and for special microbiological applications. Saccharated.

D 0,55

Storage temp.: +20 °C

[9002-18-0] • EC No. 232-658-1

Type analysis:

Appearance	cream-coloured powder
Moisture	<12 %
Sulphate (as SO ₄ , dry substance)	15-40 %
Gel strength (1,5 % sol.)	~400-500 g/cm ²
Viscosity (1,5 % sol., 75 °C)	≥0,005 Pas
pH-value (1,5 % sol.)	7,0-10,5
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0002 %
Mercury (Hg)	≤0,0001 %
Methanol, ethanol, isopropanol	≤1 %
Ash insoluble in 1 % H ₂ SO ₄ (dry substance)	≤2 %
Standardized by mono- or disaccharides and KCl	

4508.1	1 kg	plastic	67,65 €
Original pack 6 x 1 kg			64,27/1 kg
4508.2	5 kg	plastic	295,65 €

For further information, please see page 1361

Agar medium B

► CASO Agar see p. 1719

Agar medium C

► Sabouraud 4 % Glucose Agar see p. 2116

Agar medium F

► Violet Red Bile Agar with Dextrose and Lactose see p. 2237

Agar medium H

► MacConkey Agar see p. 1942

Agar medium J

► Deoxycholate Citrate Agar see p. 1762

Agar medium K

► XLD-Agar see p. 2245

Agar medium L

► Brilliant Green Lactose Sucrose Agar see p. 1688

Agar medium M

► Triple Sugar Iron Agar see p. 2222

Agar medium N

► Cetrimide Agar (Base) see p. 1725

Agar medium O

► Baird Parker Agar (Base) see p. 1665

Agarose

[9012-36-6] • EC No. 232-731-8

Agarose Broad Range

Roti®agarose BioScience-Grade

For gel electrophoresis, total size range (200 bp-40 kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Ash content	≤0,25 %
Sulphate (SO ₄)	≤0,12 %
Turbidity (1,5 % solution)	≤4 NTU
Loss on drying	≤7 %
Gel strength (1 % gel)	≥1800 g/cm ²
Gel strength (1,5 % gel)	≥3200 g/cm ²
Gelling temperature	34,5-37,5 °C
Melting temperature	86,5-89,5 °C
DNA-separation (≥1000 bp)	complies
DNases, RNases	none detected

T846.1	10 g	plastic	22,05 €
T846.2	100 g	plastic	116,65 €
T846.3	500 g	plastic	499,90 €
Original pack 6 x 500 g			474,91/500 g

For further information, please see page 1118

A

Agarose GTQ

Roti®agarose genetic engineering quality

Especially tested agarose for gel elution and biomolecular approaches (500 bp-20 kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,11
Water content	≤8 %
Ash	≤0,5 %
Sulphate (SO ₄)	≤0,1 %
Gel strength (1 % gel)	≥1200 g/cm ²
Gel strength (1,5 % gel)	≥2300 g/cm ²
Gelling temperature	36 ±2,0 °C
Melting temperature	92 ±2,0 °C
DNases, RNases	none detected
DNA binding	none detected

6352.1	10 g	plastic	23,15 €

6352.2	100 g	plastic	144,60 €

6352.4	500 g	plastic	600,95 €

Original pack 6 x 500 g	570,90/500 g

For further information, please see page 1117

Agarose HEEO ultra-quality

Roti®agarose high electroendosmosis (EEO = 0,23-0,26)

Special agarose for protein separation and countercurrent electrophoresis.

Guarantee analysis:

Electroendosmosis (EEO)	0,23-0,26
Water content	≤7 %
Ash	≤1,0 %
Sulphate (SO ₄)	≤0,2 %
Gel strength (1 % gel)	≥750 g/cm ²
Gel strength (1,5 % gel)	≥1200 g/cm ²
Gelling temperature (1,5 % gel)	36 ±1,5 °C
Melting temperature (1,5 % gel)	88 ±1,5 °C
Turbidity (1,5 % solution)	≤4 NTU

2269.1	10 g	plastic	20,10 €

2269.2	100 g	plastic	110,65 €

2269.3	1 kg	plastic	779,40 €

Original pack 6 x 1 kg	740,43/1 kg

For further information, please see page 1120

Agarose High Resolution

Roti®agarose for small fragments

Special agarose for PCR gels and small DNA fragments.

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Water content	≤7 %
Ash	≤0,35 %
Sulphate (SO ₄)	≤0,11 %
Gel strength (1,5 % gel)	≥600 g/cm ²
Gel strength (3 % gel)	≥1500 g/cm ²
Gelling temperature (3 % gel)	≤35,5 °C
Melting temperature (3 % gel)	≤80 °C
Turbidity (1,5 % solution)	≤5 NTU
DNases, RNases	none detected

K297.1	10 g	plastic	50,00 €

K297.2	100 g	plastic	321,45 €

K297.3	500 g	plastic	1396,45 €

Original pack 6 x 500 g	1326,63/500 g

For further information, please see page 1119

Agarose HR-PLUS

Roti®agarose for analytical gels

Special agarose for use in the main analytical range (100 bp-3 kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Water content	≤7 %
Ash	≤4 %
Sulphate (SO ₄)	≤0,11 %
Gel strength (1,5 % gel)	≥1500 g/cm ²
Gelling temperature (1,5 % gel)	~36 °C
Melting temperature (1,5 % gel)	~88 °C
Turbidity (1,5 % solution)	≤4 NTU
DNases, RNases	none detected
DNA binding	very low

HP30.1	10 g	plastic	42,90 €

HP30.2	100 g	plastic	267,70 €

HP30.3	500 g	plastic	1073,95 €

Original pack 6 x 500 g	1020,25/500 g

For further information, please see page 1119

Agarose MEEO ultra-quality

Roti®agarose medium electroendosmosis (EEO = 0,16-0,19)

Special agarose for immuno, countercurrent, serum and antibody electrophoresis (500 bp-10 kb).

Guarantee analysis:

Electroendosmosis (EEO)	0,16-0,19
Water content	≤7 %
Ash	≤0,5 %
Sulphate (SO ₄)	≤0,14 %
Gel strength (1 % gel)	≥1000 g/cm ²
Gel strength (1,5 % gel)	≥2200 g/cm ²
Gelling temperature (1,5 % gel)	36 ±1,5 °C
Melting temperature (1,5 % gel)	88 ±1,5 °C
Turbidity (1,5 % solution)	≤4 NTU

2268.1	10 g	plastic	18,85 €

2268.2	100 g	plastic	104,20 €

2268.4	500 g	plastic	439,70 €

Original pack 6 x 500 g	417,72/500 g

2268.3	1 kg	plastic	740,70 €

Original pack 6 x 1 kg	703,67/1 kg

For further information, please see page 1191

Agarose NEEO ultra-quality

Roti®agarose low electroendosmosis (EEO=0,05-0,13)

High-quality agarose for all general applications (500 bp-20 kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Water content	≤8,5 %
Ash	≤0,6 %
Sulphate (SO ₄)	≤0,14 %
Gel strength (1 % gel)	≥1200 g/cm ²
Gelling temperature (1,5 % gel)	36 ±2,0 °C
Melting temperature (1,5 % gel)	90-95 °C
DNases, RNases	none detected

2267.1	10 g	plastic	17,75 €

2267.2	100 g	plastic	84,85 €

2267.5	250 g	plastic	195,15 €

2267.4	500 g	plastic	370,90 €

Original pack 6 x 500 g	352,36/500 g

2267.3	1 kg	plastic	622,45 €

Original pack 6 x 1 kg	591,33/1 kg

For further information, please see page 1116

Agarose Pulsed-Field

Roti®agarose for Pulsed Field electrophoresis, genetic engineering quality

Special agarose for separation of large fragments (20-50 kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,05
Sulphate (SO ₄)	≤0,10 %
Loss on drying	≤10 %
Gel strength (1 % gel)	≥1800 g/cm ²
Gelling temperature	36 ±1,5 °C
Melting temperature	90-95 °C
DNases, RNases	none detected

3771.1	10 g	plastic	27,45 €

3771.2	25 g	plastic	50,00 €

3771.3	100 g	plastic	155,90 €

3771.4	250 g	plastic	321,45 €

For further information, please see page 1118

Agarose Standard

Roti®agarose for DNA/RNA-electrophoresis

General agarose for routine gels, student's courses, and standard analyses (1 kb-20 kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Sulphate (SO ₄)	≤0,15 %
Loss on drying	≤10 %
Ash	≤0,6 %
Gel strength (1 % gel)	≥1100 g/cm ²
Gelling temperature (1,5 % gel)	36 ±2 °C
Melting temperature (1,5 % gel)	90-95 °C
DNases, RNases	none detected

3810.1	10 g	plastic	14,95 €

3810.2	100 g	plastic	61,20 €

3810.3	500 g	plastic	242,85 €

Original pack 6 x 500 g	230,71/500 g

3810.4	1 kg	plastic	396,70 €

Original pack 6 x 1 kg	376,87/1 kg

For further information, please see page 1116

Agarose-Tablets

Roti®agarose 0,5 g agarose/tablet

Standard agarose with low EEO, for routine analyses (≥300 bp).

Guarantee analysis:

Electroendosmosis (EEO)	0,05-0,1
Water content	<10 %
Sulphate (SO ₄)	<0,2 %
Gel strength (1,5 % gel)	≥1200 g/cm ²
Gelling temperature	37 ±2,0 °C
Melting temperature	89 ±1,0 °C
DNases, RNases	none detected

HP67.1	10 g	plastic	20,35 €

HP67.2	50 g	plastic	70,45 €

HP67.3	100 g	plastic	123,10 €

HP67.4	250 g	plastic	276,30 €

For further information, please see page 1117

Agarose Low Melt

Hydroxyethyl agarose
[39346-81-1]

Agarose LM/PCR

Roti® agarose with low melting and gelling temperature, genetic engineering quality
Particularly for gel elution of small fragments (50 bp-1500 bp).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,13
Water content	≤7 %
Ash	≤0,45 %
Sulphate (SO ₄)	≤0,12 %
Gel strength (4 % gel)	≥800 g/cm ²
Gelling temperature (4 % gel)	≤35 °C
Melting temperature (4 % gel)	≤65 °C
Turbidity (4 % solution)	≤6 NTU
DNases, RNases	none detected
DNA binding	none detected
In-gel-processing	complies
Agarase digest	complies

HP31.1	5 g	plastic	37,55 €
HP31.2	100 g	plastic	514,95 €
HP31.3	250 g	plastic	1052,45 €

For further information, please see page 1120

Agarose Low Melt

Roti® agarose with low melting and gelling temperature

Particularly for gel elution and in-gel-application in a wide size range (500 bp-20kb).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Water content	≤7 %
Ash	≤0,4 %
Sulphate (SO ₄)	≤0,12 %
Gel strength (1,5 % gel)	≥500 g/cm ²
Gelling temperature (4 % gel)	≤28 °C
Melting temperature (1,5 % gel)	≤65,5 °C
Turbidity (1,5 % solution)	≤4 NTU
DNases, RNases	none detected

6351.1	5 g	plastic	34,95 €
6351.5	25 g	plastic	145,15 €
6351.2	100 g	plastic	504,20 €
6351.4	500 g	plastic	2096,25 €

Original pack 6 x 500 g 1991,44/500 g

For further information, please see page 1120

Agarose Super LM

Roti® agarose with particularly low melting and gelling temperature

Particularly for gel elution from melted agarose, capillary electrophoresis and in-gel processing (≥1000 bp).

Guarantee analysis:

Electroendosmosis (EEO)	≤0,12
Water content	≤7 %
Ash	≤0,35 %
Sulphate (SO ₄)	≤0,14 %
Gel strength (1,5 % gel)	≥300 g/cm ²
Gelling temperature (1,5 % gel)	≤20 °C
Melting temperature (1,5 % gel)	≤62 °C
Turbidity (1,5 % solution)	≤4 NTU
DNases, RNases	none detected

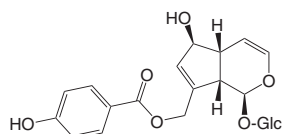
HP45.1	5 g	plastic	37,55 €
HP45.2	100 g	plastic	514,95 €
HP45.3	250 g	plastic	1052,45 €

For further information, please see page 1121

Agarose beads for affinity chromatography

- ▶ Roti® agarose-His/Ni Beads see p. 2097
- ▶ Roti® agarose-Protein A Beads see p. 2098
- ▶ Roti® agarose-His/Co Beads see p. 2097

Agnuside



Agnuside

ROTICHRON® HPLC

Reference substance for HPLC
From *Vitex agnus castus*.

10-p-Hydroxybenzoylaucubin

C₂₂H₂₆O₁₁

M 466,44 g/mol

Storage temp.: +4 °C

[11027-63-7]

Type analysis:

Purity (HPLC) >98 %

1081.1	10 mg	glass	274,15 €

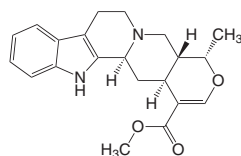
H-D-Aha-OH · HCl

- ▶ D-γ-Azidohomoalanine hydrochloride see p. 1661

H-L-Aha-OH · HCl

- ▶ L-γ-Azidohomoalanine hydrochloride see p. 1662

Ajmalicine



Ajmalicine

~98 %

Raubasine, δ-Yohimbine

C₂₁H₂₄N₂O₃

M 352,54 g/mol

mp 261-263 °C

[483-04-5] • EC No. 207-589-5

WGK 1

⚠ Warning H302

Type analysis:

Appearance white to yellow powder
Assay (titr.) ≥98 %
Loss on drying ≤0,5 %

6192.1	250 mg	glass	55,80 €

AKASOLV Aqua Care

AKASOLV Aqua Care

pH ~7

Concentration to stop the formation of algae, mould fungus and bacteria in water baths and thermostat circulation.

WGK 1

⚠ ⚠ Warning H315-H319-H411

AN93.1	100 ml	plastic	16,10 €

For further information, please see page 1078

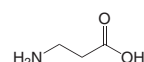
H-β-Ala-His-OH

- ▶ L-Carnosine see p. 1717

H-Ala(Me)-OH

- ▶ 2-Aminoisobutyric acid see p. 1632

β-Alanine



β-Alanine

≥99 %, for biochemistry

3-Aminopropionic acid

M 89,09 g/mol

D 1,44

mp 208 °C (dec.)

Solubility: ~545 g/l (H₂O, 20 °C)

[107-95-9] • EC No. 203-536-5

Type analysis:

Assay (perchloric acid titration) ≥99 %
Heavy metals ≤0,001 %

3078.2	50 g	plastic	22,50 €
3078.1	250 g	plastic	65,05 €

D-Alanine



D-Alanine

≥99 %, for biochemistry

(R)-2-Aminopropionic acid, H-D-Ala-OH

C₃H₇NO₂

M 89,1 g/mol

Storage temp.: +4 °C

[338-69-2] • EC No. 206-418-1

WGK 1

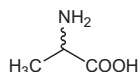
Type analysis:

Appearance white to off-white powder
Assay 99,0-101,0 %
Specific rotation [α]_D²⁰ (c=2 in 1 N HCl) ... -15,0° to -13,0°
Loss on drying ≤0,5 %

7866.1	5 g	plastic	19,90 €
7866.2	25 g	plastic	60,10 €
7866.3	100 g	plastic	181,70 €

A

DL-Alanine



DL-Alanine

≥99 %, for biochemistry

2-Aminopropionic acid

M 89,10 g/mol

mp 295-300 °C (dec.)

Solubility: ~167 g/l (H₂O, 25 °C)

[302-72-7] • EC No. 206-126-4

WGK 1

Type analysis:

Appearance: white powder

Assay (titr.): ≥99 %

Heavy metals (as Pb): ≤0,001 %

9798.2 25 g plastic 15,60 €

9798.1 100 g plastic 41,85 €

9798.3 250 g plastic 51,50 €

L-Alanine



L-Alanine

≥99 %, for biochemistry

(S)-2-Aminopropionic acid, H-L-Ala-OH

C₃H₇NO₂

M 89,10 g/mol

Solubility: ~167 g/l (H₂O, 25 °C)

[56-41-7] • EC No. 200-273-8

WGK 1

Guarantee analysis:

Appearance: white, cryst. powder

Assay (dry substance): 98,5-101,0 %

Specific rotation [α]_D²⁰: +13,5° to +15,5°

Ammonium (NH₄): ≤0,02 %

Iron (Fe): ≤0,001 %

Heavy metals (as Pb): ≤0,001 %

Chloride (Cl): ≤0,02 %

Sulphate (SO₄): ≤0,03 %

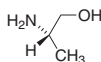
Loss on drying: ≤0,5 %

Loss on ignition: ≤0,1 %

3076.1 25 g plastic 18,20 €

3076.2 250 g plastic 92,35 €

L-Alaninol



L-Alaninol

≥98 %, for biochemistry

S(+)-2-Amino-1-propanol

C₃H₉NO

M 75,11 g/mol

bp 173-176 °C

flp 62 °C

Storage temp.: +4 °C

[2749-11-3] • EC No. 220-388-7

UN No. 2735 • ADR 8 II • WGK 2

⚠ Danger H314

Type analysis:

Assay (titr.): ≥98 %

Solution (2 % in ethanol): clear, colourless

Specific rotation [α]_D²⁰ (c=2 in ethanol): +20,0° to +24,0°

Refractive index n_D²⁰: 1,4493-1,4503

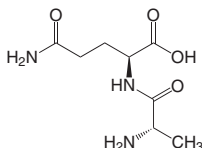
Water (KF): ≤2,0 %

5521.1 1 g plastic 24,20 €

5521.2 5 g glass 90,20 €

5521.3 10 g glass 144,60 €

L-Alanyl-L-glutamine



C₈H₁₅N₃O₄

M 217,22 g/mol

mp 209 °C (dec.)

Solubility: 450 g/l (H₂O, 20 °C)

[39537-23-0]

WGK 1

L-Alanyl-L-glutamine

≥99 %, CELLPURE®

Type analysis:

Appearance: white cryst. powder

Assay (dry substance): ≥99 %

Endotoxins: ≤12,0 E.U./g

Specific rotation [α]_D²⁰: +9,0° to +11,0°

Ammonium (NH₄): ≤0,02 %

Chloride (Cl): ≤0,02 %

Sulphate (SO₄): ≤0,02 %

Heavy metals (as Pb): ≤0,001 %

Arsenic (As₂O₃): ≤0,0001 %

Loss on drying: ≤0,5 %

Ash content: ≤0,1 %

6831.1 5 g plastic 30,00 €

6831.2 10 g plastic 41,85 €

6831.3 25 g plastic 84,85 €

6831.4 100 g plastic 289,20 €

L-Alanyl-L-glutamine

≥98 %, for biochemistry

Type analysis:

Assay (dry substance): ≥98 %

Specific rotation [α]_D²⁰: +9,0° to +11,0°

Ammonium (NH₄): ≤0,05 %

Chloride (Cl): ≤0,05 %

Sulphate (SO₄): ≤0,05 %

Heavy metals (as Pb): ≤0,001 %

Loss on drying: ≤1 %

6830.1 10 g plastic 34,95 €

6830.2 50 g plastic 126,35 €

Alanyl-L-glutamine solution

▶ Roti®-CELL Glutamine solution see p. 2091

N-β-Alanyl-L-histidine

▶ L-Carnosine see p. 1717

Albumin

M ~66 000 g/mol

Storage temp.: +4 °C

[9048-46-8] • EC No. 232-936-2

Albumin, IgG free

>98 %, IgG-free, for biochemistry and molecular biology

Recommended as blocking and stabilising reagent in all antibody-mediated detection systems.

BSA

Guarantee analysis:

Appearance: flakes

Colour: yellow to beige

Assay (HPLC): >98 %

Dry extract: ≥94 %

Iron (Fe): <15 mg/g

Sodium (Na): <10 mg/g

Chloride (Cl): <0,5 %

Solution (2 % in H₂O): soluble

pH-value (2 % in H₂O): 6,5-7,5

IgG (HPLC): none detected

Protease: none detected

DNAse: none detected

RNAse: none detected

3737.1 10 g plastic 50,45 €

3737.2 50 g plastic 139,65 €

3737.3 200 g plastic 418,20 €

3737.4 500 g plastic 865,40 €

Original pack 6 x 500 g 822,13/500 g

For further information, please see page 1239

Albumin, nuclease-free

>99 %, nuclease-free, for molecular biology

Especially suitable for incubation methods with restriction-endonucleases and nucleic acid modifying enzymes.

BSA, lyophilised, acetylated

Guarantee analysis:

Protein (in dry substance): ≥95 %

Immunoglobuline: <1 %

Assay: >99 %

Water: <1 %

Ash: <2 %

Nicking activity: none detected

Ribonucleases activity: none detected

Exonucleases activity: none detected

Phosphatases activity: none detected

Acetylated from BSA solutions.

8895.1 10 mg glass 28,95 €

8895.2 100 mg glass 156,45 €

For further information, please see page 1238

Albumin Fraction V

BSA

M ~66 000 g/mol • Storage temp.: +4 °C
[90604-29-8] • EC No. 292-322-5

Albumin Fraction V

≥98 %, powdered, for molecular biology

Wide range of applications, e.g. as protein standard or blocking reagent.

Guarantee analysis:

Appearance..... beige, fine powder
Assay (HPLC)..... ≥98 %
Solution (2 % in H₂O)..... clear
pH value (2 % in H₂O)..... 6,5-7,5
Loss on drying..... ≤6 %
Sulphated ash..... ≤3 %
Nitrogen (N)..... ≥14 %
Fat..... ≤1 %

8076.1 10 g plastic 24,55 €

8076.2 50 g plastic 77,95 €

8076.4 200 g plastic 268,25 €

8076.3 500 g plastic 600,95 €

Original pack 6 x 500 g 570,90/500 g

8076.5 1 kg plastic 1037,40 €

Original pack 6 x 1 kg 985,53/1 kg

For further information, please see page 1238

Albumin Fraction V, biotin-free

≥98 %, biotin-free, for molecular biology

Excellent as blocking and stabilising reagent in all biotin/streptavidin-mediated detection systems.

Guarantee analysis:

Appearance..... fine to coarse powder
Colour..... beige
Assay..... ≥98 %
Solution (2 % in H₂O)..... soluble
pH value (2 % in H₂O)..... 6,5-7,5
Loss on drying..... ≤6 %
Sulphated ash..... ≤3 %
Nitrogen (N)..... ≥14 %
Fat..... ≤1 %
Biotin..... none detected

0163.1 10 g plastic 31,10 €

0163.2 50 g plastic 96,25 €

0163.4 200 g plastic 332,20 €

0163.3 500 g plastic 751,45 €

Original pack 6 x 500 g 713,88/500 g

For further information, please see page 1239

Albumin Fraction V, very low endotoxin

≥98 %, very low endotoxin, CELLPURE®

With extremely low endotoxin content. Recommended for the culture of primary cells and cell lines, as well as for sensitive cell culture assays.

Guarantee analysis:

Appearance..... light flakes
Colour..... pale yellow
Assay..... ≥98 %
Protein..... >920 mg/g
Water content..... <5,0 %
pH value (10 % in H₂O)..... 6,5-7,4
Endotoxin content..... <2 E.U./mg

CP77.1 10 g plastic 131,05 €

CP77.2 50 g plastic 514,95 €

For further information, please see page 1240

Albumin Fraction V, endotoxin-tested

>98 %, low endotoxin, CELLPURE®

With low endotoxin content. Recommended for culturing of cell lines.

Guarantee analysis:

Appearance..... flakes
Colour..... pale yellow
Assay..... ≥98 %
Protein..... >92 %
Water content..... <5,0 %
pH value (10 % in H₂O)..... 7,0 ±0,5
Endotoxin content..... <15 E.U./mg

CP84.1 10 g plastic 32,15 €

CP84.2 50 g plastic 98,80 €

CP84.3 500 g plastic 794,45 €

Original pack 6 x 500 g 754,73/500 g

For further information, please see page 1240

Albumin Fraction V, fatty acid-free

≥95 %, fatty acid-free, for molecular biology

Excellent when working with membrane-associated proteins.

Guarantee analysis:

Appearance..... flakes
Colour..... pale yellow to beige
Assay..... ≥95 %
Protein..... ≥92 %
Dry extract..... ≥95 %
pH value (10 % in water)..... 6,5-7,4
Total fatty acids..... <0,01 %

0052.1 1 g glass 17,10 €

0052.2 10 g plastic 89,15 €

0052.3 50 g plastic 353,70 €

For further information, please see page 1240

Albumin Fraction V, pH 5,2

>97 %, powdered, for protein analysis

Non-neutralized albumin. Suitable as protein standard or hapten carrier, recommended for use in ELISA and Western-Blotting.

Guarantee analysis:

Appearance..... flakes
Colour..... pale yellow to greenish
Assay..... >97 %
Protein..... >92 %
Dry extract..... >95 %
pH value (10 % solution)..... 5,2 ±0,4

2834.1 10 g plastic 36,45 €

2834.2 50 g plastic 117,75 €

2834.3 200 g plastic 375,20 €

2834.4 500 g plastic 772,95 €

Original pack 6 x 500 g 734,30/500 g

For further information, please see page 1239

Albumin Fraction V, protease-free

≥98 %, for molecular biology

For all sensitive enzymatic assays.

Guarantee analysis:

Appearance..... flakes
Colour..... yellow to beige
Assay..... ≥98 %
Protein..... ≥92 %
Loss on drying..... ≤5,0 %
pH value (10 % in water)..... 6,5-7,4
Protease (hemoglobine hydrolysis)..... none detected

T844.1 10 g plastic 50,45 €

T844.2 50 g plastic 116,00 €

T844.4 200 g plastic 381,65 €

T844.3 500 g plastic 794,45 €

Original pack 6 x 500 g 754,73/500 g

For further information, please see page 1239

Albumin Fraction V, US-Origin

≥98 %, powdered, for molecular biology and biochemistry

Suitable as blocking or stabilising reagent in all general assays. Recommended if BSA with US-Origin is required.

Guarantee analysis:

Appearance..... powder to flakes
Colour..... off-white to beige
Origin..... USA
Assay..... ≥98 %
Protein..... ≥96 %
Dry extract..... ≥97 %
Sodium (Na)..... <9,2 mg/g
Chloride (Cl)..... <6,4 mg/g
Calcium (Ca)..... <3 mg/g
Potassium (K)..... <2 mg/g
Phosphorus (P)..... <0,3 mg/g
Heavy metals..... <0,6 ppm
pH (in water)..... 5,0-7,5

3854.1 10 g plastic 27,85 €

3854.2 50 g plastic 84,40 €

3854.3 200 g plastic 289,20 €

3854.4 500 g plastic 643,95 €

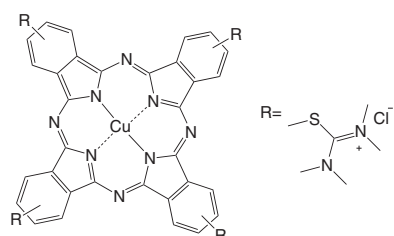
Original pack 6 x 500 g 611,75/500 g

3854.5 1 kg plastic 1073,95 €

Original pack 6 x 1 kg 1020,25/1 kg

For further information, please see page 1238

Alcian blue 8 GS (C.I. 74240)



Alcian blue 8 GS (C.I. 74240)

for microscopy

Bacteriology and histology.

Alcian Blue 8 GX, Ingrain Blue 1

Solubility: 8 g/l (H₂O, 25 °C)

[33864-99-2] • EC No. 251-705-7

WGK 2

Type analysis:

Appearance..... dark blue powder
λ max..... 610-625 nm
Suitability for microscopy..... complies

3082.2 5 g glass 33,25 €

3082.1 10 g glass 55,80 €

3082.3 25 g glass 122,45 €

3082.4 100 g glass 342,95 €

For further information, please see page 1396

A

Alcohol C 16

► Cetyl alcohol see p. 1726

Alcohols

Art. No.	Description	Page
0336	Benzyl alcohol	1673
4478	Benzyl alcohol	1673
6012	Benzyl alcohol	1673
6724	Bioethanol 96 %	1676
6726	Bioethanol 96 % denatured	1676
7473	1,3-Butanediol	1695
4211	1,4-Butanediol	1695
T178	1-Butanol	1696
7171	1-Butanol	1696
7724	1-Butanol	1696
9098	1-Butanol	1696
KK02	2-Butanol	1696
6336	2-Butanol	1696
AE16	tert-Butanol	1697
4323	tert-Butanol	1697
5762	Cetyl alcohol	1726
4104	4-Chloro-1-naphthol	1731
7756	Cyclohexanol	1754
4151	1-Decanol	1761
P076	Ethanol	1809
9065	Ethanol	1809
5054	Ethanol	1809
K928	Ethanol denatured	1810
P075	Ethanol 96 %	1810
T171	Ethanol 96 % denatured	1810
9474	Ethanol 80 % denatured	1810
T868	Ethanol 70 %	1810
7301	Ethanol 70 %	1810
T913	Ethanol 70 % denatured	1810
5127	2-Ethoxyethanol	1812
3827	1-Heptanol	1872
3173	1-Heptanol	1872
8768	2-Heptanol	1872
3847	1-Hexanol	1877
3174	1-Hexanol	1877
3756	trans-2-Hexen-1-ol	1877
6257	4-Hydroxybenzyl alcohol	1891
T870	Isoamyl alcohol	1908
8930	Isoamyl alcohol	1909
4260	Isoamyl alcohol	1909
6029	Lignoceryl alcohol	1931
4227	2-Mercaptoethanol	1955
HN41	Methanol	1960
AE71	Methanol	1960
X948	Methanol	1960
7342	Methanol	1960
KK39	Methanol	1960
P717	Methanol	1960
KK44	Methanol	1960
7583	Methanol	1961
T169	Methanol	1961
T909	Methanol	1961
5181	Methanol	1961
AE01	Methanol	1961
0082	Methanol	1961
4627	Methanol	1961
CP43	Methanol	1961
8388	Methanol	1961
CP08	2-Methoxyethanol	1963
4379	2-Methyl-1-butanol	1965
9074	2-Methyl-1-butanol	1965
6772	2-Methyl-1-propanol	1969
CP09	2-Methyl-1-propanol	1969

9075	2-Methyl-1-propanol	1969
4439	1-Octanol	1999
3182	1-Octanol	1999
8017	3-Octanol	1999
8949	1-Pentanol	2026
9077	1-Pentanol	2026
6824	2-Pentanol	2026
7135	(-)- Perillic alcohol	2029
4348	2-Phenoxyethanol	2035
3065	1-Phenylethanol	2036
4422	2-Phenylethanol	2036
9078	2-Phenylethanol	2036
6776	1-Propanol	2067
9169	1-Propanol	2067
4916	1-Propanol	2067
AE73	2-Propanol	2067
7343	2-Propanol	2067
7590	2-Propanol	2067
T902	2-Propanol	2067
T910	2-Propanol	2068
6752	2-Propanol	2068
CP41	2-Propanol	2068
9866	2-Propanol	2068
CN09	2-Propanol 70 %	2068
8663	Stearyl alcohol	2184
3701	1-Undecanol	2231

Alginate acid

Alginate acid

≥98 %, for biochemistry

Norgine

(C₆H₈O₆)_n

M ~100 000 g/mol

Solubility: insoluble, (H₂O, 20 °C)

[9005-32-7] • EC No. 232-680-1

Type analysis:

Assay	≥98 %
Loss on drying	≤15 %
Heavy metals	≤0,004 %

8696.1	250 g	plastic	27,45 €
8696.3	1 kg	plastic	84,85 €
Original pack 6 x 1 kg			80,61/1 kg
8696.2	2,5 kg	plastic	197,80 €

Alginate acid ammonium salt

Alginate acid ammonium salt

for biochemistry

From seaweed.

Ammonium alginate

(C₁₈H₂₃O₁₉)_n NH₄

[9005-34-9]

Type analysis:

Appearance	beige powder
Loss on drying	≤15 %
Ash (800 °C)	≤7,0 %
pH-value (1 % solution)	5,5-7,5
Viscosity (1 % solution, 20 °C)	100-150 mPas
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0005 %
Heavy metals (as Pb)	≤0,002 %

7317.1	250 g	plastic	30,00 €
7317.2	1 kg	plastic	82,25 €
Original pack 6 x 1 kg			78,14/1 kg

Alginate acid sodium salt

Alginate acid sodium salt

for biochemistry

From brown algae.

Sodium alginate

[9005-38-3]

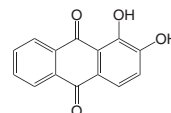
WGK 1

Type analysis:

Appearance	white to off-white powder
Loss on drying	≤15 %
Ash (600 °C)	18,0-27,0 %
pH-value (1 % solution)	5,5-8,0
Viscosity (1 % solution, 20 °C)	350-550 mPas
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0005 %
Heavy metals (as Pb)	≤0,002 %

9180.1	250 g	plastic	26,35 €
9180.2	1 kg	plastic	71,95 €
Original pack 6 x 1 kg			68,35/1 kg

Alizarin (C.I. 58000)



Alizarin (C.I. 58000)

p.a.

Indicator pH 5,5-6,8 and 10,1-12,1

1,2-Dihydroxyanthraquinone

C₁₄H₈O₄

M 240,21 g/mol

bp 430 °C

mp 290 °C

[72-48-0] • EC No. 200-782-5

WGK 2

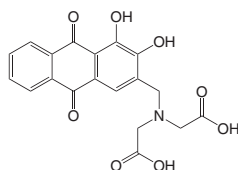
Type analysis:

Appearance	orange powder
Loss on drying (105 °C)	≤1,5 %
Sulphated ash	≤1 %
pH transition range	5,5 (yellow)-6,8 (violet red)

4476.2	25 g	glass	21,40 €
4476.1	50 g	glass	32,15 €
4476.3	100 g	glass	42,90 €

Alizarin carmine

► Alizarin red S (C.I. 58005) see p. 1623

Alizarin complexone dihydrate**Alizarin complexone dihydrate**

≥97 %, p.a.

Detection reagent for fluoride

Alizarin-3-methyliminodiacetic acid, Alizarin Fluorine Blue

C₁₉H₁₅NO₈ · 2 H₂O

M 421,36 g/mol

mp 190 °C

Solubility: 0,2 g/l (H₂O, 20 °C)

[3952-78-1]

WGK 3

Type analysis:

Appearance: yellow to brown powder

Appearance of solution (1 % in 1 M NaOH): blue to purple

Assay (dry substance): ≥97 %

Water (KF): ≤9,5 %

Sulphated ash: ≤0,5 %

7634.1	1 g	glass	28,95 €

7634.2	5 g	glass	89,80 €

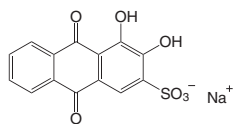
7634.3	10 g	glass	149,45 €

Alizarin fluorine blue

▶ Alizarin complexone dihydrate see p. 1623

Alizarin-3-methyliminodiacetic acid

▶ Alizarin complexone dihydrate see p. 1623

Alizarin red S (C.I. 58005)**Alizarin red S (C.I. 58005)**

Indicator pH 4,3-6,3 and pH 9,4-12,0

Alizarin sulphononic acid sodium salt, Alizarin carmine

C₁₄H₇NaO₇S

M 342,26 g/mol

[130-22-3] • EC No. 204-981-8

WGK 2

Type analysis:Absorption max. (in H₂O): 550-560 nm

Loss on drying (110 °C): ≤5,0 %

pH-transition range: 4,3 (yellow)-6,3 (red-violet)

pH-transition range: 9,4 (brown orange)-12,0 (purple)

Suitability as indicator: complies

0348.1	10 g	glass	17,75 €

0348.2	25 g	glass	27,85 €

0348.3	100 g	glass	84,85 €

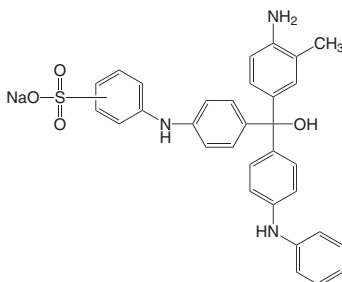
For further information, please see page 1404

Alizarin sulphononic acid sodium salt

▶ Alizarin red S (C.I. 58005) see p. 1623

Alkali blue 4B

▶ Alkali blue 6B (C.I. 42750) see p. 1623

Alkali blue 6B (C.I. 42750)**Alkali blue 6B (C.I. 42750)**

p.a.

Indicator pH 9,4-14,0

Alkali blue 4B

C₃₂H₂₈N₃NaO₄S

M 573,65 g/mol

[30586-13-1] • EC No. 250-253-8

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Dye content: ≥75 %

pH-transition range: 9,4 (blue)-14,0 (red)

5155.1	10 g	glass	19,25 €

5155.2	25 g	glass	36,45 €

5155.3	100 g	glass	107,40 €

Alkaline phosphatase**Alkaline phosphatase**

≥2000 Glycine U/mg protein (approx. 6000 DEA U/mg protein)

From bovine intestinal mucosa. Solution in 50 % glycerol, 5 mM Tris/HCl, 5 mM MgCl₂ and 0,1 mM ZnCl₂, pH approx. 7,0.

Phosphatase, alkaline; ALP; AP

M ~120 000 g/mol

Storage temp.: +4 °C

[9001-78-9] • EC No. 232-631-4

WGK 1

Type analysis:

Activity: ≥2000 glycine U/mg protein

Protein concentration: 10-20 mg/ml

6024.1	10 KU	plastic	335,95 €

For further information, please see page 1221

Alkalis

Art. No.	Description	Page
HN66	Ammonia solution Ultra-quality	1633
HN56	Ammonia solution Supra-quality	1634
P093	Ammonia solution 32 %	1634
A990	Ammonia solution 32 %	1634
CP17	Ammonia solution 30 %	1634
6774	Ammonia solution 25 %	1635
2610	Ammonia solution 25 %	1635
5460	Ammonia solution 25 %	1635
6753	Ammonia solution 20 %	1635
4346	Ammonia solution 15 %	1635
6756	Ammonia solution 10 %	1635
5609	Barium hydroxide hydrate	1666
P009	Barium hydroxide octahydrate	1666
HN75	Barium hydroxide octahydrate	1667
5617	Calcium hydroxide	1707
CN87	Calcium hydroxide	1707
KK03	Calcium hydroxide	1707
3529	Calcium hydroxide	1708
6705	Lithium hydroxide	1936
3997	Lithium hydroxide monohydrate	1936
9453	Magnesium hydroxide	1944
5658	Potassium hydroxide	2057
6751	Potassium hydroxide	2057
P747	Potassium hydroxide	2057
7986	Potassium hydroxide	2057
7949	Potassium hydroxide solution 50 %	2058
0995	Potassium hydroxide solution 45 %	2058
4330	Potassium hydroxide solution 20 %	2058
6771	Sodium hydroxide	2150
P031	Sodium hydroxide	2150
9356	Sodium hydroxide	2150
8655	Sodium hydroxide solution 50 %	2150
0993	Sodium hydroxide solution 45 %	2150
4347	Sodium hydroxide solution 40 %	2150
T196	Sodium hydroxide solution 32 %	2151
T197	Sodium hydroxide solution 32 %	2151
4351	Sodium hydroxide solution 25 %	2151
4357	Sodium hydroxide solution 20 %	2151
4358	Sodium hydroxide solution 10 %	2151
4359	Sodium hydroxide solution 5 %	2151

A

Alkaloids

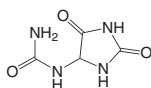
Art. No.	Description	Page
7975	7-O-Acetylintermediate	1610
7980	7-O-Acetylintermediate N-oxide	1610
6192	Ajmalicine	1619
4602	Arecoline hydrobromide	1654
3192	Berberine chloride hydrate	1674
8900	Boldine	1685
4255	Brucine N-oxide	1693
N815	Caffeine	1704
7212	DL-Carnitinchloride	1717
4192	(-)- α -Chaconine	1726
6235	Chelidone	1727
3406	Choline hydroxide	1734
8872	Cinchonidine	1736
8875	Cinchonine	1736
8884	Colchicine	1741
8985	Corynanthine	1748
5615	Cytisine	1757
6635	Demissidine	1762
7992	Echimidine	1797
8011	Echimidine N-oxide	1797
4116	Emetine dihydrochloride	1803
1657	(Z)-Erucifoline	1807
1664	(Z)-Erucifoline N-oxide	1807
1676	Europine hydrochloride	1821
1687	Europine N-oxide	1821
6571	Gelsemine hydrochloride	1846
9968	Harmine	1866
1929	Heliotrine	1868
1944	Heliotrine N-oxide	1868
7855	Homatropine hydrobromide	1880
4268	Hydrocotamine hydrobromide	1887
6984	6-Hydroxytropinone	1893
8914	L-Hyoscyamine	1894
6416	Hypoxanthine	1895
1960	Indicine hydrochloride	1898
1961	Indicine N-oxide	1898
1962	Intermediate	1901
8018	Intermediate N-oxide	1901
1963	Jacobine	1914
1970	Jacobine N-oxide	1914
2090	Lasiocarpine	1924
2202	Lasiocarpine N-oxide	1924
8997	Lobeline sulphate	1937
2208	Lycopsamine	1940
8022	Lycopsamine N-oxide	1940
2249	Monocrotaline N-oxide	1974
8746	(-)-Nicotine	1986
9113	1,10-Phenanthroline monohydrate	2033
7523	Pilocarpin nitrate	2042
A122	Piperidine	2043
7099	Piperine	2043
6690	Protopine	2070
3348	Quinidine sulphate dihydrate	2078
6225	Quinine hydrochloride dihydrate	2078
7144	Rauwolfscine hydrochloride	2079
4295	Reserpine acid hydrochloride hemihydrate	2082
1213	Retrorsine	2083
6733	Retrorsine N-oxide	2083
7153	Scopolamine hydrobromide trihydrate	2122
2261	Senecionine	2124
6734	Senecionine N-oxide	2124
8830	Senecionine/Seneciphylline	2124
6414	Seneciphylline	2124
1214	Seneciphylline	2124
6735	Seneciphylline N-oxide	2124
2209	Senecivernine	2124

2215	Senecivernine N-oxide	2125
4934	Senkirkine	2125
4696	Skatole	2139
5329	Solanidine	2160
5677	Solanidine	2161
2826	α -Solanine	2161
4180	α -Solanine	2161
5414	α -Solanine	2161
4697	Sparteine sulphate	2164
9457	Stachydrine hydrochloride	2166
4843	Strychnine	2186
4845	Strychnine hydrochloride dihydrate	2186
4277	Strychnine N-oxide	2186
8963	Theobromine	2206
5676	Tomatin	2215
5413	Trigonelline hydrochloride	2221
4049	Tropine	2226
7193	Yohimbic acid monohydrate	2248
9716	Yohimbine hydrochloride	2249

Alkane C30

► Squalane see p. 2165

Allantoin



Allantoin

≥99 %

Glyoxyldiureide, 5-Ureidohydantoin

 $C_4H_6N_4O_3$

M 158,12 g/mol

mp 223-224 °C (dec.)

[97-59-6] • EC No. 202-592-8

WGK 1

Type analysis:

Appearance: white to almost white cryst. powder

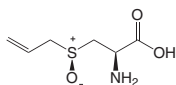
Assay: ≥99,0 %

Loss on drying: ≤0,5 %

Melting point (dec.): 223-224 °C

6327.2	100 g	plastic	59,05 €
6327.1	250 g	plastic	133,20 €

Alliin



Alliin

ROTICHROM® HPLC

Reference substance for HPLC

(S)-3-(Allylsulphenyl)-L-alanine

 $C_6H_{11}NO_3S$

M 177,22 g/mol

Storage temp.: +4 °C

[556-27-4] • EC No. 209-118-9

Type analysis:

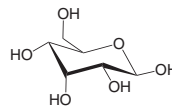
Purity (HPLC): ≥98 %

K031.1	10 mg	plastic	252,65 €

β-D-Allopyranose

► β-D-Allose see p. 1624

β-D-Allose



β-D-Allose

≥98 %

β-D-Allopyranose

 $C_6H_{12}O_6$

M 180,16 g/mol

mp 143-146 °C

[2595-97-3] • EC No. 219-994-4

Type analysis:

Appearance: white powder

Assay: ≥98 %

6010.2	50 mg	glass	27,85 €
6010.1	100 mg	glass	38,20 €

Alloy acc. to Wood

Alloy acc. to Wood

used for metal heating baths

low melting point, Bi 50 %/ Cd 12,5 %/ Pb 25 %/ Sn 12,5 %. Can be used for manufacturing metal heating baths, for sealing and as a lead fuse

Wood's metall

D ~8,6

mp ~70 °C

UN No. 2570 • ADR 6.1 II • WGK 3

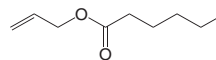
Danger H302-H330-H341-H350-H360Df-H372-H410-EUH201

1980.1	250 g	plastic	33,25 €
1980.2	1 kg	plastic	101,60 €
Original pack 6 x 1 kg			96,52/1 kg

4-Allyl anisole

► Methylchavicol see p. 1966

Allyl caproate



Allyl caproate

ROTICHROM® GC

Reference substance for GC

Allyl hexanoate, Caproic acid allyl ester

 $C_9H_{16}O_2$

M 156,22 g/mol

D 0,889 • bp 190-191 °C

flp 66 °C

Storage temp.: +4 °C

[123-68-2] • EC No. 204-642-4

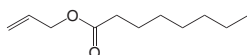
UN No. 2810 • ADR 6.1 III • WGK 2

Danger H301+H311-H411

Type analysis:

Purity (GC): ≥92 %

3792.1	1 g	glass	75,15 €

Allyl caprylate**Allyl caprylate****ROTICHROM® GC**

Reference substance for GC

Allyl octanoate, 2-Propenyl octanoate

 $C_{11}H_{20}O_2$

M 184,26 g/mol

D 0,872-0,880 • bp 222 °C

Storage temp.: +4 °C

[4230-97-1] • EC No. 224-184-9

WGK 2

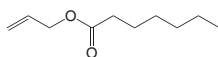
⚠ **Warning** H302- H315-H319-H335**Type analysis:**

Purity (GC)..... ≥96 %

3793.1	1 g	glass	75,15 €

4-Allyl-1,2-dimethoxybenzene

▶ Eugenol methyl ether see p. 1821

Allyl heptanoate**Allyl heptanoate****ROTICHROM® GC**

Reference substance for GC

Propenyl heptanoate

 $C_{10}H_{18}O_2$

M 170,25 g/mol

D 0,885 • bp 210-212 °C

flp 82 °C

Storage temp.: +4 °C

[142-19-8] • EC No. 205-527-1

UN No. 2810 • ADR 6.1 III • WGK 3

⚠ **Danger** H302-H311**Type analysis:**

Purity (GC)..... ≥97 %

3798.1	1 g	glass	75,15 €

Allyl hexanoate

▶ Allyl caproate see p. 1624

4-Allyl-2-methoxyphenol

▶ Eugenol see p. 1821

4-Allyl-2-methoxyphenylacetate

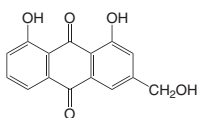
▶ Acetyleneol see p. 1610

Allyl octanoate

▶ Allyl caprylate see p. 1625

(S)-3-(Allylsulphonyl)-L-alanine

▶ Alliin see p. 1624

Aloe-emodin $C_{15}H_{10}O_5$

M 270,23 g/mol

mp 223-225 °C

Storage temp.: +4 °C

[481-72-1] • EC No. 207-571-1

WGK 2

⚠ **Warning** H315-H319-H335**Aloe-emodin****ROTICHROM® HPLC**

Reference substance for HPLC

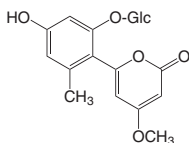
Type analysis:

Purity (HPLC)..... ≥99 %

6004.1	10 mg	plastic	212,35 €

Aloe-emodin**ROTICHROM® ~CHR**

3524.1	100 mg	plastic	347,15 €

Aloenin A**Aloenin A****ROTICHROM® HPLC**

Reference substance for HPLC

From *Aloe arborescens*. $C_{19}H_{22}O_{10}$

M 410,38 g/mol

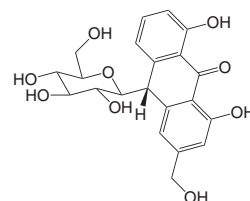
Storage temp.: +4 °C

[38412-46-3]

Type analysis:

Purity (HPLC)..... >99 %

1082.1	20 mg	glass	428,95 €

Aloin $C_{21}H_{22}O_9$

M 418,40 g/mol

mp 148-152 °C

Storage temp.: +4 °C

[5133-19-7]

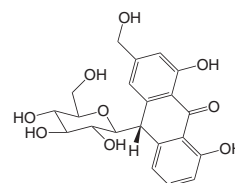
⚠ **Warning** H302**Aloin****ROTICHROM® TLC**

Reference substance for thin layer chromatography

5555.1	50 mg	glass	54,75 €

Aloin**ROTICHROM® CHR, cryst.**

4568.1	250 mg	glass	47,20 €

Aloin A**Aloin A****ROTICHROM® HPLC**

Reference substance for HPLC

 $C_{21}H_{22}O_9$

M 418,40 g/mol

Storage temp.: +4 °C

[1415-73-2]

⚠ **Warning** H302**Type analysis:**

Purity (HPLC)..... ≥97 %

4744.1	25 mg	glass	89,80 €

ALP

▶ Alkaline phosphatase see p. 1623

Alum

▶ Potassium aluminium sulphate dodecahydrate see p. 2050

A

Alum chrome

- ▶ Chromium(III) potassium sulphate dodecahydrate see p. 1734

Alumina

- ▶ Aluminium oxide see p. 1627

Aluminium granulate

Al
M 26,98 g/mol
D 2,7 • bp 2500 °C
mp 660 °C
[7429-90-5] • EC No. 231-072-3

Aluminium granulate

ROTI®METIC 99,9995 % (5N5)

Type analysis:

Assay (metals basis).....99,9995 %
Particle size.....~1-3 mm
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5577.1	25 g	plastic	40,35 €
5577.2	100 g	plastic	109,65 €

Aluminium granulate

≥99,5 %, gran., ~1-5 mm

Type analysis:

Assay (Al).....≥99,5 %

5280.1	250 g	glass	17,75 €
5280.2	1 kg	glass	31,75 €
Original pack 6 x 1 kg			30,16/1 kg

Aluminium powder

Aluminium powder

≥99,5 %, powdered, <160 µm

Al
M 26,98 g/mol
bp 2500 °C
mp 660 °C
[7429-90-5] • EC No. 231-072-3
UN No. 1309 • ADR 4.1 III

 **Danger** H228-H261

Type analysis:

Assay (Al).....≥99,5 %
Filled under protective gas.

5285.1	250 g	glass	25,30 €
5285.2	1 kg	glass	64,40 €
Original pack 6 x 1 kg			61,18/1 kg

Aluminium Standards

- ▶ Aluminium AAS Standard Solution see p. 2167
- ▶ Aluminium ICP Standard Solution see p. 2170
- ▶ Aluminium ICP Standard Solution see p. 2174

Aluminium ammonium sulphate dodecahydrate

Aluminium ammonium sulphate dodecahydrate

≥99 %, p.a., ACS

Ammonium aluminium sulphate, Ammonium alum
NH₄Al(SO₄) · 12 H₂O
M 453,33 g/mol
mp 93 °C
Solubility: 150 g/l (H₂O, 20 °C)
[7784-26-1] • EC No. 232-055-3
WGK 1

Guarantee analysis:

Assay (compl.).....≥99,0 %
pH-value (5 % solution).....≥3,0
In H₂O insoluble matter.....≤0,005 %
Chloride (Cl).....≤0,001 %
Nitrate (NO₃).....≤0,001 %
Silicate (SiO₂).....≤0,002 %
Phosphate (PO₄).....≤0,0025 %
Arsenic (As).....≤0,00005 %
Lead (Pb).....≤0,001 %
Calcium (Ca).....≤0,05 %
Iron (Fe).....≤0,001 %
Copper (Cu).....≤0,0005 %
Potassium (K).....≤0,05 %
Sodium (Na).....≤0,01 %
Heavy metals (as Pb).....≤0,001 %

X862.1	500 g	plastic	27,85 €
Original pack 6 x 500 g			26,46/500 g
X862.2	1 kg	plastic	45,05 €
Original pack 6 x 1 kg			42,80/1 kg
X862.3	2,5 kg	plastic	91,95 €

Aluminium carbide

Aluminium carbide

pure, powdered

Al₄C₃
M 143,96 g/mol
D 2,36
mp 2100 °C
[1299-86-1] • EC No. 215-076-2
UN No. 1394 • ADR 4.3 II

  **Danger** H261-H315-H319-H335

Type analysis:

Aluminium (Al).....≥72 %
Carbon (C).....≥24 %
Nitrogen (N).....≤0,9 %
Iron (Fe).....≤0,2 %
Oxygen (O₂).....≤1,7 %

3094.2	25 g	glass	78,40 €
3094.1	100 g	glass	273,05 €

Aluminium chloride

Aluminium chloride

≥98 %, anhydrous, sublimated

Hydrochloric acid aluminium salt anhydrous
AlCl₃
M 133,34 g/mol
D 1,31
mp ~181 °C (subl.)
Solubility: 450 g/l (H₂O, 20 °C)
[7446-70-0] • EC No. 231-208-1
UN No. 1726 • ADR 8 II • WGK 1

 **Danger** H314

Type analysis:

Assay.....≥98 %
Sulphate (SO₄).....≤0,05 %
Iron (Fe).....≤0,02 %
Heavy metals.....≤0,005 %

CN86.1	100 g	glass	11,75 €
CN86.2	500 g	glass	23,15 €
Original pack 6 x 500 g			21,99/500 g
CN86.3	1 kg	glass	37,10 €
Original pack 6 x 1 kg			35,25/1 kg

Aluminium chloride hexahydrate

AlCl₃ · 6 H₂O
M 241,43 g/mol
D ~2,4
mp ~100 °C
Solubility: 1330 g/l (H₂O, 20 °C)
[7784-13-6] • EC No. 231-208-1
WGK 1

 **Warning** H315-H319

Aluminium chloride hexahydrate

ROTI®METIC 99,9999 % (6N)

Type analysis:

Assay (metals basis).....99,9999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5368.1	25 g	plastic	83,75 €
5368.2	100 g	plastic	310,70 €

Aluminium chloride hexahydrate

≥95 %, Ph.Eur., USP

Guarantee analysis:

Assay (compl.).....95,0-102,0 %
Identity.....complies
Appearance of solution.....complies
Alkali and alkaline-earth metals.....≤0,5 %
Sulphate (SO₄).....≤0,01 %
Water (KF).....42-48 %
Heavy metals (as Pb).....≤0,002 %
Iron (Fe).....≤0,001 %

CP88.1	500 g	plastic	25,30 €
Original pack 6 x 500 g			24,04/500 g
CP88.2	1 kg	plastic	41,40 €
Original pack 6 x 1 kg			39,33/1 kg
CP88.3	2,5 kg	plastic	81,60 €

Aluminium fluoride

Aluminium fluoride

ROTI®METIC 99,99 % (4N), anhydrous

Aluminium trifluoride

AlF₃

M 83,98 g/mol

D 3,1

mp ~1272 °C (subl.)

Solubility: 5 g/l (H₂O, 20 °C)

[7784-18-1] • EC No. 232-051-1

WGK 1

⚠ Warning H302-H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,99 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5395.1	10 g	plastic	75,15 €

5395.2	50 g	plastic	267,70 €

Aluminium nitrate nonahydrate

Al(NO₃)₃ · 9 H₂O

M 375,13 g/mol

mp 73 °C

Solubility: 419 g/l (H₂O, 20 °C)

[7784-27-2] • EC No. 236-751-8

UN No. 1438 • ADR 5.1 III • WGK 1

⚠ ⚠ Danger H272-H315-H319

Aluminium nitrate nonahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5567.1	10 g	plastic	36,05 €

5567.2	50 g	plastic	104,85 €

Aluminium nitrate nonahydrate

≥98 %, p.a.

Guarantee analysis:

Assay..... ≥98 %

pH-value (5 %, 20 °C)..... 2,5-3,5

Chloride (Cl)..... ≤0,005 %

Sulphate (SO₄)..... ≤0,005 %

Heavy metals (as Pb)..... ≤0,001 %

Calcium (Ca)..... ≤0,02 %

Iron (Fe)..... ≤0,005 %

Potassium (K)..... ≤0,05 %

Magnesium (Mg)..... ≤0,005 %

Sodium (Na)..... ≤0,02 %

CN85.1	500 g	plastic	18,20 €

Original pack 6 x 500 g	17,29/500 g

CN85.2	1 kg	plastic	27,45 €

Original pack 6 x 1 kg	26,08/1 kg

CN85.3	2,5 kg	plastic	54,30 €

Aluminium oxide

Aluminium oxide

ROTI®METIC 99,995 % (4N5)

Alumina

Al₂O₃

M 101,94 g/mol

D 3,97 • bp 2980 °C

mp 2045 °C

[1344-28-1] • EC No. 215-691-6

Type analysis:

Assay (metals basis)..... 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5575.1	5 g	plastic	36,05 €

5575.2	25 g	plastic	97,75 €

Aluminium oxide, nano

Aluminium oxide, nano

ROTI®nanoMETIC ≥99,9 %, 40 nm

Al₂O₃

M 101,94 g/mol

D 3,97 • bp 2980 °C

mp 2045 °C

[1344-28-1] • EC No. 215-691-6

WGK 1

Type analysis:

Assay (metals basis)..... ≥99,9 %

Particle size..... ~40 nm

Specific surface (BET)..... ≥40 m²/g

Loss on drying (2 h, 105 °C)..... ≤3 %

Phase..... gamma

Stabilized with HNO₃

8250.1	10 g	glass	20,10 €

8250.2	50 g	glass	75,15 €

8250.3	100 g	glass	122,45 €

Aluminium oxide, neutral, basic, acidic

Al₂O₃

M 101,94 g/mol

[1344-28-1] • EC No. 215-691-6

Aluminium oxide 90 neutral

for column chromatography

Guarantee analysis:

Particle size..... 0,063-0,2 mm (70 %)

pH value (10 %). 6,8-7,8

Chloride (Cl)..... ≤0,1 %

Calcium (Ca)..... ≤0,15 %

Material washed out by H₂O..... ≤0,2 %

Filtration rate..... ≥0,3 ml/min

Activity stage I

P092.1	500 g	plastic	58,60 €

Original pack 6 x 500 g	55,67/500 g

P092.2	1 kg	plastic	105,25 €

Original pack 6 x 1 kg	99,99/1 kg

P092.3	2,5 kg	plastic	228,90 €

For further information, please see page 1524

Aluminium oxide 90 basic

for column chromatography

Guarantee analysis:

Particle size..... 0,063-0,2 mm (70 %)

pH value (10 %). 8,5-10,5

Chloride (Cl)..... ≤0,004 %

Sulphate (SO₄)..... ≤0,1 %

Filtration rate..... ≥0,3 ml/min

Activity stage I

X908.1	500 g	plastic	57,95 €

Original pack 6 x 500 g	55,05/500 g

X908.2	1 kg	plastic	103,10 €

Original pack 6 x 1 kg	97,95/1 kg

X908.3	2,5 kg	plastic	224,70 €

For further information, please see page 1524

Aluminium oxide 90 acidic

for column chromatography

Guarantee analysis:

Particle size..... 0,063-0,2 mm (70 %)

pH value (10 %). 3,5-4,5

Chloride (Cl)..... ≤0,2 %

Sulphate (SO₄)..... ≤0,1 %

Filtration rate..... ≥0,3 ml/min

Activity stage I

X909.1	500 g	plastic	54,75 €

Original pack 6 x 500 g	52,01/500 g

X909.2	1 kg	plastic	101,60 €

Original pack 6 x 1 kg	96,52/1 kg

X909.3	2,5 kg	plastic	213,95 €

For further information, please see page 1524

Aluminium potassium sulphate

► Potassium aluminium sulphate dodecahydrate see p. 2050

Aluminium sulphate hydrate

Aluminium sulphate hydrate

cryst.

Al₂(SO₄)₃ · 13,5-15,0 H₂O

M 342,14 + x H₂O g/mol

bp 770 °C (dec.)

mp 90-95 °C

Solubility: 360 g/l (H₂O, 20 °C)

[17927-65-0] • EC No. 233-135-0

WGK 1

⚠ Danger H318

Type analysis:

Assay (as Al₂O₃)..... 16,5-17,5 %

Alkalinity..... ≤0,5 % OH

Iron (Fe)..... ≤0,05 %

3731.1	1 kg	plastic	15,40 €

Original pack 6 x 1 kg	14,63/1 kg

3731.2	5 kg	plastic	36,45 €

Aluminium sulphate hexadecahydrate

Aluminium sulphate hexadecahydrate

≥95 %, p.a., cryst.

$\text{Al}_2\text{O}_3 \cdot 16 \text{H}_2\text{O}$

M 630,39 g/mol

[16828-11-8]

WGK 1

 Danger H318

Guarantee analysis:

Appearance	 fine, white crystals
Assay (titr.)	 ≥95 %
pH-value	 3,0-4,0
Chloride (Cl)	 ≤0,01 %
Lead (Pb)	 ≤0,005 %
Cadmium (Cd)	 ≤0,005 %
Calcium (Ca)	 ≤0,01 %
Iron (Fe)	 ≤0,01 %
Potassium (K)	 ≤0,01 %
Cobalt (Co)	 ≤0,005 %
Copper (Cu)	 ≤0,005 %
Sodium (Na)	 ≤0,05 %
Nickel (Ni)	 ≤0,005 %
Zinc (Zn)	 ≤0,005 %

5340.1	500 g	plastic	36,05 €
Original pack 6 x 500 g			34,25/500 g

Aluminium sulphate octadecahydrate

Aluminium sulphate octadecahydrate

extra pure

$\text{Al}_2(\text{SO}_4)_3 \cdot 18 \text{H}_2\text{O}$

M 666,42 g/mol

mp 90 °C

Solubility: 600 g/l (H_2O , 20 °C)

[7784-31-8] • EC No. 233-135-0

WGK 1

Type analysis:

Assay $\text{Al}_2(\text{SO}_4)_3$ (compl.)	 51,0-59,0 %
Chloride (Cl)	 ≤0,05 %
Ammonium (NH_4)	 ≤0,05 %
Heavy metals (as Pb)	 ≤0,005 %
Arsenic (As)	 ≤0,0005 %
Iron (Fe)	 ≤0,01 %

9507.1	500 g	plastic	27,85 €
Original pack 6 x 500 g			26,46/500 g
9507.2	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg
9507.3	2,5 kg	plastic	85,90 €

Aluminium trifluoride

► Aluminium fluoride see p. 1627

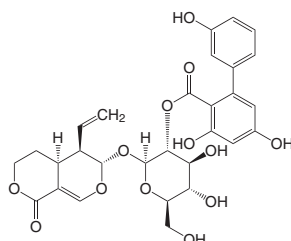
Aluminon

► Aurin tricarboxylic acid ammonium salt see p. 1659

Amantadine hydrochloride

► 1-Adamantanamine hydrochloride see p. 1614

Amarogentin



Amarogentin

ROTICHRON® HPLC

Reference substance for HPLC.

From *Gentiana lutea*.

$\text{C}_{29}\text{H}_{30}\text{O}_{13}$

M 586,54 g/mol

Storage temp.: +4 °C

[21018-84-8]

WGK 1

Type analysis:

Purity (HPLC) ≥99 %

6488.1	10 mg	glass	274,15 €

Amber acid

► Succinic acid see p. 2187

Amberjet™

Amberjet™

mixed bed exchanger, highly pure

WGK 1

Type analysis:

Delivery form	 H^+/OH^-
Blend ratio	 0,90-1,10
Particle size	 0,3-1,2 mm

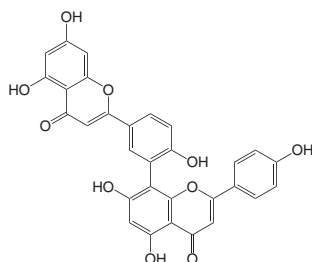
K306.1	100 g	plastic	26,35 €

K306.2	500 g	plastic	53,65 €

Original pack 6 x 500 g 50,97/500 g

For further information, please see page 1588

Amentoflavone trihydrate



Amentoflavone trihydrate

ROTICHRON® HPLC

Reference substance for HPLC

$\text{C}_{30}\text{H}_{18}\text{O}_{10} \cdot 3 \text{H}_2\text{O}$

M 592,46 g/mol

Storage temp.: +4 °C

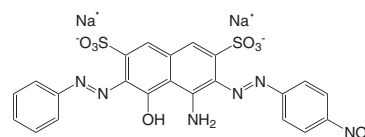
[1617-53-4]

Type analysis:

Appearance yellow powder
Purity (HPLC) ≥99 %

5255.1	10 mg	glass	263,40 €

Amido Black 10 B (C.I. 20470)



Amido black 10 B (C.I. 20470)

p.a.

For irreversible staining of proteins on membranes and for quantification of proteins in detergent containing solutions.

Naphthol blue black

$\text{C}_{22}\text{H}_{14}\text{N}_6\text{Na}_2\text{O}_3\text{S}_2$

M 616,50 g/mol

Solubility: 10 g/l (H_2O , 25 °C)

[1064-48-8] • EC No. 213-903-1 • WGK 2

Type analysis:

Appearance dark-brown powder
Dye content ≥75 %
Loss on drying ≤10,0 %

9590.1	25 g	glass	34,95 €

Amido sulphonic acid

► Sulphamic acid see p. 2189

Amido sulphuric acid

► Sulphamic acid see p. 2189

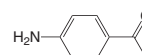
2-Aminoacetamide hydrochloride

► Glycinamide hydrochloride see p. 1860

Aminoacetic acid

► Glycine see p. 1860

4'-Aminoacetophenone



4'-Aminoacetophenone

≥99 %

For determination of nicotinic acid and vitamin B.

$\text{C}_8\text{H}_9\text{NO}$

M 135,17 g/mol

bp 292-294 °C • mp 103-108 °C

Solubility: 6,5 g/l (H_2O , 25 °C)

[99-92-3] • EC No. 202-801-2 • WGK 2

 Warning H302-H315-H319-H335

Type analysis:

Assay (GC) ≥99,0 %
Melting point 103-107 °C

3973.2	10 g	glass	12,80 €

3973.1	25 g	glass	22,50 €

Amino Acids and their Derivatives

Art. No.	Description	Page
4126	N-Acetyl-L-cysteine	1609
5526	N-Acetyl glycine	1610
7866	D-Alanine	1619
9798	DL-Alanine	1620
3076	L-Alanine	1620
3078	β-Alanine	1619
5521	L-Alaninol	1620
6831	L-Alanyl-L-glutamine	1620
6830	L-Alanyl-L-glutamine	1620
K031	Alliin	1624
5519	2-Amino-5-bromobenzoic acid	1630
5518	DL-2-Aminobutyric acid	1630
5516	2-Amino-4-chlorobenzoic acid	1631
3113	6-Aminohexanoic acid	1631
6187	4-Aminohippuric acid	1631
5514	2-Aminoisobutyric acid	1632
8451	5-Aminolevulinic acid hydrochloride	1632
8592	DL-Arginine	1654
1655	L-Arginine	1654
3144	L-Arginine	1654
7868	D-Arginine monohydrochloride	1655
4925	DL-Arginine monohydrochloride	1655
1989	L-Arginine monohydrochloride	1655
3145	L-Arginine monohydrochloride	1655
7872	D-Asparagine monohydrate	1657
5495	DL-Asparagine monohydrate	1657
KK37	L-Asparagine monohydrate	1657
HN23	L-Asparagine monohydrate	1658
7873	D-Aspartic acid	1658
8593	DL-Aspartic acid	1658
1690	L-Aspartic acid	1658
T202	L-Aspartic acid	1658
7856	D-β-Azidoalanine hydrochloride	1661
7854	L-β-Azidoalanine hydrochloride	1661
7858	D-γ-Azidoalanine hydrochloride	1661
7857	L-γ-Azidoalanine hydrochloride	1662
7862	D-Azidolysine hydrochloride	1662
7861	L-Azidolysine hydrochloride	1662
7859	L-Azidoornithine hydrochloride	1662
7860	D-Azidoornithine hydrochloride	1662
7853	D-4-Azidophenylalanine	1663
7850	L-4-Azidophenylalanine	1663
6907	Boc-L-Alanine	1681
6914	Boc-L-Arginine hydrochloride monohydrate	1681
6915	Boc-L-Asparagine	1681
8846	Boc-L-Aspartic acid-(OBenzyl)	1682
6917	Boc-L-Glutamic acid	1682
6916	Boc-L-Glutamine	1682
6918	Boc-Glycine	1682
6920	Boc-L-Histidine	1682
6921	Boc-L-Hydroxyproline	1682
6923	Boc-L-Isoleucine hemihydrate	1683
6924	Boc-L-Leucine monohydrate	1683
6942	Boc-L-tert-Leucine	1683
6926	Boc-L-Lysine	1683
6928	Boc-L-Methionine	1683
6931	Boc-L-Phenylalanine	1683
6932	Boc-L-Proline	1684
6933	Boc-L-Serine	1684
6935	Boc-L-Threonine	1684
6945	Boc-L-Tryptophan	1684
6949	Boc-L-Tyrosine	1684
6950	Boc-L-Valine	1684
7212	DL-Carnitinchloride	1717
4148	L-Carnosine	1717

6636	Cbz-cyclohexyl-L-glycine	1721
7625	Cysteamine hydrochloride	1756
8594	DL-Cysteine	1756
1693	L-Cysteine	1756
3467	L-Cysteine	1756
3468	L-Cysteine hydrochloride	1756
7874	D-Cysteine hydrochloride monohydrate	1756
1694	L-Cysteine hydrochloride monohydrate	1756
T203	L-Cysteine hydrochloride monohydrate	1757
5565	DL-Cystine	1757
1695	L-Cystine	1757
3471	L-Cystine	1757
5431	DL-2,3-Diaminopropionic acid hydrochloride	1768
6646	Fmoc-L-Alanine monohydrate	1831
7400	Fmoc-8-Amino-3,6-dioxaoctanoic acid	1831
6896	Fmoc-L-Arginine	1834
8833	Fmoc-L-Arginine-(Pbf)	1831
6897	Fmoc-L-Asparagine	1831
9652	Fmoc-L-Asparagine-(Trityl)	1831
6641	Fmoc-L-Aspartic acid-(OAllyl)	1832
9654	Fmoc-L-Aspartic acid-(OtBu)	1832
7369	Fmoc-L-β-Azidoalanine	1832
7363	Fmoc-L-γ-Azidoalanoalanine	1832
7357	Fmoc-L-Azidolysine	1832
7362	Fmoc-L-Azidoornithine	1832
7485	Fmoc-L-4-Azidophenylalanine	1833
7367	Fmoc-L-4-Azidoproline (2S,4R)	1833
8842	Fmoc-L-Cysteine-(Acetamidomethyl)	1833
8841	Fmoc-L-Cysteine-(Trityl)	1833
9655	Fmoc-L-Glutamic acid-(OtBu) monohydrate	1833
6898	Fmoc-L-Glutamine	1834
9653	Fmoc-L-Glutamine-(Trityl)	1834
6899	Fmoc-Glycine	1834
8843	Fmoc-L-Histidine-(Trityl)	1834
6647	Fmoc-L-Isoleucine	1834
6654	Fmoc-L-Leucine	1835
6900	Fmoc-L-Lysine	1835
8840	Fmoc-L-Lysine-(Boc)	1835
6656	Fmoc-L-Methionine	1835
6658	Fmoc-L-Phenylalanine	1835
6659	Fmoc-L-Proline	1836
7491	Fmoc-L-Propargylglycine	1836
6901	Fmoc-L-Serine monohydrate	1836
9666	Fmoc-L-Serine-(tBu)	1836
9659	Fmoc-L-Threonine-(tBu)	1836
6903	Fmoc-L-Tryptophan	1837
9668	Fmoc-L-Tryptophan-(Boc)	1837
6906	Fmoc-L-Tyrosine	1837
9669	Fmoc-L-Tyrosine-(tBu)	1837
6660	Fmoc-L-Valine	1837
6665	N-Formyl-L-leucine	1840
7879	D-Glutamic acid	1856
8596	DL-Glutamic acid	1856
1743	L-Glutamic acid	1856
3774	D-Glutamic acid	1857
7876	D-Glutamine	1857
8595	DL-Glutamine	1857
HN08	L-Glutamine	1857
3772	L-Glutamine	1857
6378	Glutathione oxidized	1858
6382	L-Glutathione reduced	1858
5543	Glycinamide hydrochloride	1860
3908	Glycine	1861
HN07	Glycine	1861
T873	Glycine	1861
3187	Glycine	1861
3790	Glycine	1861
5542	Glycine anhydride	1861
3794	Glycylglycine	1862

HN74	Glycylglycine	1862
7507	Hippuric acid sodium salt hydrate	1878
7880	D-Histidine	1878
8597	DL-Histidine	1879
1696	L-Histidine	1879
3852	L-Histidine	1879
1697	L-Histidine hydrochloride monohydrate	1879
9455	L-Histidine hydrochloride monohydrate	1879
7511	o-Hydroxyhippuric acid	1891
3893	L-4-Hydroxyproline	1892
6662	L-Hydroxyproline methylester hydrochloride	1892
8598	DL-Isoleucine	1910
1698	L-Isoleucine	1910
3922	L-Isoleucine	1910
8456	L-Kynurenine	1919
7882	D-Leucine	1929
8599	DL-Leucine	1930
1699	L-Leucine	1930
3984	L-Leucine	1930
6664	L-tert-Leucine methylester hydrochloride	1930
6829	L-Lysine monohydrate	1941
4207	L-Lysine monohydrate	1941
7883	D-Lysine hydrochloride	1941
8600	DL-Lysine hydrochloride	1941
1700	L-Lysine hydrochloride	1941
9357	L-Lysine hydrochloride	1941
7885	D-Methionine	1962
8602	DL-Methionine	1962
1702	L-Methionine	1963
9359	L-Methionine	1963
5275	3-Nitro-L-tyrosine	1995
6663	L-Norvalinol	1996
1703	L-Ornithine monohydrochloride	2015
T204	L-Ornithine monohydrochloride	2015
7886	D-Phenylalanine	2035
8603	DL-Phenylalanine	2035
1709	L-Phenylalanine	2035
4491	L-Phenylalanine	2035
7888	D-Proline	2066
5267	DL-Proline	2066
1713	L-Proline	2066
T205	L-Proline	2066
7531	D-Serine	2126
8606	DL-Serine	2126
1714	L-Serine	2126
4682	L-Serine	2126
8385	Serotonin creatinine sulphate monohydrate	2126
7889	D-Threonine	2208
7532	DL-Threonine	2208
1738	L-Threonine	2208
T206	L-Threonine	2208
7700	D-Tryptophane	2227
5236	DL-Tryptophane	2227
1739	L-Tryptophane	2227
4858	L-Tryptophane	2228
7890	D-Tyrosine	2230
8608	DL-Tyrosine	2230
1741	L-Tyrosine	2230
T207	L-Tyrosine	2230
7891	D-Valine	2235
7540	DL-Valine	2235
1742	L-Valine	2235
4879	L-Valine	2235

Amino acids, non-essential

▶ Roti®-CELL MEM-NEAA solution
see p. 2093

A

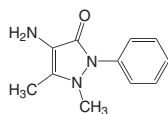
3-Amino-DL-alanine hydrochloride

► DL-2,3-Diaminopropionic acid hydrochloride see p. 1768

(S)-2-Amino-4-(2-amino-phenyl)-4-oxo-butanoic acid

► L-Kynurenine see p. 1919

4-Aminoantipyrine



4-Aminoantipyrine

≥98 %, p.a., ACS

Reagent for phenol detection

4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one

C₁₁H₁₃N₃O

M 203,25 g/mol

mp 107-109 °C

Solubility: 56 g/l (H₂O, 20 °C)

[83-07-8] • EC No. 201-452-3

WGK 1

⚠ Warning H302

Guarantee analysis:

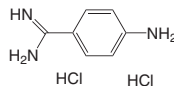
Assay ≥98,0 %
Melting point 107-109 °C
Solubility (1 g/20 ml H₂O) clear solution
Ash content ≤0,1 %
Loss on drying ≤0,5 %
Suitability for determination of phenol complies

2671.1	10 g	glass	21,40 €
2671.2	25 g	glass	32,15 €
2671.3	100 g	glass	55,80 €

p-Aminobenzamidine dihydrochloride

► 4-Aminobenzamidine dihydrochloride see p. 1630

4-Aminobenzamidine dihydrochloride



4-Aminobenzamidine dihydrochloride

≥98 %, for biochemistry

Potent inhibitor of serine proteases.

p-Aminobenzamidine dihydrochloride

C₇H₉N₃ · 2 HCl

M 208,09 g/mol

mp 300-304 °C (dec.)

Storage temp.: +4 °C

[2498-50-2] • EC No. 219-692-2

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Assay (dry substance) 98,0-101,0 %
Melting point (dec.) 300-304 °C
Loss on drying (105 °C) ≤1,0 %

CN71.1	1 g	glass	13,90 €
CN71.2	5 g	plastic	54,75 €
CN71.3	10 g	plastic	99,90 €

For further information, please see page 1228

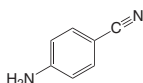
4-Aminobenzenesulphonamide

► Sulphanilamide see p. 2189

4-Aminobenzenesulphonic acid

► Sulphanilic acid see p. 2189

4-Aminobenzonitrile



4-Aminobenzonitrile

≥98 %, for synthesis

p-Cyanoaniline

C₇H₆N₂

M 118,14 g/mol

D 1,08 • bp 288-290 °C

mp 84-87 °C

[873-74-5] • EC No. 212-850-1

UN No. 3439 • ADR 6.1 III • WGK 1

⚠ Danger H301-H319

Type analysis:

Appearance white to yellow brown clotting crystals
Assay ≥98,0 %
2-Aminobenzonitrile ≤0,5 %
3-Aminobenzonitrile ≤0,5 %
Sulphated ash ≤1,0 %
Water ≤0,5 %

8721.1	10 g	plastic	17,10 €
8721.2	50 g	plastic	75,15 €
8721.3	100 g	plastic	127,95 €

N-(4-Aminobenzoyl)-amino acetic acid

► 4-Aminohippuric acid see p. 1631

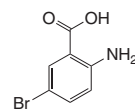
N-(4-Aminobenzoyl)-glycine

► 4-Aminohippuric acid see p. 1631

D-α-Aminobenzylpenicillin sodium salt

► Ampicillin sodium salt see p. 1645

2-Amino-5-bromobenzoic acid



2-Amino-5-bromobenzoic acid

≥95 %, for biochemistry

5-Bromoanthranilic acid

C₇H₆BrNO₂

M 216,04 g/mol

mp 204-211 °C

[5794-88-7] • EC No. 227-338-3

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.) ≥95 %
Melting point 204-211 °C
Water (KF) ≤2,0 %

5519.1	5 g	plastic	22,40 €
5519.2	25 g	plastic	74,10 €

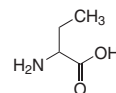
α-Aminobutyric acid

► DL-2-Aminobutyric acid see p. 1630

DL-α-Amino-n-butyric acid

► DL-2-Aminobutyric acid see p. 1630

DL-2-Aminobutyric acid



DL-2-Aminobutyric acid

≥98 %, for biochemistry

α-Aminobutyric acid, DL-α-Amino-n-butyric acid, H-DL-Abu-OH

C₄H₉NO₂

M 103,12 g/mol

mp 304 °C (dec.)

Solubility: 210 g/l (H₂O, 25 °C)

[2835-81-6] • EC No. 220-616-5

WGK 1

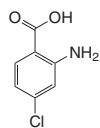
Type analysis:

Assay (titr.) ≥98,0 %
Solution (10 % in H₂O) colourless
Water (KF) ≤1,0 %

5518.1	25 g	plastic	43,55 €
5518.2	100 g	plastic	128,50 €

6-Aminocaproic acid

► 6-Aminohexanoic acid see p. 1631

2-Amino-4-chlorobenzoic acid**2-Amino-4-chlorobenzoic acid**

≥98 %, for biochemistry

4-Chloranthranilic acid

C₇H₆ClNO₂

M 171,58 g/mol

mp 231-233 °C (dec.)

Storage temp.: +4 °C

[89-77-0] • EC No. 201-938-5

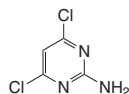
⚠ **Warning** H315-H319-H335**Type analysis:**

Assay (titr.) ≥98 %

Solution (1 % in methanol), colourless to slightly brown

Loss on drying ≤2,0 %

5516.1	10 g	plastic	17,45 €
5516.2	25 g	plastic	27,85 €
5516.3	100 g	plastic	85,90 €

2-Amino-4,6-dichloropyrimidine**2-Amino-4,6-dichloropyrimidine**

≥95 %

ADCP

C₄H₃Cl₂N₃

M 164,00 g/mol

mp 216-220 °C (subl.)

[56-05-3] • EC No. 200-253-9

WGK 1

⚠ **Warning** H315-H319-H335**Type analysis:**

Assay (HPLC) ≥95 %

Solution (1 % in DMF, 40 °C) orange

Water (KF) ≤1,0 %

5515.1	10 g	plastic	32,15 €
5515.2	25 g	plastic	67,65 €

5-Amino-2,3-dihydrophthalazine-1,4-dione

▶ Luminol see p. 1939

4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one

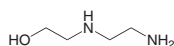
▶ 4-Aminoantipyrine see p. 1630

2-Aminoethanesulphonic acid

▶ Taurine see p. 2198

2-Aminoethanol

▶ Ethanolamine see p. 1811

2-(2-Aminoethylamino)ethanol**2-(2-Aminoethylamino)ethanol**

≥98 %, for synthesis

N-(2-Aminoethyl)ethanolamine

C₄H₁₂N₂O

M 104,15 g/mol

D 1,03 • bp 240 °C

mp -28 °C • flp 144 °C

[111-41-1] • EC No. 203-867-5

UN No. 2735 • ADR 8 II • WGK 1

⚠ **Danger**

H314-H317-H335-H360Df

Type analysis:

Appearance clear colourless liquid

Assay (GC) ≥98,0 %

Identity (IR) complies

Density 0,971-0,974

6717.1	100 ml	glass	13,90 €
6717.2	500 ml	glass	23,55 €
6717.3	1 l	glass	37,10 €
Original pack 6 x 1 l			35,25/1 l
6717.4	2,5 l	glass	79,45 €
Original pack 4 x 2,5 l			75,48/2,5 l

4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride

▶ AEBSF hydrochloride see p. 1616

4-(2-Aminoethyl)-benzylsulphonyl fluoride

▶ Pefabloc® SC-Protease Inhibitor see p. 2022

N-(2-Aminoethyl)ethanolamine

▶ 2-(2-Aminoethylamino)ethanol see p. 1631

3-(2-Aminoethyl)-5-hydroxyindole hydrochloride

▶ Serotonin hydrochloride see p. 2127

4-(2-Aminoethyl)phenol hydrochloride

▶ Tyramine hydrochloride see p. 2229

2-Amino-5-guanidinovaleric acid

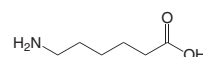
▶ L-Arginine see p. 1654

2-Amino-5-guanidino-n-valeric acid hydrochloride

▶ D-Arginine monohydrochloride see p. 1655

▶ DL-Arginine monohydrochloride see p. 1655

▶ L-Arginine monohydrochloride see p. 1655

6-Aminohexanoic acid**6-Aminohexanoic acid**

≥99 %, for biochemistry

6-Aminocaproic acid

C₆H₁₃NO₂

M 131,18 g/mol

mp 200-205 °C • flp 207 °C

Solubility: ~800 g/l (H₂O, 20 °C)

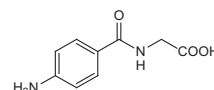
[60-32-2] • EC No. 200-469-3

WGK 1

Type analysis:

Assay ≥99 %

3113.1	100 g	plastic	23,55 €
3113.3	250 g	plastic	47,20 €
3113.2	500 g	plastic	85,90 €
Original pack 6 x 500 g			81,61/500 g

4-Aminohippuric acid**4-Aminohippuric acid**

≥98 %, for biochemistry

N-(4-Aminobenzoyl)-aminoacetic acid,

N-(4-Aminobenzoyl)-glycine

p-Aminohippuric acid, PAH

C₉H₁₀N₂O₃

M 194,19 g/mol

mp 199-202 °C

[61-78-9] • EC No. 200-518-9

WGK 1

Type analysis:

Assay ≥98 %

6187.1	10 g	plastic	33,25 €
6187.2	100 g	plastic	235,45 €

p-Aminohippuric acid

▶ 4-Aminohippuric acid see p. 1631

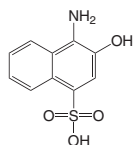
2-Amino-3-hydroxybutyric acid

▶ D-Threonine see p. 2208

▶ DL-Threonine see p. 2208

▶ L-Threonine see p. 2208

1-Amino-2-hydroxy-4-naphthalenesulfonic acid



1-Amino-2-hydroxy-4-naphthalenesulfonic acid

≥98 %, p.a., ACS

For determination of phosphate
1-Amino-2-naphthol-4-sulfonic acid

C₁₀H₉NO₄S

M 239,25 g/mol

mp 295 °C

[116-63-2] • EC No. 204-147-3

WGK 1

Guarantee analysis:

Assay ≥98,0 %
Solubility in Na₂CO₃ complies
Ash content ≤0,1 %
Sulphate (SO₄) ≤0,2 %
Suitability for determination of phosphate complies

2672.1	25 g	glass	36,45 €
2672.2	100 g	glass	91,30 €

N-[(2S,3R)-3-Amino-2-hydroxy-4-phenyl-butyl]-L-leucin hydrochloride

▶ Bestatin hydrochloride see p. 1675

2-Amino-3-(4-hydroxyphenyl)-propionic acid

- ▶ D-Tyrosine see p. 2230
- ▶ DL-Tyrosine see p. 2230
- ▶ L-Tyrosine see p. 2230

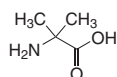
4-Aminohypoxanthine

▶ Guanine see p. 1865

2-Amino-3-(3-indolyl)propionic acid

- ▶ D-Tryptophane see p. 2227
- ▶ DL-Tryptophane see p. 2227
- ▶ L-Tryptophane see p. 2227

2-Aminoisobutyric acid



2-Aminoisobutyric acid

≥97 %, for biochemistry

2-Methylalanine, H-Ala(Me)-OH

C₄H₉NO₂

M 103,12 g/mol

mp >300 °C

Solubility: soluble (H₂O, 20 °C)

[62-57-7] • EC No. 200-544-0

Type analysis:

Assay (titr.) ≥97 %
Solution (2,5 % in H₂O) colourless
Loss on drying (160 °C) ≤1,0 %

5514.1	50 g	plastic	35,40 €
5514.2	100 g	plastic	60,10 €

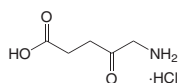
α-Aminoisovaleric acid

- ▶ D-Valine see p. 2234
- ▶ DL-Valine see p. 2235
- ▶ L-Valine see p. 2235

D-4-Amino-3-isoxazolidinone

▶ D-Cycloserine see p. 1755

5-Aminolevulinic acid hydrochloride



5-Aminolevulinic acid hydrochloride

≥98 %, for biochemistry

5-Amino-4-oxopentanoic acid HCl

C₅H₁₀ClNO₃

M 167,59 g/mol

mp 151-155 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[5451-09-2] • EC No. 226-679-5

WGK 3

Type analysis:

Appearance white to almost white cryst. powder
Assay (arg. titr.) ≥98,0 %
Appearance of solution (5 % in H₂O) colourless to almost colourless
Sulphated ash ≤0,1 %
Loss on drying (3 h, 105 °C, vacuum) ≤2,0 %
Water (KF) ≤1,0 %

8451.1	500 mg	glass	22,40 €
8451.2	1 g	glass	33,25 €
8451.3	5 g	glass	98,80 €

α-Amino-β-mercapto-propionic acid

- ▶ DL-Cysteine see p. 1756
- ▶ L-Cysteine see p. 1756

2-Amino-3-mercaptopropionic acid hydrochloride monohydrate

- ▶ D-Cysteine hydrochloride monohydrate see p. 1756
- ▶ L-Cysteine hydrochloride monohydrate see p. 1756

α-(Aminomethyl)benzyl alcohol

▶ 2-Amino-1-phenylethanol see p. 1633

4-(Aminomethyl)-5-hydroxy-6-methyl-3-pyridinemethanol dihydrochloride

▶ Pyridoxamine dihydrochloride see p. 2073

2-Amino-4-methyl-mercapto butyric acid

- ▶ D-Methionine see p. 1962
- ▶ DL-Methionine see p. 1962
- ▶ L-Methionine see p. 1963

2-Amino-4-methylpentanoic acid

- ▶ D-Leucine see p. 1929
- ▶ DL-Leucine see p. 1930
- ▶ L-Leucine see p. 1930

2-Amino-2-methyl-1-propanol

▶ AMP see p. 1644

2-Amino-3-methylvaleric acid

- ▶ DL-Isoleucine see p. 1910
- ▶ L-Isoleucine see p. 1910

1-Amino-2-naphthol-4-sulfonic acid

▶ 1-Amino-2-hydroxy-4-naphthalenesulfonic acid see p. 1632

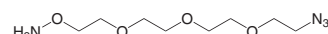
4-Amino-2-nitro-toluene

▶ 4-Methyl-3-nitroaniline see p. 1968

5-Amino-4-oxopentanoic acid HCl

▶ 5-Aminolevulinic acid hydrochloride see p. 1632

Aminoxy-PEG3-Azide



Aminoxy-PEG3-Azide

≥90 %

Linker

O-(2-(2-(2-Azidoethoxy)ethoxy)-ethoxy)ethylhydroxylamine

C₈H₁₈N₄O₄

M 234,25 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1306615-51-9]

WGK 3

Type analysis:

Appearance pale yellow oil
Assay (TLC) ≥90 %

7832.1	5 mg	plastic	79,05 €
7832.2	10 mg	plastic	118,80 €

2-Aminopentanedioic acid

- ▶ D-Glutamic acid see p. 1856
- ▶ DL-Glutamic acid see p. 1856
- ▶ L-Glutamic acid see p. 1856

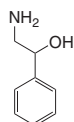
(S)-(+)-2-Amino-1-pentanol

► L-Norvalinol see p. 1996

4-Aminophenyl benzyl ether hydrochloride

► 4-(Benzyloxy) aniline hydrochloride see p. 1673

2-Amino-1-phenylethanol



2-Amino-1-phenylethanol

≥98 %

α-(Aminomethyl)benzyl alcohol, Phenylethanolamine

C₈H₁₁NO

M 137,18 g/mol

mp 56–58 °C

[7568-93-6] • EC No. 231-469-1

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.) ≥98 %
Solution (1 % in ethanol) almost colourless, clear
Water (KF) ≤2,0 %

5513.1	25 g	plastic	44,00 €
5513.2	50 g	plastic	73,65 €

2-Amino-3-phenylpropionic acid

► D-Phenylalanine see p. 2035
► DL-Phenylalanine see p. 2035
► L-Phenylalanine see p. 2035

3-Aminophenyl sulfone

► 3,3'-Diaminodiphenyl sulfone see p. 1768

3-Aminophthalhydrazide

► Luminol see p. 1939

S(+)-2-Amino-1-propanol

► L-Alaninol see p. 1620

2-Aminopropionic acid

► D-Alanine see p. 1619
► DL-Alanine see p. 1620
► L-Alanine see p. 1620

3-Aminopropionic acid

► β-Alanine see p. 1619

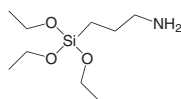
N-(3-Aminopropyl)-1,4-butanediamine

► Spermidine see p. 2165

Aminopropyl-modified silica gel

► Silica gel 60 diamino see p. 2129

γ-Aminopropyltriethoxysilane



γ-Aminopropyltriethoxysilane

≥98 %, for GC

Silylation reagent

APES, 3-Aminopropyltriethoxysilane

C₉H₂₃NO₃Si

M 221,37 g/mol

D 0,95 • bp 217 °C

mp <-70 °C • flp 93 °C

[919-30-2] • EC No. 213-048-4

UN No. 2735 • ADR 8 II • WGK 1

⚠ ⚠ Danger H314-H302

Type analysis:

Appearance clear liquid
Assay (GC) ≥98 %

2328.1	25 g	glass	19,60 €
2328.2	100 g	glass	55,80 €

For further information, please see page 1380

6-Aminopurine

► Adenine see p. 1615

2-Amino-succinic acid

► D-Aspartic acid see p. 1658
► DL-Aspartic acid see p. 1658
► L-Aspartic acid see p. 1658

2-Aminotoluene

► o-Toluidine see p. 2215

N-Aminourea hydrochloride

► Semicarbazide hydrochloride see p. 2124

Aminoxybrucine

► Brucine N-oxide see p. 1693

Aminoxystrychnine

► Strychnine N-oxide see p. 2186

(±)-2-Aminsuccinic acid 4-amide

► DL-Asparagine monohydrate see p. 1657

Ammann solution

► Cotton blue (C.I. 42780) see p. 1748

Ammoidin

► Xanthotoxin see p. 2244

Ammonia solution Ultra-quality

A

Ammonia solution Ultra-quality

ROTIPURAN® Ultra 20 %

Extra highpure alkaline solution (ppt quality) for sample preparation in ultra trace analysis.

Ammonium hydroxide solution

NH₃ + H₂O

M 17,03 + aq g/mol

D ~0,92

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

⚠ ⚠ Danger H290-H314-H335

Guarantee analysis:

Assay (w/w).....	20-22 %
Aluminium (Al).....	≤20 ppt
Antimony (Sb).....	≤10 ppt
Arsenic (As).....	≤10 ppt
Barium (Ba).....	≤10 ppt
Beryllium (Be).....	≤10 ppt
Lead (Pb).....	≤10 ppt
Cadmium (Cd).....	≤10 ppt
Cesium (Cs).....	≤10 ppt
Calcium (Ca).....	≤10 ppt
Cerium (Ce).....	≤10 ppt
Chromium (Cr).....	≤10 ppt
Dysprosium (Dy).....	≤10 ppt
Iron (Fe).....	≤10 ppt
Erbium (Er).....	≤10 ppt
Europium (Eu).....	≤10 ppt
Gadolinium (Gd).....	≤10 ppt
Gallium (Ga).....	≤10 ppt
Germanium (Ge).....	≤10 ppt
Gold (Au).....	≤10 ppt
Holmium (Ho).....	≤10 ppt
Indium (In).....	≤10 ppt
Potassium (K).....	≤10 ppt
Cobalt (Co).....	≤10 ppt
Copper (Cu).....	≤10 ppt
Lanthanum (La).....	≤10 ppt
Lithium (Li).....	≤10 ppt
Lutetium (Lu).....	≤10 ppt
Magnesium (Mg).....	≤10 ppt
Manganese (Mn).....	≤10 ppt
Molybdenum (Mo).....	≤10 ppt
Sodium (Na).....	≤20 ppt
Neodymium (Nd).....	≤10 ppt
Nickel (Ni).....	≤10 ppt
Niobium (Nb).....	≤10 ppt
Praseodymium (Pr).....	≤10 ppt
Mercury (Hg).....	≤200 ppt
Rhodium (Rh).....	≤10 ppt
Rubidium (Rb).....	≤10 ppt
Samarium (Sm).....	≤10 ppt
Scandium (Sc).....	≤10 ppt
Silver (Ag).....	≤10 ppt
Strontium (Sr).....	≤10 ppt
Tellur (Te).....	≤10 ppt
Terbium (Tb).....	≤10 ppt
Thallium (Tl).....	≤10 ppt
Thorium (Th).....	≤10 ppt
Thulium (Tm).....	≤10 ppt
Titanium (Ti).....	≤10 ppt
Uranium (U).....	≤10 ppt
Vanadium (V).....	≤10 ppt
Bismuth (Bi).....	≤10 ppt
Tungsten (W).....	≤10 ppt
Ytterbium (Yb).....	≤10 ppt
Yttrium (Y).....	≤10 ppt
Zinc (Zn).....	≤10 ppt
Tin (Sn).....	≤10 ppt
Zirconium (Zr).....	≤10 ppt

HN66.2 250 ml HDPE 203,20 €

HN66.1 500 ml HDPE 342,95 €

HN66.3 1 l HDPE 564,40 €

Original pack 6 x 1 l 536,18/1 l

For further information, please see page 1573

Ammonia solution Supra-quality

Ammonia solution Supra-quality

ROTIPURAN® Supra 20 %

Highpure alkaline solution (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

Ammonium hydroxide solution

$\text{NH}_3 + \text{H}_2\text{O}$

M 17,03 + aq g/mol • D ~0,92

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

 **Danger** H290-H314-H335

Guarantee analysis:

Assay (w/w).....	20-22 %
Colour (APHA).....	≤10
Chloride (Cl).....	≤0,00005 %
Phosphate (PO ₄).....	≤0,000001 %
Sulphate (SO ₄).....	≤0,0001 %
Aluminium (Al).....	≤1 ppb
Antimony (Sb).....	≤0,5 ppb
Arsenic (As).....	≤1 ppb
Barium (Ba).....	≤0,1 ppb
Beryllium (Be).....	≤0,1 ppb
Lead (Pb).....	≤0,1 ppb
Cadmium (Cd).....	≤0,5 ppb
Cesium (Cs).....	≤0,1 ppb
Calcium (Ca).....	≤1 ppb
Cerium (Ce).....	≤0,1 ppb
Chromium (Cr).....	≤0,5 ppb
Dysprosium (Dy).....	≤0,1 ppb
Iron (Fe).....	≤1 ppb
Erbium (Er).....	≤0,1 ppb
Europium (Eu).....	≤0,1 ppb
Gadolinium (Gd).....	≤0,1 ppb
Gallium (Ga).....	≤0,1 ppb
Germanium (Ge).....	≤0,1 ppb
Gold (Au).....	≤0,5 ppb
Holmium (Ho).....	≤0,1 ppb
Indium (In).....	≤0,1 ppb
Potassium (K).....	≤1 ppb
Cobalt (Co).....	≤0,5 ppb
Copper (Cu).....	≤0,5 ppb
Lanthanum (La).....	≤0,1 ppb
Lithium (Li).....	≤0,1 ppb
Lutetium (Lu).....	≤0,1 ppb
Magnesium (Mg).....	≤1 ppb
Manganese (Mn).....	≤0,5 ppb
Molybdenum (Mo).....	≤0,5 ppb
Sodium (Na).....	≤1 ppb
Neodymium (Nd).....	≤0,1 ppb
Nickel (Ni).....	≤0,5 ppb
Niobium (Nb).....	≤0,1 ppb
Praseodymium (Pr).....	≤0,1 ppb
Mercury (Hg).....	≤0,2 ppb
Rhodium (Rh).....	≤0,5 ppb
Rubidium (Rb).....	≤0,1 ppb
Samarium (Sm).....	≤0,1 ppb
Scandium (Sc).....	≤0,1 ppb
Selenium (Se).....	≤1 ppb
Silver (Ag).....	≤0,5 ppb
Strontium (Sr).....	≤0,1 ppb
Tellurium (Te).....	≤0,1 ppb
Terbium (Tb).....	≤0,1 ppb
Thallium (Tl).....	≤0,1 ppb
Thorium (Th).....	≤0,1 ppb
Thulium (Tm).....	≤0,1 ppb
Titanium (Ti).....	≤0,5 ppb
Uranium (U).....	≤0,1 ppb
Vanadium (V).....	≤0,5 ppb
Bismuth (Bi).....	≤0,1 ppb
Tungsten (W).....	≤0,1 ppb
Ytterbium (Yb).....	≤0,1 ppb
Yttrium (Y).....	≤0,1 ppb
Zinc (Zn).....	≤0,5 ppb
Tin (Sn).....	≤0,5 ppb
Zirconium (Zr).....	≤0,1 ppb

HN56.1 500 ml plastic 61,20 €

For further information, please see page 1573

Ammonia solution 32 %

Ammonium hydroxide solution

$\text{NH}_3 + \text{H}_2\text{O}$

M 17,03 + aq g/mol

D 0,88 • bp 24,7 °C

mp -91,5 °C

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

 **Danger** H290-H314-H400-H335

Ammonia solution 32 %

30-33 %, extra pure

Type analysis:

Assay (NH ₃).....	30-33 %
Chloride (Cl).....	≤0,0002 %
Sulphate (SO ₄).....	≤0,0002 %
Iron (Fe).....	≤0,0001 %
Heavy metals (as Pb).....	≤0,0003 %
Non volatile matter.....	≤0,002 %

P093.1 1 l glass	30,85 €
Original pack 6 x 1 l	29,31/1 l
P093.2 2,5 l glass	56,90 €
Original pack 4 x 2,5 l	54,06/2,5 l
P093.3 10 l plastic	209,65 €

Ammonia solution 32 %

30-33 %, for DNA synthesis.

Storage temp.: +4 °C

Type analysis:

Assay (NH ₃).....	≥30 %

A990.1 200 ml glass	16,05 €

For further information, please see page 1431

Ammonia solution 30 %

Ammonia solution 30 %

ROTIPURAN® 30 %, p.a., ACS

For neutralisation and for manufacturing of buffer system.

Ammonium hydroxide solution

$\text{NH}_3 + \text{H}_2\text{O}$

M 17,03 + aq g/mol

D ~0,89 • bp ~30 °C

mp -77 °C

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

 **Danger** H290-H314-H400-H335

Guarantee analysis:

Appearance.....	clear, colourless liquid
Assay (acidim.).....	28,0-30,0 %
Colour (APHA).....	≤10
Solubility in H ₂ O.....	complies
KMnO ₄ reducing substances (as O).....	complies
Non volatile matter.....	≤0,002 %
Ash content.....	≤0,002 %
Pyridine and homologues.....	≤0,0002 %
Carbonate (as CO ₂).....	≤0,002 %
Sulphur compounds (as SO ₄).....	≤0,0002 %
Chloride (Cl).....	≤0,00005 %
Phosphate (PO ₄).....	≤0,0001 %
Nitrate (NO ₃).....	≤0,0002 %
Sulphide (S).....	≤0,00001 %
Heavy metals (as Pb).....	≤0,00005 %
Aluminium (Al).....	≤0,00001 %
Arsenic (As).....	≤0,000005 %
Barium (Ba).....	≤0,00001 %
Beryllium (Be).....	≤0,00001 %
Lead (Pb).....	≤0,000005 %
Cadmium (Cd).....	≤0,00001 %

Calcium (Ca).....	≤0,0001 %
Chromium (Cr).....	≤0,000005 %
Iron (Fe).....	≤0,00001 %
Gold (Au).....	≤0,00001 %
Indium (In).....	≤0,000005 %
Potassium (K).....	≤0,00001 %
Cobalt (Co).....	≤0,00001 %
Copper (Cu).....	≤0,00001 %
Lithium (Li).....	≤0,000002 %
Magnesium (Mg).....	≤0,000005 %
Manganese (Mn).....	≤0,00001 %
Molybdenum (Mo).....	≤0,000002 %
Sodium (Na).....	≤0,00002 %
Nickel (Ni).....	≤0,000005 %
Silver (Ag).....	≤0,000002 %
Strontium (Sr).....	≤0,00001 %
Bismuth (Bi).....	≤0,000005 %
Zinc (Zn).....	≤0,00001 %

CP17.1 1 l glass	18,85 €
Original pack 6 x 1 l	17,91/1 l
CP17.2 2,5 l glass	30,00 €
Original pack 4 x 2,5 l	28,50/2,5 l
CP17.3 5 l PE/steel	56,45 €
Original pack 2 x 5 l	53,63/5 l
CP17.4 10 l PE/steel	96,65 €
CP17.5 25 l PE/steel	156,85 €

Ammonia solution 25 %

Ammonium hydroxide solution

$\text{NH}_3 + \text{H}_2\text{O}$

M 17,03 + aq g/mol

D 0,91 • bp 37,7 °C

mp -57,5 °C

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

 **Danger** H290-H314-H400-H335

Ammonia solution 25 %

ROTIPURAN® ≥25 %, p.a.

Guarantee analysis:

Assay (acidimetric., NH ₃).....	≥25 %
Colour (APHA).....	≤10
Non volatile matter.....	≤0,002 %
Sulphur compounds (as SO ₄).....	≤0,0002 %
Pyridine and homologues.....	≤0,0002 %
Carbonate (as CO ₂).....	≤0,001 %
Chloride (Cl).....	≤0,00005 %
Sulphide (S).....	≤0,00001 %
Phosphate (PO ₄).....	≤0,00005 %
Aluminium (Al).....	≤0,00001 %
Arsenic (As).....	≤0,000005 %
Barium (Ba).....	≤0,00001 %
Beryllium (Be).....	≤0,00001 %
Lead (Pb).....	≤0,000005 %
Cadmium (Cd).....	≤0,00001 %
Calcium (Ca).....	≤0,00001 %
Chromium (Cr).....	≤0,000005 %
Iron (Fe).....	≤0,00001 %
Gallium (Ga).....	≤0,000002 %
Gold (Au).....	≤0,00001 %
Indium (In).....	≤0,000002 %
Potassium (K).....	≤0,00001 %
Cobalt (Co).....	≤0,00001 %
Copper (Cu).....	≤0,00001 %
Lithium (Li).....	≤0,000002 %
Magnesium (Mg).....	≤0,000005 %
Manganese (Mn).....	≤0,00001 %
Molybdenum (Mo).....	≤0,000002 %
Sodium (Na).....	≤0,00001 %
Nickel (Ni).....	≤0,000005 %
Platinum (Pt).....	≤0,00001 %
Heavy metals (as Pb).....	≤0,00005 %
Silver (Ag).....	≤0,000002 %
Strontium (Sr).....	≤0,00001 %
Thallium (Tl).....	≤0,000002 %
Titanium (Ti).....	≤0,000005 %
Bismuth (Bi).....	≤0,000005 %

Zinc (Zn).....≤0,00001 %
Tin (Sn).....≤0,000005 %
KMnO₄ reducing substances (as O).....≤0,0008 %

6774.1	1 l	glass	19,90 €
Original pack 6 x 1 l			18,91/1 l
6774.2	2,5 l	glass	31,10 €
Original pack 4 x 2,5 l			29,55/2,5 l
6774.3	5 l	plastic	44,65 €
Original pack 2 x 5 l			42,42/5 l

Ammonia solution 25 %

25 %, Ph.Eur.

Guarantee analysis:

Assay (acidim.).....25,0-27,0 %
Identity.....complies
Appearance of solution.....complies
Pyridine and homologues.....≤0,0002 %
KMnO₄ reducing substances.....complies
Carbonate.....≤0,005 %
Chloride (Cl).....≤0,0001 %
Sulphate (SO₄).....≤0,0005 %
Heavy metals (as Pb).....≤0,0001 %
Iron (Fe).....≤0,000025 %
Non volatile matter.....≤0,002 %

2610.1	1 l	glass	18,85 €
Original pack 6 x 1 l			17,91/1 l
2610.2	2,5 l	glass	30,00 €
Original pack 4 x 2,5 l			28,50/2,5 l
2610.3	10 l	plastic	73,00 €

Ammonia solution 25 %

≥25 %, extra pure

Type analysis:

Assay (NH₃).....24,0-26,0 %
Density (20 °C).....0,904-0,910
Chloride (Cl).....≤0,00001 %
Iron (Fe).....≤0,0005 %
Evaporation residue.....≤0,0005 %

5460.1	1 l	plastic	17,10 €
Original pack 6 x 1 l			16,25/1 l
5460.2	5 l	plastic	32,15 €
Original pack 2 x 5 l			30,54/5 l
5460.3	10 l	plastic	39,70 €
5460.4	30 l	plastic	100,55 €

Ammonia solution 20 %

Ammonia solution 20 %

20 %, pure

Ammonium hydroxide solution

NH₃ + H₂O

M 17,03 + aq g/mol • D 0,93

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

⚠ **Danger** H290-H314-H335

Type analysis:

Assay.....19,0-21,0 %
Iron (Fe).....≤0,0001 %
Heavy metals.....≤0,0001 %
Evaporation residue.....≤0,0003 %

6753.1	1 l	plastic	14,55 €
Original pack 6 x 1 l			13,82/1 l
6753.2	5 l	plastic	28,95 €
Original pack 2 x 5 l			27,50/5 l
6753.3	10 l	plastic	37,10 €
6753.4	25 l	plastic	73,00 €

Ammonia solution 15 %

Ammonia solution 15 %

15 %, extra pure

Ammonium hydroxide solution

NH₃ + H₂O

M 17,03 + aq g/mol

D ~0,94

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

⚠ **Danger** H290-H314-H335

Type analysis:

Assay.....14,5-15,5 %
Density (20 °C).....0,9379-0,9413
Chloride (Cl).....≤0,00001 %
Iron (Fe).....≤0,00001 %
Evaporation residue.....≤0,0005 %

4346.1	1 l	plastic	14,55 €
Original pack 6 x 1 l			13,82/1 l
4346.2	5 l	plastic	28,95 €
Original pack 2 x 5 l			27,50/5 l
4346.3	10 l	plastic	37,10 €
4346.4	25 l	plastic	72,60 €

Ammonia solution 10 %

Ammonia solution 10 %

10 %, pure

Ammonium hydroxide solution

NH₃ + H₂O

M 17,03 + aq g/mol

D 0,96

[1336-21-6] • EC No. 215-647-6

UN No. 2672 • ADR 8 III • WGK 2

⚠ **Danger** H290-H314-H335

Type analysis:

Assay.....9,0-11,0 %
Iron (Fe).....≤0,0001 %
Heavy metals.....≤0,0001 %
Evaporation residue.....≤0,0003 %

6756.1	1 l	plastic	13,45 €
Original pack 6 x 1 l			12,78/1 l
6756.2	5 l	plastic	27,85 €
Original pack 2 x 5 l			26,46/5 l
6756.3	10 l	plastic	34,30 €
6756.4	25 l	plastic	65,05 €

Ammonium Standards

► Ammonium IC Standard Solution
see p. 2180

Ammonium acetate

CH₃COONH₄

M 77,08 g/mol

D 1,17

mp 114 °C • flp 136 °C

Solubility: 1480 g/l (H₂O, 20 °C)

[631-61-8] • EC No. 211-162-9

WGK 1

Ammonium acetate

≥97 %, p.a., ACS

Buffer substance, for molecular biology.

Guarantee analysis:

Assay (acidim.).....≥97 %
pH-value (5%, water).....6,7-7,3
In H₂O insoluble matter.....≤0,005 %
Ash content (as SO₄).....≤0,01 %
Chloride (Cl).....≤0,0005 %
Phosphate (PO₄).....≤0,0005 %
Nitrate (NO₃).....≤0,001 %
Sulphate (SO₄).....≤0,001 %
Heavy metals (as Pb).....≤0,0005 %
Aluminium (Al).....≤0,0005 %
Lead (Pb).....≤0,0005 %
Calcium (Ca).....≤0,001 %
Iron (Fe).....≤0,0005 %
Copper (Cu).....≤0,0005 %
Magnesium (Mg).....≤0,001 %
Nickel (Ni).....≤0,0005 %

7869.2	500 g	plastic	25,70 €
Original pack 6 x 500 g			24,42/500 g
7869.1	1 kg	plastic	36,45 €
Original pack 6 x 1 kg			34,63/1 kg
7869.3	2,5 kg	plastic	62,25 €

Ammonium acetate

≥96 %, extra pure

Buffer substance

Type analysis:

Assay (acidim.).....≥96 %
pH-value (5 % solution).....6,5-7,5
In H₂O insoluble matter.....≤0,01 %
Ash content (as SO₄).....≤0,05 %
Chloride (Cl).....≤0,003 %
Phosphate (PO₄).....≤0,001 %
Nitrate (NO₃).....≤0,003 %
Sulphate (SO₄).....≤0,003 %
Lead (Pb).....≤0,001 %
Iron (Fe).....≤0,001 %
Copper (Cu).....≤0,002 %
Nickel (Ni).....≤0,002 %

T872.1	500 g	plastic	24,65 €
Original pack 6 x 500 g			23,42/500 g
T872.2	1 kg	plastic	35,40 €
Original pack 6 x 1 kg			33,63/1 kg
T872.3	2,5 kg	plastic	59,70 €
T872.5	25 kg	plastic	403,15 €

Ammonium alginate

► Alginate acid ammonium salt see p. 1622

Ammonium alum

► Aluminium ammonium sulphate
dodecahydrate see p. 1626

A

Ammonium aluminium sulphate

- ▶ Aluminium ammonium sulphate dodecahydrate see p. 1626

Ammonium aurin tricarboxylate

- ▶ Aurin tricarboxylic acid ammonium salt see p. 1659

Ammonium bicarbonate

- ▶ Ammonium hydrogen carbonate see p. 1639

Ammonium bifluoride

- ▶ Ammonium hydrogen fluoride see p. 1639

Ammonium biphosphate

- ▶ Ammonium dihydrogen phosphate see p. 1637

Ammonium bisulphate

- ▶ Ammonium hydrogen sulphate see p. 1640

Ammonium bromide

Ammonium bromide

≥99 %, p.a., ACS

NH₄Br

M 97,94 g/mol

D ~2,43

mp 452 °C (subl.)

Solubility: 742 g/l (H₂O, 20 °C)

[12124-97-9] • EC No. 235-183-8

WGK 2

Guarantee analysis:

Assay (arg.)	≥99,0 %
In H ₂ O insoluble matter	≤0,005 %
pH-value (5 % solution)	4,5-6,0
Bromate (BrO ₃)	≤0,002 %
Chloride (Cl)	≤0,2 %
Iodide (I)	≤0,005 %
Sulphate (SO ₄)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Barium (Ba)	≤0,002 %
Iron (Fe)	≤0,0005 %
Ash content	≤0,01 %

HN14.1	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
HN14.2	1 kg	plastic	44,00 €
Original pack 6 x 1 kg			41,80/1 kg
HN14.3	2,5 kg	plastic	96,25 €

Ammonium carbonate

CH₅N₂O₂ · CH₅NO₃ (1:1)

M 157,13 g/mol

Solubility: ~320 g/l (H₂O, 20 °C)

[10361-29-2] • EC No. 233-786-0

WGK 1

⚠ Warning H302-H315-H319

Ammonium carbonate

≥30 %, p.a., ACS

Guarantee analysis:

Assay (acidim, NH ₃)	≥30,0 %
In H ₂ O insoluble matter	≤0,005 %
Non volatile matter	≤0,01 %
Chloride (Cl)	≤0,0005 %
Sulphur containing parts (as SO ₄)	≤0,002 %
Heavy metals (as Pb)	≤0,0005 %
Iron (Fe)	≤0,0005 %

CP98.1	500 g	plastic	17,45 €
Original pack 6 x 500 g			16,58/500 g
CP98.2	1 kg	plastic	26,35 €
Original pack 6 x 1 kg			25,03/1 kg
CP98.3	5 kg	plastic	77,30 €

Ammonium carbonate

≥30,5 %, extra pure, FCC

Guarantee analysis:

Assay (NH ₃)	≥30,5 %
Identity	complies
Chloride (Cl)	≤0,003 %
Sulphate (SO ₄)	≤0,003 %
Non volatile matter	≤0,01 %
Heavy metals (as Pb)	≤0,0003 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Iron (Fe)	≤0,0003 %
Mercury (Hg)	≤0,0001 %

CN94.1	500 g	plastic	13,15 €
Original pack 6 x 500 g			12,49/500 g
CN94.2	1 kg	plastic	18,20 €
Original pack 6 x 1 kg			17,29/1 kg
CN94.3	5 kg	plastic	51,10 €

Ammonium cerium(IV) nitrate

- ▶ Cerium(IV) ammonium nitrate see p. 1724

Ammonium cerium(IV) sulphate dihydrate

Ammonium cerium(IV) sulphate dihydrate

≥99 %, p.a.

Oxidant reagent, for cerimetric titrations

Cerium(IV) ammonium sulphate dihydrate

(NH₄)₄Ce(SO₄)₄ · 2 H₂O

M 632,55 g/mol

[10378-47-9] • EC No. 231-567-4

WGK 1

Guarantee analysis:

Assay	≥99 %
In H ₂ SO ₄ insoluble matter	≤0,02 %
Chloride (Cl)	≤0,01 %
Phosphate (PO ₄)	≤0,01 %
Iron (Fe)	≤0,005 %
Copper (Cu)	≤0,003 %
Sodium (Na)	≤0,01 %
Nickel (Ni)	≤0,003 %
Heavy metals (as Pb)	≤0,005 %

4386.1	100 g	plastic	41,40 €
4386.2	250 g	plastic	92,35 €
4386.3	500 g	plastic	145,70 €
Original pack 6 x 500 g			138,42/500 g

Ammonium chloride

Salmiaksalt

NH₄Cl

M 53,49 g/mol

D 1,52

mp 355 °C (subl.)

Solubility: 372 g/l (H₂O, 20 °C)

[12125-02-9] • EC No. 235-186-4

WGK 1

⚠ Warning H302-H319

Ammonium chloride

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5050.1	50 g	plastic	96,65 €
5050.2	100 g	plastic	165,05 €

Ammonium chloride

≥99,7 %, p.a., Ultra Quality

Reagent for photography, buffer substance, molecularbiology, mixtures cryogens.

Guarantee analysis:

Assay (arg.)	≥99,7 %
pH-value (5 % solution)	4,5-5,5
Water (KF)	≤0,1 %
Appearance of solution	complies
In H ₂ O insoluble matter	≤0,005 %
Acidity or alkalinity	complies
Ash content (as SO ₄)	≤0,02 %
Pyridine and homologues	≤0,001 %
Bromide and iodide (Br, I)	complies
Phosphate (PO ₄)	≤0,0002 %
Nitrate (NO ₃)	≤0,001 %
Sulphate (SO ₄)	≤0,002 %
Iodide (I)	≤0,001 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00005 %
Lead (Pb)	≤0,0001 %
Cadmium (Cd)	≤0,0001 %
Calcium (Ca)	≤0,001 %
Chromium (Cr)	≤0,0005 %
Iron (Fe)	≤0,0002 %
Potassium (K)	≤0,005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Mercury (Hg)	≤0,0001 %
Zinc (Zn)	≤0,0005 %

K298.1	500 g	plastic	20,65 €
Original pack 6 x 500 g			19,62/500 g
K298.2	1 kg	plastic	34,30 €
Original pack 6 x 1 kg			32,59/1 kg
K298.3	2,5 kg	plastic	53,65 €
K298.5	25 kg	plastic	241,35 €

Ammonium chloride

≥99,5 %, Ph.Eur., USP, BP

Guarantee analysis:

Assay (argentometric, dry substance).....	99,5-100,5 %
Identity.....	complies
pH-value (5 % in water).....	4,6-6,0
Appearance of solution.....	complies
Loss on drying (100 °C).....	≤0,5 %
Ash content (as SO ₄).....	≤0,1 %
Acid or alkaline react. substances.....	complies
Bromide and Iodide (Br/I).....	complies
Phosphate (PO ₄).....	≤0,002 %
Sulphate (SO ₄).....	≤0,005 %
Thiocyanate (SCN).....	complies
Arsenic (As).....	≤0,0001 %
Lead (Pb).....	≤0,001 %
Calcium (Ca).....	≤0,02 %
Iron (Fe).....	≤0,002 %
Copper (Cu).....	≤0,001 %
Magnesium (Mg).....	≤0,005 %
Nickel (Ni).....	≤0,001 %
Heavy metals (as Pb).....	≤0,001 %

P726.1	500 g	plastic	16,70 €
Original pack 6 x 500 g			15,87/500 g
P726.2	1 kg	plastic	26,35 €
Original pack 6 x 1 kg			25,03/1 kg
P726.3	5 kg	plastic	52,15 €
P726.5	25 kg	plastic	155,90 €

Ammonium chloride

≥99 %, cryst.

Type analysis:

Appearance.....	fine white crystals
Assay (NH ₄ Cl).....	≥99,0 %
Iron (Fe).....	≤0,0003 %
Sodium chloride (NaCl).....	≤0,2 %
Water (KF).....	≤0,1 %
Ash.....	≤0,25 %

5470.1	1 kg	plastic	15,60 €
Original pack 6 x 1 kg			14,82/1 kg
5470.2	5 kg	plastic	39,70 €
5470.3	10 kg	plastic	55,80 €
5470.5	25 kg	plastic	99,45 €

Ammonium citrate, dibasic

► di-Ammonium hydrogen citrate see p. 1639

tri-Ammonium citrate

tri-Ammonium citrate

≥97 %, pure

Ammonium citrate tribasic,
Citric acid triammonium salt

C₆H₁₇N₃O₇

M 243,22 g/mol • mp 185 °C (dec.)

Solubility: 1000 g/l (H₂O, 20 °C)

[3458-72-8] • EC No. 222-394-5 • WGK 1

Type analysis:

Assay (titr.).....	≥97,0 %
pH-value (5 %).....	7,0-8,0
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,01 %
Iron (Fe).....	≤0,005 %

9488.1	100 g	plastic	21,40 €
9488.2	500 g	plastic	53,65 €
Original pack 6 x 500 g			50,97/500 g
9488.3	1 kg	plastic	80,55 €
Original pack 6 x 1 kg			76,52/1 kg

Ammonium citrate tribasic

► tri-Ammonium citrate see p. 1637

Ammonium dihydrogene phosphate matrix modifier solution

► Matrix modifier solution

Ammonium dihydrogen phosphate
see p. 1952

Ammonium dihydrogen phosphate

prim. Ammonium phosphate, Ammonium
phosphate monobasic, Ammonium
biphosphate

(NH₄)H₂PO₄

M 115,03 g/mol

D 1,80

mp 190 °C

Solubility: 368 g/l (H₂O, 20 °C)

[7722-76-1] • EC No. 231-764-5

WGK 1

Ammonium dihydrogen phosphate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5580.1	25 g	plastic	45,05 €
5580.2	100 g	plastic	103,10 €

Ammonium dihydrogen phosphate

≥99 %, p.a., ACS

Buffer substance

Guarantee analysis:

Assay (acidim.).....	≥99 %
In H ₂ O insoluble matter.....	≤0,005 %
pH value (5 %, water).....	3,8-4,4
Sulphur compounds (as SO ₄).....	≤0,005 %
Chloride (Cl).....	≤0,0005 %
Nitrate (NO ₃).....	≤0,001 %
Sulphate (SO ₄).....	≤0,005 %
Heavy metals (as Pb).....	≤0,0005 %
Arsenic (As).....	≤0,00005 %
Cadmium (Cd).....	≤0,0005 %
Chromium (Cr).....	≤0,0005 %
Iron (Fe).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Magnesium (Mg).....	≤0,0005 %
Calcium (Ca).....	≤0,001 %
Sodium (Na).....	≤0,005 %
Potassium (K).....	≤0,005 %
Cobalt (Co).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Manganese (Mn).....	≤0,0005 %
Nickel (Ni).....	≤0,0005 %
Zinc (Zn).....	≤0,0005 %

P727.1	500 g	plastic	38,20 €
Original pack 6 x 500 g			36,29/500 g
P727.2	1 kg	plastic	68,70 €
Original pack 6 x 1 kg			65,27/1 kg
P727.3	2,5 kg	plastic	148,25 €

Ammonium dihydrogen phosphate

≥98 %, extra pure

Buffer substance

Type analysis:

Assay (acidim.).....	≥98 %
pH value (5 %, water).....	3,8-4,4
In H ₂ O insoluble matter.....	≤0,01 %
Sulphur compounds (as SO ₄).....	≤0,05 %
Chloride (Cl).....	≤0,003 %
Nitrate (NO ₃).....	≤0,005 %
Heavy metals (as Pb).....	≤0,005 %
Arsenic (As).....	≤0,0001 %
Iron (Fe).....	≤0,003 %

CP85.1	500 g	plastic	27,10 €
Original pack 6 x 500 g			25,75/500 g
CP85.2	1 kg	plastic	41,85 €
Original pack 6 x 1 kg			39,76/1 kg
CP85.3	2,5 kg	plastic	91,30 €

Ammonium fluoride

Ammonium fluoride

≥98 %, p.a., ACS

NH₄F

M 37,04 g/mol

D 1,01

mp ~100 °C (dec.)

Solubility: 820 g/l (H₂O, 20 °C)

[12125-01-8] • EC No. 235-185-9

UN No. 2505 • ADR 6.1 III • WGK 1

⚠ Danger H301+H311+H331

Guarantee analysis:

Appearance.....	colorless or white hygroscopic solid
Assay.....	≥98,0 %
Insoluble matter.....	≤0,005 %
Chloride (Cl).....	≤0,001 %
Sulphate (SO ₄).....	≤0,005 %
Iron (Fe).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0005 %
Loss on ignition.....	≤0,01 %

6549.1	250 g	plastic	53,65 €
6549.2	500 g	plastic	93,00 €
Original pack 6 x 500 g			88,35/500 g
6549.3	1 kg	plastic	167,20 €
Original pack 6 x 1 kg			158,84/1 kg

Ammonium fluorosilicate

► Ammonium hexafluorosilicate see p. 1638

A

Ammonium formate

Ammonium formate

≥95 %, extra pure

HCOONH₄

M 63,06 g/mol

mp 116 °C

[540-69-2] • EC No. 208-753-9

WGK 1

 **Warning** H315-H319-H335

Type analysis:

Appearance.....hygroscopic crystals
Assay (HCOONH₄).....≥95 %
Identity.....complies
pH value (5 % solution).....6-7
Chloride (Cl).....≤0,01 %
Sulphate (SO₄).....≤0,01 %
Iron (Fe).....≤0,002 %
Heavy metals (as Pb).....≤0,002 %

5093.2 500 g plastic 21,00 €

Original pack 6 x 500 g 19,95/500 g

5093.1 1 kg plastic 31,00 €

Original pack 6 x 1 kg 29,45/1 kg

5093.3 5 kg plastic 115,60 €

Ammonium heptamolybdate tetrahydrate

Ammonium molybdate

(NH₄)₆Mo₇O₂₄ · 4 H₂O

M 1235,86 g/mol

mp 90 °C

Solubility: 400 g/l (H₂O, 20 °C)

[12054-85-2] • EC No. 234-722-4

WGK 1

Ammonium heptamolybdate tetrahydrate

≥99 %, p.a.

Type analysis:

Assay.....≥99,0 %
Aluminium (Al).....≤0,001 %
Lead (Pb).....≤0,0005 %
Calcium (Ca).....≤0,001 %
Chromium (Cr).....≤0,001 %
Iron (Fe).....≤0,001 %
Potassium (K).....≤0,01 %
Copper (Cu).....≤0,001 %
Magnesium (Mg).....≤0,001 %
Sodium (Na).....≤0,01 %
Nickel (Ni).....≤0,0005 %
Silicon (Si).....≤0,001 %
Titanium (Ti).....≤0,0005 %
Tin (Sn).....≤0,001 %

3666.1 250 g plastic 80,55 €

3666.2 500 g plastic 144,60 €

Original pack 6 x 500 g 137,37/500 g

3666.3 1 kg plastic 256,95 €

Original pack 6 x 1 kg 244,10/1 kg

For further information, please see page 1506

Ammonium heptamolybdate tetrahydrate

≥99 %, extra pure

Type analysis:

Assay.....≥99,0 %
Aluminium (Al).....≤0,001 %
Lead (Pb).....≤0,001 %
Iron (Fe).....≤0,001 %
Nickel (Ni).....≤0,0005 %

7311.1 100 g plastic 21,00 €

7311.2 500 g plastic 67,20 €

Original pack 6 x 500 g 63,84/500 g

7311.3 1 kg plastic 111,30 €

Original pack 6 x 1 kg 105,74/1 kg

7311.4 2,5 kg plastic 235,45 €

Ammonium hexachloroosmate (IV)

Ammonium hexachloroosmate (IV)

ROTI®METIC 99,99 % (4N)

Ammonium osmium chloride,
Osmium(IV) ammonium chloride

(NH₄)₂OsCl₆

M 439,00 g/mol

D 2,93

[12125-08-5] • EC No. 235-188-5

WGK 3

 **Warning** H315-H319-H335

Type analysis:

Assay (metals basis).....99,99 %
Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5585.1 1 g glass 181,70 €

Ammonium hexachlororhodate(III)

Ammonium hexachlororhodate(III)

ROTI®METIC 99,995 % (4N5)

Rhodium(III) ammonium chloride

(NH₄)₃RhCl₆

M 369,74 g/mol

[15336-18-2] • EC No. 239-364-2

WGK 1

 **Warning** H315-H319

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5586.1 1 g plastic 450,45 €

Ammonium hexafluorosilicate

Ammonium fluorosilicate

(NH₄)₂SiF₆

M 178,14 g/mol

D 2,01

mp 145 °C (dec.)

Solubility: 186 g/l (H₂O, 17 °C)

[16919-19-0] • EC No. 240-968-3

UN No. 2854 • ADR 6.1 III • WGK 2

 **Danger** H301+H311+H331

Ammonium hexafluorosilicate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5587.1 10 g plastic 53,25 €

5587.2 25 g plastic 107,40 €

5587.3 50 g plastic 181,70 €

Ammonium hexafluorosilicate

≥98,5 %, extra pure

Type analysis:

Assay (titr.).....≥98,5 %
Sulphate (SO₄).....≤0,5 %
Water.....≤0,5 %
In water insoluble matter.....≤0,5 %

7314.1 250 g plastic 22,25 €

7314.2 500 g plastic 33,25 €

Original pack 6 x 500 g 31,59/500 g

7314.3 1 kg plastic 57,95 €

Original pack 6 x 1 kg 55,05/1 kg

7314.4 2,5 kg plastic 115,60 €

Ammonium hexafluorotitanate(IV)

Ammonium hexafluorotitanate(IV)

ROTI®METIC 99,999 % (5N)

(NH₄)₂TiF₆

M 197,95 g/mol

[16962-40-6] • EC No. 241-036-9

UN No. 3288 • ADR 6.1 III • WGK 3

 **Warning** H302+H312+H332

Type analysis:

Assay (metals basis).....99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5589.1 10 g plastic 51,50 €

5589.2 25 g plastic 107,40 €

5589.3 100 g plastic 321,45 €

Ammonium hydrogen carbonate

Ammonium bicarbonate
(NH₄)HCO₃
M 79,06 g/mol
D 1,586
mp 105 °C
Solubility: 220 g/l (H₂O, 20 °C)
[1066-33-7] • EC No. 213-911-5
WGK 1

⚠ Warning H302

Ammonium hydrogen carbonate

≥99 %, p.a.

Guarantee analysis:

Assay (acidim.)	≥99,0 %
In H ₂ O insoluble matter	≤0,005 %
Ash content (as SO ₄)	≤0,05 %
Sulphur compounds (as SO ₄)	≤0,002 %
Phosphate (PO ₄)	≤0,0005 %
Chloride (Cl)	≤0,0005 %
Nitrate (NO ₃)	≤0,001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,001 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0001 %
Sodium (Na)	≤0,002 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Sulphide (S)	≤0,001 %
Zinc (Zn)	≤0,0005 %

T871.1	500 g	plastic	21,40 €
Original pack 6 x 500 g			20,33/500 g
T871.2	1 kg	plastic	28,95 €
Original pack 6 x 1 kg			27,50/1 kg
T871.3	2,5 kg	plastic	48,30 €
T871.5	25 kg	plastic	256,95 €

Ammonium hydrogen carbonate

≥98 %, Ph.Eur., BP

Guarantee analysis:

Assay (acidim.)	98,0-101,0 %
Identity	complies
In H ₂ O insoluble matter	≤0,01 %
Calcium (Ca)	≤0,01 %
Chloride (Cl)	≤0,005 %
Phosphate (PO ₄)	≤0,005 %
Sulphate (SO ₄)	≤0,007 %
Sulphide (S)	complies
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,0025 %
Nickel (Ni)	≤0,0025 %
Heavy metals (as Pb)	≤0,001 %

7094.2	500 g	plastic	14,20 €
Original pack 6 x 500 g			13,49/500 g
7094.1	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg
7094.3	5 kg	plastic	55,40 €
7094.5	25 kg	plastic	188,15 €

di-Ammonium hydrogen citrate

Ammonium citrate, dibasic
C₆H₁₄N₂O₇
M 226,19 g/mol
D 1,48
Solubility: easily soluble (H₂O, 20 °C)
[3012-65-5] • EC No. 221-146-3
WGK 1
⚠ Warning H319

di-Ammonium hydrogen citrate

≥98 %, p.a., ACS

Guarantee analysis:

Assay (acidim.)	98,0-103,0 %
Water	≤1,0 %
In H ₂ O insoluble matter	≤0,005 %
Ash content (as SO ₄)	≤0,01 %
Phosphate (PO ₄)	≤0,0005 %
Chloride (Cl)	≤0,001 %
Oxalate (C ₂ O ₄)	≤0,05 %
Sulphur compounds (as SO ₄)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00001 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,002 %
Chromium (Cr)	≤0,0005 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,0005 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,005 %
Nickel (Ni)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

P735.1	500 g	plastic	44,00 €
Original pack 6 x 500 g			41,80/500 g
P735.2	1 kg	plastic	78,40 €
Original pack 6 x 1 kg			74,48/1 kg
P735.3	2,5 kg	plastic	160,20 €

di-Ammonium hydrogen citrate

≥98 %, extra pure

Type analysis:

Assay (acidim.)	≥98,0 %
In H ₂ O insoluble matter	≤0,05 %
Sulphated ash	≤0,1 %
Chloride (Cl)	≤0,005 %
Iron (Fe)	≤0,002 %
Heavy metals (as Pb)	≤0,001 %
Total sulphur (as SO ₄)	≤0,01 %

0267.1	500 g	plastic	23,15 €
Original pack 6 x 500 g			21,99/500 g
0267.2	1 kg	plastic	37,55 €
Original pack 6 x 1 kg			35,67/1 kg
0267.3	2,5 kg	plastic	77,95 €

Ammonium hydrogen fluoride

Ammonium bifluoride, Ammonium difluoride
(NH₄)HF₂
M 57,04 g/mol
D 1,50 • bp ~240 °C (dec.)
mp 125 °C
Solubility: 630 g/l (H₂O, 20 °C)
[1341-49-7] • EC No. 215-676-4
UN No. 1727 • ADR 8 II • WGK 1
⚠ ⚠ Danger H301-H314

Ammonium hydrogen fluoride

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5363.1	25 g	plastic	100,95 €

Ammonium hydrogen fluoride

≥99 %, extra pure

Type analysis:

Assay	≥99,0 %
Chloride (Cl)	≤0,1 %
Iron (Fe)	≤0,05 %
Hexafluorosilicate (SiF ₆)	≤0,5 %
Heavy metals (as Pb)	≤0,05 %
Ash content (as SO ₄)	≤0,5 %

7313.1	250 g	plastic	18,85 €
7313.2	500 g	plastic	27,85 €
Original pack 6 x 500 g			26,46/500 g
7313.3	1 kg	plastic	42,50 €
Original pack 6 x 1 kg			40,38/1 kg
7313.4	2,5 kg	plastic	89,80 €

di-Ammonium hydrogen phosphate

Sec. Ammonium phosphate, Ammonium phosphate dibasic
(NH₄)₂HPO₄
M 132,06 g/mol
D 1,62
mp 155 °C (dec.)
Solubility: 690 g/l (H₂O, 20 °C)
[7783-28-0] • EC No. 231-987-8
WGK 1

di-Ammonium hydrogen phosphate

ROTI®METIC 99,999 % (5N)

Guarantee analysis:

Assay (metals basis) 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5596.1	100 g	plastic	209,65 €

A

di-Ammonium hydrogen phosphate

≥98 %, p.a., ACS

Buffer substance

Guarantee analysis:

Assay (acidim.)	≥98,0 %
pH value (5 % in water)	7,7- 8,1
In H ₂ O insoluble matter	≤0,005 %
Sulphur compounds (as SO ₄)	≤0,004 %
Chloride (Cl)	≤0,0005 %
Nitrate (NO ₃)	≤0,003 %
Heavy metals (as Pb)	≤0,001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,001 %
Calcium (Ca)	≤0,001 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,005 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,0005 %
Sodium (Na)	≤0,005 %
Nickel (Ni)	≤0,001 %

P736.1	500 g	plastic	47,20 €
Original pack 6 x 500 g			44,84/500 g
P736.2	1 kg	plastic	75,80 €
Original pack 6 x 1 kg			72,01/1 kg
P736.3	2,5 kg	plastic	169,35 €

di-Ammonium hydrogen phosphate

≥97 %, pure

Buffer substance

Type analysis:

Assay (acidim.)	≥97,0 %
pH value (5 % solution)	7,7-8,3
In H ₂ O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,01 %
Heavy metals (as Pb)	≤0,0003 %
Arsenic (As)	≤0,0003 %
Iron (Fe)	≤0,003 %

0268.1	500 g	plastic	16,70 €
Original pack 6 x 500 g			15,87/500 g
0268.2	1 kg	plastic	25,60 €
Original pack 6 x 1 kg			24,32/1 kg
0268.3	5 kg	plastic	94,40 €

Ammonium hydrogen sulphate

Ammonium hydrogen sulphate

≥98,5 %, p.a.

Ammonium bisulphate

NH₄HSO₄

M 115,11 g/mol

mp 147 °C

Solubility: 115 g/l (H₂O, 20 °C)

[7803-63-6] • EC No. 232-265-5

UN No. 2506 • ADR 8 II • WGK 1

⚠ Danger H314

Guarantee analysis:

Assay (acidim.)	≥98,5 %
In H ₂ O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,0002 %
Phosphate (PO ₄)	≤0,0003 %
Nitrate (NO ₃)	≤0,001 %
Heavy metals (as Pb)	≤0,0002 %
Aluminium (Al)	≤0,001 %
Arsenic (As)	≤0,00002 %
Calcium (Ca)	≤0,001 %
Magnesium (Mg)	≤0,0005 %

Manganese (Mn)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0001 %
Iron (Fe)	≤0,0002 %
Potassium (K)	≤0,005 %
Sodium (Na)	≤0,005 %
Nickel (Ni)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Zinc (Zn)	≤0,0001 %
Ash content	≤0,005 %

5485.2	250 g	plastic	17,45 €
5485.1	500 g	plastic	28,85 €
Original pack 6 x 500 g			27,41/500 g
5485.3	1 kg	plastic	48,95 €
Original pack 6 x 1 kg			46,50/1 kg

Ammonium hydroxide solution

- ▶ Ammonia solution Ultra-quality see p. 1633
- ▶ Ammonia solution Supra-quality see p. 1634
- ▶ Ammonia solution 32 % see p. 1634
- ▶ Ammonia solution 30 % see p. 1634
- ▶ Ammonia solution 25 % see p. 1634
- ▶ Ammonia solution 15 % see p. 1635

Ammonium iron(III) citrate

Citric acid ammonium iron(III) salt, Iron(III) ammonium citrate, Ammonium ferric citrate, Ferric ammonium citrate

D 0,73

Solubility: 1,2 g/l (H₂O, 20 °C)

[1185-57-5] • EC No. 214-686-6

WGK 1

Ammonium iron(III) citrate

~15 % Fe, green

Type analysis:

Assay (Fe)	14,5-16,0 %

9366.1	250 g	plastic	21,40 €
9366.2	500 g	plastic	30,00 €
Original pack 6 x 500 g			28,50/500 g
9366.3	1 kg	plastic	48,30 €
Original pack 6 x 1 kg			45,89/1 kg

Ammonium iron(III) citrate

~18 % Fe, DAC

Microbiology

Guarantee analysis:

Appearance	yellowish, brown powder
Assay (Fe)	17,1-18,9 %
pH value (10 % solution)	6,0-8,0
Appearance of solution (10 %)	complies
Chloride (Cl)	≤0,05 %
Sulphate (SO ₄)	≤1,5 %
Heavy metals (as Pb)	≤0,005 %
Arsenic (As)	≤0,0004 %
Loss on drying	≤6,0 %

CN77.1	250 g	plastic	14,95 €
CN77.2	500 g	plastic	22,05 €
Original pack 6 x 500 g			20,95/500 g
CN77.3	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			34,25/1 kg
CN77.4	2,5 kg	plastic	72,60 €

Ammonium iron(III) citrate solution

Ammonium iron(III) citrate solution

12,5 %, sterile, ready-to-use

Media supplement for detection of *Listeria monocytogenes*.

One box of 10 vials Ammonium iron(III) citrate solution is sufficient for 10 x 500 ml Fraser Broth.

Ferric(III) ammonium citrate solution

Storage temp.: +20 °C

WGK 1

Formulation per vial:

Ammonium iron(III) citrate	0,25 g

3130.1	10 x 2 ml	plastic	38,20 €
3130.2	30 x 2 ml	plastic	95,70 €

For further information, please see page 1343

Ammonium iron(II) sulphate hexahydrate

Iron(II) ammonium sulphate, Ferrous ammonium sulphate, Mohr's salt

(NH₄)₂Fe(SO₄)₂ · 6 H₂O

M 392,14 g/mol

D 1,86

mp 100 °C

Solubility: 270 g/l (H₂O, 20 °C)

[7783-85-9] • EC No. 233-151-8

WGK 1

Ammonium iron(II) sulphate hexahydrate

≥99 %, p.a., ISO

Guarantee analysis:

Assay (perm.)	99,0-101,0 %
pH value (5 % in water)	3,0-5,0
In H ₂ SO ₄ insoluble matter	≤0,005 %
Substances not precipitated by ammonia	≤0,1 %
Phosphate (PO ₄)	≤0,002 %
Chloride (Cl)	≤0,001 %
Iron III (Fe III)	≤0,02 %
Calcium (Ca)	≤0,01 %
Copper (Cu)	≤0,001 %
Potassium (K)	≤0,01 %
Manganese (Mn)	≤0,02 %
Lead (Pb)	≤0,001 %
Cobalt (Co)	≤0,005 %
Magnesium (Mg)	≤0,005 %
Sodium (Na)	≤0,01 %
Zinc (Zn)	≤0,003 %

P728.1	500 g	plastic	24,95 €
Original pack 6 x 500 g			23,70/500 g
P728.2	1 kg	plastic	42,15 €
Original pack 6 x 1 kg			40,04/1 kg
P728.3	2,5 kg	plastic	95,60 €

Ammonium iron(II) sulphate hexahydrate

≥98 %, extra pure

Type analysis:

Assay.....	≥98,0 %
Iron III (Fe III).....	complies
Copper (Cu).....	≤0,005 %
Zinc (Zn).....	≤0,02 %
Alkali and alkaline-earth metals (as SO ₄).....	≤0,07 %

X884.1	500 g	plastic	16,05 €
Original pack 6 x 500 g			15,25/500 g
X884.2	1 kg	plastic	22,80 €
Original pack 6 x 1 kg			21,66/1 kg
X884.3	5 kg	plastic	82,70 €

Ammonium iron(II) sulphate solution (0,12 N)

Ammonium iron(II) sulphate solution

0,12 mol/l - 0,12 N volumetric solution for determination of COD

According to DIN 38409:1980, DEV H41

UN No. 3264 • ADR 8 III • WGK 1

Warning H290

Type analysis:

Amount-of-substance conc. (20 °C).....0,12 mol/l
The titre has to be determined at least daily.

KK60.1	1 l	plastic	36,45 €
Original pack 6 x 1 l			34,63/1 l

Ammonium iron(III) sulphate dodecahydrate

Iron(III) ammonium sulphate, Ferric alum, Iron alum

(NH₄)Fe(SO₄)₂ · 12 H₂O

M 482,19 g/mol

D 1,71

mp 39-41 °C

Solubility: 1240 g/l (H₂O, 20 °C)

[7783-83-7] • EC No. 233-382-4

WGK 1

Ammonium iron(III) sulphate dodecahydrate

≥98,5 %, p.a., ACS, ISO

Guarantee analysis:

Assay (iodom.).....	98,5-102,0 %
In H ₂ O insoluble matter.....	≤0,005 %
Substances not precipitated by ammonia.....	≤0,05 %
Chloride (Cl).....	≤0,0005 %
Nitrate (NO ₃).....	≤0,01 %
Lead (Pb).....	≤0,001 %
Calcium (Ca).....	≤0,01 %
Iron II (Fe II).....	≤0,001 %
Potassium (K).....	≤0,005 %
Copper (Cu).....	≤0,002 %
Magnesium (Mg).....	≤0,001 %
Manganese (Mn).....	≤0,005 %
Sodium (Na).....	≤0,01 %
Zinc (Zn).....	≤0,003 %

P734.1	500 g	plastic	27,65 €
Original pack 6 x 500 g			26,27/500 g
P734.2	1 kg	plastic	47,20 €
Original pack 6 x 1 kg			44,84/1 kg
P734.3	2,5 kg	plastic	99,90 €

Ammonium iron(III) sulphate dodecahydrate

≥98 %, extra pure

Type analysis:

Assay.....	≥98,0 %
Chloride (Cl).....	≤0,05 %
Copper (Cu).....	≤0,002 %
Zinc (Zn).....	≤0,005 %
Iron(II) salts.....	complies
In NH ₄ OH not precipitated substances.....	≤0,1 %

X885.1	500 g	plastic	17,00 €
Original pack 6 x 500 g			16,15/500 g
X885.2	1 kg	plastic	25,30 €
Original pack 6 x 1 kg			24,04/1 kg
X885.3	5 kg	plastic	93,00 €

Ammonium matrix modifier

► Ammonium nitrate matrix modifier solution see p. 1952

Ammonium metavanadate

► Ammonium monovanadate see p. 1641

Ammonium molybdate

► Ammonium heptamolybdate tetrahydrate see p. 1638

Ammonium molybdate(VI)

Ammonium molybdate(VI)

ROTI®METIC 99,99 % (4N)

(NH₄)₂MoO₄

M 196,02 g/mol

Solubility: >10 g/l (H₂O, 20 °C)

[13106-76-8] • EC No. 236-031-3

WGK 1

Warning H302-H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,99 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5591.1	5 g	plastic	41,40 €
5591.2	25 g	plastic	138,70 €

Ammonium molybdenum sulfide

► Ammonium tetrathiomolybdate see p. 1644

Ammonium monovanadate

Ammonium metavanadate

NH₄VO₃

M 116,98 g/mol

D 2,3

mp 200 °C (dec.)

Solubility: 5,1 g/l (H₂O, 20 °C)

[7803-55-6] • EC No. 232-261-3

UN No. 3285 • ADR 6.1 I • WGK 3

Danger

H301-H330-H319-H361-H372-H411

Ammonium monovanadate

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5590.2	25 g	plastic	338,65 €
5590.3	1 g	plastic	21,40 €

Ammonium monovanadate

≥99,8 %, p.a.

Component of the molybdate-vanadate reagent for the determination of phosphate.

Guarantee analysis:

Assay.....	≥99,8 %
Sodium (Na).....	≤0,01 %
Potassium (K).....	≤0,01 %
Iron (Fe).....	≤0,01 %
Chromium (Cr).....	≤0,005 %

4232.1	50 g	plastic	22,50 €
4232.2	100 g	plastic	32,15 €
4232.3	250 g	plastic	66,15 €
4232.4	1 kg	plastic	213,95 €
Original pack 6 x 1 kg			203,25/1 kg

Ammonium nitrate

Ammonium saltpeter

NH₄NO₃

M 80,04 g/mol

D 1,72

mp 170 °C (dec.)

Solubility: 1877 g/l (H₂O, 20 °C)

[6484-52-2] • EC No. 229-347-8

UN No. 1942 • ADR 5.1 III • WGK 1

Warning H272-H319

Ammonium nitrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5365.1	10 g	plastic	32,80 €
5365.2	50 g	plastic	104,85 €

A

Ammonium nitrate

≥98 %, p.a., ACS

Guarantee analysis:

Assay (acidim.)	≥98,0 %
pH-value (5 % in H ₂ O)	4,5-6,0
In H ₂ O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,0003 %
Sulphate (SO ₄)	≤0,002 %
Nitrite (NO ₂)	≤0,0005 %
Phosphate (PO ₄)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Iron (Fe)	≤0,0002 %
Ash content (as SO ₄)	≤0,01 %

K299.1	500 g	plastic	25,20 €
Original pack 6 x 500 g			23,94/500 g
K299.2	1 kg	plastic	40,75 €
Original pack 6 x 1 kg			38,71/1 kg
K299.3	2,5 kg	plastic	88,05 €

Ammonium nitrate

≥98 %, extra pure

Type analysis:

Assay (acidim.)	≥98,0 %
Chloride (Cl)	≤0,005 %
Phosphate (PO ₄)	≤0,001 %
Sulphate (SO ₄)	≤0,01 %
Heavy metals (as Pb)	≤0,001 %
Loss on ignition	≤0,05 %

X988.1	500 g	plastic	23,45 €
Original pack 6 x 500 g			22,28/500 g
X988.2	1 kg	plastic	37,85 €
Original pack 6 x 1 kg			35,96/1 kg
X988.3	2,5 kg	plastic	85,90 €

Ammonium nitrate matrix modifier solution

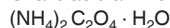
- ▶ Matrix modifier solution
- Ammonium nitrate see p. 1952

Ammonium osmium chloride

- ▶ Ammonium hexachloroosmate (IV)
- see p. 1638

di-Ammonium oxalate monohydrate

Oxalic acid ammonium salt monohydrate



M 142,11 g/mol

D 1,5

mp 70 °C (dec.)

Solubility: 50 g/l (H₂O, 20 °C)

[6009-70-7] • EC No. 214-202-3

WGK 1

⚠ Warning H302+H312

di-Ammonium oxalate monohydrate

≥99,5 %, p.a., ACS

Reagent for the determination of Ca, Pb and rare earth metals.

Guarantee analysis:

Assay (perm.)	≥99,5 %
In H ₂ O insoluble matter	≤0,005 %
Ash content (as SO ₄)	≤0,02 %
Chloride (Cl)	≤0,001 %
Nitrate (NO ₃)	≤0,001 %
Sulphate (SO ₄)	≤0,002 %
Lead (Pb)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Iron (Fe)	≤0,0002 %
Copper (Cu)	≤0,0005 %
Potassium (K)	≤0,001 %
Sodium (Na)	≤0,001 %
Zinc (Zn)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %

P737.1	500 g	plastic	46,15 €
Original pack 6 x 500 g			43,84/500 g
P737.2	1 kg	plastic	75,15 €
Original pack 6 x 1 kg			71,39/1 kg
P737.3	2,5 kg	plastic	156,85 €

di-Ammonium oxalate monohydrate

≥98 %, BP

Reagent for the determination of Ca, Pb and rare earth metals.

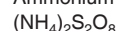
Guarantee analysis:

Appearance	white crystals
Assay	≥98 %
Identity	complies
Chloride (Cl)	≤0,018 %
Heavy metals (as Pb)	≤0,002 %
Ash content	≤0,05 %

4266.3	500 g	plastic	20,75 €
Original pack 6 x 500 g			19,71/500 g
4266.1	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
4266.4	2,5 kg	plastic	58,60 €
4266.2	10 kg	plastic	203,20 €

Ammonium peroxydisulphate

Ammonium persulphate, APS



M 228,20 g/mol

D 1,982

mp 120 °C (dec.)

Solubility: 620 g/l (H₂O, 20 °C)

[7727-54-0] • EC No. 231-786-5

UN No. 1444 • ADR 5.1 III • WGK 1

⚠ ⚠ ⚠ Danger

H334-H272-H302-H335-H315-H319-H317

Ammonium peroxydisulphate

≥98 %, p.a., ACS

Oxidizing agent for Cu, for separation of Mn and Cr. For electrophoresis. Polymerisation catalyst.

Guarantee analysis:

Assay (iodom.)	≥98,0 %
In H ₂ O insoluble matter	≤0,005 %
Chlorides and chlorates (as Cl)	≤0,001 %
Acidity	≤0,04 meq/g
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,01 %
Chromium (Cr)	≤0,0005 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,005 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,01 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,005 %
Zinc (Zn)	≤0,0005 %
Ash content (as SO ₄)	≤0,05 %

9592.3	50 g	plastic	9,05 €
9592.2	100 g	plastic	12,05 €
9592.5	500 g	plastic	25,70 €
Original pack 6 x 500 g			24,42/500 g
9592.1	1 kg	plastic	33,90 €
Original pack 6 x 1 kg			32,21/1 kg
9592.4	2,5 kg	plastic	64,40 €

For further information, please see page 1114

Ammonium peroxydisulphate

≥98 %, extra pure

Type analysis:

Assay	≥98,0 %
Acid content (as H ₂ SO ₄)	≤0,15 %
Active oxygen	≥6,9 %

9178.3	500 g	plastic	15,20 €
Original pack 6 x 500 g			14,44/500 g
9178.1	1 kg	plastic	21,85 €
Original pack 6 x 1 kg			20,76/1 kg
9178.2	5 kg	plastic	87,00 €

Ammonium persulphate

► Ammonium peroxydisulphate see p. 1642

Ammonium phosphate

► di-Ammonium hydrogen phosphate see p. 1639

Ammoniumphosphate monobasic

► Ammonium dihydrogen phosphate see p. 1637

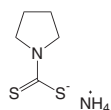
sec. Ammonium phosphate

► di-Ammonium hydrogen phosphate see p. 1639

Ammonium purpurate

► Murexide (C.I. 56085) see p. 1978

Ammonium pyrrolidine dithiocarbamate



Ammonium pyrrolidine dithiocarbamate

≥98 %, p.a.

APDC, Ammonium tetramethylene dithiocarbamate, Ammonium pyrrolidine dithiocarbamate

C₅H₁₂N₂S₂
M 164,29 g/mol

mp 146-151 °C

Solubility: 190 g/l (H₂O, 20 °C)

[5108-96-3] • EC No. 225-834-4

WGK 2

⚠ Warning H315-H319-H335

Guarantee analysis:

Appearance	white powder
Assay (NT)	≥98 %
Lead (Pb)	≤0,001 %
Cadmium (Cd)	≤0,001 %
Calcium (Ca)	≤0,001 %
Chromium (Cr)	≤0,001 %
Cobalt (Co)	≤0,001 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,005 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,001 %
Sodium (Na)	≤0,005 %
Nickel (Ni)	≤0,001 %
Bismuth (Bi)	≤0,001 %
Zinc (Zn)	≤0,001 %

5486.1	10 g	plastic	33,90 €

5486.2	50 g	plastic	113,45 €

Ammonium rhodanide

► Ammonium thiocyanate see p. 1644

Ammonium saltpeter

► Ammonium nitrate see p. 1641

sec. Ammonium sodium phosphate

► Sodium ammonium hydrogen phosphate tetrahydrate see p. 2140

Ammonium sulphate

di-Ammoniumsulphate

(NH₄)₂SO₄

M 132,14 g/mol

D 1,77

mp 230 °C (dec.)

Solubility: 760 g/l (H₂O, 20 °C)

[7783-20-2] • EC No. 231-984-1

WGK 1

Ammonium sulphate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5606.1	10 g	plastic	26,80 €

5606.2	50 g	plastic	71,50 €

Ammonium sulphate

≥99,5 %, p.a., ACS, ISO

Reagent for precipitation of proteins, buffer substance, preparation of ammonium alum.

Guarantee analysis:

Assay (acidim.)	≥99,5 %
pH-value (5 % in H ₂ O)	5,0-6,0
In H ₂ O insoluble matter	≤0,001 %
Ash content (as SO ₄)	≤0,005 %
Phosphate (PO ₄)	≤0,0005 %
Nitrate (NO ₃)	≤0,001 %
Chloride (Cl)	≤0,0003 %
Arsenic (As)	≤0,00002 %
Lead (Pb)	≤0,0002 %
Cadmium (Cd)	≤0,0001 %
Calcium (Ca)	≤0,001 %
Iron (Fe)	≤0,0002 %
Cobalt (Co)	≤0,0005 %
Magnesium (Mg)	≤0,0005 %
Sodium (Na)	≤0,005 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Zinc (Zn)	≤0,0001 %
Loss on drying (100 °C)	≤0,1 %

3746.2	250 g	plastic	11,75 €

3746.1	1 kg	plastic	26,80 €

Original pack 6 x 1 kg	25,46/1 kg

3746.3	2,5 kg	plastic	47,85 €

3746.4	5 kg	plastic	84,40 €

3746.5	25 kg	plastic	292,40 €

Ammonium sulphate

≥99 %, enzyme quality

Reagent for precipitation of proteins, especially enzymes.

Guarantee analysis:

Assay (acidim.)	≥99,0 %
pH-value (5 % in H ₂ O)	5,0-6,0
In H ₂ O insoluble matter	≤0,005 %
Nitrate (NO ₃)	≤0,001 %
Chloride (Cl)	≤0,0005 %
Phosphate (PO ₄)	≤0,0005 %
Arsenic (As)	≤0,00002 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,002 %
Iron (Fe)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Zinc (Zn)	≤0,0005 %
Ash content (as SO ₄)	≤0,005 %

9212.3	500 g	plastic	18,20 €

Original pack 6 x 500 g	17,29/500 g

9212.2	1 kg	plastic	25,70 €

Original pack 6 x 1 kg	24,42/1 kg

9212.1	2,5 kg	plastic	46,15 €

Ammonium sulphate

≥99 %, cryst.

Type analysis:

Appearance	white crystals
Assay	≥99,0 %
Identity	complies
Appearance of solution	complies
Ash content	≤0,015 %
Loss on drying (H ₂ O)	≤0,20 %
Arsenic (As)	≤0,0001 %
Iron (Fe)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %
Phosphate (PO ₄)	≤0,0005 %
Chloride (Cl)	≤0,001 %
Acidity (0,01 M NaOH/g)	≤0,35 ml

9218.3	500 g	plastic	17,10 €

Original pack 6 x 500 g	16,25/500 g

9218.1	1 kg	plastic	22,50 €

Original pack 6 x 1 kg	21,38/1 kg

9218.2	5 kg	plastic	81,60 €

9218.5	25 kg	plastic	284,90 €

di-Ammoniumsulphate

► Ammonium sulphate see p. 1643

A

Ammonium tetraborate tetrahydrate

Ammonium tetraborate tetrahydrate

ROTI®METIC 99,999 % (5N)

(NH₄)₂B₄O₇ · 4 H₂O

M 263,38 g/mol

D 2,4

mp ~87 °C

[12228-87-4] • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5396.1	25 g	plastic	90,85 €

Ammonium tetramethylene dithiocarbamate

▶ Ammonium pyrrolidine dithiocarbamate see p. 1643

Ammonium tetrathiocyanato-diamminechromate(III) monohydrate

▶ Reinecke salt monohydrate see p. 2082

Ammonium tetrathiomolybdate

Ammonium tetrathiomolybdate

ROTI®METIC 99,99 % (4N)

Ammonium molybdenum sulfide

(NH₄)₂MoS₄

M 260,27 g/mol • mp 300 °C

[15060-55-6] • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,99 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5608.1	1 g	plastic	35,40 €

5608.2	5 g	plastic	69,80 €

Ammonium tetrathiotungstate

Ammonium tetrathiotungstate

ROTI®METIC 99,9 % (3N)

(NH₄)₂WS₄

M 348,18 g/mol

[13862-78-7] • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,9 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5397.1	5 g	plastic	134,40 €

5397.2	25 g	plastic	471,95 €

Ammonium thiocyanate

Ammonium thiocyanate

≥99 %, p.a., ACS, ISO

Reagent for the detection of iron(III) ions.

Stabilizer for photographic developer.

Ammonium rhodanide

NH₄SCN

M 76,12 g/mol

D 1,305 • mp 150 °C

Solubility: 1650 g/l (H₂O, 19 °C)

[1762-95-4] • EC No. 217-175-6 • WGK 1

⚠ Warning

H302+H312+H332-H412-EUH032

Guarantee analysis:

Assay (arg.).....	≥99,0 %
pH-value (5 % solution).....	4,5-6,0
In H ₂ O insoluble matter.....	≤0,005 %
Iodine reducing substances (as I).....	≤0,002 meq/g
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,005 %
Sulphide (S).....	≤0,001 %
Heavy metals (as Pb).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Iron (Fe).....	≤0,0001 %
Copper (Cu).....	≤0,0005 %
Nickel (Ni).....	≤0,0005 %
Ash content (as SO ₄).....	≤0,025 %

4477.1	100 g	plastic	15,20 €

4477.2	250 g	plastic	20,35 €

4477.3	500 g	plastic	30,25 €

Original pack 6 x 500 g	28,74/500 g

4477.4	1 kg	plastic	48,30 €

Original pack 6 x 1 kg	45,89/1 kg

Ammonium thiocyanate solution (0,1 N)

Ammonium thiocyanate solution

0,1 mol/l - 0,1 N volumetric standard solution

D 1,05

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,1 mol/l ±0,2 %
Titer..... 0,998-1,002

P718.1	1 l	plastic	19,25 €

Original pack 6 x 1 l	18,29/1 l

For further information, please see page 1546

Ammonium thiocyanate solution (0,1 N)

Ammonium thiocyanate solution

ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

NH₄SCN

M 76,12 g/mol • WGK 1

Warning EUH032

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,1 mol/l ±0,2 %

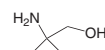
CN50.1	1 piece	plastic ampoule	16,05 €

For further information, please see page 1547

Ammonium vanadium oxide

▶ Ammonium monovanadate see p. 1641

AMP



AMP

PUFFERAN® ≥90 %

2-Amino-2-methyl-1-propanol

C₄H₁₁NO

M 89,14 g/mol

D 0,93 • bp 165 °C

mp 30 °C • flp 78 °C

[124-68-5] • EC No. 204-709-8

UN No. 2735 • ADR 8 III • WGK 1

⚠ Warning H315-H319-H412

Type analysis:

Assay (GC)..... ≥90,0 %
Water..... ≤1,0 %

3121.1	250 ml	glass	33,90 €

For further information, please see page 1214

Ampholyte

▶ Roti®lyte Carrier Ampholyte see p. 2102

Amphotericin B

Amphotericin B

≥850 I.U./mg, for biochemistry

Broad-range fungicide, polyene.

Fungizon

C₄₇H₇₃NO₁₇

M 924,10 g/mol

mp >170 °C (dec.)

Storage temp.: +4 °C

[1397-89-3] • EC No. 215-742-2

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Activity..... ≥850 I.U./mg

0246.1	50 mg	glass	20,10 €

0246.2	250 mg	glass	63,45 €

0246.3	500 mg	glass	114,95 €

For further information, please see page 1363

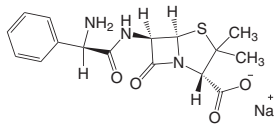
Ampicillin-LB Selective Agar

▶ LB-Agar (Lennox) / Amp100 see p. 1925

▶ LB-Agar (Luria/Miller) / Amp100 see p. 1925

▶ LB-Agar (Luria/Miller) / Amp50 see p. 1925

Ampicillin sodium salt



D- α -Aminobenzylpenicillin sodium salt

$C_{16}H_{18}N_3NaO_4S$

M 371,39 g/mol

Storage temp.: +4 °C

[69-52-3] • EC No. 200-708-1

Danger H334-H317

Ampicillin sodium salt

≥91 %, CELLPURE®

β -lactam antibiotic. Semi synthetic penicillin.
For cell culture and biochemistry.

Guarantee analysis:

Appearance.....white powder
Assay (HPLC, dry substance).....91,0-102,0 %
Dimer.....≤4,5 %
Water (KF).....≤2,0 %
Heavy metals (as Pb).....≤0,002 %
pH-value (10 % H_2O , 20 °C).....9,0 ± 1,0
Endotoxins.....<0,15 I.E./mg

HP62.1 10 g plastic 41,85 €

HP62.2 50 g plastic 155,35 €

For further information, please see page 1363

Ampicillin sodium salt

≥97 %, for molecular biology and biochemistry

β -lactam antibiotic. Semi synthetic penicillin.

Type analysis:

Appearance.....white powder
Assay.....≥97,0 %
Water (KF).....≤2,0 %
Heavy metals (as Pb).....≤0,002 %
pH-value (10 % H_2O , 20 °C).....8,0-10,0
Specific rotation $[\alpha]_D^{25}$ (0,2 % in KH-phthalate).....+258° to +287°

K029.1 10 g plastic 20,65 €

K029.4 25 g plastic 39,25 €

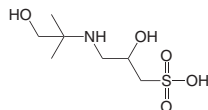
K029.5 50 g plastic 67,75 €

K029.2 100 g plastic 114,50 €

K029.3 250 g plastic 246,20 €

For further information, please see page 1363

AMPSO



AMPSO

PUFFERAN® ≥98 %

3-N-(α,α -Dimethyl-hydroxyethyl)-amino-2-hydroxypropane sulphonic acid

$C_7H_{17}NO_5S$

M 227,28 g/mol

mp 228-230 °C

[68399-79-1] • EC No. 269-991-7

Type analysis:

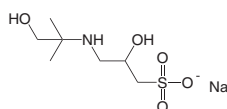
Assay.....≥98 %
UV-absorption (0,1 M in H_2O):
280 nm.....≤0,02
260 nm.....≤0,04

7159.1 25 g plastic 31,75 €

7159.2 100 g plastic 104,20 €

For further information, please see page 1214

AMPSO sodium salt



AMPSO sodium salt

PUFFERAN® ≥98 %

3-N-(α,α -Dimethyl hydroxyethyl)-amino-2-hydroxypropane sulphonic acid sodium salt

$C_7H_{16}NO_5SNa$

M 249,3 g/mol

[102029-60-7]

Type analysis:

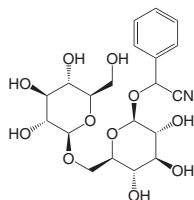
Assay.....≥98 %
Water (KF).....≤4 %
Solution (10 % in H_2O).....clear, colourless
UV-absorption (0,1 M in H_2O):
280 nm.....≤0,05
260 nm.....≤0,06

7014.1 25 g plastic 48,40 €

7014.2 100 g plastic 153,20 €

For further information, please see page 1214

Amygdalin



Amygdalose

$C_{20}H_{27}NO_{11}$

M 457,42 g/mol

D 0,4

mp 213 °C

Solubility: 83 g/l (water, 25 °C)

Storage temp.: +4 °C

[29883-15-6] • EC No. 249-925-3

Warning H302

Amygdalin

≥97 %, for biochemistry

Type analysis:

Appearance.....white powder
Assay (HPLC).....≥97 %
Specific rotation $[\alpha]_D^{25}$-37° to -41°
Loss on drying (110 °C).....<6,0 %
Melting point.....208-215 °C

8713.1 10 g plastic 45,70 €

8713.2 100 g plastic 254,25 €

Amygdalin

ROTICHRON® ~CHR

5500.1 10 g plastic 34,30 €

Amygdalose

► β -D-Gentiobiose see p. 1848

Amygdalose

► Amygdalin see p. 1645

Amyl acetate

► Acetic acid amyl ester see p. 1599

n-Amyl alcohol

► 1-Pentanol see p. 2026

 β -Amylase β -Amylase

20-80 U/mg, lyophil.

Made from barley malt.

Storage temp.: +4 °C

[9000-91-3] • EC No. 232-566-1

WGK 1

Danger H334

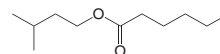
Type analysis:

Appearance.....light-brown powder
Description.....lyophilized
Activity (pH 4,8; 20 °C).....20-80 U/mg
1 Unit equivalent to the amount of enzyme, which produces 1 μ mol maltose per minute at 20 °C and pH 4,8. (Zulkowsky)

8717.1 100 mg glass 49,35 €

For further information, please see page 1221

iso-Amyl capronate



iso-Amyl capronate

ROTICHRON® GC

Reference substance for GC

3-Methylbutyl hexanoate

$C_{11}H_{22}O_2$

M 186,29 g/mol

D 0,86 • bp 222 °C

flp 85 °C

Storage temp.: +4 °C

[2198-61-0] • EC No. 218-600-8

WGK 2

Type analysis:

Purity (GC).....≥97 %

3799.1 1 g glass 75,15 €

n-Amyl ethyl ketone

► 3-Octanone see p. 1999

Amylmethylcarbinol

► 1-Heptanol see p. 1872

A

Amylopectin

Amylopectin

for biochemistry

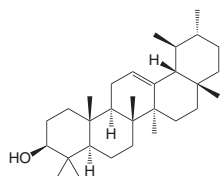
M >1 000 000 g/mol

[9037-22-3] • EC No. 232-911-6

Type analysis:

Appearance..... white powder
 pH value..... 4-6
 Water..... 10,5-13,5 %

8545.1	500 g	plastic	23,55 €
Original pack 6 x 500 g			22,37/500 g
8545.2	1 kg	plastic	31,40 €
Original pack 6 x 1 kg			29,83/1 kg
8545.3	2,5 kg	plastic	48,95 €

 α -Amyrin α -Amyrin

ROTICHROM® HPLC

Reference substance for HPLC

 $C_{30}H_{50}O$

M 426,73 g/mol

Storage temp.: +4 °C

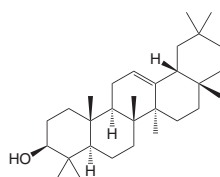
[638-95-9] • EC No. 211-352-1

⚠ Warning H302

Type analysis:

Purity (HPLC)..... ≥98,5 %

7000.1	10 mg	glass	218,80 €

 β -Amyrin β -Amyrin

ROTICHROM® HPLC

Reference substance for HPLC

 $C_{30}H_{50}O$

M 426,73 g/mol

Storage temp.: +4 °C

[559-70-6] • EC No. 209-204-6

WGK 1

⚠ Warning H302

Type analysis:

Purity (HPLC)..... ≥98,5 %

7001.1	10 mg	glass	375,20 €

Anethole

Anethole

≥99 %, for biochemistry

p-Propenylanisole, 1-Methoxy-4-propenyl benzene

 $C_{10}H_{12}O$

M 148,20 g/mol

D 0,99 • bp ~236 °C

mp 21,5 °C • flp 96 °C

Solubility: insoluble (H_2O , 20 °C)

Storage temp.: +4 °C

[4180-23-8] • EC No. 224-052-0

UN No. 3077 • ADR 9 III • WGK 2

⚠ H411

Type analysis:

Appearance..... colourless to yellowish liquid or white
 cryst. substance

Assay (GC, trans-anethole)..... ≥99,0 %

Assay (GC, cis-anethole)..... ≤0,3 %

Solidification point..... ≥21,5 °C

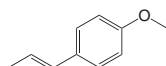
Refractive index n_D^{20} 1,559-1,562

Density..... 0,986-0,989

5131.1	25 ml	glass	19,25 €

5131.2	250 ml	glass	54,75 €

trans-Anethole



trans-Anethole

ROTICHROM® GC

Reference substance for GC

 $C_{10}H_{12}O$

M 148,20 g/mol

D 0,96 • bp 234-237 °C

mp 21-23 °C • flp 96 °C

Storage temp.: +4 °C

[4180-23-8] • EC No. 224-052-0

UN No. 3077 • ADR 9 III • WGK 2

⚠ H411

Type analysis:

Purity (GC)..... ≥97 %

3811.1	1 g	glass	75,15 €

Aneurine hydrochloride

▶ Thiamine hydrochloride see p. 2206

7-O-Angelyl-9-O-echimidinylretronecine

▶ Echimidine see p. 1797

7-Angelyleuropine

▶ Lasiocarpine see p. 1924

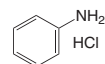
7-Angelyleuropine N-oxide

▶ Lasiocarpine N-oxide see p. 1924

Anhydrous soda

▶ Sodium carbonate see p. 2142

Aniline hydrochloride



Aniline hydrochloride

≥99 %, extra pure

Anilinium chloride, Phenylamine hydrochloride

 C_6H_5ClN

M 129,60 g/mol

bp 245 °C

mp 196-201 °C • flp 198 °C

Solubility: 107 g/l (H_2O , 20 °C)

[142-04-1] • EC No. 205-519-8

UN No. 1548 • ADR 6.1 III • WGK 2

⚠ ⚠ ⚠ ⚠ ⚠ Danger H301+H311+H331-
 H372-H341-H351-H318-H400-H317

Type analysis:

Assay (arg.)..... ≥99 %

Melting range..... 196-201 °C

5113.2	100 g	plastic	28,50 €

5113.1	250 g	plastic	64,00 €

Aniline blue water soluble

▶ Acid blue 93 (C.I. 42780) see p. 1611

Aniline phthalate spray solution

Aniline phthalate spray solution
for TLCReady-to-use spray solution for detection of
reducing sugars.0,9 ml Anilin and 1,66 g Phthalic acid dissolved
in 100 ml ethanol / 2-propanol (1/1 v/v).

UN No. 3316 • ADR 9 II • WGK 1

⚠ ⚠ ⚠ ⚠ ⚠ Danger

H225-H373-H319-H336-EUH208

Type analysis:

TLC-application..... complies

CP35.1	100 ml	glass	35,90 €

p-Anilinesulphonic acid

▶ Sulphanilic acid see p. 2189

Anilinium chloride

▶ Aniline hydrochloride see p. 1646

Anilinoacetic acid

▶ N-Phenylglycine see p. 2036

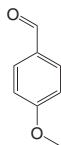
4-Anilinoazobenzene

▶ 4-(Phenylazo) diphenylamine see p. 2036

Anion exchangers

▶ Dowex® Anion exchanger see p. 1794

4-Anisaldehyde



4-Methoxybenzaldehyde, Aubepine
 $C_8H_8O_2$
 M 136,14 g/mol
 D 1,119 • bp 248 °C
 mp ~1 °C • flp 116 °C
 Solubility: 2 g/l (H_2O , 20 °C)
 [123-11-5] • EC No. 204-602-6
 WGK 1

⚠ **Warning** H302-H315-H319-H335

4-Anisaldehyde

≥97,5 %

Type analysis:

Appearance:
 clear, colourless to slightly yellowish liquid
 Assay (GC): ≥97,5 %

7201.1	25 g	glass	20,10 €

4-Anisaldehyde

ROTICHROM® GC

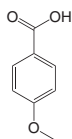
Reference substance for GC
 Storage temp.: +4 °C

Type analysis:

Purity (GC): ≥99,0 %

9037.1	1 g	plastic	75,15 €

4-Anisic acid



4-Anisic acid

≥98 %

4-Methoxybenzoic acid

$C_8H_8O_3$
 M 152,15 g/mol
 bp 277 °C
 mp 182-184 °C • flp 185 °C
 Solubility: 0,3 g/l (H_2O , 20 °C)
 [100-09-4] • EC No. 202-818-5
 WGK 1

⚠ **Warning** H315-H319-H335

Type analysis:

Assay: ≥98,0 %

3631.1	100 g	plastic	17,75 €

3631.2	250 g	plastic	33,25 €

3631.3	500 g	plastic	61,20 €

Original pack 6 x 500 g 58,14/500 g

Anisole



Anisole

≥99 %, for synthesis

Methoxybenzene
 C_7H_8O
 M 108,14 g/mol
 D 0,994 • bp 156 °C
 mp -37 °C • flp 41 °C
 Solubility: 1,6 g/l (H_2O , 20 °C)
 [100-66-3] • EC No. 202-876-1
 UN No. 2222 • ADR 3 III • WGK 2

⚠ **Warning** H226

Type analysis:

Assay (GC): ≥99 %
 Water: ≤0,1 %

4417.1	100 ml	glass	12,05 €

4417.2	500 ml	glass	23,15 €

4417.3	1 l	glass	37,55 €

Original pack 6 x 1 l 35,67/1 l

4417.4	2,5 l	glass	78,40 €

Original pack 4 x 2,5 l 74,48/2,5 l

Anthocyan

Art. No.	Description	Page
3939	Apigeninidin chloride	1652
0641	Cyanidin 3-arabinoside chloride	1752
4545	Cyanidin chloride	1752
1133	Cyanin chloride	1752
5568	Cyanin chloride	1752
4537	Delphinidin chloride	1761
0643	Delphinidin 3-galactoside chloride	1761
0644	Delphinidin 3-glucoside chloride	1762
0977	Delphinidin 3-rutinoside chloride	1762
9326	Diosmetinidin chloride	1786
3967	Idaein chloride	1896
6134	Keracyanine chloride	1917
6136	Kuromanin chloride	1918
9325	Luteolinidin chloride	1940
6140	Malvidin chloride	1947
K013	Malvin chloride	1948
K030	Oenin chloride	2000
4541	Pelargonidin chloride	2023
6853	Pelargonidin chloride	2023
1646	Pelargonidin 3,5-diglucoside chloride	2023
4540	Peonidin chloride	2026
1413	Peonidin 3,5-diglucoside chloride	2026
1619	Peonidin 3-glucoside chloride	2026
1469	Petunidin 3-glucoside chloride	2033
K014	Primulin chloride	2065

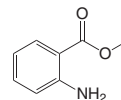
9,10-Anthracenedione

▶ Anthraquinone see p. 1647

9(10H)-Anthracenone

▶ Anthrone see p. 1648

Anthranilic acid methyl ester



Anthranilic acid methyl ester

ROTICHROM® GC

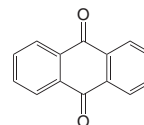
Reference substance for GC
 Methyl anthranilate
 $C_8H_9NO_2$
 M 151,17 g/mol
 D ~1,167 • bp 260 °C
 mp 24 °C • flp 123 °C
 Solubility: 2,9 g/l (H_2O , 20 °C)
 Storage temp.: +4 °C
 [134-20-3] • EC No. 205-132-4
 WGK 1

Type analysis:

Purity (GC): ≥99 %

9405.1	1 g	glass	75,15 €

Anthraquinone



NEW

Anthraquinone

ROTI®CALIPURE Melting point standard 283-286 °C

9,10-Anthracenedione, 9,10-Anthraquinone
 $C_{14}H_8O_2$
 M 208,22 g/mol
 bp 380 °C
 mp 283-286 °C • flp 185 °C
 [84-65-1] • EC No. 201-549-0
 WGK 1

⚠ **Warning** H317

Type analysis:

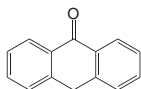
Melting point: 283-286 °C

9754.1	1 g	glass	27,85 €

9,10-Anthraquinone

▶ Anthraquinone see p. 1647

Anthrone



Anthrone

p.a., ACS

Reagent for carbohydrates

9(10H)-Anthracenone

C₁₄H₁₀O

M 194,23 g/mol

mp 153-158 °C

Solubility: 4,6 g/mol (H₂O, 20 °C)

[90-44-8] • EC No. 201-994-0

WGK 1

Guarantee analysis:

Appearance: light yellowish crystalline powder

Melting point: 153-159 °C

Absorbance of reagent solution (425 nm): complies

Absorbance of reagent solution (620 nm): complies

Solubility in ethyl acetate: complies

Suitability as reagent for carbohydrates: complies

2673.1	10 g	plastic	23,15 €
2673.2	25 g	plastic	36,45 €
2673.3	100 g	plastic	100,55 €

Antibiotic G 418

► Geneticin disulphate (G418 Sulphate)
see p. 1847

Antibiotic Medium No. 1

Antibiotic Medium No. 1

Ph.Eur., for microbiology

Standard agar medium for detection and for
assaying the potency of antibiotics.

Application: Use 30,5 g for 1 l agar.

Antibiotic Agar No. 1 (Ph.Eur. 7,0), Penassay
Seed Agar

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Peptone: 6,0 g/l

Casein peptone (Pancreas hydrolysate): 4,0 g/l

Yeast extract: 3,0 g/l

Beef extract: 1,5 g/l

Glucose monohydrate: 1,0 g/l

Agar: 15,0 g/l

pH-value: 6,6 ±0,1

CL53.1	500 g	plastic	104,85 €
Original pack 6 x 500 g			99,61/500 g
For further information, please see page 1315			

Antibiotic Medium No. 23

Antibiotic Medium No. 23

for microbiology

Agar medium for detection and for assaying the
potency of antibiotics.Application: Use 27,1 g for 1 l agar. Directly prior
to pouring add 14,3 g ammonium chloride in
10 ml sterile water.

Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Glucose: 10,0 g/l

Yeast extract: 2,5 g/l

di-Potassium hydrogen phosphate: 0,69 g/l

Potassium dihydrogen phosphate: 0,45 g/l

Agar: 13,5 g/l

pH-value: 5,6 ±0,1

CL54.1	500 g	plastic	83,35 €
Original pack 6 x 500 g			79,18/500 g
For further information, please see page 1315			

Antibiotics

Art. No.	Description	Page
8969	Actinomycin D	1614
0246	Amphotericin B	1644
HP62	Ampicillin sodium salt	1645
K029	Ampicillin sodium salt	1645
5655	Bacitracin	1664
CP14	Blasticidin S hydrochloride	1681
6344	Carbenicillin disodium salt	1714
4156	Cefoxitin sodium salt	1722
4014	Cefsulodin sodium salt	1722
3886	Chloroamphenicol	1729
CN31	Colistinsulphate	1742
8682	Cycloheximide	1755
CN37	D-Cycloserine	1755
4166	Erythromycin	1808
HN71	Geldanamycin	1846
0239	Geneticin disulphate (G418 Sulphate)	1847
CP11	Geneticin disulphate (G418)-solution	1847
2039	Geneticin disulphate (G418)-solution	1847
0233	Gentamycin sulphate	1848
HN09	Gentamycin sulphate solution	1848
2475	Gentamycin sulphate solution	1848
CP13	Hygromycin B	1894
CP12	Hygromycin B solution	1894
1287	Hygromycin B solution	1894
T832	Kanamycin sulphate	1916
4150	Mitomycin C	1973
CN32	Nalidixic acid	1980
8668	Neomycin sulphate	1984
3011	Nourseothricin dihydrogen sulphate	1996
0247	Novobiocin sodium salt	1996
0241	Nystatin dihydrate	1997
HP49	Penicillin G potassium salt	2024
CN29	Penicillin G potassium salt	2024
HP48	Penicillin G sodium salt	2024
CN28	Penicillin G sodium salt	2024
HP10	Pen/Strep-PreMix	2024
0235	Polymyxin B sulphate	2048
0240	Puromycin dihydrochloride	2071
HN72	Radicicol	2078
4163	Rifampicin	2086
HP66	Streptomycin sulphate	2184
0236	Streptomycin sulphate	2184
HP63	Tetracycline hydrochloride	2202
0237	Tetracycline hydrochloride	2202
4161	Ticarcillin disodium salt	2210
0242	Vancomycin hydrochloride	2235

Antibody, primary

Storage temp.: -20 °C

Transport temp.: cooled

Anti DYKDDDDK pAB

1 mg/ml, polyclonal, affinity purified

Polyclonal antibody for detection and isolation
of DYKDDDDK-tagged proteins

Recommended dilution: 1:1 000

Primary anti DYKDDDDK antibody

Type analysis:

Concentration: 0,9-1,1 mg/ml

Appearance: clear, colorless liquid

Raised in: rabbit

Clonality: polyclonal

Target: DYKDDDDK-tag

Western Blot: complies

ELISA: complies

4665.1	100 µl	plastic	224,70 €

For further information, please see page 1257

Anti DYKDDDDK Serum

polyclonal

Polyclonal serum for detection and isolation of
DYKDDDDK-tagged proteins

Recommended dilution: 1:1 000

Primary anti DYKDDDDK antibody

Type analysis:

Appearance: clear, ochre-rose coloured liquid

Raised in: rabbit

Clonality: polyclonal

Target: DYKDDDDK-tag

Western Blot: complies

ELISA: complies

4664.1	100 µl	plastic	186,00 €

For further information, please see page 1257

Anti GST pAB

1 mg/ml, polyclonal, affinity purified

Polyclonal antibody for detection and isolation
of GST-tagged proteins

Recommended dilution: 1:1 000

Primary anti GST antibody

Type analysis:

Concentration: 0,9-1,1 mg/ml

Appearance: clear, colorless liquid

Raised in: rabbit

Clonality: polyclonal

Target: GST-tag

Western Blot: complies

ELISA: complies

3998.1	100 µl	plastic	224,70 €

For further information, please see page 1256

Anti GST Serum

polyclonal

Polyclonal serum for detection and isolation of
GST-tagged proteins

Recommended dilution: 1:2 000

Primary anti GST antibody

Type analysis:

Appearance: clear, ochre-rose coloured liquid

Raised in: rabbit

Clonality: polyclonal

Target: GST-tag

Western Blot: complies

ELISA: complies

3994.1	100 µl	plastic	186,00 €

For further information, please see page 1256

Anti His-HRP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of His-tagged proteins in Western Blot and ELISA

Recommended dilution: 1:1 000 - 1:10 000

Primary Anti His antibody, HRP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly brown liquid
 Raised in..... rabbit
 Clonality..... polyclonal
 Target..... His-tag
 Conjugation..... Peroxidase
 Western Blot..... complies
 ELISA..... complies

3894.1	100 µl	plastic	274,15 €

For further information, please see page 1256

Anti His pAB**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection and isolation of His-tagged proteins

Recommended dilution: 1:1 000 - 1:10 000

Primary anti His antibody

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, colorless liquid
 Raised in..... rabbit
 Clonality..... polyclonal
 Target..... His-tag
 Western Blot..... complies
 ELISA..... complies

3742.1	100 µl	plastic	224,70 €

For further information, please see page 1256

Anti His Serum**polyclonal**

Polyclonal serum for detection and isolation of His-tagged proteins

Recommended dilution: 1:1 000

Primary anti His antibody

Type analysis:

Appearance..... clear, ochre-rose coloured liquid
 Raised in..... rabbit
 Clonality..... polyclonal
 Target..... His-tag
 Western Blot..... complies
 ELISA..... complies

3735.1	100 µl	plastic	186,00 €

For further information, please see page 1256

Anti Myc pAB**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection and isolation of Myc-tagged proteins

Recommended dilution: 1:1 000

Primary anti Myc antibody

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, colorless liquid
 Raised in..... rabbit
 Clonality..... polyclonal
 Target..... Myc-tag
 Western Blot..... complies
 ELISA..... complies

4667.1	100 µl	plastic	224,70 €

For further information, please see page 1257

Anti Myc Serum**polyclonal**

Polyclonal serum for detection and isolation of Myc-tagged proteins

Recommended dilution: 1:1 000

Primary anti Myc antibody

Type analysis:

Appearance..... clear, ochre-rose coloured liquid
 Raised in..... rabbit
 Clonality..... polyclonal
 Target..... Myc-tag
 Western Blot..... complies
 ELISA..... complies

4666.1	100 µl	plastic	186,00 €

For further information, please see page 1257

Antibody, secondary

Storage temp.: -20 °C

Transport temp.: cooled

Anti Human-AP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of human IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti human antibody, AP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, colourless liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... human
 Conjugation..... phosphatase
 Western Blot..... complies
 ELISA..... complies

4754.1	1 ml	plastic	174,15 €

For further information, please see page 1258

Anti Human-FITC**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of human IgG in immunofluorescence, FACS analyses, and immunohistochemistry.

Recommended dilution: 1:1000 - 1:20 000

Secondary anti human antibody, FITC-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly yellow liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... human
 Conjugation..... FITC
 ELISA..... complies

4755.1	2 ml	plastic	127,95 €

For further information, please see page 1258

Anti Human-HRP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of human IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti human antibody, HRP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly brown liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... human
 Conjugation..... peroxidase
 Western Blot..... complies
 ELISA..... complies

4753.1	2 ml	plastic	143,55 €

For further information, please see page 1258

Anti Mouse-AP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of mouse IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti mouse antibody, AP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, colourless liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... mouse
 Conjugation..... phosphatase
 ELISA..... complies

4760.1	1 ml	plastic	174,15 €

For further information, please see page 1259

Anti Mouse-FITC**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of mouse IgG in immunofluorescence, FACS analyses, and immunohistochemistry.

Recommended dilution: 1:1000 - 1:20 000

Secondary anti mouse antibody, FITC-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly yellow liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... mouse
 Conjugation..... FITC
 ELISA..... complies

4761.1	2 ml	plastic	127,95 €

For further information, please see page 1259

A

Anti Mouse-HRP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of mouse IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti mouse antibody, HRP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly brown liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... mouse
 Conjugation..... peroxidase
 Western Blot..... complies
 ELISA..... complies

4759.1	2 ml	plastic	143,55 €

For further information, please see page 1259

Anti Rabbit-AP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of rabbit IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti rabbit antibody, AP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, colourless liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... rabbit
 Conjugation..... phosphatase
 Western Blot..... complies
 ELISA..... complies

4751.1	1 ml	plastic	174,15 €

For further information, please see page 1258

Anti Rabbit-FITC**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of rabbit IgG in immunofluorescence, FACS analyses, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:20 000

Secondary anti rabbit antibody, FITC-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly yellow liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... rabbit
 Conjugation..... FITC
 ELISA..... complies

4752.1	2 ml	plastic	127,95 €

For further information, please see page 1258

Anti Rabbit-HRP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of rabbit IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti rabbit antibody, HRP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly brown liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... rabbit
 Conjugation..... peroxidase
 Western Blot..... complies
 ELISA..... complies

4750.1	2 ml	plastic	143,55 €

For further information, please see page 1258

Anti Rat-AP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of rat IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti rat antibody, AP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, colourless liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... rat
 Conjugation..... phosphatase
 Western Blot..... complies
 ELISA..... complies

4763.1	1 ml	plastic	174,15 €

For further information, please see page 1259

Anti Rat-FITC**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of rat IgG in immunofluorescence, FACS analyses, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:20 000

Secondary anti rat antibody, FITC-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly yellow liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... rat
 Conjugation..... FITC
 ELISA..... complies

4764.1	2 ml	plastic	127,95 €

For further information, please see page 1259

Anti Rat-HRP**1 mg/ml, polyclonal, affinity purified**

Polyclonal antibody for detection of rat IgG in western blotting, ELISA, and immunohistochemistry.

Recommended dilution: 1:1 000 - 1:10 000 (Western), 1:1 000 - 1:20 000 (ELISA)

Secondary anti rat antibody, HRP-conjugated

Type analysis:

Concentration..... 0,9-1,1 mg/ml
 Appearance..... clear, lightly brown liquid
 Raised in..... goat
 Clonality..... polyclonal
 Target..... rat
 Conjugation..... peroxidase
 Western Blot..... complies
 ELISA..... complies

4762.1	2 ml	plastic	143,55 €

For further information, please see page 1259

Antimony(III) oxide**Antimony(III) oxide****≥95 %, extra pure**

di-Antimony trioxide

Sb₂O₃

M 291,52 g/mol

bp 1425 °C

mp 655 °C

[1309-64-4] • EC No. 215-175-0

WGK 2

⚠ Warning H351

Type analysis:

Assay..... ≥95,0 %
 Arsenic (As)..... ≤0,05 %
 Lead (Pb)..... ≤0,5 %
 Iron (Fe)..... ≤0,1 %

7348.1	100 g	plastic	13,45 €

7348.2	500 g	plastic	35,40 €

Original pack 6 x 500 g 33,63/500 g

7348.3	1 kg	plastic	62,25 €

Original pack 6 x 1 kg 59,14/1 kg

7348.4	2,5 kg	plastic	144,60 €

Antimony shot**Antimony shot****ROTI®METIC 99,999 % (5N)**

Sb

M 121,76 g/mol

D 6,68 • bp 1587 °C

[7440-36-0] • EC No. 231-146-5

UN No. 1549 • ADR 6.1 III • WGK 1

⚠ Warning H335

Type analysis:

Assay (metals basis)..... 99,999 %
 Particle size..... 1-3 mm
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4516.2	50 g	glass	170,95 €

Antimony

Antimony

≥99,5 %, powder

Sb

M 121,75 g/mol

D 6,688 • bp 1635 °C

mp 630 °C

[7440-36-0] • EC No. 231-146-5

UN No. 2871 • ADR 6.1 III • WGK 1

⚠ Warning H335

Type analysis:

Appearance..... grey powder

Assay..... ≥99,5 %

Particle size..... ~325 mesh

9258.1 100 g plastic 40,75 €

9258.2 500 g plastic 150,40 €

Original pack 6 x 500 g 142,88/500 g

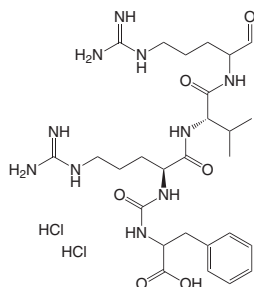
Antimony Standards

▶ Antimony AAS Standard Solution
see p. 2167

▶ Antimony ICP Standard Solution
see p. 2170

▶ Antimony ICP Standard Solution
see p. 2174

Antipain dihydrochloride



Antipain dihydrochloride

≥30 U/mg, for biochemistry

Inhibitor of serin/cystein proteases and
trypsin-like serin proteases.

N-(Nα-Carbonyl-Arg-Val-Arg-al)-Phe
dihydrochloride

C₂₇H₄₄N₁₀O₆ · 2 HCl

M 677,6 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[37682-72-7]

WGK 1

Type analysis:

Appearance..... white powder

Activity (trypsin, L-BAPA)..... ≥30 U/mg

Solubility (0,5 % in H₂O)..... clear

2933.1 5 mg plastic 49,35 €

2933.2 25 mg plastic 179,00 €

For further information, please see page 1228

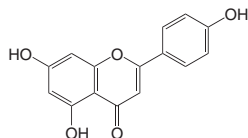
AP

▶ Alkaline phosphatase see p. 1623

APDC

▶ Ammonium pyrrolidine dithiocarbamate
see p. 1643

Apigenin



4',5,7-Trihydroxyflavone

C₁₅H₁₀O₅

M 270,23 g/mol

mp 352 °C

[520-36-5] • EC No. 208-292-3

WGK 1

⚠ Warning H315-H319-H335

Apigenin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤3,0 %

Water (KF)..... ≤2,0 %

Assay (qNMR)..... ≥95,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests
and validations.

NE37.1 10 mg glass 736,40 €

Apigenin

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC)..... ≥85,0 %

Identity..... complies

Traceable to a primary reference standard. With proof
of identity and batch specific certificate of analysis.

NC37.1 25 mg glass 461,20 €

Apigenin

ROTICHRON® HPLC

Reference substance for HPLC

From *Chamomillae romana*

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... ≥99 %

7002.2 20 mg glass 170,95 €

Apigenin

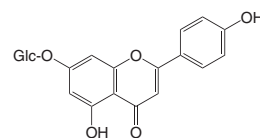
ROTICHRON® TLC

Reference substance for thin layer
chromatography

Storage temp.: +4 °C

5611.1 25 mg glass 39,25 €

Apigenin-7-glucoside



Apigetrin

C₂₁H₂₀O₁₀

M 432,57 g/mol

mp 224-237 °C

[578-74-5] • EC No. 209-430-5

WGK 3

Apigenin-7-glucoside

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤2,0 %

Water (KF)..... ≤7,0 %

Assay (qNMR)..... ≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests
and validations.

NE19.1 25 mg glass 929,90 €

Apigenin-7-glucoside

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %

Identity..... complies

Traceable to a primary reference standard. With proof
of identity and batch specific certificate of analysis.

NC19.1 25 mg glass 278,45 €

Apigenin-7-glucoside

ROTICHRON® HPLC

Reference substance for HPLC

From *Chamomillae romana*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... >99 %

6348.1 10 mg glass 137,50 €

Apigenin-7-glucoside

ROTICHRON® TLC

Reference substance for thin layer
chromatography

From *Chamomillae romana*.

Storage temp.: +4 °C

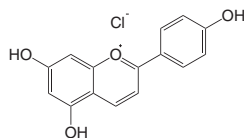
5557.1 100 mg glass 130,00 €

Apigenin-8-glucoside

▶ Vitexin see p. 2238

A

Apigeninidin chloride



Apigeninidin chloride

ROTICHROM® HPLC

Reference substance for HPLC

$C_{15}H_{11}O_4Cl$

M 290,69 g/mol

mp >350 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[1151-98-0]

Type analysis:

Purity (HPLC)..... ≥97 %

3939.2	10 mg	glass	353,70 €

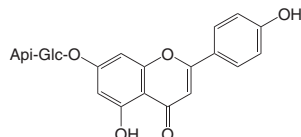
Apigenin-7-rhamnoglucoside

► Rhoifolin see p. 2085

Apigetrin

► Apigenin-7-glucoside see p. 1651

Apiin



Apiin

ROTICHROM® HPLC

Reference substance for HPLC

From *Petroselinum crispum*.

Apiosid, Apigenin-7-apiosylglucoside

$C_{26}H_{28}O_{14}$

M 564,50 g/mol

mp 236 °C

Storage temp.: +4 °C

[26544-34-3] • EC No. 247-780-0

⚠ **Warning** H315-H319-H335

Type analysis:

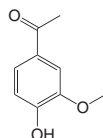
Purity (HPLC)..... >99 %

1085.1	10 mg	glass	295,65 €

6-O-(Apiofuranosyl)-1,6,8-trihydroxy-3-methylantrachinon

► Frangulin B see p. 1841

Apocynin



Apocynin

≥97,5 %

Acetovanillon

$C_9H_{10}O_3$

M 166,17 g/mol

mp 113-117 °C

[498-02-2] • EC No. 207-854-5

WGK 2

Type analysis:

Assay (GC)..... ≥97,5 %

7884.1	25 g	plastic	93,00 €

Aprotinin

Aprotinin

≥3,0 PEU/mg, for biochemistry

Inhibitor of serine proteases.

M 6500 g/mol

Storage temp.: +4 °C

[9087-70-1] • EC No. 232-994-9

WGK 1

Type analysis:

Appearance..... white, solid lyophilisate

Specific activity.... ≥3,0 PEU/mg equals ≥5400 KIU/mg

pH-value (aqueous solution). 5,0-7,0

Sodium chloride (NaCl). 0,11 ±0,07 mg/mg

Loss on drying. ≤6 %

Lyophilized from bovine lungs.

A162.1	10 mg	glass	32,80 €

A162.2	50 mg	glass	97,75 €

A162.3	100 mg	glass	175,80 €

A162.4	500 mg	glass	643,95 €

For further information, please see page 1228

APS

► Ammonium peroxydisulphate see p. 1642

Aqueous Gentamycin sulphate solution

► Gentamycin sulphate solution see p. 1848

Aqueous Gentamicin solution

► Gentamycin sulphate solution see p. 1848

Arabic acid

Arabic acid

for biochemistry

Polyarabinic acid

M ~1100 g/mol

[32609-14-6] • EC No. 251-128-0

Type analysis:

Appearance..... white to almost white powder

Moisture..... <10 %

Ash content..... ≤1 %

pH-value (5 % in H₂O)..... 2,0-3,0

Solubility (10 % in H₂O)..... clear to slightly turbid

7264.1	25 g	plastic	88,70 €

Arabinitol

► D(+)-Arabitol see p. 1653

► L(-)-Arabitol see p. 1653

DL-Arabinose

DL-Arabinose

>99 %, for biochemistry

mp 161-162 °C

[20235-19-2] • EC No. 243-619-3

Type analysis:

Appearance..... white to almost white powder

Assay (HPLC)..... >99,0 %

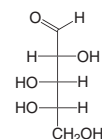
L-Arabinose..... ~50 %

D-Arabinose..... ~50 %

8954.1	10 g	plastic	28,95 €

8954.2	50 g	plastic	82,70 €

L(+)-Arabinose



L(+)-Arabinose

≥99 %, for biochemistry

Pectinose

$C_5H_{10}O_5$

M 150,13 g/mol

D 0,5

mp 158 °C

Solubility: 594 g/l (H₂O, 10 °C)

[5328-37-0] • EC No. 226-214-6

Type analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99,0 %

Spec. rotation (10 % H₂O, 24 h)..... +103° to 105°

Solubility (c=10, H₂O)..... clear, colourless

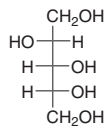
Water (KF)..... ≤0,3 %

Sulphated ash..... ≤0,1 %

5118.1	50 g	glass	37,10 €

5118.2	100 g	plastic	57,95 €

5118.3	250 g	plastic	114,50 €

D(+)-Arabitol**D(+)-Arabitol**

≥99 %, for biochemistry

D(+)-Arabinitol, D(+)-Ara-ol

C₅H₁₂O₅

M 152,15 g/mol • mp 100-104 °C

[488-82-4] • EC No. 207-686-2

Type analysis:

Assay (HPLC) ≥99,0 %

Solution (10 % in H₂O) colourlessSpecific rotation [α]_D²⁰ (c=5 in 8 % aq. H₃BO₃) +11,0° to +13,0°

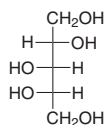
Water (KF) ≤1,0 %

Melting point 100-104 °C

5510.3	5 g	plastic	34,95 €

5510.1	25 g	plastic	109,55 €

5510.2	50 g	plastic	166,65 €

L(-)-Arabitol**L(-)-Arabitol**

for biochemistry

L(-)-Arabinitol

C₅H₁₂O₅

M 152,15 g/mol • mp ~99 °C

[7643-75-6] • EC No. 231-582-6

Type analysis:

Appearance white to off-white powder

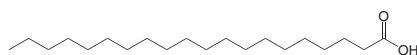
Specific rotation [α]_D²⁰ (2 % in 2 % aq. H₃BO₃) -12,0° to -10,0°

Water (KF) ≤1,0 %

Melting point 97-107 °C

7738.1	1 g	plastic	20,35 €

7738.2	5 g	plastic	53,65 €

Arachidic acid**Arachidic acid**

≥99 %, synth.

n-Eicosanoic acid

C₂₀H₄₀O₂

M 312,52 g/mol

D 0,824 • bp 328 °C (dec.)

mp 75 °C • flp 110 °C

[506-30-9] • EC No. 208-031-3

Type analysis:

Appearance light beige, fine crystals

Assay (GC) ≥99,0 %

8736.1	1 g	glass	47,20 €

Arachidic acid calcium salt**Arachidic acid calcium salt**

DAB

Calcium arachinate/-behenate

C₄₀H₇₈CaO₄

M 663,16 g/mol

mp ~150 °C

[22302-43-8] • EC No. 244-900-3

Guarantee analysis:

Appearance white, light powder

Identity complies

Appearance of solution complies

Acid value 176-192

pH-value 6,8-8,1

Chloride (Cl) ≤0,25 %

Sulphate (SO₄) ≤0,25 %

Calcium (Ca) (dry substance) 5,7-6,3 %

Heavy metals ≤0,004 %

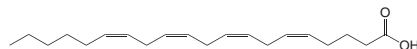
Loss on drying ≤3 %

9264.1	500 g	plastic	28,50 €

Original pack 6 x 500 g	27,08/500 g

9264.2	1 kg	plastic	46,80 €

Original pack 6 x 1 kg	44,46/1 kg

Arachidonic acid**Arachidonic acid**

>99 %

Isolated from porcine liver.

C₂₀H₃₂O₂

M 304,46 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[506-32-1] • EC No. 208-033-4

EUH019

Type analysis:

Appearance colourless to yellowish viscous oil

Assay >99 %

4717.2	10 mg	glass	44,65 €

4717.1	100 mg	glass	100,95 €

4717.3	1 g	glass	676,20 €

Araldit® Binding medium B 1**Araldit® Binding medium B 1**

liquid

Epoxy resin, for connecting and filling of metal, ceramics and plastics.

Curing with Aradur® hardener H2 (2551)

[25068-38-6]

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning

H315-H317-H319-H411-EUH205

2530.1	500 g	tinplate	57,75 €

For further information, please see page 1101

Araldite® Rapid**Araldite® Rapid**

liquid

Two component all-purpose glue, made on the basis of epoxid-resin.

D 1,17

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H317-H319-H411

3131.1	Two kits (= 60 ml glue)	36,45 €

For further information, please see page 1101

Araldit® Resin G 2**Araldit® Resin G 2**

liquid

For casting and embedding electronic metal components

Curing with Aradur® hardener H2 (2551)

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning

H315-H317-H319-H411-EUH205

2545.1	500 g	33,90 €

For further information, please see page 1101

Aradur® Hardener H2**Aradur® Hardener H2**

liquid

For using with Araldit® Binding medium B1 and Araldit® Resin G2

flp 110 °C

[112-24-3]

UN No. 2259 • ADR 8 II • WGK 2

⚠ ⚠ Danger

H302+H312-H314-H317-H412

2551.1	100 g	glass	13,90 €

2551.2	500 g	glass	48,30 €

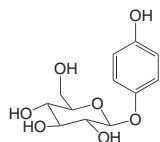
For further information, please see page 1101

D(+)-Ara-ol

▶ D(+)-Arabitol see p. 1653

A

p-Arbutin



Ursin, Ericolin
 $C_{12}H_{16}O_7$
 M 272,25 g/mol
 mp 198 °C
 [497-76-7] • EC No. 207-850-3
 WGK 3

p-Arbutin

≥98 %, for biochemistry

Type analysis:

Appearance..... white powder
 Assay (HPLC)..... ≥98 %
 Solubility..... clear, colourless
 Specific rotation $[\alpha]_D^{20}$ -63° to -67°
 Sulphated ash..... ≤0,5 %
 Loss on drying..... ≤0,5 %

6115.1	10 g	plastic	47,85 €
6115.2	50 g	plastic	150,00 €

p-Arbutin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %
 Residual solvents (GC)..... ≤1,0 %
 Water (KF)..... ≤5,0 %
 Assay (qNMR)..... ≥80,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE38.1	10 mg	glass	467,65 €

p-Arbutin

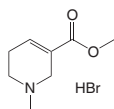
ROTICHRON® Working Standard

Type analysis:

Assay (HPLC)..... ≥85,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC38.1	10 mg	glass	170,95 €

Arecoline hydrobromide



Arecoline hydrobromide

≥99 %
 Methylarecaidin hydrobromide
 $C_8H_{13}NO_2HBr$
 M 236,12 g/mol
 mp 171-174 °C
 [300-08-3] • EC No. 206-087-3
 WGK 2

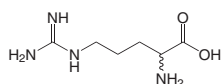
⚠ Warning H302

Type analysis:

Assay..... ≥99,0 %

4602.1	1 g	glass	18,85 €

DL-Arginine



DL-Arginine

≥98,5 %, for biochemistry

$C_6H_{14}N_4O_2$
 M 174,2 g/mol
 mp 228 °C
 Storage temp.: +4 °C
 [7200-25-1] • EC No. 230-571-3
 WGK 1

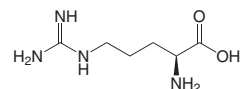
⚠ Warning H319

Type analysis:

Appearance..... white to off-white powder
 Assay..... ≥98,5 %
 Identity (IR)..... complies
 Heavy metals (as Pb)..... ≤0,001 %
 Ash content..... ≤0,1 %
 Loss on drying..... ≤0,5 %

8592.1	5 g	plastic	18,85 €
8592.2	25 g	plastic	55,80 €
8592.3	100 g	plastic	189,10 €

L-Arginine



L-2-Amino-5-guanidino-n-valeric acid
 $C_6H_{14}N_4O_2$
 M 174,2 g/mol
 D 1,42
 mp 238 °C
 Solubility: ~149 g/l (H₂O, 20 °C)
 [74-79-3] • EC No. 200-811-1
 WGK 1

⚠ Warning H319

L-Arginine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins..... ≤6,0 E.U./g
 Assay..... ≥99 %
 Loss on drying..... ≤0,5 %
 Specific rotation $[\alpha]_D^{20}$ +26,9° to +27,9°
 Foreign amino acids..... complies
 Ammonium (NH₄)..... ≤0,02 %
 Chloride (Cl)..... ≤0,02 %
 Sulphate (SO₄)..... ≤0,02 %
 Heavy metals (as Pb)..... ≤0,001 %
 Arsenic (As)..... ≤0,0001 %
 Iron (Fe)..... ≤0,001 %

1655.1	25 g	plastic	9,15 €
1655.2	100 g	plastic	23,55 €
1655.3	500 g	plastic	76,90 €
Original pack 6 x 500 g			73,06/500 g

L-Arginine

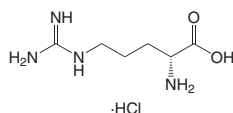
≥98,5 %, USP, for biochemistry

Guarantee analysis:

Appearance..... white, cryst. powder
 Assay (dry substance)..... 98,5-101,0 %
 Identity..... complies
 Appearance of solution..... clear, colourless
 Specific rotation $[\alpha]_D^{20}$ +26,9° to +27,9°
 pH-value (1 g in 20 ml H₂O)..... 10,5-12,0
 Ammonium (NH₄)..... ≤0,02 %
 Chloride (Cl)..... ≤0,02 %
 Sulphate (SO₄)..... ≤0,02 %
 Arsenic (As₂O₃)..... ≤0,0001 %
 Iron (Fe)..... ≤0,001 %
 Heavy metals (as Pb)..... ≤0,001 %
 Foreign amino acids..... complies
 Loss on drying..... ≤0,5 %
 Sulphated ash..... ≤0,1 %

3144.1	50 g	plastic	16,05 €
3144.3	250 g	plastic	38,60 €
3144.2	1 kg	plastic	125,25 €
Original pack 6 x 1 kg			118,99/1 kg

D-Arginine monohydrochloride



D-Arginine monohydrochloride

≥99 %, for biochemistry

D-2-Amino-5-guanidino-n-valeric acid hydrochloride, H-D-Arg-OH · HCl

C₆H₁₄N₄O₂ · HCl

M 210,7 g/mol

Storage temp.: +4 °C

[627-75-8] • EC No. 211-010-1

WGK 1

Type analysis:

Appearance: white to off-white powder
 Assay: 99,0-101,0 %
 Specific rotation [α]_D²⁰ (c=2 in 6 N HCl): -23° to -21°
 Loss on drying: ≤0,5 %

7868.1	5 g	plastic	22,50 €
7868.2	25 g	plastic	67,20 €
7868.3	100 g	plastic	202,00 €

DL-Arginine monohydrochloride

DL-Arginine monohydrochloride

≥98 %, for biochemistry

2-Amino-5-guanidino-n-valeric acid hydrochloride

C₆H₁₄N₄O₂ · HCl

M 210,70 g/mol

mp <200 °C

[32042-43-6] • EC No. 250-903-0

WGK 1

Type analysis:

Appearance: white to yellowish, cryst. powder
 Assay (TLC): ≥98 %
 Water (KF): ≤10 %
 Solubility (50 mg/l H₂O): clear, colourless to yellow

4925.1	5 g	plastic	72,60 €

L-Arginine monohydrochloride

L-2-Amino-5-guanidino-n-valeric acid hydrochloride, H-L-Arg-OH · HCl

C₆H₁₄N₄O₂ · HCl

M 210,67 g/mol

Solubility: ~730 g/l (H₂O, 20 °C)

[1119-34-2] • EC No. 214-275-1

WGK 1

L-Arginine monohydrochloride

≥98,5 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins: ≤6,0 E.U./g
 Assay: ≥98,5 %
 Loss on drying: ≤0,2 %
 Specific rotation [α]_D²⁰: +22,1° to +22,9°
 Ammonium (NH₄): ≤0,02 %

Chloride (Cl): ≤17 %
 Sulphate (SO₄): ≤0,02 %
 Heavy metals (as Pb): ≤0,001 %
 Arsenic (As): ≤0,0001 %
 Iron (Fe): ≤0,001 %

1689.1	25 g	plastic	14,55 €
1689.2	100 g	plastic	24,20 €
1689.3	500 g	plastic	80,55 €
Original pack 6 x 500 g			76,52/500 g

L-Arginine monohydrochloride

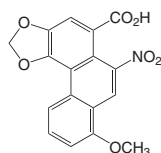
≥98,5 %, Ph.Eur., USP

Guarantee analysis:

Appearance: white, cryst. powder
 Assay (dry substance): 98,5-101,0 %
 Identity: complies
 Appearance of solution: clear, colourless
 Specific rotation [α]_D²⁰: +22,1° to +22,9°
 pH-value (1 g, 10 ml H₂O): 4,7-6,2
 Ammonium (NH₄): ≤0,02 %
 Chloride (Cl): 16,58- 17,00 %
 Sulphate (SO₄): ≤0,02 %
 Arsenic (As₂O₃): ≤0,0001 %
 Iron (Fe): ≤0,001 %
 Heavy metals (as Pb): ≤0,001 %
 Foreign amino acids: complies
 Loss on drying: ≤0,2 %
 Sulphated ash: ≤0,1 %

3145.1	50 g	plastic	16,05 €
3145.2	250 g	plastic	41,85 €

Aristolochic acid I



Aristolochic acid I

ROTICHROM® HPLC

Reference substance for HPLC
From *Aristolochia clematitis*.

Aristolochin

C₁₇H₁₁NO₇

M 341,28 g/mol

mp 281-286 °C (dec.)

Storage temp.: +4 °C

[313-67-7] • EC No. 206-238-3

UN No. 1544 • ADR 6.1 III • WGK 3

Danger

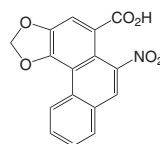
H301+H311+H331-H341-H351

Type analysis:

Purity (HPLC): >99 %

1086.1	20 mg	glass	274,15 €

Aristolochic acid II



Aristolochic acid II

ROTICHROM® HPLC

Reference substance for HPLC
From *Aristolochia clematitis*.

Noraristolochic acid

C₁₆H₉NO₆

M 311,25 g/mol

mp 269-271 °C

Storage temp.: +4 °C

[475-80-9] • EC No. 207-499-6

UN No. 1544 • ADR 6.1 III • WGK 3

Danger

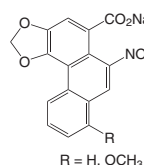
H301+H311+H331-H341-H351

Type analysis:

Purity (HPLC): >99 %

1088.1	20 mg	glass	342,95 €

Aristolochic acid sodium salt (I and II)



Aristolochic acid sodium salt (I and II)

for biochemistry

C₁₇H₁₀NNaO₇ / C₁₆H₉NO₆Na

M 363 / 333 g/mol

[10190-99-5] • EC No. 233-463-4

UN No. 1544 • ADR 6.1 II

Danger

H301+H311+H331-H351-H341

Type analysis:

Appearance: yellow to orange powder
 Identity (TLC): complies
 Solubility (c=20 mg/ml in H₂O): soluble

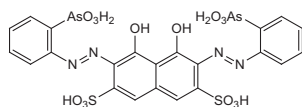
7268.1	500 mg	glass	342,95 €

Aristolochin

▶ Aristolochic acid I see p. 1655

A

Arsenazo III



Arsenazo III

≥85 %, p.a.

Indicator for metal ions

2,7-Bis(2-arsonophenylazo)-1,8-dihydroxy-naphthalin-3,6-disulphonic acid

C₂₂H₁₈As₂N₄O₁₄S₂

M 776,37 g/mol

[1668-00-4] • EC No. 216-788-6

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H301+H331-H400-H410

Guarantee analysis:

Assay (HPLC).....	≥85,0 %
Sulphated ash.....	≤0,2 %
Loss on drying (120 °C).....	≤8,0 %
Specific Extinction E (1%/1cm).....	300,0-450,0
Absorption max. (in H ₂ O).....	535,0-543,0 nm
Absorption max. (in buffer pH 10).....	571,0-576,0 nm
Lead (Pb).....	≤0,001 %
Cadmium (Cd).....	≤0,005 %
Calcium (Ca).....	≤0,01 %
Chromium (Cr).....	≤0,005 %
Iron (Fe).....	≤0,01 %
Copper (Cu).....	≤0,005 %
Magnesium (Mg).....	≤0,005 %
Manganese (Mn).....	≤0,005 %
Nickel (Ni).....	≤0,005 %
Tin (Sn).....	≤0,005 %

KK22.1	1 g	glass	48,30 €
KK22.2	5 g	glass	177,40 €

Arsenic pieces

Arsenic pieces

ROTI®METIC 99,9999 % (6N)

As

M 74,92 g/mol

D 5,73 • bp 616 °C (subl.)

[7440-38-2] • EC No. 231-148-6

UN No. 1558 • ADR 6.1 II • WGK 3

Danger H301+H331-H400-H410

Type analysis:

Assay (metals basis).....	99,9999 %
Particle size.....	2-8 mm
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5103.1	5 g	plastic	59,05 €
5103.2	25 g	plastic	192,45 €

Arsenic Standards

- ▶ Arsenic AAS Standard Solution see p. 2167
- ▶ Arsenic ICP Standard Solution see p. 2170
- ▶ Arsenic ICP Standard Solution see p. 2174

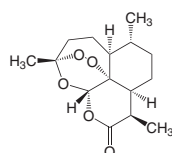
1-(2-Arsonophenylazo)-2-hydroxy-3,6-naphthalene-disulphonic acid sodium salt

▶ Thorin see p. 2208

Arteannuin

▶ Artemisinin see p. 1656

Artemisinin



Artemisinin

≥97 %

Arteannuin, Qinghaosu

C₁₅H₂₂O₅

M 282,34 g/mol

D 1,24

mp 150-152 °C

[63968-64-9]

UN No. 3108 • ADR 5.2 • WGK 2

Warning H242-H400-H410

Type analysis:

Assay..... ≥97 %

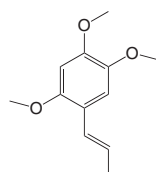
A526.1	100 mg	glass	42,90 €

Asarin

▶ α-Asarone see p. 1656

▶ β-Asarone see p. 1656

α-Asarone



α-Asarone

ROTI®CHROM® GC

Reference substance for GC

Asarin, Asarum camphor

C₁₂H₁₆O₃

M 208,25 g/mol

bp 296 °C

mp 62-63 °C

Storage temp.: +4 °C

[2883-98-9] • EC No. 220-743-6

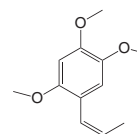
Warning H302

Type analysis:

Purity (GC)..... ≥96 %

9362.1	1 g	plastic	75,15 €

β-Asarone



β-Asarone

ROTI®CHROM® GC

Reference substance for GC

Asarin, Asarum camphor

C₁₂H₁₆O₃

M 208,25 g/mol

Storage temp.: +4 °C

[5273-86-9] • EC No. 226-096-6

Warning H302

Type analysis:

Purity (GC)..... ≥97,0 %

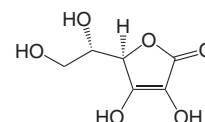
9363.1	1 g	plastic	75,15 €

Asarum camphor

▶ α-Asarone see p. 1656

▶ β-Asarone see p. 1656

L(+)-Ascorbic acid



Vitamin C

C₆H₈O₆

M 176,12 g/mol

D 1,65

mp 190-192 °C

Solubility: 333 g/l (H₂O, 20 °C)

[50-81-7] • EC No. 200-066-2

WGK 1

L(+)-Ascorbic acid

≥99 %, p.a.

Antioxidant, for biochemistry.

Guarantee analysis:

Appearance.....	white crystals
Assay.....	≥99 %
Identity.....	complies
Arsenic (As).....	≤0,0003 %
Lead (Pb).....	≤0,0005 %
Iron (Fe).....	≤0,0002 %
Copper (Cu).....	≤0,0005 %
Heavy metals.....	≤0,001 %
Oxalic acid (C ₂ H ₂ O ₄).....	≤0,2 %
Specific rotation [α] _D ²⁰	+20,5° to +21,5°
pH-value (2 % in H ₂ O).....	2,2-2,8

3525.1	100 g	plastic	11,10 €

3525.2	250 g	plastic	16,05 €

3525.3	500 g	plastic	24,55 €

Original pack 6 x 500 g 23,32/500 g

L(+)-Ascorbic acid

≥99 %, Ph.Eur., USP, BP, E 300

Guarantee analysis:

Appearance..... white to almost white crystals
 Assay..... 99,0-100,5 %
 Identity..... complies
 Appearance of solution..... complies
 Arsenic (As)..... ≤0,0003 %
 Lead (Pb)..... ≤0,001 %
 Iron (Fe)..... ≤0,0002 %
 Copper (Cu)..... ≤0,0005 %
 Heavy metals..... ≤0,001 %
 Sulphated ash..... ≤0,1 %
 Specific rotation $[\alpha]_D^{25}$ +20,5° to +21,5°
 Oxalate (as $C_2H_2O_4$)..... ≤0,2 %

6288.1	100 g	plastic	11,75 €

6288.2	250 g	plastic	18,85 €

6288.3	1 kg	plastic	56,45 €

Original pack 6 x 1 kg	53,63/1 kg

L(+)-Ascorbic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %
 Residual solvents (GC)..... ≤2,0 %
 Water (KF)..... ≤2,0 %
 Assay (qNMR)..... ≥90,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE00.1	100 mg	glass	671,90 €

L(+)-Ascorbic acid

ROTI®CHROM® Working Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC00.1	100 mg	glass	89,80 €

L(+)-Ascorbic acid sodium salt

Sodium L(+)-ascorbate

 $C_6H_7O_6Na$

M 198,11 g/mol

D 1,8

mp 220 °C

[134-03-2] • EC No. 205-126-1

WGK 1

L(+)-Ascorbic acid sodium salt

≥99 %, USP, for biochemistry

Guarantee analysis:

Appearance..... white to light yellowish crystals
 Assay (iodom., dry substance)..... 99,0 -101,0 %
 Identity..... complies
 pH-value (10 % H_2O , 20 °C)..... 7,0-8,0
 Heavy metals (as Pb)..... ≤0,001 %
 Loss on drying..... ≤0,25 %
 Volatile organic impurities..... complies
 Specific rotation $[\alpha]_D^{25}$ (10 % in H_2O , dry substance)..... +103° to +106°

3149.1	100 g	plastic	22,05 €

3149.2	500 g	plastic	66,55 €

Original pack 6 x 500 g	63,22/500 g

L(+)-Ascorbic acid sodium salt

≥99 %, ROTI®click Grade

for Click Chemistry

Type analysis:

Appearance..... white powder
 Assay..... ≥99 %

7819.1	10 mg	plastic	11,00 €

7819.2	5 x 10 mg	plastic	33,25 €

Asiaticoside**Asiaticoside**

ROTI®CHROM® HPLC

Reference substance for HPLC

 $C_{48}H_{78}O_{19}$

M 959,15 g/mol

mp 235-238 °C

Storage temp.: +4 °C

[16830-15-2] • EC No. 240-851-7

Type analysis:

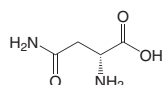
Purity (HPLC)..... ≥99 %

3972.1	10 mg	glass	188,15 €

H-Asn-OH

► D-Asparagine monohydrate see p. 1657

► DL-Asparagine monohydrate see p. 1657

D-Asparagine monohydrate**D-Asparagine monohydrate**

≥98 %, for biochemistry

D-Asparaginic acid semiamide, H-D-Asn-OH

 $C_4H_8N_2O_3 \cdot H_2O$

M 150,12 g/mol

Storage temp.: +4 °C

[5794-24-1] • EC No. 218-163-3

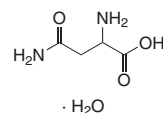
WGK 1

Type analysis:

Appearance..... white cryst. powder
 Assay..... ≥98,0 %
 Specific rotation $[\alpha]_D^{25}$ (c=5 in 5 N HCl). -36,5° to -34,5°
 Loss on drying..... 11,5-12,5 %

7872.1	5 g	plastic	22,50 €

7872.2	25 g	plastic	67,20 €

DL-Asparagine monohydrate**DL-Asparagine monohydrate**

≥98 %, for biochemistry

(±)-2-Aminsuccinic acid 4-amide, DL-Aspartic acid 4-amide, H-DL-Asn-OH

 $C_4H_8N_2O_3 \cdot H_2O$

M 150,14 g/mol

[3130-87-8] • EC No. 221-521-1

WGK 1

Type analysis:

Assay (titr.)..... ≥98,0 %
 Solution (5 % in H_2O)..... colourless, clear
 Water (KF)..... 10,5-13,5 %
 Aspartic acid content (TLC)..... ≤3,0 %

5495.1	100 g	plastic	36,45 €

5495.2	250 g	plastic	80,10 €

L-Asparagine monohydrate

Asparaginic acid semiamide

 $C_4H_8N_2O_3 \cdot H_2O$

M 150,14 g/mol

mp 215-217 °C (dec.)

Solubility: ~22 g/l (H_2O , 20 °C)

[5794-13-8] • EC No. 200-735-9

WGK 1

L-Asparagine monohydrate

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins..... ≤6,0 E.U./g
 Assay..... ≥99 %
 Loss on drying..... 10,5-12,5 %
 Sulphated ash..... ≤0,1 %
 Specific rotation $[\alpha]_D^{25}$ +33,7° to +36,0°
 Foreign amino acids..... complies
 Ammonium (NH_4)..... ≤0,1 %
 Chloride (Cl)..... ≤0,02 %
 Sulphate (SO_4)..... ≤0,02 %
 Heavy metals (as Pb)..... ≤0,001 %
 Iron (Fe)..... ≤0,001 %

KK37.1	50 g	plastic	24,20 €

KK37.2	250 g	plastic	83,75 €

KK37.3	500 g	plastic	156,45 €

Original pack 6 x 500 g	148,63/500 g

A

L-Asparagine monohydrate

≥99 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance.....white, cryst. powder
 Appearance of solution.....complies
 Identity.....complies
 Assay (dry substance).....99,0-101,0 %
 Specific rotation $[\alpha]_D^{20}$+33,7° to +36,0°
 pH value.....4,0-6,0
 Ammonium (NH₄).....≤0,1 %
 Chloride (Cl).....≤0,02 %
 Sulphate (SO₄).....≤0,02 %
 Heavy metals (as Pb).....≤0,001 %
 Iron (Fe).....≤0,001 %
 Foreign amino acids.....≤0,5 %
 Aspartic acid.....≤0,5 %
 Loss on drying.....10,5-12,5 %
 Sulphated ash.....≤0,1 %

HN23.1	100 g	plastic	33,90 €

HN23.2	500 g	plastic	144,60 €

Original pack 6 x 500 g	137,37/500 g

HN23.3	1 kg	plastic	241,90 €

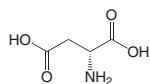
Original pack 6 x 1 kg	229,81/1 kg

Asparaginic acid semiamide

► D-Asparagine monohydrate see p. 1657

► DL-Asparagine monohydrate see p. 1657

► L-Asparagine monohydrate see p. 1657

D-Aspartic acid**D-Aspartic acid**

≥98 %, for biochemistry

D-2-Amino-succinic acid, H-D-Asp-OH

C₄H₇NO₄

M 133,1 g/mol

Storage temp.: +4 °C

[1783-96-6] • EC No. 217-234-6

WGK 1

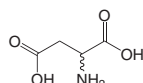
Type analysis:

Appearance.....white to off-white powder
 Assay.....98,0-101,0 %
 Specific rotation $[\alpha]_D^{20}$ (c=8 in 6 N HCl).....-26° to -24°
 Loss on drying.....≤0,2 %

7873.1	5 g	plastic	18,85 €

7873.2	25 g	plastic	56,90 €

7873.3	100 g	plastic	143,55 €

DL-Aspartic acid**DL-Aspartic acid**

≥99 %, for biochemistry

2-Amino-succinic acid

C₄H₇NO₄

M 133,1 g/mol

Storage temp.: +4 °C

[617-45-8] • EC No. 210-513-3

WGK 1

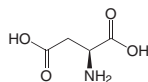
Type analysis:

Appearance.....white cryst. powder
 Assay.....≥99,0 %
 Identity (IR).....complies
 Heavy metals (as Pb).....≤0,005 %
 Loss on drying.....≤0,5 %

8593.1	100 g	plastic	25,70 €

8593.2	500 g	plastic	98,80 €

Original pack 6 x 500 g	93,86/500 g

L-Aspartic acid

L-2-Amino-succinic acid, H-L-Asp-OH

C₄H₇NO₄

M 133,1 g/mol

mp ~271 °C

Solubility: ~4 g/l (H₂O, 20 °C)

[56-84-8] • EC No. 200-291-6

WGK 1

L-Aspartic acid

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤6,0 E.U./g
 Assay.....≥99 %
 Loss on drying.....≤0,2 %
 Specific rotation $[\alpha]_D^{20}$+24,5° to +26,0°
 Foreign amino acids.....complies
 Ammonium (NH₄).....≤0,02 %
 Chloride (Cl).....≤0,02 %
 Sulphate (SO₄).....≤0,02 %
 Heavy metals (as Pb).....≤0,0005 %
 Arsenic (As₂O₃).....≤0,0001 %
 Iron (Fe).....≤0,001 %

1690.1	25 g	plastic	13,15 €

1690.2	100 g	plastic	23,55 €

1690.3	500 g	plastic	78,40 €

Original pack 6 x 500 g	74,48/500 g

L-Aspartic acid

≥98,5 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance.....white, cryst. powder
 Assay (dry substance).....98,5 -101,0 %
 Identity.....complies
 Appearance of solution.....clear, colourless
 Specific rotation $[\alpha]_D^{20}$+24,5° to +26,0°
 pH-value.....2,5-3,5
 Ammonium (NH₄).....≤0,02 %
 Chloride (Cl).....≤0,02 %
 Sulphate (SO₄).....≤0,02 %
 Arsenic (As₂O₃).....≤0,0001 %
 Iron (Fe).....≤0,001 %
 Heavy metals (as Pb).....≤0,001 %
 Foreign amino acids.....complies
 Loss on drying.....≤0,2 %
 Sulphated ash.....≤0,1 %

T202.1	100 g	plastic	14,95 €

T202.2	500 g	plastic	66,15 €

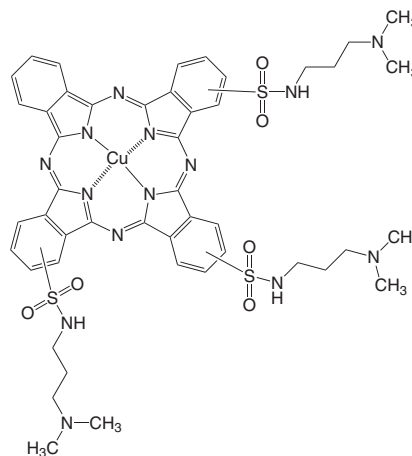
Original pack 6 x 500 g	62,84/500 g

T202.3	1 kg	plastic	109,55 €

Original pack 6 x 1 kg	104,07/1 kg

DL-Aspartic acid 4-amide

► DL-Asparagine monohydrate see p. 1657

Astra blue FM (C.I. 48048)**Astra blue FM (C.I. 48048)**

for microscopy

C₄₇H₅₂CuN₁₄O₆S₃

M 1068,75 g/mol

[82864-57-1]

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Absorption max. (in H₂O).....605-615 nm
 Loss on drying (110 °C).....≤10 %
 Suitability for microscopy.....complies

5165.1	10 g	glass	12,40 €

5165.2	50 g	glass	25,70 €

For further information, please see page 1396

Astragalin

► Kaempferol-3-glucoside see p. 1915

ATP**ATP**

≥98 %, lyophilised

Adenosine-5-triphosphate di-sodium salt

C₁₀H₁₄N₅O₁₃P₃Na₂ · 3 H₂O

M 605,18 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[987-65-5] • EC No. 213-579-1

K054.1	1 g	plastic	12,40 €

K054.2	5 g	plastic	33,90 €

K054.3	10 g	plastic	53,25 €

K054.4	25 g	plastic	117,20 €

K054.5	50 g	plastic	213,95 €

For further information, please see page 1210

ATP disodium salt

- ▶ Adenosine-5'-triphosphate disodium salt see p. 1616

ATP solution**ATP**

≥99 %, 100 mM solution

Adenosine-5-triphosphate

$C_{10}H_{13}N_5O_{13}P_3$

M 504,16 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[987-65-5] • EC No. 213-579-1

WGK 1

K045.1	25 µmol (250 µl)	plastic	38,20 €

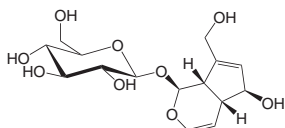
For further information, please see page 1209

Aubepine

- ▶ 4-Anisaldehyde see p. 1647

Aucuboside

- ▶ Aucubin see p. 1659

Aucubin

Aucuboside, Rhinanthin

$C_{15}H_{22}O_9$

M 346,34 g/mol

mp 180 °C

Storage temp.: +4 °C

[479-98-1] • EC No. 207-540-8

Aucubin

>97 %

Type analysis:

Assay (HPLC).....>97 %

9149.1	250 mg	glass	439,70 €

Aucubin

ROTICHROM® HPLC

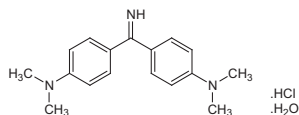
Reference substance for HPLC

From *Aucuba japonica*.

Type analysis:

Purity (HPLC).....>98,5 %

7004.1	25 mg	glass	131,70 €

Auramine O (C.I. 41000)**Auramine O (C.I. 41000)**

for microscopy

4,4'-Bis-(dimethylamino)-benzophenonimide-hydrochloride, Basic yellow 2

$C_{17}H_{22}ClN_3$

M 303,84 g/mol

mp >250 °C (dec.)

Solubility: 10 g/l (H_2O , 20 °C)

[2465-27-2] • EC No. 219-567-2

UN No. 3077 • ADR 9 III • WGK 3

Warning H351-H302-H319-H411

Type analysis:

Maximum absorption..... 430-440 nm

0319.1	25 g	glass	14,95 €

0319.2	50 g	glass	24,40 €

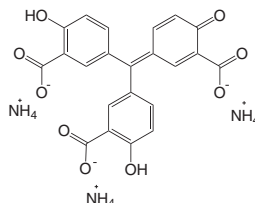
For further information, please see page 1404

Aureine

- ▶ Senecionine see p. 2124

Auric chloride

- ▶ Gold(III) chloride see p. 1862

Aurin tricarboxylic acid ammonium salt**Aurin tricarboxylic acid ammonium salt**

p.a., ACS

Reagent for Aluminium

Aluminon, Ammonium aurin tricarboxylate

$C_{22}H_{23}N_3O_9$

M 473,44 g/mol

mp 220-225 °C

Solubility: 800 g/l (H_2O , 20 °C)

[569-58-4] • EC No. 209-319-1 • WGK 1

Warning H315-H319

Guarantee analysis:

Identity..... complies
Insoluble matter..... ≤0,1 %
Ash content..... ≤0,2 %
Suitability as reagent for aluminum..... complies

2670.1	10 g	glass	16,70 €

2670.2	25 g	glass	24,20 €

2670.3	100 g	glass	59,05 €

Autoinduction broth

- ▶ LB Broth Autoinduct see p. 1926
▶ Super Broth Autoinduct see p. 2194
▶ Terrific Broth Autoinduct see p. 2200
▶ 2x YT Broth Autoinduct see p. 2249

Autoradiography Pen**Autoradiography Pen**

For marking of chemoluminescent or isotope labelled sheets prior to autoradiographic detection.

flp 20 °C

UN No. 1268 • ADR 3 II • WGK 2

Danger H225-H304-H372-EU031

CL10.1	1 piece	112,90 €

For further information, please see page 1263

Avocado oil**Avocado oil**

refined, DAC

Oleum Perseae

D 0,91

[8024-32-6] • EC No. 232-428-0

Type analysis:

Relative density (20 °C).....0,912-0,923

Refractive index n_D^{20} 1,468-1,476

Acid value.....≤1,0 mg KOH/g

Peroxide value.....≤15,0 meq O_2 /kg

Saponification value.....187-197 mg KOH/g

Iodine value (g I_2 /100 g).....75-95

Unsaponifiable matter.....≤2,0 %

GC-fatty acid constituents:

<C 16:0.....≤2,0 %

C 16:0 Palmitic acid.....5,0-25 %

C 16:1 Palmitoleic acid.....1,0-12 %

C 18:0 Stearic acid.....≤3,0 %

C 18:1 Oleic acid.....50-74 %

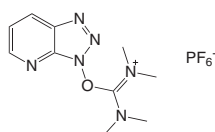
C 18:2 Linoleic acid.....6,0-20 %

C 18:3 Linolenic acid.....≤3,0 %

Other fatty acids.....≤1,0 %

9341.1	1 l	glass	57,95 €

Original pack 6 x 1 l 55,05/1 l

O-(7-Azabenzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate

O-(7-Azabenzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate

≥99 %

Coupling reagent for peptide synthesis

HATU

C₁₀H₁₅F₆N₆O₂

M 380,23 g/mol

mp 181-185 °C

Storage temp.: +4 °C

[148893-10-1]

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

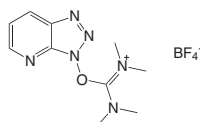
Assay (HPLC).....≥99,0 %

Loss on drying.....≤0,5 %

Solubility (5 % in DMF).....clearly soluble

2131.1	5 g	plastic	48,30 €

2131.2	25 g	plastic	185,45 €

O-(7-Azabenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate

O-(7-Azabenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate

≥99 %

Coupling reagent for peptide synthesis

TATU

C₁₀H₁₅BF₄N₆O

M 322,07 g/mol

[873798-09-5]

WGK 1

⚠ Warning H302

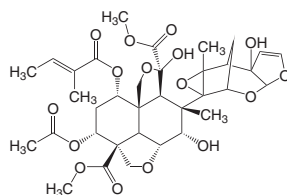
Type analysis:

Assay (HPLC).....≥99,0 %

Loss on drying.....≤0,5 %

2148.1	5 g	glass	40,35 €

2148.2	25 g	glass	139,25 €

Azadirachtin

Azadirachtin

ROTICHRON® HPLC

Reference substance for HPLC

C₃₅H₄₄O₁₆

M 720,72 g/mol

mp 158-160 °C

Storage temp.: +4 °C

[11141-17-6]

Type analysis:

Purity (HPLC).....≥96 %

4314.1	1 mg	glass	160,20 €

9-Azafluorene

► Carbazole see p. 1714

7-Azaindole

7-Azaindole

≥98 %

1H-Pyrrolo[2,3-b]pyridine

C₇H₆N₂

M 118,14 g/mol

bp 270 °C (1004 hPa)

mp 105-107 °C

[271-63-6] • EC No. 205-981-0

Type analysis:

Assay (GC).....≥98,0 %

Solution (5 % in methanol).....colourless to

slightly yellow, clear

Water (KF).....≤0,5 %

Melting point.....105-107 °C

5490.1	1 g	glass	17,75 €

5490.2	5 g	plastic	55,80 €

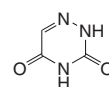
5490.3	10 g	plastic	100,95 €

H-D-Aza-OH · HCl

► D-β-Azidoalanine hydrochloride see p. 1661

H-L-Aza-OH · HCl

► L-β-Azidoalanine hydrochloride see p. 1661

6-Azauracil

6-Azauracil

≥98 %, for biochemistry

1,2,4-Triazine-3,5-(2H,4H)-dione,

3,5-Dihydroxy-1,2,4-triazine

C₃H₃N₃O₂

M 113,08 g/mol • mp 277-281 °C

[461-89-2] • EC No. 207-318-0

⚠ Warning H371

Type analysis:

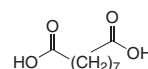
Assay (titr.).....≥98,0 %

Loss on drying.....≤2,0 %

Melting point.....277-281 °C

5488.1	5 g	plastic	60,10 €

5488.2	10 g	plastic	100,95 €

Azelaic acid

Azelaic acid

≥80 %

Nonanedioic acid

C₉H₁₆O₄

M 188,23 g/mol

D 1,03 • bp ~101 °C (20 hPa)

mp 97-107 °C • flp 215 °C

Solubility: 2,4 g/l (H₂O, 20 °C)

[123-99-9] • EC No. 204-669-1 • WGK 1

⚠ Warning H319

Type analysis:

Assay (titr.).....≥80,0 %

Water (KF).....≤1,0 %

Melting point.....97-107 °C

5487.1	25 g	plastic	20,10 €

5487.2	100 g	plastic	49,15 €

Azide Dextrose Broth
Azide Dextrose Broth

for microbiology

For enrichment and detection of enterococci.

Application: Use 34,7 g (1x) or 69,4 g (2x) for 1 l broth.

Storage temp.: +20 °C • WGK 1

⚠ Warning H302-H412

Formulation:

Casein peptone.....15 g/l

Meat extract.....4,5 g/l

Glucose.....7,5 g/l

Sodium chloride (NaCl).....7,5 g/l

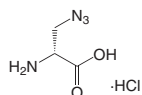
Sodium azide.....0,2 g/l

pH value.....7,2 ±0,2

CL79.1	500 g	plastic	87,00 €

Original pack 6 x 500 g 82,65/500 g

For further information, please see page 1315

D-β-Azidoalanine hydrochloride**D-β-Azidoalanine hydrochloride**

≥99 %

3-Azido-D-alanine hydrochloride,
H-D-Aza-OH · HClC₃H₆N₄O₂ · HCl

M 166,56 g/mol

Storage temp.: +4 °C

[1379690-01-3]

WGK 3

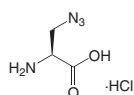
Type analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99 %

Enantiomeric purity..... ≤0,5 % L-enantiomer

7856.1	5 mg	plastic	38,60 €
7856.2	10 mg	plastic	61,20 €
7856.3	100 mg	plastic	196,20 €
7856.4	500 mg	plastic	499,90 €

L-β-Azidoalanine hydrochloride**L-β-Azidoalanine hydrochloride**

≥99 %

3-Azido-L-alanine hydrochloride,
H-L-Aza-OH · HClC₃H₆N₄O₂ · HCl

M 166,56 g/mol

Storage temp.: +4 °C

[105661-40-3]

WGK 3

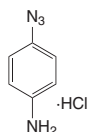
Type analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99 %

Enantiomeric purity..... ≤0,5 % D-enantiomer

7854.1	5 mg	plastic	38,60 €
7854.2	10 mg	plastic	61,20 €
7854.3	100 mg	plastic	196,20 €
7854.4	500 mg	plastic	499,90 €

4-Azidoaniline Hydrochloride**4-Azidoaniline Hydrochloride**

≥95 %

Linker

C₆H₆N₄ · HCl

M 170,6 g/mol

Storage temp.: +4 °C

[91159-79-4]

UN No. 2926 • ADR 4.1 (6.1) II • WGK 3

Danger

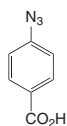
H228-H301+H311+H331-H315-H319-H335

Type analysis:

Appearance..... light yellow solid

Assay (NMR)..... ≥95 %

7834.1	5 mg	plastic	25,30 €
7834.2	10 mg	plastic	38,60 €

4-Azidobenzoic acid**4-Azidobenzoic acid**

≥97 %

Linker

C₇H₅N₃O₂

M 163,14 g/mol

Storage temp.: +4 °C

[6427-66-3]

UN No. 1325 • ADR 4.1 III • WGK 3

Warning H228**Type analysis:**

Appearance..... white, cryst. powder

Assay (HPLC)..... ≥97 %

7835.1	10 mg	plastic	35,40 €

2-[2-(2-Azidoethoxy)ethoxy]-ethanol

▶ HO-PEG2-Azide see p. 2022

5-((2-(2-(2-(2-Azidoethoxy)ethoxy)ethoxy)ethyl)-carbamoyl)-2-(6-(dimethylamino)-3-(dimethyliminio)-3H-xanthen-9-yl)benzoate

▶ 5-Carboxytetramethylrhodamine-PEG3-Azide (5-TAMRA-PEG3-Azide) see p. 1716

4-((2-(2-(2-(2-Azidoethoxy)ethoxy)ethoxy)ethyl)carbamoyl)-2-(6-hydroxy-3-oxo-3H-xanthen-9-yl)benzoic acid▶ 6-Carboxyfluorescein-PEG3-Azide
(6-FAM-PEG3-Azide) see p. 1716**O-(2-(2-(2-(2-Azidoethoxy)ethoxy)ethoxy)ethyl)-hydroxylamine**

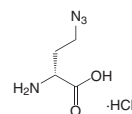
▶ Aminoxy-PEG3-Azide see p. 1632

N-(2-(2-(2-(2-Azidoethoxy)ethoxy)ethoxy)ethyl)-5-((3aS,4S,6aR)-2-oxo-hexahydro-1H-thieno[3,4-d]imidazol-4-yl)pentanamide

▶ Biotin-PEG3-Azide see p. 1677

O-(2-Azidoethyl)-O'-methyl-heptaethylene glycole

▶ PEG8-Azide see p. 2023

D-γ-Azidohomoalanine hydrochloride**D-γ-Azidohomoalanine hydrochloride**

≥99 %

4-Azido-D-homoalanine hydrochloride,
H-D-Aha-OH · HClC₄H₈N₄O₂ · HCl

M 180,58 g/mol

Storage temp.: +4 °C

WGK 3

Type analysis:

Appearance..... white powder

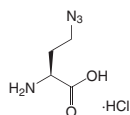
Assay (HPLC)..... ≥99 %

Enantiomeric purity..... ≤0,5 % L-enantiomer

7858.1	5 mg	plastic	38,60 €
7858.2	10 mg	plastic	61,20 €
7858.3	100 mg	plastic	196,20 €
7858.4	500 mg	plastic	499,90 €

A

L-γ-Azidohomoalanine hydrochloride



L-γ-Azidohomoalanine hydrochloride

≥99 %

4-Azido-L-homoalanine hydrochloride,

H-L-Aha-OH · HCl

C₄H₈N₄O₂ · HCl

M 180,58 g/mol

Storage temp.: +4 °C

[942518-29-8]

WGK 3

Type analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99 %

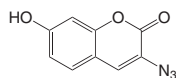
Enantiomeric purity..... ≤0,5 % D-enantiomer

7857.1	5 mg	plastic	38,60 €
7857.2	10 mg	plastic	61,20 €
7857.3	100 mg	plastic	196,20 €
7857.4	500 mg	plastic	499,90 €

3-Azido-7-hydroxy-chromen-2-one

► 3-Azido-7-hydroxycoumarin see p. 1662

3-Azido-7-hydroxycoumarin



3-Azido-7-hydroxycoumarin

≥98 %

Fluorescent dye

3-Azido-7-hydroxy-chromen-2-one

C₉H₅N₃O₃

M 203,15 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[817638-68-9]

WGK 3

Type analysis:

Appearance..... brown solid

Assay (HPLC)..... ≥98 %

Absorption max. (buffer, pH 7)..... 404 nm (after click reaction)

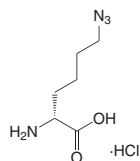
Emission max. (buffer, pH 7)..... 480 nm (after click reaction)

Solubility..... DMSO, DMF, MeOH, MeCN

For a 10 mM solution: add 492 µl to 1 mg.

7811.1	1 mg	plastic	80,10 €
7811.2	5 mg	plastic	267,70 €

D-Azidolysine hydrochloride



D-Azidolysine hydrochloride

≥99 %

6-Azido-D-lysine hydrochloride,

H-D-Lys(N3)-OH · HCl

C₆H₁₂N₄O₂ · HCl

M 208,64 g/mol

Storage temp.: +4 °C

WGK 3

Type analysis:

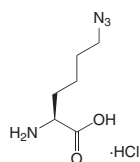
Appearance..... white powder

Assay (HPLC)..... ≥99 %

Enantiomeric purity..... ≤0,5 % L-enantiomer

7862.1	5 mg	plastic	38,60 €
7862.2	10 mg	plastic	61,20 €
7862.3	100 mg	plastic	196,20 €
7862.4	500 mg	plastic	499,90 €

L-Azidolysine hydrochloride



L-Azidolysine hydrochloride

≥99 %

6-Azido-L-lysine hydrochloride,

H-L-Lys(N3)-OH · HCl

C₆H₁₂N₄O₂ · HCl

M 208,64 g/mol

Storage temp.: +4 °C

[159610-92-1]

WGK 3

Type analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99 %

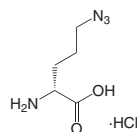
Enantiomeric purity..... ≤0,5 % D-enantiomer

7861.1	5 mg	plastic	38,60 €
7861.2	10 mg	plastic	61,20 €
7861.3	100 mg	plastic	196,20 €
7861.4	500 mg	plastic	499,90 €

26-Azido-3,6,9,12,15,18,21,24-octaoxahectacosan-1-amine

► H₂N-PEG8-Azide see p. 2023

D-Azidoornithine hydrochloride



D-Azidoornithine hydrochloride

≥99 %

5-Azido-D-ornithine hydrochloride,

H-D-Orn(N3)-OH · HCl

C₅H₁₀N₄O₂ · HCl

M 194,7 g/mol

Storage temp.: +4 °C

WGK 3

Type analysis:

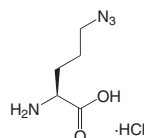
Appearance..... white, crystalline powder

Assay (HPLC)..... ≥99 %

Enantiomeric purity..... ≤0,5 % L-enantiomer

7860.1	5 mg	plastic	38,60 €
7860.2	10 mg	plastic	61,20 €
7860.3	100 mg	plastic	196,20 €
7860.4	500 mg	plastic	499,90 €

L-Azidoornithine hydrochloride



L-Azidoornithine hydrochloride

≥99 %

5-Azido-L-ornithine hydrochloride,

H-L-Orn(N3)-OH · HCl

C₅H₁₀N₄O₂ · HCl

M 194,7 g/mol

Storage temp.: +4 °C

[156463-09-1]

WGK 3

Type analysis:

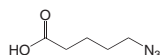
Appearance..... white, cryst. powder

Assay (HPLC)..... ≥99 %

Enantiomeric purity..... ≤0,5 % D-enantiomer

7859.1	5 mg	plastic	38,60 €
7859.2	10 mg	plastic	61,20 €
7859.3	100 mg	plastic	196,20 €
7859.4	500 mg	plastic	499,90 €

5-Azidopentanoic acid



5-Azidopentanoic acid

≥99 %

Linker

C₅H₉N₃O₂

M 143,15 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[79583-98-5]

WGK 3

Warning H351

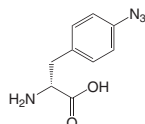
Type analysis:

Appearance..... clear yellow liquid

Assay (TLC)..... ≥99 %

7836.1	5 mg	plastic	25,30 €
7836.2	10 mg	plastic	38,60 €

D-4-Azidophenylalanine



D-4-Azidophenylalanine

≥98 %

4-Azido-D-phenylalanine, H-D-Phe(4-N₃)-OHC₉H₁₀N₄O₂

M 206,2 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[328005-78-3]

WGK 3

Type analysis:

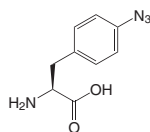
Appearance..... almost white powder

Assay (HPLC)..... ≥98 %

Enantiomeric purity..... ≤0,5 % L-enantiomer

7853.1	5 mg	plastic	38,60 €
7853.2	10 mg	plastic	61,20 €
7853.3	100 mg	plastic	196,20 €
7853.4	500 mg	plastic	499,90 €

L-4-Azidophenylalanine



L-4-Azidophenylalanine

≥98 %

4-Azido-L-phenylalanine, H-L-Phe(4-N₃)-OHC₉H₁₀N₄O₂

M 206,2 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[33173-53-4]

WGK 3

Type analysis:

Appearance..... brown powder

Assay (HPLC)..... ≥98 %

Enantiomeric purity..... ≤0,5 % D-enantiomer

7850.1	5 mg	plastic	38,60 €
7850.2	10 mg	plastic	61,20 €
7850.3	100 mg	plastic	196,20 €
7850.4	500 mg	plastic	499,90 €

5-((3-Azidopropyl)carbamoyl)-2-(6-(dimethylamino)-3-(dimethyliminio)-3H-xanthen-9-yl)benzoate

► 5-Carboxytetramethylrhodamine Azide (5-TAMRA-Azide) see p. 1716

4-((3-Azidopropyl)carbamoyl)-2-(6-hydroxy-3-oxo-3H-xanthen-9-yl)benzoic acid

► 6-Carboxyfluorescein Azide (6-FAM-Azide) see p. 1715

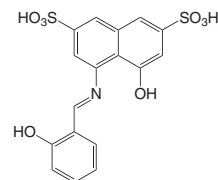
15-Azido-4,7,10,13-tetraoxapentadecanoic acid succinimidyl ester

► NHS-PEG4-Azide see p. 2022

11-Azido-3,6,9-trioxaundecan-1-amine

► H₂N-PEG3-Azide see p. 2022

Azomethine H



Azomethine H

p.a.

Reagent for the determination of boron.

4-Hydroxy-5-(2-hydroxybenzylidenamino)-naphthalene-2,7-disulphonic acid

C₁₇H₁₂NNaO₆S₂

M 445,40 g/mol

[5941-07-1] • EC No. 227-698-1

WGK 2

Type analysis:

Specific extinction E 1 %/ 1 cm (235 nm, pH 5,1).

Suitability for determination of boron..... >1200

Suitability for determination of boron..... complies

CP99.1	5 g	plastic	90,85 €

Azorubine

► Chromotrope® FB (C.I. 14720) see p. 1735

Azo violet

► 4-(4-Nitrophenylazo)-resorcinol see p. 1992

Azulene



Azulene

≥98 %

Cyclopentacycloheptene

C₁₀H₈

M 128,16 g/mol

mp 98-99 °C

[275-51-4] • EC No. 205-993-6

WGK 2

Type analysis:

Assay (GC)..... ≥98 %

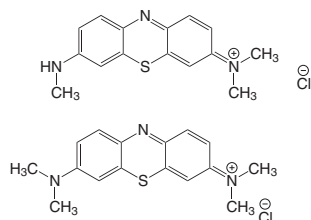
3159.1	100 mg	glass	47,20 €

Azure I

► Azure B (C.I. 52010) see p. 1664

Azure II

B



Azure II

for microscopy

1:1 mixture of Azure B and Methylene blue

 $C_{16}H_{18}ClN_3S \cdot C_{15}H_{16}ClN_3S$

M 625,68 g/mol

[37247-10-2]

WGK 2

⚠ Warning H302-H412

Type analysis:

Appearance..... greenish brown to greenish black powder

Appearance of solution (0,1 % in H_2O)..... clear, dark blueLoss on drying..... $\leq 12\%$

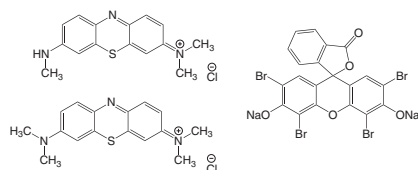
7640.1	1 g	glass	11,00 €

7640.2	10 g	glass	18,20 €

7640.3	50 g	glass	44,00 €

For further information, please see page 1397

Azure II eosinat



Azure II eosinat

for microscopy

1:1:1 mixture of Azure B, Methylene blue and Eosine Y

 $C_{16}H_{18}ClN_3S \cdot C_{15}H_{16}ClN_3S \cdot C_{20}H_6Br_4Na_2O_5$

M 1317,92 g/mol

[53092-85-6]

WGK 3

⚠ Danger H318

Type analysis:

Appearance..... dark green to greenish black powder

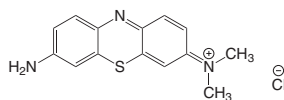
7642.1	5 g	glass	17,75 €

7642.2	25 g	glass	33,25 €

7642.3	100 g	glass	96,25 €

For further information, please see page 1397

Azure A (C.I. 52005)



Azure A (C.I. 52005)

for microscopy

Dimethylthionin

 $C_{14}H_{14}ClN_3S$

M 291,80 g/mol

mp 290 °C (dec.)

[531-53-3] • EC No. 208-510-7

WGK 3

Type analysis:

Appearance..... dark green to green black cryst. powder

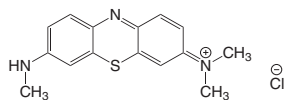
Appearance of solution (0,1 % in H_2O)..... clear, blueLoss on drying (1 h, 110 °C)..... $\leq 8,0\%$

7636.1	5 g	glass	13,15 €

7636.2	25 g	glass	22,40 €

7636.3	100 g	glass	55,80 €

Azure B (C.I. 52010)



Azure B (C.I. 52010)

for microscopy

N,N,N'-Trimethylthionin, Azure I

 $C_{15}H_{16}ClN_3S$

M 305,83 g/mol

mp 205 °C (dec.)

[531-55-5] • EC No. 208-511-2

WGK 3

Type analysis:

Appearance..... dark green to green black powder

Appearance of solution (0,1 % in H_2O)..... clear, blueLoss on drying (1 h, 110 °C)..... $\leq 8,0\%$

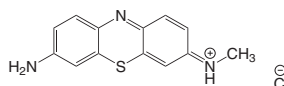
7637.1	5 g	glass	13,15 €

7637.2	25 g	glass	22,40 €

7637.3	100 g	glass	55,80 €

For further information, please see page 1397

Azure C (C.I. 52002)



Azure C (C.I. 52002)

for microscopy

Monomethylthionin

 $C_{13}H_{12}ClN_3S$

M 277,78 g/mol

[531-57-7] • EC No. 208-512-8

WGK 3

Type analysis:

Appearance..... blackish green powder

Appearance of solution (0,1 % in H_2O)..... clear, blueLoss on drying (1 h, 110 °C)..... $\leq 8\%$

7639.1	5 g	glass	13,15 €

7639.2	25 g	glass	22,40 €

7639.3	100 g	glass	55,80 €

Bacillus cereus Selective Agar

► Mannitol Egg Yolk Polymyxin Agar (Base)
see p. 1950

Bacillus cereus Supplement

Bacillus cereus Supplement
lyophilisedMedia supplement for selective isolation of *Bacillus cereus*.

One box of 10 vials Bacillus cereus Supplement is sufficient for 10 x 500 ml Mannitol Egg Yolk Polymyxin Agar.

Storage temp.: +4 °C

WGK 1

Formulation:

Polymyxin B..... 50 000 I.U.
per vial

4856.1	10 vials	glass	99,90 €

For further information, please see page 1343

Bacitracin

Bacitracin

≥60 IU/mg, Ph.Eur., for biochemistry

Peptide antibiotic and protease inhibitor.

 $C_{66}H_{103}N_{17}O_{16}S$

M 1422,72 g/mol

mp 221-225 °C

Storage temp.: +4 °C

[1405-87-4] • EC No. 215-786-2

Guarantee analysis:

Appearance..... almost white powder

Identity..... complies

Assay..... ≥ 60 IU/mg

Appearance of solution..... complies

pH value..... 6,0-7,0

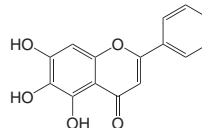
Loss on drying..... $\leq 5,0\%$ Sulphated ash..... $\leq 1,0\%$

5655.1	5 g	glass	48,95 €

5655.2	25 g	plastic	207,40 €

For further information, please see
page 1228 1363 1228 1363

Baicalein



Baicalein

ROTICHRON® HPLC

Reference substance for HPLC

From *Scutellaria baicalensis*.

5,6,7-Trihydroxyflavone

 $C_{15}H_{10}O_5$

M 270,24 g/mol

Storage temp.: +4 °C

[491-67-8]

⚠ Warning H302

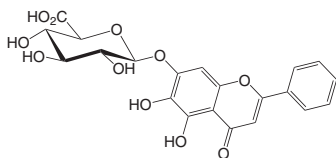
Type analysis:

Purity (HPLC).....>99 %

1110.1	20 mg	glass	284,90 €

Baicalein-7-β-D-glucopyranosidouronate

► Baicalin see p. 1665

Baicalin**Baicalin****ROTICHRON® HPLC**Reference substance for HPLC
From *Scutellaria baicalensis*.

Baicalein-7-β-D-glucopyranosidouronate

C₂₁H₁₈O₁₁

M 446,37 g/mol

Storage temp.: +4 °C

[21967-41-9]

⚠ **Warning** H315-H319-H335**Type analysis:**

Purity (HPLC).....>99 %

1121.1	20 mg	glass	224,70 €

Baird Parker Agar (Base)**Baird Parker Agar (Base)****Ph.Eur., for microbiology**For isolation and enumeration of staphylococci.
Application: Use 63 g for 1 l agar. Add egg yolk emulsion tellurite (Art. No. 2978.1) to 5 % final concentration.

Agar medium O (Ph.Eur. 6.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Casein peptone (pancreas hydrolysate)	10 g/l
Beef extract	5 g/l
Yeast extract	1 g/l
Lithium chloride	5 g/l
Glycine	12 g/l
Sodium pyruvate	10 g/l
Agar	20 g/l
pH value	6,8 ± 0,2

X913.1	500 g	plastic	104,85 €

Original pack 6 x 500 g 99,61/500 g

For further information, please see page 1316

Ballistol®-oil**Ballistol®-oil**

Mildly alkaline special oil with cleaning, conserving, protective, regenerating, impregnating, lubricating and disinfecting properties.

D 0,865

flp 55 °C

WGK 1

⚠ **Warning** H226

AA74.1	50 ml	glass	5,40 €

AA74.2	500 ml	glass	24,20 €

For further information, please see page 1098

Ballistol®-spray**Ballistol®-spray**

Mildly alkaline special oil with cleaning, conserving, protective, regenerating, impregnating, lubricating and disinfecting properties.

UN No. 1950 • ADR 2 • WGK 1

⚠ **Danger** H222-H229

AA75.1	200 ml	spray can	9,60 €

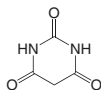
For further information, please see page 1098

Balsam Canada

► Canada balsam see p. 1711

Balsamum canadense

► Canada balsam see p. 1711

Barbituric acid**Barbituric acid**

≥99 %, extra pure

2,4,6-Trihydroxy-pyrimidine

C₄H₄N₂O₃

M 128,09 g/mol

mp ~250 °C (dec.) • flp 150 °C

Solubility: 11,4 g/l (H₂O, 25 °C)

[67-52-7] • EC No. 200-658-0

WGK 1

Type analysis:

Appearance..... light beige powder

Assay (acidim.)..... ≥99 %

4927.1	100 g	plastic	73,00 €

4927.2	500 g	plastic	256,95 €

Original pack 6 x 500 g 244,10/500 g

Barium Standards

► Barium AAS Standard Solution see p. 2167

► Barium ICP Standard Solution see p. 2170

► Barium ICP Standard Solution see p. 2174

Barium acetate**Barium acetate**

≥99 %, p.a., ACS

Ba(CH₃COO)₂

M 255,42 g/mol

D 2,47 • mp 450 °C

Solubility: 720 g/l (H₂O, 20 °C)

[543-80-6] • EC No. 208-849-0

UN No. 1564 • ADR 6.1 III • WGK 1

⚠ **Warning** H302+H332**Guarantee analysis:**

Assay (compl.)	99,0-102,0 %
In H ₂ O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,001 %
Heavy metals (as Pb)	≤0,0005 %
Calcium (Ca)	≤0,05 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,003 %
Sodium (Na)	≤0,005 %
Strontium (Sr)	≤0,2 %
Oxidizing substances (as NO ₃)	≤0,005 %

2553.1	250 g	plastic	34,95 €

2553.2	500 g	plastic	55,40 €

Original pack 6 x 500 g 52,63/500 g

2553.3	1 kg	plastic	91,95 €

Original pack 6 x 1 kg 87,35/1 kg

Barium carbonateBaCO₃

M 197,35 g/mol

D 4,43

mp >1450 °C (dec.)

Solubility: 0,02 g/l (H₂O, 20 °C)

[513-77-9] • EC No. 208-167-3

UN No. 1564 • ADR 6.1 III

⚠ **Warning** H302**Barium carbonate**

ROTI®METIC 99,999 % (5N)

Type analysis:Assay (metals basis).....99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5321.1	25 g	plastic	107,40 €

5321.2	100 g	plastic	342,95 €

Barium carbonate

≥99 %, p.a., ACS

For preparation of further barium compounds.

Guarantee analysis:

Assay	99,0-101,0 %
In HCl insoluble matter	≤0,015 %
Oxidizing substances (as NO ₃)	≤0,005 %
Heavy metals (as Pb)	≤0,001 %
Alkalinity	≤0,002 meq/g
Chloride (Cl)	≤0,002 %
Calcium (Ca)	≤0,05 %
Iron (Fe)	≤0,002 %
Potassium (K)	≤0,005 %
Sodium (Na)	≤0,02 %
Strontium (Sr)	≤0,7 %
Sulphide (S)	≤0,001 %

P008.2	25 g	plastic	11,75 €

P008.3	100 g	plastic	23,15 €

P008.1	500 g	plastic	84,85 €

Original pack 6 x 500 g 80,61/500 g

Barium chloride

Barium chloride

ROTI®METIC 99,999 % (5N), anhydrous

BaCl₂

M 208,23 g/mol

D 3,85 • bp 1560 °C

mp 563 °C

Solubility: 312 g/l (H₂O, 20 °C)

[10361-37-2] • EC No. 233-788-1

UN No. 1564 • ADR 6.1 III • WGK 1

 **Danger** H301-H332

Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5051.1	25 g	plastic	89,15 €

Barium chloride dihydrate

BaCl₂ · 2 H₂O

M 244,27 g/mol

D 3,86

mp 120 °C (dec.)

Solubility: 358 g/l (H₂O, 20 °C)

[10326-27-9] • EC No. 233-788-1

UN No. 1564 • ADR 6.1 III • WGK 1

 **Danger** H301-H332

Barium chloride dihydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5115.1	50 g	plastic	155,90 €

5115.2	100 g	plastic	241,90 €

Barium chloride dihydrate

≥99 %, p.a., ACS, ISO

Reagent for the gravimetric determination of sulphate.

Guarantee analysis:

Assay (compl.)..... ≥99,0 %

pH (5 % H₂O, 25 °C)..... 5,2-8,0

In H₂O insoluble matter..... ≤0,005 %

Loss on drying (150 °C)..... 14,0-16,0 %

Total nitrogen (N)..... ≤0,002 %

Oxidizing substances (as NO₃)..... ≤0,005 %

Heavy metals (as Pb)..... ≤0,0005 %

Calcium (Ca)..... ≤0,005 %

Iron (Fe)..... ≤0,0002 %

Potassium (K)..... ≤0,0025 %

Magnesium (Mg)..... ≤0,001 %

Sodium (Na)..... ≤0,005 %

Cadmium (Cd)..... ≤0,0005 %

Cobalt (Co)..... ≤0,0005 %

Copper (Cu)..... ≤0,0005 %

Manganese (Mn)..... ≤0,0005 %

Nickel (Ni)..... ≤0,0005 %

Lead (Pb)..... ≤0,0005 %

Strontium (Sr)..... ≤0,01 %

Zinc (Zn)..... ≤0,0005 %

4453.1	250 g	plastic	14,55 €

4453.2	500 g	plastic	21,40 €

Original pack 6 x 500 g 20,33/500 g

4453.3	1 kg	plastic	35,80 €

Original pack 6 x 1 kg 34,01/1 kg

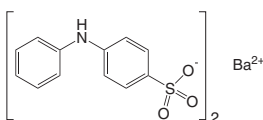
4453.4	2,5 kg	plastic	75,80 €

4453.5	25 kg	plastic	633,20 €

Barium dinitrate

► Barium nitrate see p. 1667

Barium diphenylamine sulfonate



Barium diphenylamine sulfonate

p.a., ACS

Redox indicator

Diphenylamine-4-sulfonic acid barium salt

C₂₄H₂₀BaNa₂O₆S₂

M 633,88 g/mol

mp 300 °C

[6211-24-1] • EC No. 228-278-0

UN No. 1564 • ADR 6.1 III • WGK 1

 **Warning** H302+H332

Guarantee analysis:

Ash content (as SO₄)..... 35,0-38,0 %

Clarity of solution (ACS-test)..... complies

Suitability as redox indicator..... complies

2674.1	5 g	plastic	27,45 €

2674.2	25 g	plastic	84,40 €

Barium fluoride

Barium fluoride

ROTI®METIC 99,995 % (4N5)

BaF₂

M 175,32 g/mol

D 4,83 • bp 2260 °C

mp 1353 °C

Solubility: 1,2 g/l (H₂O, 25 °C)

[7787-32-8] • EC No. 232-108-0

UN No. 1564 • ADR 6.1 III • WGK 1

 **Warning** H302+H332

Type analysis:

Assay (metals basis)..... 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5055.1	25 g	plastic	112,35 €

Barium hydroxide hydrate

Barium hydroxide hydrate

ROTI®METIC 99,995 % (4N5)

Ba(OH)₂ · x H₂O

M 171,36 + x H₂O g/mol

mp 78 °C

[40226-30-0]

UN No. 3262 • ADR 8 II • WGK 1

  **Danger** H314-H302+H332

Type analysis:

Assay (metals basis)..... 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5609.1	5 g	plastic	59,05 €

5609.2	25 g	plastic	224,70 €

Barium hydroxide octahydrate

Ba(OH)₂ · 8 H₂O

M 315,48 g/mol

D 2,18

mp 78 °C

Solubility: 72 g/l (H₂O, 20 °C)

[12230-71-6] • EC No. 241-234-5

UN No. 3262 • ADR 8 II • WGK 1

  **Danger** H314-H302+H332

Barium hydroxide octahydrate

≥98 %, p.a., ISO

Reagent for the detection of CO₂ and for the preparation of various barium salts.

Guarantee analysis:

Assay..... ≥98,0 %

In HCl insoluble matter..... ≤0,005 %

Carbonate (as BaCO₃)..... ≤2,0 %

Chloride (Cl)..... ≤0,001 %

Sulphide (S)..... ≤0,001 %

Calcium (Ca)..... ≤0,05 %

Cadmium (Cd)..... ≤0,0005 %

Iron (Fe)..... ≤0,001 %

Magnesium (Mg)..... ≤0,002 %

Sodium (Na)..... ≤0,01 %

Lead (Pb)..... ≤0,0005 %

Copper (Cu)..... ≤0,0005 %

Potassium (K)..... ≤0,005 %

Strontium (Sr)..... ≤1,5 %

Zinc (Zn)..... ≤0,0005 %

P009.2	250 g	plastic	24,20 €

P009.1	500 g	plastic	36,45 €

Original pack 6 x 500 g 34,63/500 g

P009.3	1 kg	plastic	55,80 €

Original pack 6 x 1 kg 53,01/1 kg

Barium hydroxide octahydrate

≥97 %, extra pure

Type analysis:

Assay (acidim.)	≥97 %
In HCl insoluble matter	≤0,02 %
Carbonate (as BaCO ₃)	≤2,0 %
Chloride (Cl)	≤0,01 %
Sulphide (S)	≤0,005 %
Iron (Fe)	≤0,003 %
Heavy metals (as Pb)	≤0,002 %

HN75.1	500 g	plastic	24,95 €
Original pack 6 x 500 g			23,70/500 g
HN75.2	1 kg	plastic	41,40 €
Original pack 6 x 1 kg			39,33/1 kg
HN75.3	2,5 kg	plastic	90,85 €

**Barium hydroxide solution
(0,1 N)****Barium hydroxide solution**

0,05 mol/l - 0,1 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C)	0,05 mol/l ±0,2 %
Titer	0,998-1,002

N054.1	1 l	plastic	32,50 €
Original pack 6 x 1 l			30,88/1 l

For further information, please see page 1546

Barium nitrate

Barium dinitrate

Ba(NO₃)₂

M 261,35 g/mol

D 3,2

mp 590 °C (dec.)

Solubility: 90 g/l (H₂O, 20 °C)

[10022-31-8] • EC No. 233-020-5

UN No. 1446 • ADR 5.1 (6.1) II • WGK 1

⚠ ⚠ **Danger** H272-H302+H332**Barium nitrate**ROTI[®]METIC 99,9995 % (5N5)**Type analysis:**

Assay (metals basis)	99,9995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5138.1	50 g	plastic	145,15 €
5138.2	100 g	plastic	246,20 €

Barium nitrate

≥99 %, p.a., ACS

Pyrotechnics

Guarantee analysis:

Assay (compl.)	≥99,0 %
pH-value (5 % in H ₂ O)	5,0-8,0
In H ₂ O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,0005 %
Calcium (Ca)	≤0,05 %
Iron (Fe)	≤0,0002 %
Potassium (K)	≤0,005 %
Sodium (Na)	≤0,005 %
Strontium (Sr)	≤0,05 %
Heavy metals (as Pb)	≤0,0005 %

4387.1	250 g	plastic	24,20 €
4387.2	500 g	plastic	38,60 €
Original pack 6 x 500 g			36,67/500 g

**Barium perchlorate solution
(0,005 N)****Barium perchlorate solution**

0,005 mol/l - 0,005 N volumetric standard solution in 2-propanol/water

UN No. 1219 • ADR 3 II • WGK 1

⚠ ⚠ **Danger** H225-H319-H336**Type analysis:**

Amount-of-substance conc.	0,005 mol/l ±0,2 %

KK61.1	1 l	plastic	26,15 €
Original pack 6 x 1 l			24,84/1 l

For further information, please see page 1546

Basic blue 9

► Methylene blue (C.I. 52015) see p. 1966

Basic blue 11

► Victoria blue R (C.I. 44040) see p. 2236

Basic blue 17

► Toluidine blue O (C.I. 52040) see p. 2215

Basic brown 1

► Bismarck brown Y (C.I. 21000) see p. 1678

Basic brown 4

► Bismarck brown R (C.I. 21010) see p. 1678

Basic fuchsin

► Fuchsin basic (C.I. 42510) see p. 1842

Basic green 1

► Brilliant Green (C.I. 42040) see p. 1687

Basic green 4

► Malachite green hydrochloride see p. 1946

► Malachite green oxalate (C.I. 42000) see p. 1946

Basic orange 14

► Acridine orange (C.I. 46005) see p. 1613

► Acridine orange base (C.I. 46005) see p. 1613

Basic violet

► Methyl violet 2B (C.I. 42535) see p. 1972

Basic violet 4

► Ethyl violet (C.I. 42600) see p. 1820

Basic yellow 2

► Auramine O (C.I. 41000) see p. 1659

Basosorb**Basosorb**

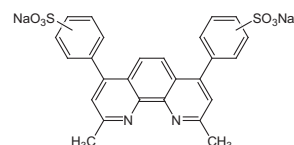
pH value at 20 °C: 1,9

For neutralizing alkaline solutions.

⚠ **Warning** H319

3287.1	5 kg	plastic	61,20 €

For further information, please see page 676

**Bathocuproine sulphonate
disodium salt hydrate****Bathocuproine sulphonate
disodium salt hydrate**

≥98 %

Reagent for Copper.

2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline disulphonic acid disodium salt

C₂₆H₁₈N₂Na₂O₆S₂ · x H₂OM 564,55 + x H₂O g/mol

mp 300 °C

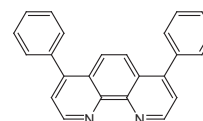
[52698-84-7] • EC No. 258-111-7

WGK 3

Type analysis:

Assay	≥98,0 %
Water (KF)	≤4,0 %
Suitability for determination of copper	complies

KK28.1	250 mg	glass	33,25 €
KK28.2	1 g	glass	103,10 €

Bathophenanthroline**Bathophenanthroline**

≥99 %, p.a.

Reagent for Iron.

4,7-Diphenyl-1,10-phenanthroline

C₂₄H₁₆N₂

M 332,41 g/mol

mp 218-221 °C

[1662-01-7] • EC No. 216-767-1

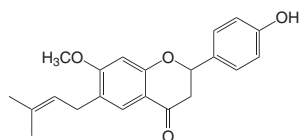
WGK 3

Type analysis:

Assay	≥99,0 %
Sulphated ash	≤0,1 %
Suitability for determination of iron	complies

KK29.1	500 mg	glass	44,00 €
KK29.2	1 g	glass	77,30 €

Bavachinin A



Bavachinin A

ROTICHROM® HPLC

Reference substance for HPLC

C₂₁H₂₂O₄

M 324,38 g/mol

mp 139-145 °C

Storage temp.: +4 °C

[19879-30-2]

Type analysis:

Purity (HPLC)..... ≥99 %

8898.1	5 mg	glass	198,90 €

BCG

► Bromocresol green see p. 1690

BCIP-Na₂

► 5-Bromo-4-chloro-3-indolyl phosphate disodium salt see p. 1689

BCIP-p-toluidine salt

► 5-Bromo-4-chloro-3-indolyl phosphate p-toluidine salt see p. 1689

BDG

► Butyldiglycol see p. 1699

Beeswax white

Beeswax white

pure, natural

Cera alba

D ~0,96

mp 61-65 °C

[8012-89-3] • EC No. 232-383-7

Type analysis:

Melting range..... 61-65 °C

Acid value (mg KOH/g)..... 17-22

Ester value (mg KOH/g)..... 72-79

Saponification value (mg KOH/g)..... 87-102

5825.1	250 g	plastic	16,70 €

5825.2	1 kg	plastic	47,20 €

Original pack 6 x 1 kg 44,84/1 kg

Beeswax yellow

Beeswax yellow

pure, natural

Cera flava

D ~0,96

mp 61-65 °C • flp >180 °C

[8012-89-3] • EC No. 232-383-7

Type analysis:

Melting range..... 61-65 °C

Acid value (mg KOH/g)..... 17-22

Ester value (mg KOH/g)..... 72-79

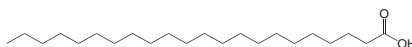
Saponification value (mg KOH/g)..... 87-102

5830.1	250 g	plastic	16,70 €

5830.2	1 kg	plastic	47,20 €

Original pack 6 x 1 kg 44,84/1 kg

Behenic acid



Behenic acid

≥85 %

1-Docosanoic acid

C₂₂H₄₄O₂

M 340,59 g/mol

mp 72-80 °C

Storage temp.: +4 °C

[112-85-6] • EC No. 204-010-8

Type analysis:

Assay (GC)..... ≥85 %

C 20:0..... 4,0-8,0 %

< C 18..... ≤3,0 %

C 24:0..... ≤3,0 %

Acid value..... 162-168

Iodine value..... ≤2

5030.2	500 g	plastic	22,40 €

Original pack 6 x 500 g	21,28/500 g

5030.1	1 kg	plastic	34,65 €

Original pack 6 x 1 kg 32,92/1 kg

Bengal Red Agar (with chloroamphenicol)

Bengal Red Agar (with chloroamphenicol)

for microbiology

Standard-selective agar for counting yeast and food mould fungi.

Application: Use 31,6 g for 1 l agar.

RBC Agar

Storage temp.: +20 °C

WGK 2

⚠ Danger H340-H350

Formulation:

Peptone..... 5 g/l

Glucose..... 10 g/l

Potassium phosphate..... 1 g/l

Magnesium sulphate (MgSO₄)..... 0,5 g/l

Chloroamphenicol..... 0,1 g/l

Bengal red..... 0,05 g/l

Agar..... 15 g/l

pH value..... 7,2 ±0,2

AE24.1	500 g	plastic	104,85 €

Original pack 6 x 500 g	99,61/500 g

For further information, please see page 1316

Bentonite

Bentonite

pure

Carrier in chromatography.

Montmorillonite

mp >1000 °C

[1302-78-9] • EC No. 215-108-5

Type analysis:

Appearance..... beige powder

Montmorillonit..... ~70 %

pH value..... 9,0-11,0

Water..... 6-12 %

Methylene blue adsorption..... 320 ±40 mg/g

Bulk density..... 0,73-0,83 g/cm³

Swelling volume..... ≥22 ml/ 2 g

Sieve residue (63 µm, dry)..... ≤30 %

0113.2	500 g	plastic	20,10 €

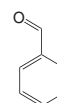
Original pack 6 x 500 g	19,10/500 g

0113.3	1 kg	plastic	25,50 €

Original pack 6 x 1 kg	24,23/1 kg

0113.1	2,5 kg	plastic	40,35 €

Benzaldehyde



C₇H₆O

M 106,13 g/mol

D ~1,05 • bp 179 °C

mp -26 °C • flp 64 °C

Solubility: 3 g/l (H₂O, 20 °C)

[100-52-7] • EC No. 202-860-4

UN No. 1990 • ADR 9 III • WGK 2

⚠ Warning H302

Benzaldehyde

≥99,5 %, for synthesis

Type analysis:

Assay (GC)..... ≥99,5 %

Density (d 20 °C/4 °C)..... 1,044-1,046

4372.1	100 ml	glass	12,05 €

4372.2	500 ml	glass	21,00 €

4372.3	1 l	glass	26,80 €

Original pack 6 x 1 l	25,46/1 l

4372.4	2,5 l	glass	49,35 €

Original pack 4 x 2,5 l	46,88/2,5 l

Benzaldehyde

ROTI®STAR Primary Standard

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (GC)..... ≥95,0 %

Residual solvents (GC)..... ≤1,0 %

Water (KF)..... ≤2,0 %

Assay (qNMR)..... ≥90,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE01.1	100 mg	glass	671,90 €

Benzaldehyde**ROTICHROM® Working Standard**Storage temp.: -20 °C
Transport temp.: room temp.**Type analysis:**Assay (GC): ≥80,0 %
Identity: complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC01.1	100 mg	glass	89,80 €

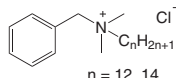
Benzaldehyde**ROTICHROM® GC**Reference substance for GC
Storage temp.: -20 °C
Transport temp.: room temp.**Type analysis:**

Purity (GC): ≥96 %

9039.1	1 g	plastic	75,15 €

Benzalkonium chloride

► Benzalkonium chloride see p. 1669

Benzalkonium chloride**Benzalkonium chloride****80 %**

Alkylbenzyltrimethyl quaternary ammonium chloride, Zephiran chloride

D 0,97

mp 6 °C

UN No. 1760 • ADR 8 II • WGK 3

⚠ ⚠ ⚠ **Danger** H302-H314-H410**Type analysis:**Assay: 78-82 %
pH value: 7,0-9,0
Colour (Hazen): ≤150

2999.1	100 g	glass	17,10 €

2999.2	500 g	glass	40,35 €

Original pack 6 x 500 g 38,33/500 g

2999.3	1 kg	glass	65,05 €

Original pack 6 x 1 kg 61,80/1 kg

2999.4	2,5 kg	plastic	111,30 €

Benzalkonium chloride**Benzalkonium chloride****50 %, aqueous solution**

Alkylbenzyltrimethyl quaternary ammonium chloride, Zephiran chloride

D 0,99 • bp 100 °C

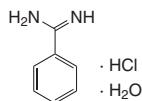
UN No. 1760 • ADR 8 II • WGK 3

⚠ ⚠ ⚠ **Danger** H314-H400-H302+H312

5091.1	500 ml	glass	32,80 €

5091.2	2,5 l	glass	113,45 €

Original pack 4 x 2,5 l 107,78/2,5 l

Benzamidine hydrochloride monohydrate**Benzamidine hydrochloride monohydrate****≥98 %, for biochemistry**

Inhibitor of serine proteases.

C₇H₈N₂ · HCl · H₂O

M 174,63 g/mol • mp 83-87 °C • flp -31 °C

Storage temp.: +4 °C

[1670-14-0] • EC No. 216-795-4

⚠ **Warning** H315-H319-H335**Type analysis:**Assay: ≥98 %
Water (KF): ≤15,0 %
Melting point: 83-87 °C

CN38.1	5 g	plastic	16,45 €

CN38.2	10 g	plastic	23,15 €

CN38.3	25 g	plastic	44,65 €

For further information, please see page 1228

Benzamine blue

► Trypan blue (C.I. 23850) see p. 2226

Benzene

Cyclohexatriene

C₆H₆

M 78,11 g/mol

D 0,88 • bp 80 °C • mp 6 °C • flp -11 °C

Solubility: 0,7 g/l (H₂O, 20 °C)

[71-43-2] • EC No. 200-753-7

UN No. 1114 • ADR 3 II • WGK 3

⚠ ⚠ ⚠ **Danger**

H225-H340-H350-H372-H304-H315-H319

Benzene**ROTIPURAN® ≥99,5 %, p.a.****Guarantee analysis:**Assay (GC): ≥99,5 %
Water (KF): ≤0,03 %
Density (d 20 °C/4 °C): 0,877-0,879
Non volatile matter: ≤0,001 %
Aluminium (Al): ≤0,00005 %
Cadmium (Cd): ≤0,000005 %
Calcium (Ca): ≤0,00005 %
Magnesium (Mg): ≤0,00001 %
Cobalt (Co): ≤0,000002 %
Chromium (Cr): ≤0,000002 %
Nickel (Ni): ≤0,000002 %
Copper (Cu): ≤0,000002 %
Lead (Pb): ≤0,00001 %
Iron (Fe): ≤0,00001 %
Manganese (Mn): ≤0,000002 %
Zinc (Zn): ≤0,00001 %
Reaction with H₂SO₄: complies

7173.4	100 ml	glass	22,50 €

7173.3	500 ml	glass	28,50 €

7173.1	1 l	glass	46,45 €

Original pack 6 x 1 l 44,13/1 l

7173.2	2,5 l	glass	107,40 €

Original pack 4 x 2,5 l 102,03/2,5 l

Benzene**≥99,5 %, extra pure****Type analysis:**Appearance: clear, colourless
Assay (GC): ≥99,5 %
Free acid: ≤0,0001 meq/g
Non volatile matter: ≤0,001 %

5785.3	100 ml	glass	18,20 €

5785.1	1 l	glass	41,85 €

Original pack 6 x 1 l 39,76/1 l

5785.2	10 l	tinplate	321,45 €

Benzene**ROTICHROM® GC**

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC): ≥99 %

4898.1	1 g	glass	28,95 €

Benzene D6

Cyclohexatriene deuterated

C₆D₆

M 84,16 g/mol

D 0,95 • bp -80 °C

mp 6,8 °C • flp -11 °C

Solubility: 1,8 g/l (H₂O, 20 °C)

[1076-43-3] • EC No. 214-061-8

UN No. 1114 • ADR 3 II • WGK 3

⚠ ⚠ ⚠ **Danger**

H225-H340-H350-H372-H304-H315-H319

Benzene D6**99,8 Atom%D**

For nuclear magnetic resonance spectroscopy.

Type analysis:Deuterising degree: ≥99,8 %
Water (KF, H₂O+D₂O): ≤0,02 %

7912.1	10 ml	glass	64,40 €

7912.2	25 ml	glass	142,45 €

7912.3	10 x 0,75 ml	glass ampoule	68,70 €

Benzene D6**99,5 Atom%D**

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:Deuterising degree: ≥99,5 %
Water (KF, H₂O+D₂O): ≤0,03 %

AE53.1	10 ml	glass	40,35 €

AE53.3	10 ml	septum bottle	41,40 €

AE53.2	50 ml	glass	166,10 €

Benzene azochromotropic acid disodium salt

▶ Chromotrope® 2R see p. 1735

B**Benzenecarbonylchloride**

▶ Benzoylchloride see p. 1672

Benzenecarboxylic acid

▶ Benzoic acid see p. 1670

Benzene 1,2-dialdehyde

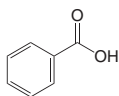
▶ o-Phthaldialdehyde see p. 2041

1,3-Benzenediol

▶ Resorcinol see p. 2082

Benzethonium chloride solution

▶ Hyamine® 1622-solution (0,004 M) see p. 1881

Benzoic acid

Phenylformic acid, Benzenecarboxylic acid
 $C_7H_6O_2$
 M 122,12 g/mol
 D 1,321 • bp 249 °C
 mp 121-123 °C • flp 121 °C
 Solubility: 2,9 g/l (H_2O , 20 °C)
 [65-85-0] • EC No. 200-618-2
 WGK 1

Danger H372-H318-H315
Benzoic acid

≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (acidim.) ≥99,5 %
 Melting range. 122-123 °C
 In CH_3OH insoluble matter ≤0,005 %
 Ash content (as SO_4) ≤0,005 %
 $KMnO_4$ reducing substances complies
 Chlorine compounds (as Cl) ≤0,005 %
 Sulphur compounds (as S) ≤0,002 %
 Arsenic (As) ≤0,0003 %
 Lead (Pb) ≤0,001 %
 Iron (Fe) ≤0,001 %
 Copper (Cu) ≤0,001 %
 Nickel (Ni) ≤0,001 %
 Heavy metals (as Pb) ≤0,0005 %

P738.1	100 g	plastic	19,05 €

P738.2	250 g	plastic	38,60 €

Benzoic acid

≥99,5 %, Ph.Eur., USP, BP

Guarantee analysis:

Assay (acidim., dry substance) 99,5-100,5 %
 Identity complies
 Appearance of solution complies
 Melting range. 122-123 °C
 Water (KF) ≤0,7 %
 Sulphated ash ≤0,05 %
 Halogen compound. (as Cl) ≤0,03 %
 Reaction with H_2SO_4 complies
 $KMnO_4$ reducing substances (as O) complies
 Lead (Pb) ≤0,0002 %
 Heavy metals (as Pb) ≤0,001 %

5781.2	500 g	plastic	21,30 €

Original pack 6 x 500 g	20,24/500 g

5781.1	1 kg	plastic	34,95 €

Original pack 6 x 1 kg	33,20/1 kg

5781.5	25 kg	plastic	375,20 €

Benzoic acid

ROTI®CALIPURE

Melting point standard 121-123 °C

Type analysis:

Melting point 121-123 °C

9722.1	1 g	glass	27,85 €

Benzoic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %
 Residual solvents (GC) ≤1,0 %
 Water (KF) ≤2,0 %
 Assay (qNMR) ≥90,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE03.1	100 mg	glass	671,90 €

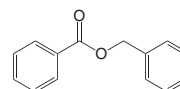
Benzoic acid

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC) ≥95,0 %
 Identity complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC03.1	100 mg	glass	89,80 €

Benzoic acid benzyl ester**Benzoic acid benzyl ester**

≥99 %, for synthesis

Benzyl benzoate

 $C_{14}H_{12}O_2$

M 212,26 g/mol

D 1,1 • bp 324 °C

mp 21 °C • flp 148 °C

[120-51-4] • EC No. 204-402-9

UN No. 3077 • ADR 9 III • WGK 2

Warning H302-H400-H411
Type analysis:

Assay ≥99,0 %
 Ash content (as SO_4) ≤0,1 %
 Aldehyde (as benzaldehyde) ≤0,05 %
 Density (20 °C/20 °C) 1,118-1,122

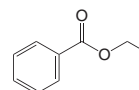
9498.1	250 ml	glass	27,85 €

9498.2	1 l	glass	75,15 €

Original pack 6 x 1 l	71,39/1 l

9498.3	2,5 l	glass	138,70 €

Original pack 4 x 2,5 l	131,77/2,5 l

Benzoic acid ethyl ester**Benzoic acid ethyl ester**

ROTICHROM® GC

Reference substance for GC

Ethyl benzoate

 $C_9H_{10}O_2$

M 150,18 g/mol

D ~1,046 • bp ~212 °C

flp 84 °C

Storage temp.: +4 °C

[93-89-0] • EC No. 202-284-3

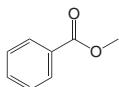
WGK 1

Warning H315-H319
Type analysis:

Purity (GC) ≥98 %

3850.1	1 g	plastic	75,15 €

Benzoic acid methyl ester



Methyl benzoate

 $C_8H_8O_2$

M 136,2 g/mol

D 1,09 • bp 199 °C

mp -12 °C • flp 82 °C

[93-58-3] • EC No. 202-259-7 • WGK 1

⚠ Warning H302

Benzoic acid methyl ester

≥99 %, for histology and microscopy

Clearing agent for histological embedding.

Guarantee analysis:

Appearance.....clear, colourless to light yellow liquid

Assay (GC).....≥99,0 %

Density (d 25 °C/25 °C).....1,085-1,089

Refractive index n_D^{20} 1,516-1,518

6944.1	1 l	glass	53,65 €

Original pack 6 x 1 l	50,97/1 l

6944.2	2,5 l	glass	109,55 €

Original pack 4 x 2,5 l	104,07/2,5 l

6944.4	25 kg	tinplate	493,45 €

For further information, please see page 1377

Benzoic acid methyl ester

ROTICHRON® GC

Reference substance for GC

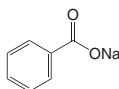
Storage temp.: +4 °C

Type analysis:

Purity (GC).....≥98,5 %

9041.1	1 g	plastic	75,15 €

Benzoic acid sodium salt



Sodium benzoate

 $C_7H_5NaO_2$

M 144,11 g/mol

D 1,44

mp 410-430 °C • flp >100 °C

[532-32-1] • EC No. 208-534-8 • WGK 1

Benzoic acid sodium salt

≥99 %, Ph.Eur.

Guarantee analysis:

Assay (dry substance).....99,0-100,5 %

Identity.....complies

Appearance of solution.....complies

Acid or alkaline react. substances.....complies

Chloride (Cl).....≤0,02 %

Heavy metals (as Pb).....≤0,001 %

Halogen comp. (as Cl).....≤0,03 %

Loss on drying.....≤2,0 %

8548.1	500 g	plastic	19,60 €

Original pack 6 x 500 g	18,62/500 g

8548.3	1 kg	plastic	31,10 €

Original pack 6 x 1 kg	29,55/1 kg

8548.2	2,5 kg	plastic	67,30 €

Benzoic acid sodium salt

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤2,0 %

Water (KF).....≤3,0 %

Assay (qNMR).....≥95,0 %

Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE11.1	100 mg	glass	671,90 €

Benzoic acid sodium salt

ROTICHRON® Working Standard

Type analysis:

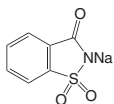
Assay (HPLC).....≥90,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC11.1	100 mg	glass	89,80 €

o-Benzoic sulphimide sodium salt



o-Benzoic sulphimide sodium salt

≥99 %, Ph.Eur.

Saccharin sodium salt, o-Sulphobenzoic acid imide sodium salt

 $C_7H_4NO_3SNa$

M 205,16 g/mol

D 0,97

mp 226-230 °C

[128-44-9] • EC No. 204-886-1

WGK 1

Guarantee analysis:

Appearance.....white, cryst. powder

Assay (dry substance).....99,0-101,0 %

Water.....≤15 %

Identity.....complies

Appearance of solution.....complies

Matter discoloured by H_2SO_4 complies

Heavy metals.....≤0,002 %

Acid or alkaline react. substances.....complies

2- and 4-Toluenesulphonamide.....each ≤0,001 %

9259.1	250 g	plastic	31,10 €

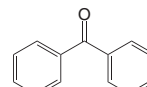
9259.2	1 kg	plastic	90,85 €

Original pack 6 x 1 kg	86,31/1 kg

Benzolchlorid

► Chlorobenzene see p. 1729

Benzophenone



B

Benzophenone

ROTI®CALIPURE

Melting point standard 47-49 °C

Diphenyl ketone, Diphenylmethanone, Benzoylbenzene, Phenyl ketone

 $C_{13}H_{10}O$

M 182,22 g/mol

bp 305 °C

mp 47-49 °C

[119-61-9] • EC No. 204-337-6

UN No. 3077 • ADR 9 III • WGK 2

⚠ ⚠ Warning H373-H411

Type analysis:

Melting point.....47-49 °C

9709.1	1 g	glass	27,85 €

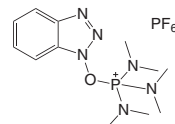
5,6-Benzo-2-pyrone

► Coumarin see p. 1748

α-Benzopyrone

► Coumarin see p. 1748

Benzotriazole-1-yl-oxy-tris-(dimethylamino)-phosphonium hexafluorophosphate (BOP)



Benzotriazole-1-yl-oxy-tris-(dimethylamino)-phosphonium hexafluorophosphate (BOP)

≥99 %

Coupling reagent for peptide synthesis

BOP

 $C_{12}H_{22}F_6N_6OP_2$

M 442,28 g/mol

mp 132-140 °C

Storage temp.: +4 °C

[56602-33-6] • EC No. 260-279-1

UN No. 1325 • ADR 4.1 II • WGK 1

⚠ ⚠ Danger H228-H315-H335-EU044

Type analysis:

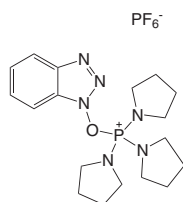
Assay (HPLC).....≥99,0 %

Loss on drying.....≤0,5 %

2168.1	5 g	glass	19,25 €

2168.2	25 g	glass	48,30 €

2168.3	100 g	glass	145,15 €

Benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBOP®)

Benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBOP®)

≥98,5 %

Coupling reagent for peptide synthesis
PyBOP®

$C_{18}H_{28}F_6N_6OP_2$

M 520,39 g/mol

mp 140-155 °C

Storage temp.: +4 °C

[128625-52-5]

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (HPLC)..... ≥98,5 %

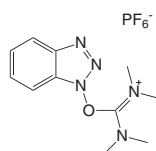
2178.1	5 g	glass	23,15 €

2178.2	25 g	glass	67,65 €

2178.3	100 g	glass	203,20 €

2178.5	1 kg	glass	1321,20 €

Original pack 6 x 1 kg 1255,14/1 kg

O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate (HBTU)

O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate (HBTU)

≥99 %

Coupling reagent for peptide synthesis
HBTU

$C_{11}H_{16}F_6N_5OP$

M 379,24 g/mol

mp 170-175 °C

Solubility: 1,6 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[94790-37-1] • EC No. 423-020-5

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (HPLC)..... ≥99,0 %

Water (KF)..... ≤0,5 %

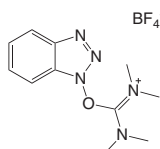
2132.1	5 g	glass	16,70 €

2132.2	25 g	glass	36,45 €

2132.3	100 g	glass	96,65 €

2132.5	1 kg	glass	499,90 €

Original pack 6 x 1 kg 474,91/1 kg

O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TBTU)

O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TBTU)

≥99 %

Coupling reagent for peptide synthesis
TBTU

$C_{11}H_{16}BF_4N_5O$

M 321,08 g/mol

mp 205 °C (dec.)

Solubility: 3 g/l (H_2O , 20 °C)

[125700-67-6] • EC No. 423-040-4

UN No. 1325 • ADR 4.1 II • WGK 1

Danger H228-H315-H319-H335

Type analysis:

Assay (HPLC)..... ≥99,0 %

Water (KF)..... ≤0,5 %

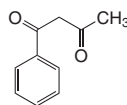
2140.1	5 g	glass	15,60 €

2140.2	25 g	glass	34,95 €

2140.3	100 g	glass	96,25 €

2140.5	1 kg	glass	499,90 €

Original pack 6 x 1 kg 474,91/1 kg

Benzoylacetone

Benzoylacetone

≥99 %

1-Phenyl-1,3-butanedione, Acetoacetophenone

$C_{10}H_{10}O_2$

M 162,19 g/mol

mp 56-58 °C

[93-91-4] • EC No. 202-286-4

Type analysis:

Assay (GC)..... ≥99,0 %

Solution (5% in chloroform)..... colourless to yellow

Water (KF)..... ≤0,5 %

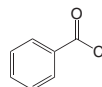
Melting point..... 56-58 °C

5484.1	25 g	plastic	53,65 €

5484.2	100 g	plastic	181,70 €

Benzoylbenzene

► Benzophenone see p. 1671

Benzoylchloride

Benzoylchloride

≥99 %, for synthesis

Benzenecarbonylchloride

C_7H_5ClO

M 140,57 g/mol

D 1,21 • bp ~197 °C

mp -1 °C

[98-88-4] • EC No. 202-710-8

UN No. 1736 • ADR 8 II • WGK 1

Danger

H302+H312+H332-H314-H317

Type analysis:

Assay (acidim.)..... ≥99,0 %

Identity (IR)..... complies

Density (d 20 °C/4 °C)..... 1,210-1,214

7456.1	100 ml	glass	12,15 €

7456.2	500 ml	glass	26,80 €

7456.3	1 l	glass	39,25 €

Original pack 6 x 1 l 37,29/1 l

7456.4	2,5 l	glass	76,25 €

Original pack 4 x 2,5 l 72,44/2,5 l

N-Benzoylglycine sodium salt

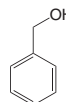
► Hippuric acid sodium salt hydrate see p. 1878

Benzylacetate

► Acetic acid benzyl ester see p. 1600

6-Benzyladenine

► 6-Benzylaminopurine see p. 1673

Benzyl alcohol


Phenylcarbinol, Phenylmethanol

C_7H_8O

M 108,14 g/mol

D 1,05 • bp 205 °C

mp -15,3 °C • flp 101 °C

Solubility: 39 g/l (H_2O , 20 °C)

[100-51-6] • EC No. 202-859-9

WGK 1

Warning H302+H332

Benzyl alcohol

ROTIPURAN® ≥99 %, p.a., ACS

Guarantee analysis:

Assay (GC)..... ≥99,0 %

Density (d 20 °C/4 °C)..... 1,043-1,049

Colour (APHA)..... ≤20

Water	.....	≤0,1 %
Ash content (as SO ₄)	.....	≤0,005 %
Benzaldehyde (GC)	.....	≤0,01 %
Calcium (Ca)	.....	≤0,00005 %
Cadmium (Cd)	.....	≤0,000005 %
Cobalt (Co)	.....	≤0,000002 %
Chromium (Cr)	.....	≤0,000002 %
Copper (Cu)	.....	≤0,000002 %
Iron (Fe)	.....	≤0,00001 %
Magnesium (Mg)	.....	≤0,00001 %
Manganese (Mn)	.....	≤0,000002 %
Nickel (Ni)	.....	≤0,000002 %
Lead (Pb)	.....	≤0,00001 %
Zinc (Zn)	.....	≤0,00001 %
Acetophenone (GC)	.....	≤0,02 %

0336.1	500 ml	glass	25,50 €
0336.2	1 l	glass	44,65 €
Original pack 6 x 1 l			42,42/1 l
0336.3	2,5 l	glass	92,35 €
Original pack 4 x 2,5 l			87,73/2,5 l

Benzyl alcohol

≥98 %, Ph.Eur.

Guarantee analysis:

Assay (titr., 1 M NaOH)	.....	98,0-100,5 %
Identity	.....	complies
Appearance of solution	.....	clear, colourless
Acidity	.....	complies
Peroxide value	.....	≤5 meq O/kg
Refractive index n _D ²⁰	.....	1,539-1,541
Related substances	.....	complies
Non volatile matter	.....	≤0,05 %

8657.1	500 ml	glass	22,50 €
8657.2	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
8657.3	2,5 l	glass	67,65 €
Original pack 4 x 2,5 l			64,27/2,5 l

Benzyl alcohol

≥98 %, for synthesis

Type analysis:

Assay (GC)	.....	98,0-100,5 %
Density (20 °C)	.....	1,043-1,049
Refractive index n _D ²⁰	.....	1,539-1,541

4478.1	500 ml	glass	20,10 €
4478.2	1 l	glass	30,00 €
Original pack 6 x 1 l			28,50/1 l
4478.3	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l

Benzyl alcohol

ROTI®STAR Primary Standard

Storage temp.: -20 °C
Transport temp.: cooled

Type analysis:

Assay (GC)	.....	≥95,0 %
Residual solvents (GC)	.....	≤2,0 %
Water (KF)	.....	≤2,0 %
Assay (qNMR)	.....	≥95,0 %
Proof of identity by ¹ H-NMR, ¹³ C-NMR, MS, UV	.....	
The certificate includes all results of analytical tests and validations	.....	

NE02.1	100 mg	glass	671,90 €

Benzyl alcohol

ROTICHROM® Working Standard

Storage temp.: -20 °C
Transport temp.: room temp.

Type analysis:

Assay (HPLC)	.....	≥90,0 %
Identity	.....	complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.	.....	

NC02.1	100 mg	glass	89,80 €

Benzyl alcohol

ROTICHROM® GC

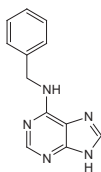
Reference substance for GC
Storage temp.: -20 °C
Transport temp.: room temp.

Type analysis:

Purity (GC)		≥88 %

6012.1	1 g	plastic	75,15 €

6-Benzylaminopurine



6-Benzylaminopurine

≥98 %, for biochemistry

6-Benzyladenine

C₁₂H₁₁N₅
M 225,26 g/mol
mp 232 °C
Storage temp.: +4 °C
[1214-39-7] • EC No. 214-927-5
WGK 1

Type analysis:

Appearance	.....	light beige, cryst. powder
Assay (HPLC)	.....	≥98,0 %
Melting point	.....	229-233 °C
Heavy metals (as Pb)	.....	≤0,001 %
Sulphated ash	.....	≤0,2 %

5552.1	1 g	glass	16,70 €
5552.2	5 g	glass	38,60 €
5552.3	25 g	glass	155,90 €

Benzyl carbinol

▶ 2-Phenylethanol see p. 2036

Benzylcarbiny acetate

▶ Acetic acid 2-phenylethyl ester see p. 1603

Benzyl cinnamate

▶ Cinnamic acid benzyl ester see p. 1737

Benzyl dimethylalkylammonium chloride

▶ Benzalkonium chloride see p. 1669

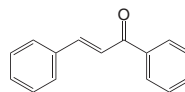
Benzyl benzoate

▶ Benzoic acid benzyl ester see p. 1670

Benzylglucosinolate potassium salt

▶ Glucotropaeolin see p. 1855

Benzylidene acetophenone



Benzylidene acetophenone

≥98 %, for synthesis

Chalcone, 1,3-Diphenyl-1-propen-3-one

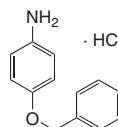
C₁₅H₁₂O
M 208,25 g/mol
mp 55-58 °C
[94-41-7] • EC No. 202-330-2
WGK 2

Type analysis:

Assay (GC)	.....	≥98,0 %
Melting range	.....	55-58 °C

3982.1	100 g	plastic	105,25 €

4-(Benzyloxy) aniline hydrochloride



4-(Benzyloxy) aniline hydrochloride

≥99 %

4-Aminophenyl benzyl ether hydrochloride

C₁₃H₁₄ClNO
M 235,71 g/mol
mp 226 °C (dec.)
[51388-20-6] • EC No. 257-170-6

Type analysis:

Assay (titr.)	.....	≥99,0 %
Solution (2 % in ethanol)	.....	almost colourless to brown
Water (KF)	.....	≤1,0 %
Melting point	.....	214-218 °C

5480.1	25 g	plastic	34,30 €

5480.2	100 g	plastic	103,75 €

4-Benzyloxybenzyl alcohol resin

▶ Wang resin see p. 2240

Benzyl penicillin potassium salt

▶ Penicillin G potassium salt see p. 2024

Benzyl penicillin sodium salt

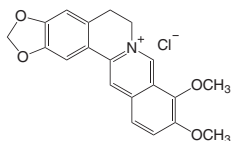
▶ Penicillin G sodium salt see p. 2024

Benzyl salicylate

► Salicylic acid benzyl ester see p. 2118

B

Berberine chloride hydrate



Berberine chloride hydrate

≥97 %, for biochemistry

$C_{20}H_{18}ClNO_4 \cdot x H_2O$

M 371,81 + x H₂O g/mol

mp 204-206 °C

[141433-60-5] • EC No. 211-195-9

Type analysis:

Appearance.....dark yellow powder

Assay (argentometric).....≥97,0 %

Loss on drying.....≤12,0 %

3192.1	1 g	glass	12,05 €

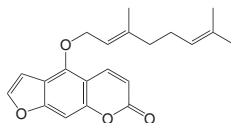
3192.2	5 g	glass	16,70 €

3192.3	25 g	glass	56,90 €

Bergamol

► Acetic acid linalyl ester see p. 1603

Bergamottin



5-Geranoxy-psoralen

$C_{21}H_{22}O_4$

M 338,42 g/mol

Storage temp.: +4 °C

[7380-40-7]

Bergamottin

ROTICHRON® HPLC

Reference substance for HPLC

From Oleum bergamottae.

Type analysis:

Purity (HPLC).....≥99 %

8889.1	25 mg	glass	166,65 €

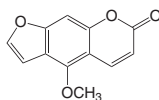
Bergamottin

ROTICHRON® TLC

Reference substance for thin layer chromatography. From Oleum bergamottae.

1217.1	50 mg	glass	278,45 €

Bergaptene



$C_{12}H_8O_4$

M 216,19 g/mol

mp 188 °C

Storage temp.: +4 °C

[484-20-8] • EC No. 207-604-5

⚠ ⚠ ⚠ Danger H317-H350

Bergaptene

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥99 %

7006.1	25 mg	glass	181,70 €

Bergaptene

ROTICHRON® ~CHR

8899.1	1 g	plastic	317,15 €

Beryllium Standards

► Beryllium AAS Standard Solution

see p. 2167

► Beryllium ICP Standard Solution see p. 2170

► Beryllium ICP Standard Solution see p. 2174

Beryllium acetate basic

Beryllium acetate basic

ROTI®METIC 99,999 % (5N)

$Be_4O(C_2H_3O_2)_6$

M 406,16 g/mol

D 1,25 • bp 330 °C

mp 285 °C

[19049-40-2] • EC No. 242-785-4

UN No. 1566 • ADR 6.1 II • WGK 3

⚠ ⚠ ⚠ Danger H301-H330-H315-H319-

H317-H350i-H335-H372**-H411

Type analysis:

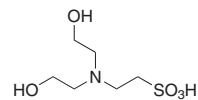
Assay (metals basis).....99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5612.1	5 g	plastic	64,00 €

5612.2	25 g	plastic	224,70 €

BES



BES

PUFFERAN® ≥99 %

N,N-Bis-(2-hydroxyethyl)-2-aminoethane sulphonic acid

$C_6H_{15}NO_5S$

M 213,26 g/mol

mp 153-155 °C

[10191-18-1] • EC No. 233-465-5

⚠ Warning H315-H319

Guarantee analysis:

Assay (titr.).....≥99,0 %

Loss on drying.....≤1,0 %

pH value (1 % solution).....3,0-4,0

Solubility (0,1 M in H₂O).....clear, colourless

UV-absorption (10 % in H₂O):

280 nm.....≤0,08

260 nm.....≤0,1

9134.1	25 g	plastic	21,40 €

9134.2	100 g	plastic	58,60 €

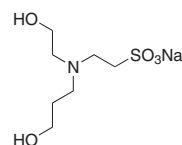
9134.3	250 g	plastic	127,95 €

9134.4	500 g	plastic	203,20 €

Original pack 6 x 500 g 193,04/500 g

For further information, please see page 1214

BES sodium salt



BES sodium salt

PUFFERAN® ≥99 %

N,N-Bis-(hydroxyethyl)-2-aminoethane sulphonic acid sodium salt

$C_6H_{14}NaNO_5S$

M 235,2 g/mol

[66992-27-6]

⚠ Warning H315-H319

Type analysis:

Assay.....≥99 %

Water (KF).....≤1,0 %

UV-absorption (10 % in H₂O):

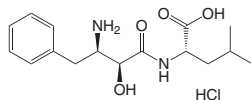
300 nm.....≤0,04 %

280 nm.....≤0,07 %

6998.1	25 g	plastic	34,30 €

6998.2	100 g	plastic	89,80 €

For further information, please see page 1214

Bestatin hydrochloride**Bestatin hydrochloride**

≥98 %, for biochemistry

Inhibitor of aminopeptidases

N-[(2S,3R)-3-Amino-2-hydroxy-4-phenylbutyryl]-L-leucin hydrochloride

 $C_{16}H_{24}N_2O_4 \cdot HCl$

M 344,84 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[65391-42-6]

WGK 1

Type analysis:

Appearance..... white powder

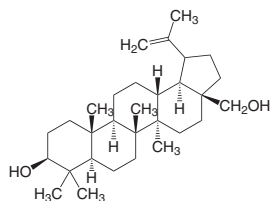
Assay (HPLC)..... ≥98 %

Specific rotation $[\alpha]_D^{20}$ (in H_2O)..... -14° to -20°Solubility (2,5 % in H_2O)..... clear

2937.1	5 mg	plastic	70,85 €

2937.2	25 mg	plastic	252,55 €

For further information, please see page 1228

Betulin(ol)**Betulin(ol)**

ROTICHRON® ~CHR

Trochol

 $C_{30}H_{50}O_2$

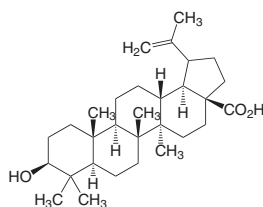
M 442,70 g/mol

mp ~257 °C

Storage temp.: +4 °C

[473-98-3] • EC No. 207-475-5

8763.1	1 g	glass	59,15 €

Betulinic acid

Mairin, Melaleucin, Gratiolon

 $C_{30}H_{48}O_3$

M 456,71 g/mol

mp ~298 °C (dec.)

Solubility: 2 mg/l (H_2O , 25 °C)

Storage temp.: +4 °C

[472-15-1] • EC No. 207-448-8

Betulinic acid

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥97 %

7007.1	25 mg	glass	181,70 €

Betulinic acid

ROTICHRON® ~CHR

6516.1	250 mg	glass	48,40 €

BHA

► Butylated hydroxyanisole see p. 1698

BHT

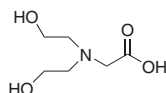
► Butylated hydroxytoluene see p. 1699

Bicarbonate solution

► Roti®-CELL Bicarbonate solution see p. 2089

Bicarnesin HCl

► DL-Carnitinchloride see p. 1717

BICINE**BICINE**

PUFFERAN® ≥99 %

N,N-Bis-(2-hydroxyethyl)-glycine

 $C_6H_{13}NO_4$

M 163,2 g/mol

mp ~194 °C

[150-25-4] • EC No. 205-755-1

Guarantee analysis:

Appearance..... white, cryst. powder

Assay (titration)..... ≥99,0 %

Loss on drying..... ≤1,0 %

pH value (1 M in H_2O)..... 4,0-6,0UV-absorption (1 M in H_2O):

280 nm..... ≤0,05

260 nm..... ≤0,05

9162.1	50 g	plastic	36,05 €

9162.2	250 g	plastic	117,20 €

9162.3	500 g	plastic	166,65 €

Original pack 6 x 500 g 158,32/500 g

For further information, please see page 1214

Bicyclo-[2,2,1]-hepta-2,5-diene

► 2,5-Norbornadiene see p. 1995

Biflorine

► Protopine see p. 2070

Bile Esculin Azide Agar**Bile Esculin Azide Agar**

DEV, ISO 7899-2:2000, for microbiology

For isolation and identification of intestinal enterococci from water samples.

Application: Use 56,6 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

⚠ Warning H412-H302

Guarantee analysis:

Tryptone..... 17 g/l

Peptone..... 3 g/l

Yeast extract..... 5 g/l

Ox bile dehydrated..... 10 g/l

Sodium chloride (NaCl)..... 5 g/l

Esculin..... 1 g/l

Ammonium iron(III) citrate..... 0,5 g/l

Sodium azide..... 0,15 g/l

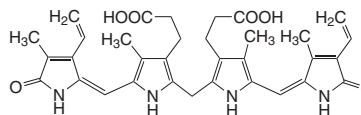
Agar..... 15 g/l

pH value..... 7,1 ±0,1

CP62.1	500 g	plastic	185,45 €

Original pack 6 x 500 g 176,18/500 g

For further information, please see page 1316

Bilirubin**Bilirubin**

p.a.

 $C_{33}H_{36}N_4O_6$

M 584,68 g/mol

[635-65-4] • EC No. 211-239-7

WGK 2

Guarantee analysis:

Appearance..... orange to red brownish, cryst. powder

Solution (0,01 % in chloroform)..... yellowish, clear

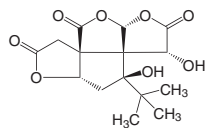
Loss on drying (2 h, 60 °C, vacuum)..... ≤2 %

Calcium (Ca)..... ≤0,06 %

4008.1	250 mg	glass	30,00 €

4008.2	1 g	glass	80,55 €

Bilobalid



$C_{15}H_{18}O_8$
M 326,30 g/mol
[33570-04-6]
WGK 1

Bilobalid

ROTI®STAR Primary Standard

Storage temp.: -20 °C • Transport temp.: cooled

Type analysis:

Assay (HPLC) ≥95,0 %
Residual solvents (GC) ≤2,0 %
Water (KF) ≤2,0 %
Assay (qNMR) ≥95,0 %
Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE20.1	25 mg	glass	736,40 €

Bilobalid

ROTICHRM® Working Standard

Storage temp.: -20 °C
Transport temp.: cooled

Type analysis:

Assay (HPLC) ≥85,0 %
Identity complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC20.1	50 mg	glass	289,20 €

Bilobalid

ROTICHRM® HPLC

Reference substance for HPLC
From *Ginkgo biloba*.
Storage temp.: +4 °C

Type analysis:

Purity (HPLC) >98 %

1122.1	20 mg	glass	364,45 €

Biochanin B

► Formononetin see p. 1840

Bioethanol 96 %

Bioethanol 96 %

96 %, Ph.Eur.

C_2H_6O
M 46,07 g/mol • D ~0,81 • bp 78 °C
mp -114,5 °C • flp 17 °C
[64-17-5] • EC No. 200-578-6
UN No. 1170 • ADR 3 II • WGK 1

Danger H225-H319

Guarantee analysis:

Assay (V/V) 95,1-96,9 %
Identity complies
Properties complies
Appearance complies
Acid or alkaline react. substances ≤0,003 %
Density (d 20 °C/20 °C) 0,805-0,812
Evaporation residue ≤0,0025 %
Permanganate test complies
Absorption:
240 nm ≤0,40
250-260 nm ≤0,30
270-340 nm ≤0,10
Volatile impurities:
Acetaldehyde and acetal ≤0,001 %
Benzene ≤0,0002 %
Methanol ≤0,01 %
Sum of other impurities ≤0,03 %
From controlled organic cultivation.
Prices include german tax on alcohol.

6724.1	1 l	glass	69,35 €
Original pack 6 x 1 l			
6724.2	2,5 l	glass	142,90 €
Original pack 4 x 2,5 l			
6724.3	2,5 l	plastic	138,70 €
Original pack 4 x 2,5 l			
6724.4	5 l	plastic	267,70 €
Original pack 2 x 5 l			
6724.5	10 l	plastic	504,20 €
Original pack 2 x 5 l			
6724.6	25 l	plastic	1073,95 €

Bioethanol 96 % denatured

Bioethanol 96 % denatured

96 %, with approx. 1 % MEK

C_2H_6O
M 46,07 g/mol • D ~0,81 • bp 78 °C
mp -114,5 °C • flp 17 °C
[64-17-5] • EC No. 200-578-6
UN No. 1170 • ADR 3 II • WGK 1

Danger H225-H319

Type analysis:

Assay (V/V) ≥96 %
Methyl ethyl ketone (MEK) ~1 %
Evaporation residue ≤0,005 %
Aldehydes (as acetaldehyde) ≤0,006 %
Methanol (GC) ≤0,1 %
Acid or alkaline react. substances ≤0,003 %
Sum of other impurities ≤0,03 %
From controlled organic cultivation.

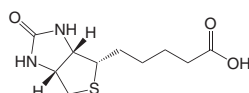
6726.1	1 l	plastic	13,15 €
Original pack 6 x 1 l			
6726.2	2,5 l	plastic	22,80 €
Original pack 4 x 2,5 l			
6726.3	5 l	plastic	40,35 €
Original pack 2 x 5 l			
6726.4	10 l	plastic	64,40 €
Original pack 2 x 5 l			
6726.5	25 l	plastic	143,95 €

Biological Buffers

Art. No.	Description	Page
9138	ACES	1596
0250	ADA	1614
3121	AMP	1644
7159	AMPSO	1645
7014	AMPSO sodium salt	1645
9134	BES	1674
6998	BES sodium salt	1674
9162	BICINE	1675
9140	BIS-TRIS	1680
6999	BIS-TRIS-Propane	1680
5169	Cacodylic acid sodium salt trihydrate	1702
9168	CAPS	1713
5584	CAPSO	1714
6861	CAPSO sodium salt	1714
9166	CHES	1728
X863	Citric acid	1738
7151	DIPSO	1788
0079	Glycine	1860
3908	Glycine	1861
3187	Glycine	1861
3794	Glycylglycine	1862
HN74	Glycylglycine	1862
HN77	HEPES	1870
6763	HEPES	1870
9105	HEPES	1870
HN78	HEPES	1870
5582	HEPES 0,5 Na	1870
7020	HEPES sodium salt	1870
9164	HEPPS, EPPS	1871
X998	Imidazole	1896
4256	MES	1958
4259	MES	1958
6066	MES monohydrate	1958
7033	MES potassium salt	1958
6922	MES sodium salt	1958
6979	MOPS	1975
6927	MOPS sodium salt	1975
7117	MOPSO	1975
7101	MOPSO sodium salt	1975
9156	PIPES	2043
9153	PIPES monosodium salt	2043
5583	PIPES 1,5 Na	2043
7109	PIPES disodium salt	2044
6632	POPSO	2050
6965	POPSO 1,5 Na	2050
T874	Potassium acetate	2050
3904	Potassium dihydrogen phosphate	2054
P749	di-Potassium hydrogen phosphate	2056
9729	Pyridine	2072
6773	Sodium acetate	2140
A135	Sodium carbonate	2142
HN13	Mono sodium citrate	2144
T879	Sodium dihydrogen phosphate dihydrate	2146
4404	Sodium formate	2147
6885	Sodium hydrogen carbonate	2148
P030	di-Sodium hydrogen phosphate	2148
3195	Succinic acid disodium salt hexahydrate	2187
6982	TAPS	2196
3583	TAPS sodium salt	2196
6628	TAPSO	2196
6974	TAPSO sodium salt	2197
4721	Taurine	2198
9137	TES	2200
6977	TRICINE	2219
6300	Triethanolamine	2219

4804	Triethanolamine hydrochloride	2219
4855	TRIS	2223
0188	TRIS	2223
3170	TRIS	2223
5429	TRIS	2223
A411	TRIS	2223
AE15	TRIS	2223
2449	TRIS	2223
7125	TRIS acetate	2224
9158	TRIS carbonate	2224
6986	TRIS hemisulphate	2224
9090	TRIS hydrochloride	2225
6991	TRIS maleate	2225

D(+)-Biotin



D(+)-Biotin

≥98,5 %, Ph.Eur., for biochemistry

Vitamin H

$C_{10}H_{16}N_2O_3S$

M 244,31 g/mol

mp 232-233 °C

[58-85-5] • EC No. 200-399-3

WGK 1

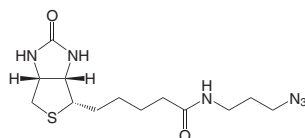
Guarantee analysis:

Appearance.....	almost white, cryst. powder
Assay (dry substance).....	98,5-100,5 %
Identity.....	complies
Heavy metals.....	≤0,001 %
Specific rotation $[\alpha]_D^{20}$ (c=1 in 0,1 N NaOH, dry substance).....	+89° to +93°
Solution (1 % in 0,1 N NaOH).....	clear, colourless
Loss on drying.....	≤1,0 %
Sulphated ash.....	≤0,1 %
Related substances.....	complies

3822.2	500 mg	glass	28,50 €

3822.1	1 g	glass	52,15 €

Biotin-Azide



Biotin-Azide

≥95 %

5-(2-Oxo-hexahydro-thieno[3,4-d]imidazol-6-yl)-pentanoic acid (3-azido-propyl)-amide

$C_{13}H_{22}N_6O_5S$

M 326,42 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1314941-47-3]

WGK 3

Type analysis:

Appearance.....	off-white powder
Assay (HPLC).....	≥95 %
Solubility.....	DMSO, DMF, MeOH

7803.1	1 mg	plastic	41,85 €

7803.2	5 mg	plastic	71,95 €

7803.3	10 mg	plastic	109,15 €

7803.4	100 mg	plastic	424,65 €

Biotin-11-dUTP

Biotin-11-dUTP

≥95 %, 1 mM solution

For non-radioactive, enzymatic labelling of DNA.

Biotin-aminocaproyl-[5-(3-aminoallyl)-2'-deoxyuridine-5'-triphosphate]

$C_{28}H_{42}N_6O_{17}P_3S$

M 859,65 g/mol

Storage temp.: -20 °C

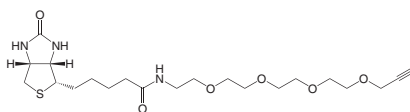
Transport temp.: cooled

1047.1	25 nmol (25 µl)	plastic	109,55 €

1047.2	50 nmol (50 µl)	plastic	181,70 €

For further information, please see page 1208

Biotin-PEG4-Alkyne



Biotin-PEG4-Alkyne

≥95 %

5-((3aS,4S,6aR)-2-oxohexahydro-1H-thieno[3,4-d]imidazol-4-yl)-N-(3,6,9,12-tetraoxapentadec-14-yn-1-yl)pentanamide

$C_{21}H_{35}N_3O_6S$

M 457,58 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1458576-00-5] • WGK 3

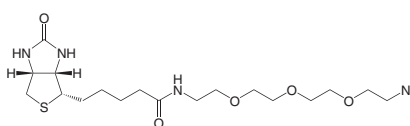
Type analysis:

Appearance.....	white solid
Assay (NMR).....	≥95 %
Solubility.....	DMSO, DMF, CH_2Cl_2 , $CHCl_3$, MeOH

7805.1	1 mg	plastic	100,95 €

7805.2	5 mg	plastic	364,45 €

Biotin-PEG3-Azide



Biotin-PEG3-Azide

≥95 %

N-(2-(2-(2-(2-Azidoethoxy)ethoxy)-ethoxy)-ethyl)-5-((3aS,4S,6aR)-2-oxo-hexahydro-1H-thieno[3,4-d]imidazol-4-yl)pentanamide

$C_{18}H_{32}N_6O_5S$

M 444,55 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[875770-34-6] • WGK 3

Type analysis:

Appearance.....	off-white solid
Assay (HPLC).....	≥95 %
Solubility.....	H_2O , DMSO

7804.1	1 mg	plastic	96,75 €

7804.2	5 mg	plastic	358,00 €

Biphenyl

► Diphenyl see p. 1787

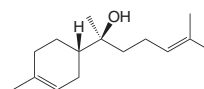
2,2'-Bipyridine

► 2,2'-Dipyridyl see p. 1788

Bis

► N,N'-Methylene bisacrylamide see p. 1966

(-)-α-Bisabolol



(-)-α-Bisabolol

ROTICHRON® GC

Reference substance for GC

$C_{15}H_{26}O$

M 222,37 g/mol

D 0,929 • bp 287 °C

flp 148 °C

Storage temp.: +4 °C

[515-69-5] • EC No. 208-205-9

WGK 1

Type analysis:

Purity (GC)..... ≥93 %

9055.1	1 g	plastic	75,15 €

Bisacrylamide

► N,N'-Methylene bisacrylamide see p. 1966

2,7-Bis(2-arsenophenylazo)-1,8-dihydroxynaphthalin-3,6-disulphonic acid

► Arsenazo III see p. 1656

3,3'-Bis[N,N-bis(carboxymethyl)aminomethyl]-o-cresol-sulfonephthalein tetrasodium salt

► Xylenol orange tetrasodium salt see p. 2246

4,4'-Bis-(dimethylamino)-benzophenonimide hydrochloride

► Auramine O (C.I. 41000) see p. 1659

1,2-Bis-(dimethylamino)-ethane

► TEMED see p. 2199

Bis-(β-hydroxyethyl)-amine

► Diethanolamine see p. 1772

N,N-Bis-(hydroxyethyl)-2-aminoethane sulphonic acid sodium salt

► BES sodium salt see p. 1674

N,N-Bis-(2-hydroxyethyl)-2-aminoethane sulphonic acid

► BES see p. 1674

B

3-N-Bis-(hydroxyethyl)-amino-2-hydroxypropane sulphonic acid

► DIPSO see p. 1788

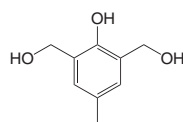
N,N-Bis-(2-hydroxyethyl)-glycine

► BICINE see p. 1675

Bis-(2-hydroxyethyl)imino-tris(hydroxymethyl)-methane

► BIS-TRIS see p. 1680

2,6-Bis(hydroxymethyl)-p-cresol



2,6-Bis(hydroxymethyl)-p-cresol

≥97 %

C₉H₁₂O₃

M 168,19 g/mol

mp ≥120 °C

[91-04-3] • EC No. 202-036-4

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... yellowish to light brown cryst. powder

Assay (HPLC)..... ≥97 %

Loss on drying..... ≤1,5 %

Sulphated ash..... ≤1,0 %

7299.1	25 g	glass	25,70 €

7299.2	100 g	glass	67,20 €

2,2-Bis(hydroxymethyl)-1,3-propanediol

► Pentaerythritol see p. 2024

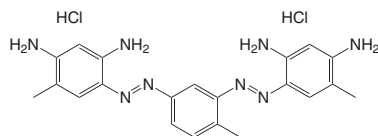
Bis(hydroxypropyl) ether

► Dipropylene glycol see p. 1788

Bismarck brown G

► Bismarck brown Y (C.I. 21000) see p. 1678

Bismarck brown R (C.I. 21010)



Bismarck brown R (C.I. 21010)

for microscopy

For modified Coomassie Blue-staining.

Basic brown 4, Vesuvium R

C₂₁H₂₄N₈ · 2 HCl

M 461,40 g/mol

[5421-66-9] • EC No. 226-541-4

WGK 1

Type analysis:

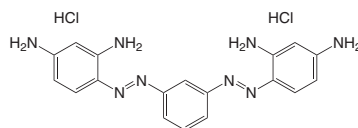
Specific extinction E 1 %/1 cm. >250

Loss on drying (110 °C)..... ≤10 %

0316.1	25 g	plastic	60,75 €

For further information, please see page 1397

Bismarck brown Y (C.I. 21000)



Bismarck brown Y (C.I. 21000)

for microscopy

Basic brown 1, Bismarck brown G

C₁₈H₁₈N₈ · 2 HCl

M 418,33 g/mol

[10114-58-6] • EC No. 233-314-3

WGK 1

Type analysis:

Appearance..... dark brown powder

0313.1	10 g	glass	18,20 €

0313.2	25 g	glass	31,75 €

Bis-N-methylacridinium nitrate

► Lucigenin see p. 1938

Bis(methylendioxy)protoberberin

► Coptisin chloride see p. 1748

Bismut Standards

► Bismuth AAS Standard Solution see p. 2167

► Bismuth ICP Standard Solution see p. 2170

► Bismuth ICP Standard Solution see p. 2174

Bismuth

Bismuth

≥99,5 %, powder

Bi

M 208,98 g/mol

D 9,78 • bp 1560 °C

mp 271,3 °C

[7440-69-9] • EC No. 231-177-4

UN No. 3089 • ADR 4.1 III

⚠ Warning H228

Type analysis:

Assay..... ≥99,5 %

Particle size..... ~200 mesh

2735.1	50 g	glass	45,70 €

2735.2	100 g	glass	78,40 €

Bismuth Standards

► Bismuth AAS Standard Solution see p. 2167

► Bismuth ICP Standard Solution see p. 2170

► Bismuth ICP Standard Solution see p. 2174

Bismuth carbonate, basic

► Bismuth subcarbonate see p. 1679

Bismuth citrate

Bismuth citrate

extra pure

BiC₆H₅O₇

M 398,08 g/mol

mp 300 °C (dec.)

[813-93-4] • EC No. 212-390-1

WGK 3

Type analysis:

Appearance..... white fine powder

Assay (Bi)..... 49,0-54,0 %

Identity..... complies

Nitrate (NO₃)..... complies

Arsenic (As)..... ≤0,001 %

Lead (Pb)..... ≤0,001 %

Copper (Cu)..... ≤0,001 %

Silver (Ag)..... ≤0,001 %

Soluble Bismuth..... ≤0,004 %

Loss on drying..... ≤1,0 %

6550.1	250 g	plastic	77,95 €

6550.2	1 kg	plastic	256,95 €

Original pack 6 x 1 kg 244,10/1 kg

Bismuth(III) nitrate**Bismuth(III) nitrate**

≥71 %, p.a., alkaline

Bismuth trinitrate, Bismuthsubnitrate

BiNO₃

M 286,98 g/mol

Solubility: almost insoluble (H₂O, 20 °C)

[10361-46-3] • EC No. 233-792-3

UN No. 1477 • ADR 5.1 II • WGK 2

⚠️ **Danger** H272-H315-H319-H335**Guarantee analysis:**

Assay	≥71 %
Chloride (Cl)	≤0,01 %
Sulphate (SO ₄)	≤0,02 %
Lead (Pb)	≤0,005 %
Cadmium (Cd)	≤0,005 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,005 %
Potassium (K)	≤0,01 %
Cobalt (Co)	≤0,005 %
Copper (Cu)	≤0,005 %
Sodium (Na)	≤0,2 %
Nickel (Ni)	≤0,005 %
Zinc (Zn)	≤0,005 %

4447.1	50 g	plastic	40,35 €

4447.2	100 g	plastic	64,00 €

For further information, please see page 1506

Bismuth(III) nitrate pentahydrate**Bismuth(III) nitrate pentahydrate**

≥98 %, p.a., ACS

Bi(NO₃)₃ · 5 H₂O

M 485,07 g/mol

D 2,83 • bp 80 °C

mp 30 °C

[10035-06-0] • EC No. 233-791-8

UN No. 1477 • ADR 5.1. II • WGK 2

⚠️ **Danger** H272-H315-H319-H335**Guarantee analysis:**

Assay (compl.)	≥98,0 %
Insoluble matter	≤0,005 %
Chloride (Cl)	≤0,001 %
Sulphate (SO ₄)	≤0,005 %
Arsenic (As)	≤0,001 %
Lead (Pb)	≤0,002 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,01 %
Copper (Cu)	≤0,002 %
Sodium (Na)	≤0,02 %
Silver (Ag)	≤0,001 %
Substances not precipitated by H ₂ S	≤0,1 %

2554.1	250 g	plastic	42,90 €

2554.2	500 g	plastic	78,40 €

Original pack 6 x 500 g 74,48/500 g

2554.3	1 kg	plastic	138,70 €

Original pack 6 x 1 kg 131,77/1 kg

Bismuth(III) oxide**Bismuth(III) oxide**

≥99,5 %, p.a.

Bismuth trioxide

Bi₂O₃

M 465,96 g/mol

mp 825 °C

[1304-76-3] • EC No. 215-134-7

WGK 3

Guarantee analysis:

Appearance	yellow powder
Assay	≥99,5 %
Identity (Bi)	complies
Chloride (Cl)	≤0,001 %
Nitrate (NO ₃)	≤0,05 %
Sulphate (SO ₄)	≤0,002 %
Arsenic (As)	≤0,0002 %
Lead (Pb)	≤0,003 %
Iron (Fe)	≤0,002 %
Copper (Cu)	≤0,002 %
Silver (Ag)	≤0,0005 %
Substances not precipitated by NH ₄ OH	≤0,5 %
Loss on drying (105 °C)	≤0,1 %

6555.1	50 g	plastic	34,30 €

6555.2	100 g	plastic	45,70 €

6555.3	500 g	plastic	142,45 €

Original pack 6 x 500 g 135,33/500 g

Bismuth subcarbonate**Bismuth subcarbonate**

≥97,5 %, USP

Bismuth carbonate, basic

(BiO)₂CO₃

M 509,97 g/mol

[5892-10-4] • EC No. 227-567-9

WGK 3

Guarantee analysis:

Appearance	white powder
Assay (dry substance)	97,6-100,7 %
Identity	complies
Chloride (Cl)	≤0,05 %
Nitrate (NO ₃)	≤0,4 %
Arsenic (As)	≤0,0005 %
Lead (Pb)	≤0,002 %
Copper (Cu)	≤0,005 %
Silver (Ag)	≤0,0025 %
Alkali and alkaline earth metals	≤1,0 %
Loss on drying	≤1,0 %

6551.1	250 g	plastic	69,35 €

6551.2	1 kg	plastic	206,95 €

Original pack 6 x 1 kg 196,60/1 kg

Bismuthsubnitrate

► Bismuth(III) nitrate see p. 1679

Bismuth subsalicylate**Bismuth subsalicylate**

USP

C₇H₅BiO₄

M 362,09 g/mol

[14882-18-9] • EC No. 238-953-1

WGK 3

Guarantee analysis:

Appearance	white light powder
Assay (Bi)	56,0-59,4 %
Identity	complies
Total salicylates	36,5-39,3 %
Free salicylic acid	≤0,2 %
Nitrate (NO ₃)	≤0,4 %
Arsenic (As)	≤0,001 %
Lead (Pb), Silver (Ag), Copper (Cu)	≤0,001 %
Soluble Bismuth	≤0,004 %
Loss on drying (105 °C)	≤1,0 %
pH value	2,7-5,0

6552.1	250 g	plastic	92,35 €

6552.2	1 kg	plastic	299,95 €

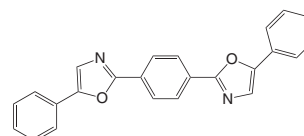
Original pack 6 x 1 kg 284,95/1 kg

Bismuth trinitrate

► Bismuth(III) nitrate see p. 1679

Bismuth trioxide

► Bismuth(III) oxide see p. 1679

1,4-Bis[2-(5-phenyloxazolyl)]-benzene**1,4-Bis[2-(5-phenyloxazolyl)]-benzene**

≥99 %, for scintillation

POPOP

C₂₄H₁₆N₂O₂

M 364,39 g/mol

mp 245 °C

[1806-34-4] • EC No. 217-304-6

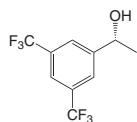
Type analysis:

Appearance	yellow crystals
Assay	≥99,0 %
Melting point	243-246 °C
Suitable for scintillation	

3210.1	5 g	glass	31,75 €

3210.2	100 g	plastic	353,70 €

(R)-1-[3,5-Bis(trifluoromethyl)-phenyl]ethanol



(R)-1-[3,5-Bis(trifluoromethyl)-phenyl]ethanol

≥99 %

Chiral building block

C₁₀H₈F₆O

M 258,16 g/mol

mp 52-58 °C

[127852-28-2]

WGK 3

⚠ **Warning** H302-H412

Type analysis:

Appearance.....white to off-white powder

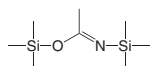
Assay (GC).....≥99 %

Enantiomeric excess (GC).....≥99 %

Water (KF).....≤0,5 %

7481.1	1 g	glass	25,70 €
7481.2	5 g	glass	61,20 €
7481.3	25 g	glass	214,90 €

N,O-Bis(trimethylsilyl)acetamide



N,O-Bis(trimethylsilyl)acetamide

≥98 %, for GC

Silylation reagent

BSA

C₈H₂₁NOSi₂

M 203,43 g/mol

D 0,83

mp 24 °C • flp 42 °C

[10416-59-8] • EC No. 233-892-7

UN No. 2920 • ADR 3 (8) II • WGK 1

⚠ ⚠ ⚠ **Danger**

H314-H226-H302-EUH014

Type analysis:

Appearance.....clear, colourless liquid

Assay (GC).....≥98 %

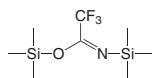
2330.1	25 g	glass	60,75 €

For further information, please see page 1494

Bis(trimethylsilyl)amine

▶ 1,1,1,3,3,3-Hexamethyldisilazane
see p. 1874

N,O-Bis(trimethylsilyl)-trifluoroacetamide



N,O-Bis(trimethylsilyl)-trifluoroacetamide

≥98 %, for GC

Silylation reagent

BSTFA, 2,2,2-Trifluoro-N,O-bis(trimethylsilyl)-acetamide

C₈H₁₈F₃NOSi₂

M 257,41 g/mol

D 0,98 • bp 145 °C

mp -10 °C • flp 34 °C

[25561-30-2] • EC No. 247-103-9

UN No. 1993 • ADR 3 III • WGK 2

⚠ ⚠ **Warning** H226-H315-H319-H335-

EUH014

Type analysis:

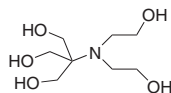
Appearance.....clear, colourless to yellowish liquid

Assay (GC).....≥98 %

2331.1	10 g	glass	34,95 €

For further information, please see page 1494

BIS-TRIS



BIS-TRIS

PUFFERAN® ≥99 %

Bis-(2-hydroxyethyl)imino-tris-(hydroxymethyl)-methane

C₈H₁₉NO₅

M 209,24 g/mol

mp 105 °C

[6976-37-0] • EC No. 230-237-7

Guarantee analysis:

Assay (titr.).....≥99 %

Water.....≤1,0 %

pH value (1 M, H₂O).....9,0-11,0

Solubility (1 M solution in H₂O).....clear soluble

Iron (Fe).....≤0,0003 %

Heavy metals (as Pb).....≤0,0003 %

UV-absorption (0,1 M in H₂O):

340 nm.....≤0,02

280 nm.....≤0,04

9140.1	50 g	plastic	48,95 €
9140.2	250 g	plastic	196,20 €

9140.3	500 g	plastic	332,20 €

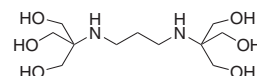
Original pack 6 x 500 g 315,59/500 g

For further information, please see page 1214

1,3-Bis(tris(hydroxymethyl)-methylaminopropane)

▶ BIS-TRIS-Propane see p. 1680

BIS-TRIS-Propane



BIS-TRIS-Propane

PUFFERAN® ≥98 %

1,3-Bis[tris(hydroxymethyl)-methylamino]-propane

C₁₁H₂₆N₂O₆

M 282,3 g/mol

[64431-96-5] • EC No. 264-899-3

Guarantee analysis:

Assay (titr.).....≥98 %

Loss on drying.....≤1,0 %

pH value (1 % in H₂O).....10,4-11,0

UV-absorption (0,1 M in H₂O):

280 nm.....≤0,15

6999.1	25 g	plastic	54,75 €

6999.2	100 g	plastic	198,35 €

For further information, please see page 1214

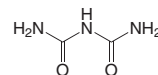
Bitter salt

▶ Magnesium sulphate heptahydrate
see p. 1945

Bitter substance from Gentiana

▶ Gentiopicroside see p. 1848

Biuret



Biuret

≥97 %, p.a.

Reagent for positive control of the Biuret test

Carbamoylurea

C₂H₅N₃O₂

M 103,08 g/mol

mp 188-195 °C

Solubility: 0,2 g/l (H₂O, 20 °C)

[108-19-0] • EC No. 203-559-0

WGK 1

⚠ **Warning** H315-H319-H335

Guarantee analysis:

Appearance.....white cryst. powder

Assay (N).....≥97,0 %

Melting point.....188-195 °C

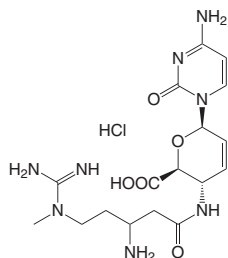
Loss on drying.....≤1 %

2675.1	25 g	glass	29,60 €

2675.2	50 g	glass	49,35 €

Biuret solutions

▶ Roti®-Quant universal see p. 2110

Blasticidin S hydrochloride**Blasticidin S hydrochloride**

≥98 %, for biochemistry

Nucleoside antibiotic

C₁₇H₂₆N₈O₅ · HCl

M 458,90 g/mol

Storage temp.: +4 °C

[3513-03-9] • EC No. 264-899-3

UN No. 2811 • ADR 6.1 I • WGK 3

Danger H300
Type analysis:

Assay..... ≥98,0 %

CP14.1	10 mg	plastic	64,20 €

CP14.2	25 mg	plastic	127,95 €

For further information, please see page 1363

Blocking reagents

▶ Roti®-Block see p. 2089

▶ Roti®-ImmunoBlock see p. 2099

Blood Agar (Base)**Blood Agar (Base)**

for microbiology

For isolation, cultivation and detection of haemolytic reaction of fastidious microorganisms.

Application: Use 40 g for 1 l agar. If required, add 50-110 ml defibr. blood.

Storage temp.: +20 °C

WGK 1

Formulation:

Meat peptone.....	10 g/l
Heart infusion.....	10 g/l
Sodium chloride (NaCl).....	5 g/l
Agar.....	15 g/l
pH value.....	7,3 ±0,2

X914.1	500 g	plastic	76,90 €

Original pack 6 x 500 g 73,06/500 g

For further information, please see page 1316

Blood Agar No. 2 (Base)**Blood Agar No. 2 (Base)**

ISO 7932, ISO 11290-1, for microbiology

For cultivation and detection of haemolytic reaction of fastidious microorganisms.

Application: Use 39,5 g for 1 l agar, add 50-70 ml defibr. blood.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Proteose peptone.....	15 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Liver extract.....	2,5 g/l
Agar.....	12 g/l
pH value.....	7,0 ±0,2

8281.1	500 g	plastic	105,90 €

Original pack 6 x 500 g 100,61/500 g

For further information, please see page 1317

Blood sugar

▶ D(+)-Glucose see p. 1854

▶ D(+)-Glucose monohydrate see p. 1854

Blotting buffers

▶ Roti®-Blot 1 see p. 2089

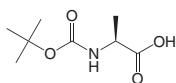
▶ Roti®-Blot 2 see p. 2089

Blue tetrazolium chloride

▶ Tetrazolium blue chloride see p. 2205

BML-TC/100

▶ Roti®-CELL TC100 see p. 2094

Boc-L-Alanine**NEW****Boc-L-Alanine**

≥98,5 %, for biochemistry

Boc-L-Ala-OH, N-(tert-Butoxycarbonyl)-

L-alanine

C₉H₁₅NO₄

M 189,21 g/mol

mp 79 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[15761-38-3] • EC No. 239-847-8

WGK 3

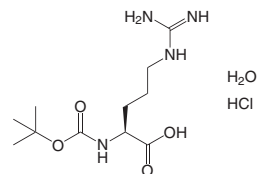
Type analysis:

Appearance.....	white cryst. powder
Assay.....	≥98,5 %
Water (KF).....	≤0,5 %

6907.1	5 g	glass	14,55 €

6907.2	25 g	glass	35,40 €

6907.3	100 g	glass	106,45 €

Boc-L-Arginine hydrochloride monohydrate**NEW****Boc-L-Arginine hydrochloride monohydrate**

≥98 %, for biochemistry

Boc-L-Arg-OH, N-(tert-Butoxycarbonyl)-

L-arginine

C₁₁H₂₂N₄O₄ · HCl · H₂O

M 328,79 g/mol

mp 105-115 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[114622-81-0]

WGK 3

Type analysis:

Appearance.....	white to off-white powder
Assay.....	≥98,0 %
Water (KF).....	5,0-6,0 %

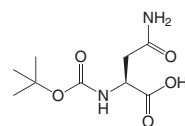
6914.1	5 g	glass	26,80 €

6914.2	25 g	glass	70,45 €

6914.3	100 g	glass	209,65 €

Boc-L-Asn-OH

▶ Boc-L-Asparagine see p. 1681

Boc-L-Asparagine**Boc-L-Asparagine**

≥98 %, for biochemistry

Boc-L-Asn-OH, N-(tert-Butoxycarbonyl)-

L-asparagine

C₉H₁₆N₂O₅

M 232,23 g/mol

mp 165-175 °C

Storage temp.: +4 °C

[7536-55-2] • EC No. 231-405-2

WGK 3

Type analysis:

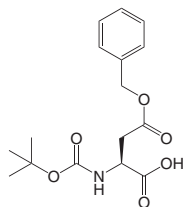
Appearance.....	white to off-white powder
Assay.....	≥98,0 %
Water (KF).....	≤0,5 %

6915.1	5 g	glass	11,00 €

6915.2	25 g	glass	28,95 €

6915.3	100 g	glass	89,80 €

Boc-L-Aspartic acid-(OBenzyl)



NEW

Boc-L-Aspartic acid-(OBenzyl)

≥98,5 %, for biochemistry

N-α-Boc-L-aspartic acid β-benzyl ester,
Boc-L-Asp(OBzl)-OH

C₁₆H₂₁NO₆

M 323,35 g/mol

mp 98-105 °C

Storage temp.: +4 °C

[7536-58-5] • EC No. 439-640-4

WGK 1

Type analysis:

Appearance.....white to off-white powder

Assay (HPLC).....≥98,5 %

Water (KF).....≤0,5 %

Specific rotation [α]_D²⁰ (c=2 in DMF).....-21,5° to -18,5°

Enantiomeric purity.....≤0,3 % D-Enantiomer

8846.1 5 g glass 18,20 €

8846.2 25 g glass 53,65 €

8846.3 100 g glass 160,20 €

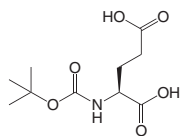
Boc-L-Asp(OBzl)-OH

► Boc-L-Aspartic acid-(OBenzyl) see p. 1682

Boc-L-Gln-OH

► Boc-L-Glutamine see p. 1682

Boc-L-Glutamic acid



NEW

Boc-L-Glutamic acid

≥99 %, for biochemistry

Boc-L-Glu-OH, N-(tert-Butoxycarbonyl)-
L-glutamic acid

C₁₀H₁₇NO₆

M 247,25 g/mol

mp 110 °C

Storage temp.: +4 °C

[2419-94-5]

WGK 3

Type analysis:

Appearance.....white powder

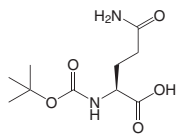
Assay.....≥99,0 %

6917.1 5 g glass 17,75 €

6917.2 25 g glass 55,80 €

6917.3 100 g glass 198,90 €

Boc-L-Glutamine



NEW

Boc-L-Glutamine

≥99 %, for biochemistry

Boc-L-Gln-OH, N-(tert-Butoxycarbonyl)-
L-glutamine

C₁₀H₁₈N₂O₅

M 246,26 g/mol

mp 113 °C

[13726-85-7] • EC No. 237-296-8

WGK 3

Type analysis:

Appearance.....white powder

Assay.....≥99,0 %

6916.1 5 g glass 11,00 €

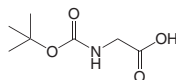
6916.2 25 g glass 28,95 €

6916.3 100 g glass 89,80 €

Boc-L-Glu-OH

► Boc-L-Glutamic acid see p. 1682

Boc-Glycine



Boc-Glycine

≥98 %, for biochemistry

Boc-Gly-OH, N-(tert-Butoxycarbonyl)-glycine

C₇H₁₃NO₄

M 175,18 g/mol

mp 85-90 °C

Storage temp.: +4 °C

[4530-20-5] • EC No. 224-864-5

WGK 3

Type analysis:

Appearance.....white to off-white powder

Assay.....≥98,0 %

Water (KF).....≤1,0 %

6918.1 5 g glass 11,00 €

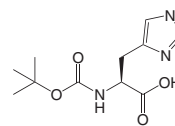
6918.2 25 g glass 28,95 €

6918.3 100 g glass 89,80 €

Boc-Gly-OH

► Boc-Glycine see p. 1682

Boc-L-Histidine



NEW

Boc-L-Histidine

≥98 %, for biochemistry

Boc-L-His-OH, N-(tert-Butoxycarbonyl)-
L-histidine

C₁₁H₁₇N₃O₄

M 255,27 g/mol

mp 195 °C

[17791-52-5] • EC No. 241-768-9

WGK 3

Type analysis:

Appearance.....white to off-white cryst. powder

Assay.....≥98,0 %

Water (KF).....≤1,0 %

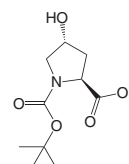
6920.1 5 g glass 24,65 €

6920.2 25 g glass 96,25 €

Boc-L-His-OH

► Boc-L-Histidine see p. 1682

Boc-L-Hydroxyproline



NEW

Boc-L-Hydroxyproline

≥98 %, for biochemistry

Boc-L-Hyp-OH, N-(tert-Butoxycarbonyl)-
L-hydroxyproline

C₁₀H₁₇NO₅

M 231,25 g/mol

mp 123 °C

[13726-69-7]

WGK 3

Type analysis:

Appearance.....white to off-white, cryst. powder

Assay.....≥98,0 %

Water (KF).....≤0,5 %

6921.1 5 g glass 44,65 €

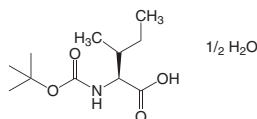
6921.2 25 g glass 155,90 €

Boc-L-Hyp-OH

► Boc-L-Hydroxyproline see p. 1682

Boc-L-Ile-OH

► Boc-L-Isoleucine hemihydrate see p. 1683

Boc-L-Isoleucine hemihydrate**Boc-L-Isoleucine hemihydrate**

≥98 %, for biochemistry

Boc-L-Ile-OH, N-(tert-Butoxycarbonyl)-L-isoleucine

C₁₁H₂₁NO₄ · ½ H₂O

M 240,31 g/mol

mp 50-60 °C

Storage temp.: +4 °C

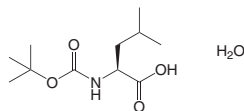
[13139-16-7] • EC No. 236-074-8

WGK 3

Type analysis:

Appearance..... white to off-white powder
 Assay..... ≥98,0 %
 Water (KF)..... ≤8,0 %

6923.1	5 g	glass	21,00 €
6923.2	25 g	glass	51,50 €
6923.3	100 g	glass	111,70 €

Boc-L-Leucine monohydrate**Boc-L-Leucine monohydrate**

≥98 %, for biochemistry

Boc-L-Leu-OH, N-(tert-Butoxycarbonyl)-L-leucine

C₁₁H₂₁NO₄ · H₂O

M 249,30 g/mol

mp 79-85 °C

Storage temp.: +4 °C

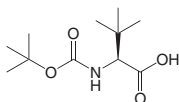
[13139-15-6] • EC No. 236-073-2

WGK 3

Type analysis:

Appearance..... white to off-white powder
 Assay..... ≥98,0 %
 Water (KF)..... 6,5-7,9 %

6924.1	5 g	glass	11,00 €
6924.2	25 g	glass	28,95 €
6924.3	100 g	glass	89,80 €

Boc-L-tert-Leucine

NEW

Boc-L-tert-Leucine

≥98,5 %, for biochemistry

Boc-L-Tle-OH, N-(tert-Butoxycarbonyl)-L-tert-leucine

C₁₁H₂₁NO₄

M 231,29 g/mol

mp 118 °C

Storage temp.: +4 °C

[62965-35-9]

WGK 3

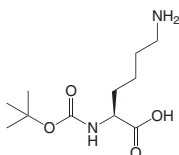
Type analysis:

Appearance..... white powder
 Assay..... ≥98,5 %
 Water (KF)..... ≤1,0 %

6942.1	1 g	glass	22,50 €
6942.2	5 g	glass	89,80 €
6942.3	10 g	glass	160,20 €

Boc-L-Leu-OH

► Boc-L-Leucine monohydrate see p. 1683

Boc-L-Lysine

NEW

Boc-L-Lysine

≥98 %, for biochemistry

Boc-L-Lys-OH, N-(tert-Butoxycarbonyl)-L-lysine

C₁₁H₂₂N₂O₄

M 246,30 g/mol

mp 205 °C

Storage temp.: +4 °C

[13734-28-6] • EC No. 237-303-4

WGK 3

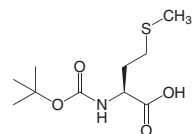
Type analysis:

Appearance..... white to off-white powder
 Assay..... ≥98,0 %
 Water (KF)..... ≤1,0 %

6926.1	1 g	glass	17,75 €
6926.2	5 g	glass	55,80 €
6926.3	10 g	glass	100,95 €

Boc-L-Lys-OH

► Boc-L-Lysine see p. 1683

Boc-L-Methionine

NEW

Boc-L-Methionine

≥99 %, for biochemistry

Boc-L-Met-OH, N-(tert-Butoxycarbonyl)-L-methionine

C₁₀H₁₉NO₄S

M 249,33 g/mol

mp 47 °C

Storage temp.: +4 °C

[2488-15-5] • EC No. 219-639-3

WGK 3

Type analysis:

Appearance..... white powder
 Assay..... ≥99,0 %
 Water (KF)..... ≤1,0 %

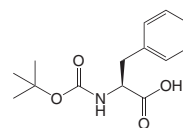
6928.1	5 g	glass	14,55 €
6928.2	25 g	glass	35,40 €
6928.3	100 g	glass	106,45 €

Boc-L-Met-OH

► Boc-L-Methionine see p. 1683

Boc₂O

► Di-tert-butyl dicarbonate see p. 1769

Boc-L-Phenylalanine**Boc-L-Phenylalanine**

≥99 %, for biochemistry

Boc-L-Phe-OH, N-(tert-Butoxycarbonyl)-L-phenylalanine

C₁₄H₁₉NO₄

M 265,31 g/mol

mp 85-88 °C

Storage temp.: +4 °C

[13734-34-4] • EC No. 237-305-5

WGK 3

Type analysis:

Appearance..... white cryst. powder
 Assay..... ≥99,0 %
 Water (KF)..... ≤0,5 %

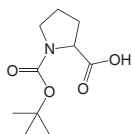
6931.1	5 g	glass	11,00 €
6931.2	25 g	glass	28,95 €
6931.3	100 g	glass	89,80 €

Boc-L-Phe-OH

► Boc-L-Phenylalanine see p. 1683

B

Boc-L-Proline



Boc-L-Proline

≥99 %, for biochemistry

Boc-L-Pro-OH, N-(tert-Butoxycarbonyl)-L-proline

$C_{10}H_{17}NO_4$

M 215,25 g/mol

mp 132-136 °C

Storage temp.: +4 °C

[15761-39-4] • EC No. 239-848-3

WGK 3

Type analysis:

Appearance: white to off-white powder

Assay: ≥99,0 %

Water (KF): ≤0,5 %

6932.1	5 g	glass	11,00 €

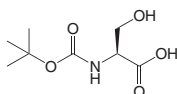
6932.2	25 g	glass	28,95 €

6932.3	100 g	glass	89,80 €

Boc-L-Pro-OH

► Boc-L-Proline see p. 1684

Boc-L-Serine



NEW

Boc-L-Serine

≥99 %, for biochemistry

Boc-L-Ser-OH, N-(tert-Butoxycarbonyl)-L-serine

$C_8H_{15}NO_5$

M 205,21 g/mol

mp 91 °C

Storage temp.: +4 °C

[3262-72-4] • EC No. 221-867-3

WGK 3

Type analysis:

Appearance: white to off-white powder

Assay: ≥99,0 %

Water (KF): ≤8,5 %

6933.1	5 g	glass	17,75 €

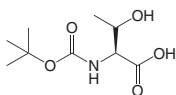
6933.2	25 g	glass	51,50 €

6933.3	100 g	glass	166,65 €

Boc-L-Ser-OH

► Boc-L-Serine see p. 1684

Boc-L-Threonine



NEW

Boc-L-Threonine

≥98 %, for biochemistry

Boc-L-Thr-OH N-(tert-Butoxycarbonyl)-L-threonine

$C_9H_{17}NO_5$

M 219,23 g/mol

mp 80 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[2592-18-9] • EC No. 219-987-6

WGK 3

Type analysis:

Appearance: white to off-white powder

Assay: ≥98,0 %

6935.1	5 g	glass	24,65 €

6935.2	25 g	glass	93,45 €

Boc-L-Thr-OH

► Boc-L-Threonine see p. 1684

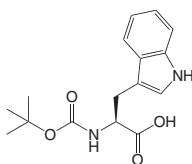
Boc-L-Tle-OH

► Boc-L-tert-Leucine see p. 1683

Boc-L-Trp-OH

► Boc-L-Tryptophan see p. 1684

Boc-L-Tryptophan



Boc-L-Tryptophan

≥95 %, for biochemistry

Boc-L-Trp-OH, N-(tert-Butoxycarbonyl)-L-tryptophan

$C_{16}H_{20}N_2O_4$

M 304,34 g/mol

mp 132-140 °C

Storage temp.: +4 °C

[13139-14-5] • EC No. 236-072-7

WGK 3

Type analysis:

Appearance: white to off-white powder

Assay: ≥95,0 %

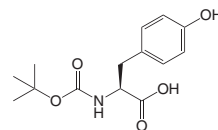
Water (KF): ≤1,0 %

6945.1	5 g	glass	14,55 €

6945.2	25 g	glass	35,40 €

6945.3	100 g	glass	106,45 €

Boc-L-Tyrosine



NEW

Boc-L-Tyrosine

≥98 %, for biochemistry

Boc-L-Tyr-OH, N-(tert-Butoxycarbonyl)-L-tyrosine

$C_{14}H_{19}NO_5$

M 281,30 g/mol

mp 133 °C

Storage temp.: -20 °C

[3978-80-1] • EC No. 223-613-7

WGK 3

Type analysis:

Appearance: white powder

Assay: ≥98,0 %

Water (KF): ≤1,0 %

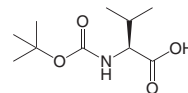
6949.1	5 g	glass	23,55 €

6949.2	25 g	glass	67,20 €

Boc-L-Tyr-OH

► Boc-L-Tyrosine see p. 1684

Boc-L-Valine



Boc-L-Valine

≥98 %, for biochemistry

Boc-L-Val-OH, N-(tert-Butoxycarbonyl)-L-valine

$C_{10}H_{19}NO_4$

M 217,26 g/mol

mp 75-82 °C

Storage temp.: +4 °C

[13734-41-3] • EC No. 237-307-6

WGK 3

Type analysis:

Appearance: white to off-white powder

Assay: ≥98,0 %

Water (KF): ≤1,0 %

6950.1	5 g	glass	11,00 €

6950.2	25 g	glass	28,95 €

6950.3	100 g	glass	89,80 €

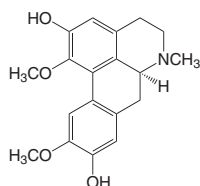
Boc-L-Val-OH

► Boc-L-Valine see p. 1684

Bold black

► Sudan black B (C.I. 26150) see p. 2188

Boldine



Boldine

ROTICHRON® ~CHR

C₁₉H₂₁NO₄

M 327,37 g/mol

mp 161 °C

[476-70-0] • EC No. 207-509-9 • WGK 1

⚠ Warning H302-H315-H319-H335

8900.1	100 mg	glass	117,75 €

Bolus

Bolus

finely powdered

Kaolin

D 2,6

[1318-74-4] • EC No. 310-127-6

Type analysis:

Appearance	powder
pH value	5,5-7,5
Silicate (SiO ₂)	52,2-54,2 %
Magnesium oxide (MgO)	0,26-0,54 %
Al ₂ O ₃	30,0-32,6 %
K ₂ O	3,75-5,99 %
Fe ₂ O ₃	1,1-1,8 %
Na ₂ O	0,08-0,11 %
Titanium dioxide (TiO ₂)	0,69-1,05 %
CaO	0,01-0,05 %
Loss on ignition	6,56-9,18 %

8361.2	1 kg	plastic	17,10 €
Original pack 6 x 1 kg			16,25/1 kg
8361.1	2,5 kg	plastic	31,10 €

Bone ash

Bone ash

powder

[68439-86-1] • EC No. 270-423-5

Type analysis:

Appearance..... white powder

8493.2	500 g	plastic	13,90 €
Original pack 6 x 500 g			13,21/500 g
8493.1	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg

BOP

► Benzotriazole-1-yl-oxy-tris-(dimethylamino)-phosphonium hexafluorophosphate
see p. 1671

Borax

► di-Sodium tetraborate see p. 2159
► di-Sodium tetraborate decahydrate
see p. 2159

Boric acid

H₃BO₃

M 61,83 g/mol

D 1,44

mp >100 (dec.)

Solubility: 47 g/l (H₂O, 20 °C)

[10043-35-3] • EC No. 233-139-2

WGK 1

⚠ Danger H360FD

Boric acid

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5614.1	25 g	plastic	47,20 €
5614.2	100 g	plastic	117,20 €

Boric acid

≥99,8 %, p.a., ACS, ISO

Buffer substance, for molecular biology

Guarantee analysis:

Assay (acidim.)	≥99,8 %
In CH ₃ OH insoluble matter	≤0,005 %
Chloride (Cl)	≤0,0005 %
Sulphate (SO ₄)	≤0,002 %
Phosphate (PO ₄)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00005 %
Calcium (Ca)	≤0,002 %
Cadmium (Cd)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Iron (Fe)	≤0,0001 %
Magnesium (Mg)	≤0,0005 %
Lead (Pb)	≤0,0005 %
Zinc (Zn)	≤0,0005 %
With CH ₃ OH+HCl non volatile matter (as SO ₄)	≤0,05 %

6943.2	250 g	plastic	18,85 €
6943.1	1 kg	plastic	33,25 €
Original pack 6 x 1 kg			31,59/1 kg
6943.3	5 kg	plastic	134,95 €
6943.5	25 kg	plastic	618,15 €

Boric acid

≥99,5 %, Ph.Eur., USP, BP

Buffer substance

Guarantee analysis:

Assay (acidim., dry substance)	99,5-100,5 %
Identity	complies
Appearance of solution	complies
pH-value (3,3 %, water)	3,8-4,8
Solubility (in ethanol)	complies
Loss on drying	≤0,5 %
Ash content (CH ₃ OH+HCl) (as SO ₄)	≤0,1 %
Organic material	complies
Chloride (Cl)	≤0,002 %
Phosphate (PO ₄)	≤0,002 %
Sulphate (SO ₄)	≤0,045 %
Heavy metals (as Pb)	≤0,0015 %
Arsenic (As)	≤0,0005 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,005 %
Lead (Pb)	≤0,001 %
Iron (Fe)	≤0,001 %
Nickel (Ni)	≤0,001 %

P010.1	500 g	plastic	17,75 €
Original pack 6 x 500 g			16,86/500 g
P010.2	1 kg	plastic	27,85 €
Original pack 6 x 1 kg			26,46/1 kg
P010.3	2,5 kg	plastic	57,55 €
P010.5	25 kg	plastic	482,70 €

Boric acid

≥99,8 %

Type analysis:

Assay	≥99,8 %
Sulphate (SO ₄)	≤0,05 %
Iron (Fe)	≤0,001 %

5935.1	1 kg	plastic	16,05 €
Original pack 6 x 1 kg			15,25/1 kg
5935.2	5 kg	plastic	68,70 €
5935.3	50 kg	plastic	342,95 €

Boric acid solution 4 %

Boric acid solution 4 %

p.a.

Analytical reagent

[10043-35-3] • EC No. 233-139-2

WGK 1

Type analysis:

Assay (Boric acid) ~40 g/l

HN24.1	1 l	plastic	16,90 €
Original pack 6 x 1 l			16,06/1 l
HN24.2	5 l	plastic	37,10 €
Original pack 2 x 5 l			35,25/5 l
HN24.3	10 l	plastic	57,95 €

(-)-Borneol



(-)-Borneol

ROTICHRON® GC

Reference substance for GC

C₁₀H₁₈O

M 154,25 g/mol

bp 210 °C

mp 206-208 °C • flp 86 °C

Storage temp.: +4 °C

[464-45-9] • EC No. 207-353-1

UN No. 1312 • ADR 4.1 III • WGK 2

⚠ Warning H228

Type analysis:

Purity (GC) ≥96 %

8495.1	1 g	plastic	75,15 €

B

(+)-Borneol



(+)-Borneol

ROTICHRON® GC

Reference substance for GC

(+)-Bornyl alcohol

C₁₀H₁₈O

M 154,25 g/mol

mp 205-208 °C • flp 65 °C

Storage temp.: +4 °C

[464-43-7] • EC No. 207-352-6

UN No. 1312 • ADR 4.1 III • WGK 2

Warning H228

Type analysis:

Purity (GC): ≥96 %

8903.1	100 mg	plastic	130,65 €

L-Bornyl acetate

► Acetic acid L-bornyl ester see p. 1600

(+)-Bornyl alcohol

► (+)-Borneol see p. 1686

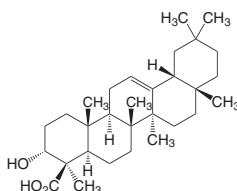
Boron Standards

► Boron AAS Standard Solution see p. 2167

► Boron ICP Standard Solution see p. 2170

► Boron ICP Standard Solution see p. 2174

α-Boswellic acid



α-Boswellic acid

ROTICHRON® HPLC

Reference substance for HPLC

From *Boswellia serrata*.

(3α,4β)-3-Hydroxy-olean-12-en-23-oic acid

C₃₀H₄₈O₃

M 456,73 g/mol

Storage temp.: +4 °C

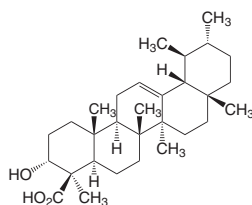
[471-66-9]

Type analysis:

Purity (HPLC): >99 %

1123.1	10 mg	glass	375,20 €

β-Boswellic acid



β-Boswellic acid

ROTICHRON® HPLC

Reference substance for HPLC

From *Boswellia serrata*.

(3α,4β)-3-Hydroxy-urs-12-en-23-oic acid

C₃₀H₄₈O₃

M 456,73 g/mol

Storage temp.: +4 °C

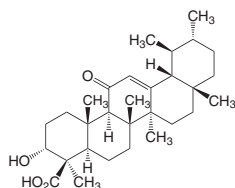
[631-69-6]

Type analysis:

Purity (HPLC): >99 %

1124.1	10 mg	glass	385,95 €

11-keto-β-Boswellic acid



11-keto-β-Boswellic acid

ROTICHRON® HPLC

Reference substance for HPLC

From *Boswellia serrata*.

3α-Hydroxy-urs-12-en-11-keto-23-acid

C₃₀H₄₆O₄

M 470,69 g/mol

Storage temp.: +4 °C

[17019-92-0]

Type analysis:

Purity (HPLC): >99 %

1155.1	10 mg	glass	342,95 €

BPB

► Bromophenol blue see p. 1691

Bradford solutions

► Roti®-Quant see p. 2110

► Roti®-Nanoquant see p. 2106

Brain-Heart-Infusion Agar

Brain-Heart-Infusion Agar

for microbiology

For cultivation of fastidious microorganisms.

Application: Use 52 g for 1 l agar.

BHI Agar

Storage temp.: +20 °C

WGK 1

Approximate formula in g/l:

Calf brain infusion	7,5 g/l
Beef heart infusion	10 g/l
Peptone	10 g/l
Glucose	2 g/l
Sodium chloride (NaCl)	5 g/l
Disodium phosphate	2,5 g/l
Agar	15 g/l
pH value	7,4 ± 0,2

X915.1	500 g	plastic	90,20 €

Original pack 6 x 500 g	85,69/500 g

For further information, please see page 1317

Brain-Heart-Infusion Broth

Brain-Heart-Infusion Broth

for microbiology

For cultivation of fastidious microorganisms.

Application: Use 37 g for 1 l broth.

BHI Broth

Storage temp.: +20 °C

WGK 1

Formulation:

Pig brain infusion	7,5 g/l
Pig heart infusion	10 g/l
Peptone	10 g/l
Glucose	2 g/l
Sodium chloride (NaCl)	5 g/l
Disodium phosphate	2,5 g/l
pH value	7,4 ± 0,2

X916.1	500 g	plastic	82,70 €

Original pack 6 x 500 g	78,57/500 g

X916.2	1 kg	plastic	142,45 €

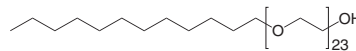
Original pack 6 x 1 kg	135,33/1 kg

For further information, please see page 1317

Brenzcatechinmono-methylether

► Guaiacol see p. 1864

Brij® 35



Brij® 35

for biochemistry

Non-ionic detergent.

Polyoxyethylene lauryl ether, Polyethylene glycol lauryl ether

C₅₈H₁₁₈O₂₄

M 1198,57 g/mol

D 1,05 • bp 100 °C

flp >149 °C

[9002-92-0]

WGK 2

Type analysis:

Water: ≤4 %

Hydroxyl number (mg KOH/g): 40-60

CN21.1	250 g	plastic	16,05 €

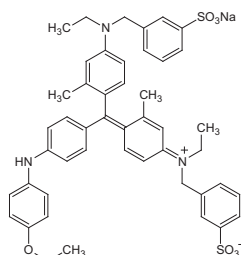
CN21.2	500 g	plastic	24,65 €

Original pack 6 x 500 g			23,42/500 g

CN21.3	1 kg	plastic	37,10 €

Original pack 6 x 1 kg			35,25/1 kg

For further information, please see page 1216

Brilliant blue G 250 (C.I. 42655)**Brilliant blue G 250 (C.I. 42655)**

For preparing staining solution for protein analysis in gel electrophoresis.

Coomassie blue G 250

 $C_{47}H_{48}N_3O_7S_2Na$

M 854,03 g/mol

Solubility: 40 g/l (H_2O , 20 °C)

[6104-58-1] • EC No. 228-058-4

WGK 2

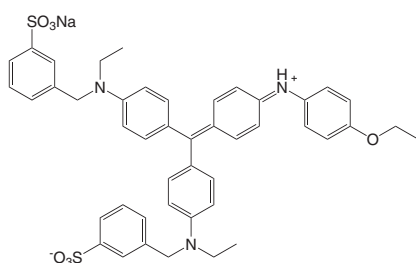
Type analysis:

Maximum absorption. 610-615 nm

9598.1	10 g	glass	26,35 €

9598.2	100 g	plastic	138,70 €

For further information, please see page 1139

Brilliant blue R 250 (C.I. 42660)**Brilliant blue R 250 (C.I. 42660)**

For preparing staining solution for protein analysis in gel electrophoresis.

Coomassie Brilliant Blue R 250

 $C_{45}H_{44}N_3NaO_7S_2$

M 825,99 g/mol

mp ~174-180 °C

Solubility: 20 g/l (H_2O , 30 °C)

[6104-59-2] • EC No. 228-060-5

WGK 2

Type analysis:

Appearance. blue to purple powder

Absorption max. (in EtOH). 580-600 nm

Loss on drying (110 °C). ≤10 %

3862.1	10 g	glass	21,75 €

3862.2	100 g	glass	85,90 €

For further information, please see page 1139

Brilliant cresyl blue (C.I. 51010)**Brilliant cresyl blue (C.I. 51010)**

p.a.

Brilliant blue C

 $(C_{17}H_{20}N_3O)_2 \cdot ZnCl_4$

M 385,96 g/mol

Solubility: 30 g/l (H_2O , 25 °C)

[81029-05-2] • EC No. 279-675-0

WGK 2

⚠ Warning H315-H319-H335

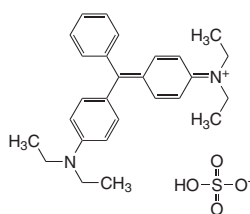
Type analysis:Absorption max. (in H_2O). 620-640 nm

Loss on drying (110 °C). ≤5 %

5162.1	5 g	glass	21,40 €

5162.2	10 g	glass	31,10 €

For further information, please see page 1397

Brilliant green (C.I. 42040)**Brilliant green (C.I. 42040)**

for microscopy

Indicator pH 0,0-2,6

Basic green 1, Malachite green G,

Diamond green G, Ethyl green

 $C_{27}H_{34}N_2O_4S$

M 482,64 g/mol

mp 210 °C (dec.)

Solubility: 100 g/l (H_2O , 20 °C)

[633-03-4] • EC No. 211-190-1

WGK 2

⚠ Warning H302-H319

Type analysis:

Maximum absorption. 628-632 nm

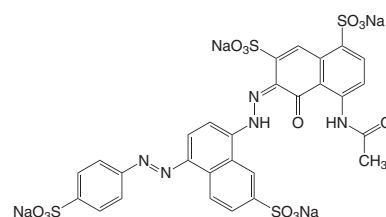
Specific extinction E 1 %/1 cm. >1750

Loss on drying (135 °C). ≤5 %

0324.1	25 g	glass	16,70 €

0324.2	100 g	plastic	36,45 €

For further information, please see page 1397

Brilliant black BN (C.I. 28440)**Brilliant black BN (C.I. 28440)**

p.a.

 $C_{28}H_{17}N_5Na_4O_{14}S_4$

M 867,69 g/mol

Solubility: 100 g/l (H_2O)

[2519-30-4] • EC No. 219-746-5

WGK 3

Type analysis:

Appearance. black powder

Insoluble in water. ≤0,5 %

Heavy metals. ≤0,005 %

Lead (Pb). ≤0,001 %

Mercury (Hg). ≤0,0001 %

7643.1	5 g	glass	17,75 €

7643.2	25 g	glass	33,25 €

7643.3	100 g	glass	89,80 €

Brilliant blue C

▶ Brilliant cresyl blue (C.I. 51010) see p. 1687

Brilliant Green Bile Broth**Brilliant Green Bile Broth**

DIN 10172, for microbiology

For selective enrichment and enumeration of coli bacteria in milk, water samples, faeces and other material.

Application: Use 40 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Gelatine peptone. 10 g/l

Lactose. 10 g/l

Bile salts. 20 g/l

Brilliant green. 0,0133 g/l

pH value. 7,2 ±0,2

CL06.1	500 g	plastic	135,35 €

Original pack 6 x 500 g 128,58/500 g

For further information, please see page 1317

Brilliant Green Lactose Sucrose Agar

B

Brilliant Green Lactose Sucrose Agar

Ph.Eur., for microbiology

Highly selective medium for the isolation of *Salmonellae* from pathological specimens and food.

Application: Use 58,1 g for 1 l agar.

Agar medium L (Ph.Eur. 6.0), **BPLS**

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Meat and casein peptone.....	10 g/l
Yeast extract.....	3 g/l
Sodium chloride (NaCl).....	5 g/l
Lactose monohydrate.....	10 g/l
Saccharose.....	10 g/l
Phenol red.....	0,08 g/l
Brilliant green.....	0,0125 g/l
Agar.....	20 g/l
pH value.....	6,9 ± 0,2

AE43.1	500 g	plastic	88,05 €

Original pack 6 x 500 g 83,65/500 g

For further information, please see page 1317

Brilliant Green Tetrathionate Bile Broth

Brilliant Green Tetrathionate Bile Broth

Ph.Eur., for microbiology

For selective enrichment of *Salmonellae* in food and faeces.

Application: Use 63 g for 1 l broth.

Broth medium I (Ph.Eur. 6.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Peptone.....	8,6 g/l
Dried beef bile.....	8 g/l
Sodium chloride (NaCl).....	6,4 g/l
Calcium carbonate.....	20 g/l
Potassium tetrathionate.....	20 g/l
Brilliant green.....	0,07 g/l
pH value.....	7,0 ± 0,2

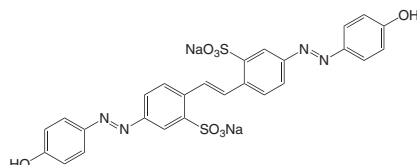
AE42.2	100 g	plastic	109,55 €

AE42.1	500 g	plastic	428,95 €

Original pack 6 x 500 g 407,50/500 g

For further information, please see page 1318

Brilliant yellow (C.I. 24890)



Brilliant yellow (C.I. 24890)

p.a.

Indicator pH 6,4-8,0

$C_{26}H_{18}N_4Na_2O_8S_2$

M 624,55 g/mol

Solubility: 25 g/l (H_2O)

[3051-11-4]

WGK 3

Type analysis:

Appearance..... brick red to rust powder

pH-transition range..... 6,4 (yellow)-8,0 (red orange)

7645.1	5 g	glass	18,85 €

7645.2	25 g	glass	28,95 €

7645.3	100 g	glass	67,20 €

Brindi acid

Brindi acid

30 %, techn.

Brindi resin with hydrochloric acid.

D 1,15

UN No. 1789 • ADR 8 II • WGK 1

Danger H314-H335-H290

Type analysis:

Appearance..... brown, viscous liquid

Assay..... 28,2-31,2 % (HCl)

Brindi acid is the trade name of a descaler, made on the basis of hydrochloric acid which is inhibited from corrosion.

The chemical cleaning of metal surfaces by Brindi acid makes it possible to dissolve deposits consisting of rust, ferric oxide, boiler scale and other acid soluble compounds.

Brindi acid dissolves such deposits with the same efficacy like a strong acid.

But at the same time, the use of Brindi resin as corrosion inhibitor protects the metal surface against the corrosion normally caused by acid.

For application the product has to be diluted with 3 to 6 times the amount of water. Not suitable for aluminium and zinc.

5141.2	1 l	plastic	14,95 €

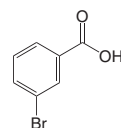
Original pack 6 x 1 l 14,20/1 l

5141.1	10 l	plastic	40,35 €

Brindi resin with hydrochloric acid

► Brindi acid see p. 1688

3-Brombenzoic acid



3-Brombenzoic acid

≥99 %, for synthesis

$C_7H_5BrO_2$

M 201,02 g/mol

mp 154-158 °C

[585-76-2] • EC No. 209-562-3

WGK 3

Warning H315-H319-H335

Type analysis:

Appearance..... white to pale yellow cryst. powder

Assay..... ≥99,0 %

4273.1	25 g	glass	30,00 €

4273.2	100 g	glass	75,15 €

Bromelain

Bromelain

~1200 GDU/g, for biochemistry

Made from stems of young *Bromeliaceae*.

Bromelin

mp ~60 °C

Storage temp.: +4 °C

[9001-00-7] • EC No. 232-572-4

WGK 3

Danger H334-H335-H315-H319

Type analysis:

Appearance..... off-white, hygroscopic powder

Activity..... ~1200 GDU/g (~2,4 FIP-units/mg)

pH value (1 % solution)..... 3,0-5,0

Ash..... <5 %

Loss on drying..... <5 %

5950.1	10 g	plastic	19,25 €

5950.2	100 g	plastic	85,90 €

For further information, please see page 1221

Bromelin

► Bromelain see p. 1688

Brome potassium

► Potassium bromide see p. 2051

Bromide bromate solution (0,1 N)

Bromide bromate solution

0,05 mol Br₂/l - 0,1 N volumetric standard solution

Potassium bromide bromate solution

WGK 3

Danger H350

Type analysis:

Amount-of-substance conc. (20 °C).....0,05 mol Br₂/l ±0,2 %
Titer.....0,998-1,002

8131.1	1 l	plastic	27,85 €
Original pack 6 x 1 l			26,46/1 l

Bromide Standards

► Bromide IC Standard Solution see p. 2180

5-Bromoanthranilic acid

► 2-Amino-5-bromobenzoic acid see p. 1630

Bromobenzene D5

Bromobenzene D5

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

C₆D₅Br

M 162,05 g/mol

D ~1,49 • bp 156 °C

mp -31 °C

[4165-57-5] • EC No. 224-013-8

UN No. 2514 • ADR 3 III • WGK 2

Warning H226-H315-H411

Guarantee analysis:

Deuterising degree.....≥99,5 %
Water (KF, H₂O+D₂O).....≤0,03 %

HN93.1	10 ml	glass	98,80 €

5-Bromo-4-chloro-indoxyl- α -D-galactopyranoside

► X- α -Gal see p. 2244

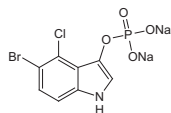
5-Bromo-4-chloro-3-indoxyl- β -D-glucuronide cyclohexylammonium salt

► X-Glucuro CHASalt see p. 2245

5-Bromo-4-chloro-3-indoxyl- β -D-glucuronide monohexyl ammonium salt

► X-Gluc see p. 2244

5-Bromo-4-chloro-3-indoxyl phosphate disodium salt



5-Bromo-4-chloro-3-indoxyl phosphate disodium salt

≥99 %

Substrate for alkaline phosphatase, in particular in immunoblot procedures.

BCIP-Na₂, X-phosphate disodium salt

C₈H₄BrClNO₄PNa₂ • 1,5 H₂O

M 397,46 g/mol

mp >300 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[102185-33-1]

Type analysis:

Appearance.....almost white powder

Assay (titr.).....≥99,0 %

Water (KF).....5,8-7,8 %

A155.1	100 mg	glass	25,70 €

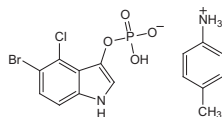
A155.2	500 mg	glass	107,40 €

A155.3	1 g	glass	188,15 €

A155.4	5 g	glass	633,20 €

For further information, please see page 1232

5-Bromo-4-chloro-3-indoxyl phosphate p-toluidine salt



5-Bromo-4-chloro-3-indoxyl phosphate p-toluidine salt

≥99 %, BioScience-Grade

Histochemical substrate for phosphatase.

BCIP-p-toluidine salt, X-Phos

C₁₅H₁₅N₂O₄BrClP

M 433,63 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[6578-06-9] • EC No. 229-506-1

WGK 2

Warning H371

Guarantee analysis:

Appearance.....almost white powder

Assay (titr.).....≥99 %

Water (KF).....≤1 %

Appearance of solution (1% in DMF).....clear, colourless to slightly yellowish

Phosphate (PO₄).....≤0,05 %

6368.1	500 mg	glass	33,25 €

6368.2	1 g	glass	63,45 €

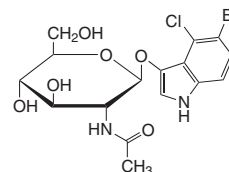
6368.3	5 g	glass	241,90 €

For further information, please see page 1232

5-Bromo-4-chloro-3-indoxyl-2-acetamido-2-deoxy- β -D-glucopyranoside

► 5-Bromo-4-chloro-3-indoxyl-N-acetyl- β -D-glucosaminide see p. 1689

5-Bromo-4-chloro-3-indoxyl-N-acetyl- β -D-glucosaminide



5-Bromo-4-chloro-3-indoxyl-N-acetyl- β -D-glucosaminide

≥99,5 %, for biochemistry

Glycosidase substrate

5-Bromo-4-chloro-3-indoxyl-2-acetamido-2-deoxy- β -D-glucopyranoside, X- β -D-GlcNAc

C₁₆H₁₈BrClN₂O₆

M 449,69 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[4264-82-8] • WGK 1

Type analysis:

Assay (HPLC).....≥99,5 %

Solution (1 % in methanol).....clear, almost colourless

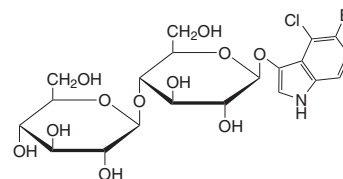
Water (KF).....≤4 %

Spec. rotation [α]_D²⁰ (c=1 in methanol).....-68° ±3°

4149.1	25 mg	glass	46,15 €

4149.2	100 mg	glass	127,95 €

5-Bromo-4-chloro-3-indoxyl- β -D-cellobioside



5-Bromo-4-chloro-3-indoxyl- β -D-cellobioside

≥99 %, for biochemistry

Glycosidase substrate

X- β -D-Cellobioside

C₂₀H₂₅BrClNO₁₁

M 570,78 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[177966-52-8] • EC No. 206-375-9

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (HPLC).....≥99 %

Solution (1 % in methanol).....colourless

Water (KF).....≤5 %

Spec. rotation [α]_D²⁰ (c=1 in methanol).....-70° to -67°

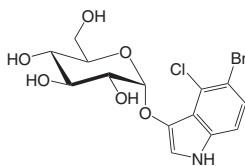
4152.1	50 mg	glass	92,35 €

5-Bromo-4-chloro-3-indoxyl-β-D-galactoside

► X-β-Gal see p. 2244

B

5-Bromo-4-chloro-3-indoxyl-α-D-glucopyranoside



5-Bromo-4-chloro-3-indoxyl-α-D-glucopyranoside

≥98 %, for biochemistry

X-α-D-glucoside, X-α-Glu, X-α-D-Glu

C₁₄H₁₅BrClO₆

M 408,64 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[108789-36-2] • WGK 3

Type analysis:

Appearance: white to off-white cryst. powder

Assay (HPLC): ≥98,0 %

Appearance of solution (1 % in DMF): colourless

Specific rotation [α]_D²⁰ (c=1 in DMF, 20 °C): +123,0° to +129,0°

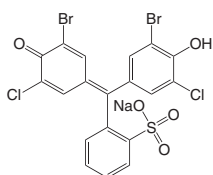
Water (KF): ≤1,0 %

8434.1	100 mg	glass	67,20 €
8434.2	250 mg	glass	133,20 €
8434.3	500 mg	glass	212,35 €

5-Bromo-4-chloro-3-indoxyl-β-D-glucopyranoside

► X-Glu see p. 2244

Bromochlorophenol blue sodium salt



Bromochlorophenol blue sodium salt

p.a.

Indicator pH 3,2-4,8

5',5"-Dibromo-3',3"-dichloro-phenolsulphonphthalein

C₁₉H₉Br₂Cl₂NaO₅S

M 603,06 g/mol

[102185-52-4] • WGK 3

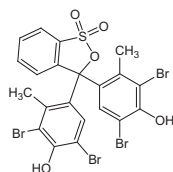
Type analysis:

Appearance: black powder

pH-transition range: 3,2 (yellow)-4,8 (purple)

6558.1	1 g	glass	40,35 €
6558.2	5 g	glass	95,60 €

Bromocresol green



Bromocresol green

ACS

Indicator pH 3,8-5,4

3,3',5,5'-Tetrabrom-m-cresolsulphonphthalein, BCG

C₂₁H₁₄Br₄O₅S

M 698,04 g/mol

mp 217-218 °C

Solubility: insoluble (H₂O, 20 °C)

[76-60-8] • EC No. 200-972-8

WGK 2

Guarantee analysis:

Appearance: slightly light brown powder

Appearance of solution: complies

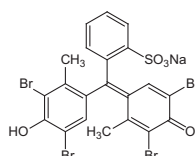
pH-transition range: 3,8 (yellow)-5,4 (blue)

Loss on drying (110 °C): ≤3 %

T115.1	1 g	glass	15,60 €
T115.2	5 g	glass	24,65 €
T115.3	10 g	glass	42,90 €
T115.4	25 g	glass	80,55 €

For further information, please see page 1506

Bromocresol green sodium salt



Bromocresol green sodium salt

p.a.

Indicator pH 3,8-5,4

C₂₁H₁₃Br₄NaO₅S

M 720,02 g/mol

[62625-32-5] • EC No. 263-657-4

WGK 3

Guarantee analysis:

Specific Extinction E (1%/1cm): ≥575

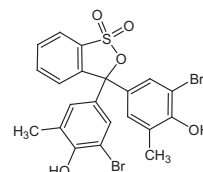
Absorption max. (NaOH 0,01 mol/l): 613,0-621,0 nm

Solubility (0,1 % in H₂O): clearly soluble

pH-transition range: 3,8 (yellow)-5,4 (blue)

KK18.1	1 g	glass	12,05 €
KK18.2	5 g	glass	31,10 €
KK18.3	25 g	glass	107,40 €

Bromocresol purple



Bromocresol purple

p.a., ACS

Indicator pH 5,2-6,8

5',5"-Dibromo-cresolsulphonphthalein

C₂₁H₁₆Br₂O₅S

M 540,24 g/mol

D 3,86

mp 242 °C

Solubility: slightly soluble (H₂O, 20 °C)

[115-40-2] • EC No. 204-087-8

WGK 2

Guarantee analysis:

Appearance: yellowish to light brown powder

Dye content: ≥89,0 %

Loss on drying (110 °C): ≤1 %

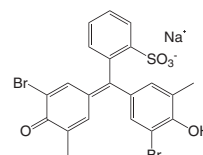
Appearance of solution: complies

Melting point: 241-245 °C

pH-transition range: 5,2 (yellow)-6,8 (purple)

0317.1	5 g	glass	19,25 €
0317.2	25 g	glass	60,10 €

Bromocresol purple sodium salt



Bromocresol purple sodium salt

p.a., ACS

Indicator pH 5,2-6,8

5',5"-Dibromo-cresolsulphonphthalein sodium salt

C₂₁H₁₅Br₂NaO₅S

M 562,20 g/mol

mp 255 °C (dec.)

Solubility: soluble (H₂O)

[62625-30-3] • EC No. 263-655-3

WGK 1

Guarantee analysis:

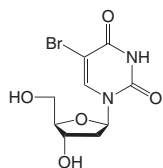
Appearance of solution (ACS): complies

Loss on drying: ≤5 %

pH transition range: 5,2 (yellow)-6,8 (purple)

2555.1	5 g	glass	17,75 €
2555.2	25 g	glass	44,65 €

5-Bromo-2'-deoxyuridine



5-Bromo-2'-deoxyuridine

≥99 %, for biochemistry

BrdU

C₉H₁₁BrN₂O₅

M 307,11 g/mol

mp 180-187 °C

Storage temp.: +4 °C

[59-14-3] • EC No. 200-415-9

WGK 3

Warning H341-H351

Type analysis:

Appearance.....white, cryst. powder

Assay (HPLC, area %).....≥99,0 %

Heavy metals (as Pb).....≤0,001 %

[α]_D²⁰ (c=1 in 0,1 N NaOH).....+30,0° to +32,0°

Loss on drying.....≤0,5 %

Melting range.....180-187 °C

3243.1	250 mg	glass	31,10 €

Bromoethane

Bromoethane

≥99,5 %, for synthesis

Ethyl bromide

C₂H₅Br

M 108,96 g/mol

D 1,46 • bp 37-39 °C

mp -118 °C • flp -20 °C

[74-96-4] • EC No. 200-825-8

UN No. 1891 • ADR 6.1 II • WGK 2

Danger H225-H302+H332-H351

Type analysis:

Appearance... clear, colourless to slightly yellow liquid

Assay (GC).....≥99,5 %

Identity (GC).....complies

Evaporation residue.....≤0,005 %

pH-value (50 % in water).....6,0-8,0

Water.....≤0,05 %

4195.1	250 ml	glass	22,05 €

4195.2	500 ml	glass	39,25 €

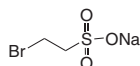
4195.3	1 l	glass	66,15 €

Original pack 6 x 1 l 62,84/1 l

4195.4	2,5 l	glass	149,45 €

Original pack 4 x 2,5 l 141,98/2,5 l

2-Bromoethanesulfonic acid sodium salt



2-Bromoethanesulfonic acid sodium salt

≥98 %

Sodium 2-bromoethanesulfonate

C₂H₄BrNaO₃S

M 211,02 g/mol

mp 283 °C

[4263-52-9] • EC No. 224-244-4

Type analysis:

Assay (titr.).....≥98,0 %

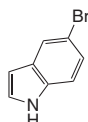
Solution (10 % in H₂O).....colourless

Water (KF).....≤5,0 %

5476.1	25 g	plastic	27,45 €

5476.2	100 g	plastic	76,90 €

5-Bromoindole



5-Bromoindole

≥99,5 %

C₈H₆BrN

M 196,05 g/mol

mp 90-94 °C

Solubility: 126 mg/l (H₂O, 25 °C)

Storage temp.: -20 °C

Transport temp.: room temp.

[10075-50-0] • EC No. 233-208-7

WGK 1

Type analysis:

Assay (titr.).....≥99,5 %

Solution (1 % in acetone).....colourless, clear

Water (KF).....≤0,5 %

Melting point.....90-94 °C

5469.1	5 g	glass	22,50 €

5469.2	25 g	glass	100,95 €

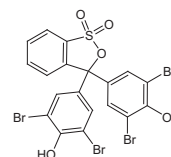
α-Bromo-4-nitrotoluene

▶ 4-Nitrobenzyl bromide see p. 1991

5-Bromopentanoic acid

▶ 5-Bromovaleric acid see p. 1693

Bromophenol blue



Bromophenol blue

ACS, for microscopy

Indicator pH 3,0-4,6

3,3',5,5'-Tetrabromophenolsulphonphthalein, BPB

C₁₉H₁₀Br₄O₅S

M 669,99 g/mol

mp 273 °C (dec.)

Solubility: practically insoluble (H₂O, 20 °C)

[115-39-9] • EC No. 204-086-2

WGK 2

Guarantee analysis:

Appearance.....pink powder

Appearance of solution.....complies

pH-transition range.....3,0 (yellow)-4,6 (blue)

Loss on drying (110 °C).....≤1,0 %

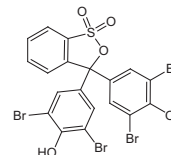
T116.1	5 g	glass	20,35 €

T116.2	10 g	glass	26,80 €

T116.3	25 g	glass	42,90 €

For further information, please see page 1397

Bromophenol blue sodium salt



Bromophenol blue sodium salt

for electrophoresis

Staining agent for visualisation of running

distance in gel electrophoresis.

Indicator pH 3,0-4,6

BPB, water soluble

C₁₉H₉Br₄O₅Na

M 691,9 g/mol

[34725-61-6] • EC No. 252-170-2

WGK 2

Type analysis:

pH-transition range.....3,0 (yellow)-4,6 (blue)

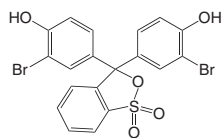
A512.2	5 g	glass	20,35 €

A512.1	10 g	glass	38,60 €

A512.3	25 g	glass	64,40 €

For further information, please see page 1550

Bromophenol red free acid



Bromophenol red free acid

p.a.

Indicator pH 5,2-7,0
3',3''-Dibromophenolsulfonphthalein

$C_{19}H_{12}Br_2O_5S$

M 512,19 g/mol

mp ~230 °C (dec.)

Solubility: slightly soluble (H_2O , 20 °C)

[2800-80-8] • EC No. 220-538-1

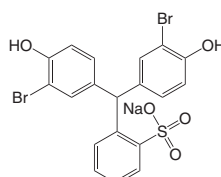
WGK 3

Type analysis:

Appearance..... red brown powder
Loss on drying..... ≤5,0 %
pH-transition range..... 5,2 (yellowred)-7,0 (purple)

6573.1	1 g	glass	18,85 €
6573.2	5 g	glass	37,10 €
6573.3	50 g	glass	177,40 €

Bromophenol red sodium salt



Bromophenol red sodium salt

p.a.

Indicator pH 5,2-6,8

$C_{19}H_{11}Br_2O_5SNa$

M 534,15 g/mol

[102185-50-2]

WGK 3

Type analysis:

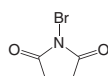
Appearance..... red brown to brown powder
pH-transition range..... 5,2 (yellow red)-7,0 (purple)

6579.1	1 g	glass	18,20 €
6579.2	5 g	glass	34,95 €
6579.3	50 g	glass	160,20 €

Bromopropane

► Propyl bromide see p. 2069

N-Bromosuccinimide



N-Bromosuccinimide

≥98 %, for synthesis

NBS

$C_4H_4BrNO_2$

M 177,99 g/mol

mp 174-180 °C

Solubility: 14,8 g/l (H_2O , 20 °C)

[128-08-5] • EC No. 204-877-2

UN No. 3261 • ADR 8 III • WGK 3

⚠ Warning H302-H315-H319-H335

Type analysis:

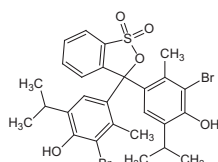
Assay (iodom.)..... ≥98 %
Melting point..... 174-180 °C

3261.1	100 g	glass	28,95 €
3261.2	500 g	glass	106,35 €
Original pack 6 x 500 g			101,03/500 g

Bromosulfalein

► Sulfobromophthalein disodium salt
see p. 2188

Bromothymol blue



Bromothymol blue

p.a., ACS

Indicator pH 6,0-7,6

3',3''-Dibromothymolsulphonphthaleine, BTB

$C_{27}H_{28}Br_2O_5S$

M 624,40 g/mol

Solubility: insoluble (H_2O , 20 °C)

[76-59-5] • EC No. 200-971-2

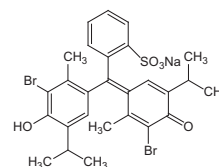
WGK 2

Guarantee analysis:

Appearance..... light pink powder
Appearance of solution..... complies
pH-transition range..... 6,0 (yellow)-7,6 (blue)
Loss on drying (110 °C)..... ≤3 %

T117.1	5 g	glass	22,40 €
T117.2	25 g	glass	53,65 €
T117.3	50 g	glass	90,20 €

Bromothymol blue sodium salt



Bromothymol blue sodium salt

p.a.

Indicator pH 6,0-7,6

3',3''-Dibromo-thymolsulphonphthalein sodium salt

$C_{27}H_{27}Br_2NaO_5S$

M 646,38 g/mol

[34722-90-2] • EC No. 252-169-7

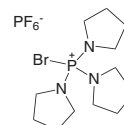
WGK 3

Guarantee analysis:

Specific Extinction E (1%/1cm)..... ≥600
Absorption max. (in buffer)..... 611,0-619,0 nm
Solubility (0,1 % in H_2O)..... clearly soluble
pH-transition range..... 6,0 (yellow)-7,6 (blue)

KK19.1	5 g	glass	19,25 €
KK19.2	10 g	glass	29,60 €
KK19.3	25 g	glass	53,65 €

Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBrOP®)



Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBrOP®)

≥98,5 %

Coupling reagent for peptide synthesis
PyBrOP®

$C_{12}H_{24}N_3P_2BrF_6$

M 466,2 g/mol

mp 152-156 °C

Storage temp.: +4 °C

[132705-51-2]

WGK 1

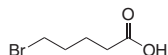
⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC)..... ≥98,5 %
Loss on drying..... ≤0,5 %

2200.1	5 g	plastic	36,45 €
2200.2	25 g	plastic	133,85 €
2200.3	100 g	plastic	482,70 €
2200.5	1 kg	glass	2578,95 €
Original pack 6 x 1 kg			2450,00/1 kg

5-Bromovaleric acid



5-Bromovaleric acid

≥96 %

5-Bromopentanoic acid

C₅H₉BrO₂

M 181,04 g/mol

bp 142-145 (17 hPa)

mp 39-41 °C • flp >112 °C

[2067-33-6] • EC No. 218-185-3

UN No. 1759 • ADR 8 III

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.) ≥96,0 %

Solution (1 % in ethanol) colourless to slightly yellow, clear

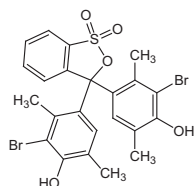
Water (KF) ≤2,0 %

Melting point 39-41 °C

5466.1	10 g	plastic	20,65 €

5466.2	50 g	plastic	62,25 €

Bromoxylene blue



Bromoxylene blue

p.a.

Indicator pH 6,0-7,6

C₂₃H₂₀Br₂O₅S

M 568,29 g/mol

[40070-59-5] • EC No. 254-780-4

WGK 3

Guarantee analysis:

Specific Extinction E (1%/1cm) ≥650

Absorption max. (0,001 N NaOH) 611,0-619,0 nm

Solubility (0,1 % in ethanol) clearly soluble

pH-transition range 6,0 (yellow)-7,6 (blue)

KK27.1	1 g	glass	13,15 €

KK27.2	5 g	glass	35,40 €

KK27.3	10 g	glass	59,05 €

Brucella Agar

Brucella Agar

for microbiology

For cultivation of *Brucella* and other fastidious microorganisms in foods and other specimens.

Application: Use 43,1 g for 1 l agar, add 50 ml defibr. sheep blood.

Storage temp.: +20 °C

WGK 1

Formulation:

Meat peptone	10 g/l
Casein peptone	10 g/l
Sodium chloride	5 g/l
Yeast extract	2 g/l
Glucose	1 g/l
Sodium bisulfite	0,1 g/l
Agar	15 g/l
pH value	7,0 ±0,2

5752.1	500 g	plastic	89,15 €

Original pack 6 x 500 g 84,69/500 g

For further information, please see page 1318

Brucella Broth

Brucella Broth

for microbiology

For cultivation of *Brucella* and other fastidious microorganisms.

Application: Use 28,1 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Meat peptone	10 g/l
Casein peptone	10 g/l
Sodium chloride	5 g/l
Yeast extract	2 g/l
Glucose	1 g/l
Sodium bisulfite	0,1 g/l
pH value	7,0 ±0,2

5754.1	500 g	plastic	77,95 €

Original pack 6 x 500 g 74,05/500 g

For further information, please see page 1318

Brucine N-oxide

Brucine N-oxide

ROTICHRON® CHR

Aminoxybrucine

C₂₃H₂₆N₂O₅

M 410,49 g/mol

mp 133-145 °C

[17301-81-4] • EC No. 241-328-6

UN No. 1570 • ADR 6.1 I • WGK 3

⚠ Danger H300+H330-H412

4255.1	5 g	glass	53,25 €

BSA

▶ Albumin see p. 1620

▶ Albumin Fraction V see p. 1621

BSA

▶ N,O-Bis(trimethylsilyl) acetamide see p. 1680

BSTFA

▶ N,O-Bis(trimethylsilyl)-trifluoroacetamide see p. 1680

BTB

▶ Bromothymol blue see p. 1692

BTC

▶ Tetrazolium blue chloride see p. 2205

Buffer Salts

Art. No.	Description	Page
9488	tri-Ammonium citrate	1637
6943	Boric acid	1685
P010	Boric acid	1685
5935	Boric acid	1685
X863	Citric acid	1738
6490	Citric acid	1738
3958	Citric acid monohydrate	1738
5110	Citric acid monohydrate	1738
X888	tri-Potassium citrate monohydrate	2053
3904	Potassium dihydrogen phosphate	2054
P018	Potassium dihydrogen phosphate	2054
P748	Potassium hydrogen carbonate	2056
X887	Potassium hydrogen carbonate	2056
9437	Potassium hydrogen carbonate	2056
P749	di-Potassium hydrogen phosphate	2056
T875	di-Potassium hydrogen phosphate	2056
6875	di-Potassium hydrogen phosphate	2056
6878	di-Potassium hydrogen phosphate trihydrate	2056
P750	Potassium hydrogen phthalate	2057
6773	Sodium acetate	2140
X891	Sodium acetate	2140
6779	Sodium acetate trihydrate	2140
3856	Sodium acetate trihydrate	2140
T882	Sodium ammonium hydrogen phosphate tetrahydrate	2140
A135	Sodium carbonate	2142
3580	tri-Sodium citrate dihydrate	2144
4088	tri-Sodium citrate dihydrate	2145
K300	Sodium dihydrogen phosphate monohydrate	2145
T878	Sodium dihydrogen phosphate monohydrate	2146
T879	Sodium dihydrogen phosphate dihydrate	2146
2370	Sodium dihydrogen phosphate dihydrate	2146
T883	tetra-Sodium diphosphate decahydrate	2146
0269	tetra-Sodium diphosphate decahydrate	2146
6885	Sodium hydrogen carbonate	2148
8551	Sodium hydrogen carbonate	2148
0965	Sodium hydrogen carbonate	2148
4984	di-Sodium hydrogen phosphate dihydrate	2149
T877	di-Sodium hydrogen phosphate dihydrate	2149
X987	di-Sodium hydrogen phosphate heptahydrate	2149
T106	di-Sodium hydrogen phosphate dodecahydrate	2149
N350	di-Sodium hydrogen phosphate dodecahydrate	2149
4267	di-Sodium oxalate	2155
T880	di-Sodium tetraborate decahydrate	2159
8643	di-Sodium tetraborate decahydrate	2159

Buffer solutions, ready to use

B

Buffer solution pH 1,00 ±0,05 (20 °C)

buffer solution, ready to use
Hydrochloric acid / Potassium chloride

T180.2	500 ml	plastic	15,60 €
T180.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 1,679 ±0,03 (25 °C)

buffer solution, ready to use
Potassium tetraoxalate

8112.1	1 l	plastic	38,60 €
Original pack 6 x 1 l			36,67/1 l



Buffer solution pH 2,00 ±0,02 (20 °C)

buffer solution, ready to use
Citric acid / Hydrochloric acid / Sodium chloride

P715.2	500 ml	plastic	15,60 €
P715.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 3,00 ±0,02 (20 °C)

buffer solution, ready to use
Citric acid / Caustic soda lye/ Sodium chloride

T181.2	500 ml	plastic	15,60 €
T181.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 3,776 ±0,012 (25 °C)

buffer solution, ready to use
Potassium dihydrogen citrate

4280.1	500 ml	plastic	16,70 €
4280.2	1 l	plastic	24,20 €
Original pack 6 x 1 l			22,99/1 l

For further information, please see page 1567

Buffer solution pH 4,00 ±0,02 (20 °C)

buffer solution, ready to use
Citric acid / Caustic soda lye / Sodium chloride

P712.3	500 ml	plastic	15,60 €
P712.1	1 l	plastic	22,05 €
P712.2	10 l	plastic	143,55 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 4,00 ±0,02 (20 °C)

buffer solution, ready to use, tinted RED
Citric acid / Caustic soda lye / Sodium chloride

A517.3	250 ml	twin neck bottle	12,40 €
A517.2	500 ml	plastic	15,60 €
A517.4	500 ml	twin neck bottle	17,10 €
A517.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 4,005 ±0,02 (25 °C)

buffer solution, ready to use
Potassium hydrogen phthalate

4281.1	500 ml	plastic	16,70 €
4281.2	1 l	plastic	24,20 €
Original pack 6 x 1 l			22,99/1 l

For further information, please see page 1567

Buffer solution pH 4,62 ±0,02 (20 °C)

buffer solution, ready to use
Acetic acid / Caustic soda lye

T182.1	1 l	plastic	22,50 €
Original pack 6 x 1 l			21,38/1 l

For further information, please see page 1567

Buffer solution pH 5,00 ±0,02 (20 °C)

buffer solution, ready to use
Citric acid / Caustic soda lye

T183.2	500 ml	plastic	15,60 €
T183.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 6,00 ±0,02 (20 °C)

buffer solution, ready to use
Citric acid / Caustic soda lye

T184.2	500 ml	plastic	15,60 €
T184.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 6,865 ±0,02 (25 °C)

buffer solution, ready to use
Potassium dihydrogen phosphate / di-Sodium hydrogen phosphate

4284.1	500 ml	plastic	16,70 €
4284.2	1 l	plastic	24,20 €
Original pack 6 x 1 l			22,99/1 l

For further information, please see page 1567

Buffer solution pH 6,88 ±0,02 (20 °C)

buffer solution, ready to use
0,025 M KH₂PO₄ and 0,025 M Na₂HPO₄

T185.1	1 l	plastic	22,50 €
Original pack 6 x 1 l			21,38/1 l

For further information, please see page 1567

Buffer solution pH 7,00 ±0,02 (20 °C)

buffer solution, ready to use
Phosphate compound

A518.3	500 ml	plastic	15,60 €
A518.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l
A518.2	10 l	plastic	143,55 €

For further information, please see page 1567

Buffer solution pH 7,00 ±0,02 (20 °C)

buffer solution, ready to use, tinted GREEN
Phosphate compound

P713.3	250 ml	twin neck bottle	12,40 €
P713.2	500 ml	plastic	15,60 €
P713.4	500 ml	twin neck bottle	17,10 €

P713.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 7,413 ±0,02 (25 °C)

buffer solution, ready to use
Potassium dihydrogen phosphate / di-Sodium hydrogen phosphate

4285.1	500 ml	plastic	16,70 €
4285.2	1 l	plastic	24,20 €
Original pack 6 x 1 l			22,99/1 l

For further information, please see page 1567

Buffer solution pH 8,00 ±0,02 (20 °C)

buffer solution, ready to use
Phosphate compound

T186.2	500 ml	plastic	15,60 €
T186.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Buffer solution pH 9,00 ±0,02 (20 °C)

buffer solution, ready to use
Boric acid / Potassium chloride / Caustic soda lye

A519.3	500 ml	plastic	15,60 €
A519.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l
A519.2	10 l	plastic	143,55 €

For further information, please see page 1567

**Buffer solution
pH 9,00 ±0,02 (20 °C)****buffer solution, ready to use, tinted BLUE**
Boric acid / Caustic soda lye / Potassium chloride

P714.3	250 ml	twin neck bottle	12,40 €
P714.2	500 ml	plastic	15,60 €
P714.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

**Buffer solution
pH 9,180 ±0,02 (25 °C)****buffer solution, ready to use**
Sodium tetraborate decahydrate
WGK 1

4294.1	500 ml	plastic	16,70 €
4294.2	1 l	plastic	24,20 €
Original pack 6 x 1 l			22,99/1 l

For further information, please see page 1567

**Buffer solution
pH 10,00 ±0,02 (20 °C)****buffer solution, ready to use**
Boric acid / Caustic soda lye / Potassium chloride

P716.2	500 ml	plastic	15,60 €
P716.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

**Buffer solution
pH 10,00 ±0,02 (20 °C)****buffer solution, ready to use, tinted BLUE**
Boric acid / Caustic soda lye / Potassium chloride

8086.1	250 ml	twin neck bottle	14,55 €
8086.2	500 ml	plastic	15,60 €
8086.3	500 ml	twin neck bottle	17,75 €
8086.4	1 l	plastic	23,15 €
Original pack 6 x 1 l			21,99/1 l

Buffer solution pH 10,00 for complexometry**buffer solution, ready to use**
Ammonium chloride/ Ammonia 25 %
WGK 2 **Danger** H314-H335

T188.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

**Buffer solution
pH 11,00 ±0,05 (20 °C)****buffer solution, ready to use**
Glycine / Caustic soda lye / Sodium chloride
WGK 1

T187.2	500 ml	plastic	15,60 €
T187.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

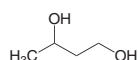
**Buffer solution
pH 12,00 ±0,05 (20 °C)****buffer solution, ready to use**
Glycine/ Caustic soda lye / Sodium chloride
WGK 1

T189.2	500 ml	plastic	15,60 €
T189.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1567

Butanedioic acid

► Succinic acid see p. 2187

1,3-Butanediol**1,3-Butanediol****≥99 %, for synthesis**1,3-Butylene glycol
C₄H₁₀O₂
M 90,12 g/mol
D 1,01 • bp 204 °C
mp -50 °C
[107-88-0] • EC No. 203-529-7
WGK 1**Type analysis:**Assay (GC)..... ≥99,0 %
Identity (IR)..... complies
Water..... ≤0,2 %

7473.1	250 ml	plastic	23,35 €
7473.2	500 ml	plastic	39,25 €
7473.3	1 l	plastic	69,35 €
Original pack 6 x 1 l			65,88/1 l

1,4-Butanediol

1,4-Butylene glycol, Tetramethylene glycol

C₄H₁₀O₂
M 90,12 g/mol
D 1,02 • bp 230 °C
mp 20 °C • flp 135 °C
[110-63-4] • EC No. 203-786-5
WGK 1 **Warning** H302-H336**1,4-Butanediol****≥99 %, for synthesis****Type analysis:**Assay (GC)..... ≥99,0 %
Density (d 20 °C/4 °C)..... 1,015-1,016

4211.1	1 l	glass	34,30 €
Original pack 6 x 1 l			32,59/1 l
4211.2	2,5 l	glass	73,00 €
Original pack 4 x 2,5 l			69,35/2,5 l
4211.3	10 l	plastic	231,15 €

1,4-Butanediol**ROTICHRON® GC**

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥96 %

5077.1	1 g	plastic	75,15 €

2,3-Butanediol**2,3-Butanediol****ROTICHRON® GC**

Reference substance for GC

C₄H₁₀O₂
M 90,12 g/mol
bp 180-182 °C
mp 18-20 °C • flp 96 °C
Storage temp.: +4 °C
[513-85-9] • EC No. 208-173-6
WGK 1**Type analysis:**

Purity (GC)..... ≥95 %

6741.1	1 g	plastic	75,15 €

**2,3-Butanedionedioxime
disodium salt**► Dimethylglyoxime disodium salt octahydrate
see p. 1784**2,3-Butanedione monoxime**

► Diacetyl monoxime see p. 1767

Butane-1-sulphonic acid
sodium salt

B

Butane-1-sulphonic acid
sodium salt

≥99 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium-1-butane sulphonate

C₄H₉NaO₃S

M 160,17 g/mol

mp >310 °C

[2386-54-1] • EC No. 219-201-1

WGK 3

Guarantee analysis:

Assay (acidim.)	≥99,0 %
Solution (10 % in water)	clear, colourless
Water	≤1 %
A 210 nm (0,5 M in water)	≤0,1 AU
A 220 nm (0,5 M in water)	≤0,06 AU
A 230 nm (0,5 M in water)	≤0,04 AU
A 260 nm (0,5 M in water)	≤0,02 AU

KK50.1	10 g	glass	45,70 €
KK50.2	25 g	glass	87,65 €
KK50.3	100 g	glass	267,70 €

Butanoic acid

► Butyric acid see p. 1701

1-Butanol



n-Butanol, Butyl alcohol

C₄H₁₀O

M 74,12 g/mol

D 0,81 • bp 116-118 °C

mp -89 °C • flp 35 °C

Solubility: 77 g/l (H₂O, 20 °C)

[71-36-3] • EC No. 200-751-6

UN No. 1120 • ADR 3 III • WGK 1

Danger

H318-H226-H302-H315-H335-H336

1-Butanol

ROTISOLV® HPLC

Guarantee analysis:

Assay (GC)	≥99,8 %
Water (KF)	≤0,05 %
Acidity (as CH ₃ COOH)	≤0,002 %
Non volatile matter	≤0,0005 %
Layer thickness d = 1 cm water in comparison	
Transmission:	
310 nm	≥98 %
240 nm	≥75 %
230 nm	≥70 %
Filtered through 0,2 µm membrane and filled under protective gas.	

T178.1	2,5 l	glass	90,85 €
Original pack 4 x 2,5 l			86,31/2,5 l

For further information, please see page 1515

1-Butanol

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC)	≥99,8 %
Water (KF)	≤0,05 %
Acidity	≤0,0005 meq/g
Evaporation residue	≤0,0005 %
Transmission:	
270 nm	≥98 %
250 nm	≥95 %
230 nm	≥60 %
220 nm	≥30 %

4431.1	2,5 l	glass	83,75 €
Original pack 4 x 2,5 l			79,56/2,5 l

1-Butanol

ROTIPURAN® ≥99,5 %, p.a.

Guarantee analysis:

Assay (GC)	≥99,5 %
Colour (Hazen)	≤10
Water (KF)	≤0,1 %
Butanol (GC)	≤0,01 %
Dibutylether (GC)	≤0,1 %
Isobutanol (GC)	≤0,15 %
2-Butanol (GC)	≤0,05 %
Lead (Pb)	≤0,00001 %
Cadmium (Cd)	≤0,000005 %
Calcium (Ca)	≤0,00005 %
Chromium (Cr)	≤0,000002 %
Iron (Fe)	≤0,00001 %
Cobalt (Co)	≤0,000002 %
Copper (Cu)	≤0,000002 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000002 %
Nickel (Ni)	≤0,000002 %
Zinc (Zn)	≤0,00001 %
Evaporation residue	≤0,002 %
Carbonylic compounds	≤0,01 %

7171.2	1 l	glass	45,70 €
Original pack 6 x 1 l			43,42/1 l
7171.1	2,5 l	glass	93,45 €
Original pack 4 x 2,5 l			88,78/2,5 l

1-Butanol

≥99,5 %, for synthesis

Type analysis:

Appearance	colourless, clear liquid
Assay (GC)	≥99,5 %
Water (KF)	≤0,5 %
Density (20 °C)	0,809-0,813
Refractive index n _D ²⁰	1,398-1,401

7724.1	1 l	glass	25,70 €
Original pack 6 x 1 l			24,42/1 l
7724.3	2,5 l	glass	39,70 €
Original pack 4 x 2,5 l			37,72/2,5 l
7724.2	10 l	tinplate	107,40 €

1-Butanol

ROTICHRM® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC).	≥99 %		
9098.1	1 g	plastic	75.15 €

2-Butanol



sec-Butyl alcohol, sec-Butanol

C₄H₁₀O

M 74,12 g/mol

D 0,81 • bp 99-102 °C

mp -115 °C • flp 24 °C

Solubility: 125 g/l (H₂O, 20 °C)

[78-92-2] • EC No. 201-158-5

UN No. 1120 • ADR 3 III • WGK 1

Warning H226-H319-H335-H336

2-Butanol

≥98,5 %, for synthesis

Type analysis:

Assay (GC)	≥98,5 %
Density (d 20 °C/4 °C)	0,804-0,809
Water	≤0,2 %

KK02.1	500 ml	glass	24,20 €
KK02.2	1 l	glass	40,75 €
Original pack 6 x 1 l			38,71/1 l

2-Butanol

ROTICHRM® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)	≥99 %		
6336.1	1 g	plastic	75,15 €

iso-Butanol

► 2-Methyl-1-propanol see p. 1969

n-Butanol

► 1-Butanol see p. 1696

sec-Butanol

► 2-Butanol see p. 1696

tert-Butanol



2-Methyl-2-propanol, tert-Butyl alcohol,
Trimethyl carbinol

$C_4H_{10}O$

M 74,12 g/mol

D 0,77 • bp 81-83 °C

mp ~25 °C • flp 14 °C

[75-65-0] • EC No. 200-889-7

UN No. 1120 • ADR 3 II • WGK 1

Danger H225-H332-H319-H335

tert-Butanol

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC).....	≥99,5 %
Melting point.....	24-26 °C
Colour (APHA).....	≤20
Water.....	≤0,1 %
Acidity.....	≤0,001 meq/g
Alkalinity.....	≤0,0005 meq/g
Carbonyl compound (as CH_2O).....	≤0,01 %
Non volatile matter.....	≤0,003 %
Calcium (Ca).....	≤0,00005 %
Cadmium (Cd).....	≤0,000005 %
Cobalt (Co).....	≤0,000002 %
Chromium (Cr).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Lead (Pb).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %

AE16.1	500 ml	glass	18,85 €
AE16.2	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
AE16.3	2,5 l	glass	63,35 €
Original pack 4 x 2,5 l			60,18/2,5 l

tert-Butanol

≥99 %, for synthesis

Type analysis:

Assay (GC).....	≥99 %
Water (KF).....	≤0,1 %
Melting point.....	~25 °C

4323.1	1 l	glass	23,45 €
Original pack 6 x 1 l			22,28/1 l
4323.3	2,5 l	glass	40,75 €
Original pack 4 x 2,5 l			38,71/2,5 l
4323.2	10 l	tinplate	144,60 €

2-Butanone

MEK, Methyl ethyl ketone, Ethyl methyl ketone

C_4H_8O

M 72,11 g/mol

D 0,8 • bp 79-80,5 °C

mp -86,3 °C • flp -4 °C

Solubility: 290 g/l (H_2O , 20 °C)

[78-93-3] • EC No. 201-159-0

UN No. 1193 • ADR 3 II • WGK 1

Danger H225-H319-H336-EUH066

2-Butanone

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC).....	≥99,5 %
Density (d 20 °C/20 °C).....	0,805-0,807
Colour (APHA).....	≤15
Water.....	≤0,1 %
Acidity.....	≤0,0005 meq/g
Acetone (GC).....	≤0,05 %
2-Butanol (GC).....	≤0,02 %
2-Propanol (GC).....	≤0,05 %
4-Methylpropan-2-ol (GC).....	≤0,1 %
Evaporation residue.....	≤0,001 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Cobalt (Co).....	≤0,000002 %
Chromium (Cr).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Nickel (Ni).....	≤0,000002 %
Manganese (Mn).....	≤0,000002 %
Lead (Pb).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %

T920.1	1 l	glass	36,05 €
Original pack 6 x 1 l			34,25/1 l
T920.2	2,5 l	glass	77,95 €
Original pack 4 x 2,5 l			74,05/2,5 l

2-Butanone

≥99,5 %, for synthesis

Type analysis:

Appearance.....	clear, colourless to light yellowish liquid
Assay (GC).....	≥99,5 %
Water.....	≤0,1 %
Acid value (mg KOH/g).....	≤0,03
Refractive index n_D^{20}	1,378-1,380

8403.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
8403.3	2,5 l	glass	37,55 €
Original pack 4 x 2,5 l			35,67/2,5 l
8403.2	10 l	tinplate	99,90 €
8403.4	25 l	tinplate	209,65 €

2-Butanone

ROTICHROM® GC

Reference substance for GC

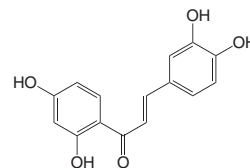
Storage temp.: +4 °C

Type analysis:

Purity (GC).....	≥99 %

4899.1	1 g	glass	25,30 €

Butein



Butein

ROTICHROM® HPLC

Reference substance for HPLC

$C_{15}H_{12}O_5$

M 272,25 g/mol

Storage temp.: +4 °C

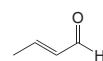
[21849-70-7] • EC No. 207-659-5

Type analysis:

Purity (HPLC).....	≥99 %

7010.1	10 mg	glass	306,40 €

2-Butenal



2-Butenal

≥98 %, for synthesis

Crotonaldehyde

C_4H_6O

M 70,09 g/mol

D ~0,85 • bp 102 °C

mp ~-76 °C • flp 13 °C

Solubility: 181 g/l (H_2O , 20 °C)

[4170-30-3] • EC No. 224-030-0

UN No. 1143 • ADR 6.1 (3) I • WGK 3

Danger H225-H301+H311-H330-H318-H341-H373-H400-H315-H335

Danger H225-H301+H311-H330-H318-H341-H373-H400-H315-H335

Type analysis:

Assay (GC).....	≥98 %
Refractive index n_D^{20}	~1,437

3425.1	250 ml	glass	134,40 €

cis-Butenedioic acid

► Maleic acid see p. 1946

3-Butenylglucosinolate
potassium salt

► Gluconapin see p. 1853

N-(tert-Butoxycarbonyl)-
L-alanine

► Boc-L-Alanine see p. 1681

N-(tert-Butoxycarbonyl)-
L-arginine

► Boc-L-Arginine hydrochloride monohydrate
see p. 1681

B

N-(tert-Butoxycarbonyl)-L-asparagine

► Boc-L-Asparagine see p. 1681

N-(tert-Butoxycarbonyl)-L-glutamic acid

► Boc-L-Glutamic acid see p. 1682

N-(tert-Butoxycarbonyl)-L-glutamine

► Boc-L-Glutamine see p. 1682

N-(tert-Butoxycarbonyl)-glycine

► Boc-Glycine see p. 1682

N-(tert-Butoxycarbonyl)-L-histidine

► Boc-L-Histidine see p. 1682

N-(tert-Butoxycarbonyl)-L-hydroxyproline

► Boc-L-Hydroxyproline see p. 1682

N-(tert-Butoxycarbonyl)-L-isoleucine

► Boc-L-Isoleucine hemihydrate see p. 1683

N-(tert-Butoxycarbonyl)-L-leucine

► Boc-L-Leucine monohydrate see p. 1683

N-(tert-Butoxycarbonyl)-L-tert-leucine

► Boc-L-tert-Leucine see p. 1683

N-(tert-Butoxycarbonyl)-L-lysine

► Boc-L-Lysine see p. 1683

N-(tert-Butoxycarbonyl)-L-methionine

► Boc-L-Methionine see p. 1683

N-(tert-Butoxycarbonyl)-L-phenylalanine

► Boc-L-Phenylalanine see p. 1683

N-(tert-Butoxycarbonyl)-L-proline

► Boc-L-Proline see p. 1684

N-(tert-Butoxycarbonyl)-L-serine

► Boc-L-Serine see p. 1684

N-(tert-Butoxycarbonyl)-L-threonine

► Boc-L-Threonine see p. 1684

N-(tert-Butoxycarbonyl)-L-tryptophan

► Boc-L-Tryptophan see p. 1684

N-(tert-Butoxycarbonyl)-L-tyrosine

► Boc-L-Tyrosine see p. 1684

N-(tert-Butoxycarbonyl)-L-valine

► Boc-L-Valine see p. 1684

2-Butoxyethanol

► Ethylene glycol monobutyl ether see p. 1817

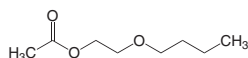
2-(2-Butoxyethoxy)ethanol

► Butyldiglycol see p. 1699

2-(2-Butoxyethoxy)ethyl acetate

► Diethylene glycol monobutyl ether acetate see p. 1774

2-Butoxyethyl acetate



NEW

2-Butoxyethyl acetate

≥98 %, pure

Ethylene glycol monobutyl ether acetate, 1-Acetoxy-2-butoxyethane, EGBEA

C₁₈H₁₆O₃

M 160,21 g/mol

D 0,94 • bp 184-195 °C

mp -64 °C • flp 78 °C

Solubility: 15 g/l (H₂O, 20 °C)

[112-07-2] • EC No. 203-933-3

WGK 1

Warning H302+H312+H332

Type analysis:

Assay (GC)..... ≥98,0 %
Colour (Hazen)..... ≤15

8009.1	1 l	plastic	19,25 €
Original pack 6 x 1 l			
8009.2	2,5 l	plastic	35,40 €
Original pack 4 x 2,5 l			

n-Butyl acetate

► Acetic acid n-butyl ester see p. 1600

n-Butyl alcohol

► 1-Butanol see p. 1696

Butyl alcohol

► 1-Butanol see p. 1696

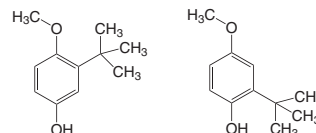
sec-Butyl alcohol

► 2-Butanol see p. 1696

tert-Butyl alcohol

► tert-Butanol see p. 1697

Butylated hydroxyanisole



2(3)-tert-Butyl-4-hydroxyanisole, BHA

C₁₁H₁₆O₂

M 180,25 g/mol

bp 268 °C

mp 58-60 °C • flp 113 °C

[25013-16-5] • EC No. 246-563-8

WGK 2

Warning

H302-H315-H319-H351-H335

Butylated hydroxyanisole

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %
Residual solvents (GC)..... ≤2,0 %
Water (KF)..... ≤3,0 %
Assay (qNMR)..... ≥90,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE04.1	100 mg	glass	671,90 €

Butylated hydroxyanisole

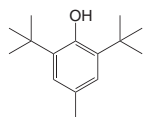
ROTICHRON® Working Standard

Type analysis:

Assay (GC)..... ≥95,0 %
Identity..... complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC04.1	100 mg	glass	89,80 €

Butylated hydroxytoluene



2,6-Di-tert-butyl-p-cresol, BHT

 $C_{15}H_{24}O$

M 220,34 g/mol

bp 265 °C

mp 69-71 °C

[128-37-0] • EC No. 204-881-4

WGK 1

⚠ Warning H302-H315-H319-H413

Butylated hydroxytoluene

≥99,8 %, for synthesis

Type analysis:

Appearance white crystals
 Assay (GC) ≥99,8 %
 Ash ≤0,002 %
 Solidification point 69-71 °C
 Colour (Hazen) 30 % in acetone ≤30

3559.1	250 g	plastic	23,45 €
3559.2	1 kg	plastic	51,10 €
Original pack 6 x 1 kg			48,55/1 kg
3559.3	5 kg	plastic	213,95 €

Butylated hydroxytoluene

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %
 Residual solvents (GC) ≤2,0 %
 Water (KF) ≤3,0 %
 Assay (qNMR) ≥90,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE05.1	100 mg	glass	671,90 €

Butylated hydroxytoluene

ROTICHRON® Working Standard

Type analysis:

Assay (GC) ≥95,0 %
 Identity complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC05.1	100 mg	glass	89,80 €

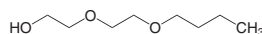
n-Butyl carbinol

► 1-Pentanol see p. 2026

sec-Butyl carbinol

► 2-Methyl-1-butanol see p. 1965

Butyldiglycol



Butyldiglycol

≥97 %, pure

Diethylene glycol butyl ether, BDG, 2-(2-Butoxyethoxy)ethanol

 $C_8H_{18}O_3$

M 162,23 g/mol

D 0,95 • bp 224-234 °C

mp -68 °C • flp 109 °C

[112-34-5] • EC No. 203-961-6

WGK 1

⚠ Warning H319

Type analysis:

Assay (GC) ≥97,0 %
 Colour (Hazen) ≤15

8046.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
8046.2	2,5 l	glass	36,45 €
Original pack 4 x 2,5 l			34,63/2,5 l
8046.3	10 l	tinplate	112,90 €

Butyldiglycol acetate

► Diethylene glycol monobutyl ether acetate
 see p. 1774

1,3-Butylene glycol

► 1,3-Butanediol see p. 1695

1,4-Butylene glycol

► 1,4-Butanediol see p. 1695

Butylglycol

► Ethylene glycol monobutyl ether
 see p. 1817

tert-Butyl methyl ether



MTBE, Methyl tert-butyl ether, 2-Methyl-2-methoxypropane

 $C_5H_{12}O$

M 88,14 g/mol

D ~0,74 • bp 55 °C

mp -108 °C • flp -30 °C

Solubility: 51 g/l (H_2O , 25 °C)

[1634-04-4] • EC No. 216-653-1

UN No. 2398 • ADR 3 II • WGK 1

⚠ ⚠ Danger H225-H315

tert-Butyl methyl ether

ROTISOLV® HPLC

Guarantee analysis:

Assay (GC) ≥99,5 %
 Water (KF) ≤0,01 %
 Free acid ≤0,002 %
 Non volatile matter ≤0,0002 %
 Transmission:
 280 nm ≥98 %
 255 nm ≥85 %
 240 nm ≥60 %
 Filtered through 0,2 µm membrane and filled under protective gas.

NEW

NEW

T175.2	1 l	glass	40,35 €
Original pack 6 x 1 l			38,33/1 l
T175.1	2,5 l	glass	90,85 €
Original pack 4 x 2,5 l			86,31/2,5 l

For further information, please see page 1515

tert-Butyl methyl ether

≥99,5 %, p.a.

Type analysis:

Assay (GC) ≥99,5 %
 Water (KF) ≤0,1 %
 Free acid (as CH_3COOH) ≤0,001 %
 Non volatile matter ≤0,002 %
 Isobutyl methyl ketone ≤0,005 %
 Carbonylic compounds (as CO) ≤0,001 %
 Aluminium (Al) ≤0,00005 %
 Lead (Pb) ≤0,000005 %
 Calcium (Ca) ≤0,00005 %
 Cadmium (Cd) ≤0,000005 %
 Chromium (Cr) ≤0,00005 %
 Iron (Fe) ≤0,00005 %
 Magnesium (Mg) ≤0,00001 %
 Manganese (Mn) ≤0,000005 %
 Nickel (Ni) ≤0,000005 %
 Zinc (Zn) ≤0,000005 %

8462.1	1 l	glass	35,40 €
Original pack 6 x 1 l			33,63/1 l
8462.2	2,5 l	glass	70,85 €
Original pack 4 x 2,5 l			67,31/2,5 l
8462.3	10 l	tinplate	235,45 €
8462.4	25 l	tinplate	536,45 €

tert-Butyl methyl ether

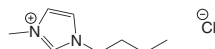
≥99,5 %, for synthesis

Type analysis:

Appearance clear, colourless liquid
 Assay (GC) ≥99,5 %
 Water ≤0,01 %
 Evaporation residue ≤0,001 %

6746.1	1 l	glass	18,60 €
Original pack 6 x 1 l			17,67/1 l
6746.4	2,5 l	glass	33,90 €
Original pack 4 x 2,5 l			32,21/2,5 l
6746.2	10 l	tinplate	102,70 €
6746.3	25 l	tinplate	197,30 €

1-Butyl-3-methyl-imidazolium-chloride (BMIM Cl)



1-Butyl-3-methyl-imidazolium-chloride (BMIM Cl)

≥99 %

Ionic liquid

BMIM Cl

$C_8H_{15}ClN_2$

M 174,67 g/mol

mp 65 °C

[79917-90-1]

UN No. 2811 • ADR 6.1 III • WGK 3

Danger H301-H315-H319-H335-H411

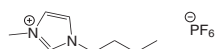
Type analysis:

Appearance..... colourless to yellowish, solid
Assay..... ≥99 %
Water (KF)..... ≤0,5 %

2010.1	25 g	glass	120,95 €
2010.2	100 g	glass	224,70 €

Lit.: "Dissolution and Regeneration of Bombyx mori Silk Fibroin Using Ionic Liquids" D. M. Phillips, L. F. Drummy, D. G. Conrady, D. M. Fox, R. R. Naik, M. O. Stone, P. C. Trulove, H. C. De Long, R. A. Mantz, *J. Am. Chem. Soc.* **2004**, 126, 14350-14351.
For further information, please see page 1459

1-Butyl-3-methyl-imidazolium-hexafluorophosphate (BMIM PF₆)



1-Butyl-3-methyl-imidazolium-hexafluorophosphate (BMIM PF₆)

≥99 %

Ionic liquid

BMIM PF₆

$C_8H_{15}F_6N_2P$

M 284,18 g/mol

D 1,37

mp -8 °C

[174501-64-5]

WGK 3

Warning H315-H319-H335

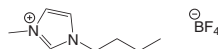
Type analysis:

Appearance..... yellowish liquid
Assay..... ≥99 %
Water (KF)..... ≤0,025 %
Halogens..... ≤0,01 %

2012.1	25 g	glass	88,05 €
2012.2	100 g	glass	246,20 €

Lit.: "Vanadium-catalyzed selective aerobic alcohol oxidation in ionic liquid [bmim]PF₆" N. Jiang, A. J. Ragauskas, *Tetrahedron Lett.* **2007**, 48, 273-276. "Ionic Liquid (Molten Salt) Phase Organometallic Catalysis" J. Dupont, R. F. de Souza, P. A. Z. Suarez, *Chem. Rev.* **2002**, 102, 3667-3692.
For further information, please see page 1459

1-Butyl-3-methyl-imidazolium-tetrafluoroborate (BMIM BF₄)



1-Butyl-3-methyl-imidazolium-tetrafluoroborate (BMIM BF₄)

>99 %

Ionic liquid

BMIM BF₄

$C_8H_{15}BF_4N_2$

M 226,01 g/mol

D 1,21

mp -75 °C

[174501-65-6]

Warning H315-H319-H335

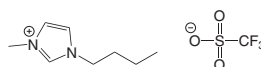
Type analysis:

Appearance..... yellow to orange liquid
Assay..... >99 %
Water (KF)..... <0,025 %
Halogens..... <0,01 %

2014.1	25 g	glass	76,90 €
2014.2	100 g	glass	246,20 €

Lit.: "Ionic Liquid (Molten Salt) Phase Organometallic Catalysis" J. Dupont, R. F. de Souza, P. A. Z. Suarez, *Chem. Rev.* **2002**, 102, 3667-3692. "Non-Aqueous Biocatalysis in Heterogeneous Solvent Systems" N. Krieger, T. Bhatnagar, J. C. Baratt, A. M. Baron, V. M. de Lima, D. Mitchell, *Food Technol. Biotechnol.* **2004**, 42, 279-286.
For further information, please see page 1459

1-Butyl-3-methyl-imidazolium-trifluoromethanesulphonate (BMIM OTf)



1-Butyl-3-methyl-imidazolium-trifluoromethanesulphonate (BMIM OTf)

≥99 %

Ionic liquid

BMIM OTf

$C_8H_{15}F_3N_2O_3S$

M 288,28 g/mol

D 1,3

mp 16 °C

[174899-66-2]

Warning H315-H319-H335

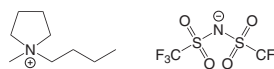
Type analysis:

Appearance..... clear, colourless to orange liquid
Assay..... ≥99 %
Water (KF)..... ≤0,1 %
Halogens..... ≤0,01 %

2015.1	25 g	glass	192,45 €
2015.2	100 g	glass	525,70 €

Lit.: "tert-Amyl ethyl ether separation from its mixtures with ethanol using the 1-butyl-3-methylimidazolium trifluoromethanesulfonate ionic liquid: liquid-liquid equilibrium" A. Arce, O. Rodriguez, A. Soto, *Ind. Eng. Chem. Res.* **2004**, 43, 8323-8327.
For further information, please see page 1459

1-Butyl-1-methyl-pyrrolidinium-bis-(trifluoromethylsulphonyl)-imide (BMPyr BTA)



1-Butyl-1-methyl-pyrrolidinium-bis-(trifluoromethylsulphonyl)-imide (BMPyr BTA)

≥99 %

Ionic liquid

BMPyr NTf₂, BMPyr BTA

$C_{11}H_{20}N_2F_6S_2O_4$

M 422,40 g/mol

D 1,40

mp -18 °C

[223437-11-4]

Warning H315-H319-H335

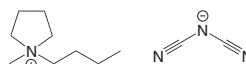
Type analysis:

Appearance..... yellow to orange liquid
Assay..... ≥99 %
Water (KF)..... ≤0,01 %
Halogens..... ≤0,01 %

2021.1	25 g	glass	160,20 €
2021.2	100 g	glass	327,90 €

Lit.: "In Situ STM Investigation of Gold Reconstruction and of Silicon Electro-deposition on Au(111) in the Room Temperature Ionic Liquid 1-Butyl-1-methyl-pyrrolidinium Bis(trifluoromethylsulfonyl)imide" N. Borisenko, S. Zein El Abedin, F. Endres, *J. Phys. Chem. B* **2006**, 110, 6250-6256. "Electrodeposition of Metals and Semiconductors in Air- and Water-Stable Ionic Liquids" S. Z. El Abedin, F. Endres, *Chem. Phys. Chem.* **2006**, 7, 58-61.
For further information, please see page 1459

1-Butyl-1-methyl-pyrrolidinium-dicyanamide (BMPyr DCA)



1-Butyl-1-methyl-pyrrolidinium-dicyanamide (BMPyr DCA)

≥98 %

Ionic liquid

BMPyr N(CN)₂, BMPyr DCA

$C_{11}H_{20}N_4$

M 208,31 g/mol

D 1,023 • bp >171 °C (dec.)

mp -55 °C

[370865-80-8]

Warning H315-H319-H335

Type analysis:

Appearance..... yellowish liquid
Assay..... ≥98 %
Water (KF)..... ≤0,2 %
Halogens..... ≤1,5 %
Alkali metals..... ≤2 %

2022.1	25 g	glass	321,45 €
2022.2	100 g	glass	686,95 €

Lit.: "Protein solubilising and stabilising ionic liquids" K. Fujita, D. R. MacFarlane, M. Forsyth, *Chem. Commun.* **2005**, 4804-4806.
For further information, please see page 1459

5-Butylpicolinic acid

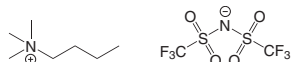
► Fusaric acid see p. 1843

5-Butylpyridine-2-carboxylic acid

► Fusaric acid see p. 1843

Butyl stearate

► Stearic acid butyl ester see p. 2183

Butyl-trimethyl-ammonium-bis-(trifluoromethylsulphonyl)-imide (N1114 BTA)**Butyl-trimethyl-ammonium-bis-(trifluoromethylsulphonyl)-imide (N1114 BTA)**

≥99 %

Ionic liquid

N1114 BTA

 $C_9H_{18}F_6N_2O_4S_2$

M 396,36 g/mol

D 1,395

mp 7 °C • [258273-75-5]

⚠ Warning H315-H319-H335

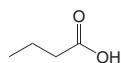
Type analysis:

Appearance..... yellowish liquid
 Assay..... ≥99 %
 Water (KF)..... ≤0,01 %
 Halogens..... ≤0,01 %

2025.1	25 g	glass	203,20 €

2025.2	100 g	glass	450,45 €

Lit.: "Understanding structure-stability relationships of *Candida antarctica* lipase B in ionic liquids" T. De Diego, P. Lozano, S. Gmouh, M. Vaultier, J. L. Iborra, *Biomacromolecules* **2005**, 6, 1457-1464.
 For further information, please see page 1459

Butyric acid**Butyric acid**

≥99 %, for synthesis

Butanoic acid

 $C_4H_8O_2$

M 88,11 g/mol

D ~0,96 • bp 164 °C

mp -5 °C • flp 72 °C

[107-92-6] • EC No. 203-532-3

UN No. 2820 • ADR 8 III • WGK 1

⚠ Danger H314

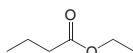
Type analysis:

Appearance..... clear, colourless liquid
 Assay (GC)..... ≥99 %
 Water (KF)..... ≤0,2 %

3277.1	100 ml	glass	14,85 €

3277.2	1 l	glass	57,95 €

Original pack 6 x 1 l	55,05/1 l

Butyric acid ethyl ester**Butyric acid ethyl ester**

ROTICHRON® GC

Reference substance for GC

Ethyl butyrate

 $C_6H_{12}O_2$

M 116,16 g/mol

D ~0,879 • bp 121 °C

mp -98 °C • flp 25 °C

Storage temp.: +4 °C

[105-54-4] • EC No. 203-306-4

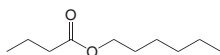
UN No. 1180 • ADR 3 III • WGK 1

⚠ ⚠ Warning H226-H315-H319-H335

Type analysis:

Purity (GC)..... ≥98 %

5572.1	1 g	plastic	75,15 €

Butyric acid hexyl ester**Butyric acid hexyl ester**

ROTICHRON® GC

Reference substance for GC

Hexyl butyrate

 $C_{10}H_{20}O_2$

M 172,27 g/mol

D 0,87 • bp 208 °C

mp -78 °C • flp 83 °C

Storage temp.: +4 °C

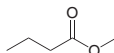
[2639-63-6] • EC No. 220-136-6

WGK 2

Type analysis:

Purity (GC)..... ≥96 %

9451.1	1 g	plastic	75,15 €

Butyric acid methyl ester**Butyric acid methyl ester**

ROTICHRON® GC

Reference substance for GC

Methyl butyrate

 $C_5H_{10}O_2$

M 102,14 g/mol

D ~0,90 • bp 102-103 °C

mp -84 °C • flp 14 °C

Solubility: 16 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[623-42-7] • EC No. 210-792-1

UN No. 1237 • ADR 3 II • WGK 1

⚠ ⚠ Danger H225-H315-H319-H335

Type analysis:

Purity (GC)..... ≥96 %

5186.1	1 g	plastic	75,15 €

γ-Butyrolactame

► 2-Pyrrolidone see p. 2074

γ-Butyrolactone

4-Hydroxybutyric acid lactone

 $C_4H_6O_2$

M 86,09 g/mol

D 1,129 • bp 204-205 °C

mp -45 °C • flp 98 °C

[96-48-0] • EC No. 202-509-5

WGK 1

⚠ ⚠ Danger H302-H318-H336

γ-Butyrolactone

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99,0 %
 Density (d 20 °C/4 °C)..... 1,128-1,129

HN98.1	100 ml	glass	14,95 €

HN98.2	500 ml	glass	30,00 €

HN98.3	1 l	glass	54,75 €

Original pack 6 x 1 l	52,01/1 l

γ-Butyrolactone

ROTICHRON® GC

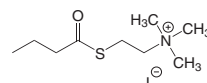
Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥96 %

3720.1	1 g	plastic	75,15 €

2-Butyrylthiocholine iodide**2-Butyrylthiocholine iodide**

≥99 %, for biochemistry

 $C_9H_{20}INOS$

mp 172-176 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[1866-16-6] • EC No. 217-475-7

WGK 3

⚠ ⚠ Warning H315-H319-H335

Type analysis:

Appearance..... white to off-white cryst. powder
 Assay (arg.)..... ≥99,0 %
 Appearance of solution (10 %, H_2O)..... colourless
 Water (KF)..... ≤0,5 %

8452.1	1 g	glass	16,70 €

8452.2	5 g	glass	53,65 €

8452.3	10 g	glass	99,90 €

Cable cleanser

Cable cleanser

For cleaning and degreasing of dismantled cables.

Dipentene

D 0,84 • bp 178 °C

flp 52 °C

UN No. 2319 • ADR 3 III • WGK 2

 **Danger**

H226-H315-H317-H304-H400-H410

5235.1	1 l	tinplate	20,10 €

For further information, please see page 1080

Cacodylic acid sodium salt trihydrate



Cacodylic acid sodium salt trihydrate

PUFFERAN® ≥98 %

Sodium dimethylarsonate, Sodium cacodylate

$\text{C}_2\text{H}_6\text{AsNaO}_2 \cdot 3 \text{H}_2\text{O}$

M 214,03 g/mol

Solubility: 2000 g/l (H_2O , 20 °C)

[124-65-2] • EC No. 204-708-2

UN No. 1688 • ADR 6.1 II • WGK 3

 **Danger** H301-H330-H410

Type analysis:

Appearance..... fine, white crystals
 Assay (as trihydrate)..... ≥98,0 %
 pH value..... 8,0-8,3
 Aqueous solution (2 g + 10 ml)..... clear, colourless
 Chloride (Cl)..... ≤0,02 %
 Arsenic (As)..... ≤0,05 %
 Methylarsonic acid disodium salt..... complies BPC-49
 Acidity/alkalinity..... complies BPC-49

5169.3	10 g	plastic	20,35 €

5169.1	50 g	plastic	56,90 €

5169.2	250 g	plastic	188,15 €

For further information, please see page 1214

Cadmium Standards

- ▶ Cadmium AAS Standard Solution see p. 2167
- ▶ Cadmium ICP Standard Solution see p. 2170
- ▶ Cadmium ICP Standard Solution see p. 2174

Cadmium acetate

Cadmium acetate

ROTI®METIC 99,999 % (5N), anhydrous

Cadmium diacetate

$\text{Cd}(\text{CH}_3\text{COO})_2$

M 230,50 g/mol

mp 255 °C

[543-90-8] • EC No. 208-853-2

UN No. 2570 • ADR 6.1 III • WGK 3

 **Danger**

H302+H312+H332-H350-H400-H410

Type analysis:

Assay (metals basis)..... 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5247.1	10 g	plastic	86,55 €

5247.2	25 g	plastic	138,70 €

Cadmium acetate dihydrate

Cadmium acetate dihydrate

≥99 %, p.a.

Reagent for determination of S, Se and Te.

$\text{Cd}(\text{CH}_3\text{COO})_2 \cdot 2 \text{H}_2\text{O}$

M 266,52 g/mol

D 2,01

mp 256 °C

[5743-04-4] • EC No. 208-853-2

UN No. 2570 • ADR 6.1 III • WGK 3

 **Warning**

H400-H410-H302+H312+H332

Guarantee analysis:

Assay (compl.)..... ≥99,0 %
 In H_2O insoluble matter..... ≤0,005 %
 Total nitrogen (as N)..... ≤0,002 %
 Chloride (Cl)..... ≤0,001 %
 Sulphate (SO_4)..... ≤0,005 %
 Lead (Pb)..... ≤0,003 %
 Calcium (Ca)..... ≤0,005 %
 Iron (Fe)..... ≤0,0005 %
 Potassium (K)..... ≤0,002 %
 Copper (Cu)..... ≤0,001 %
 Sodium (Na)..... ≤0,002 %
 Zinc (Zn)..... ≤0,002 %
 Substances not precipitated by H_2S (as SO_4)..... ≤0,1 %

KK06.1	100 g	plastic	29,60 €

KK06.2	250 g	plastic	61,85 €

Cadmium diacetate

▶ Cadmium acetate see p. 1702

Cadmium-free Quantum Dots

▶ Quantum Dots, hydrophobic see p. 2075

Cadmium sulphate hydrate

Cadmium sulphate hydrate

≥99 %, p.a., ACS

$\text{CdSO}_4 \cdot 8/3 \text{H}_2\text{O}$, 3 $\text{CdSO}_4 \cdot 8 \text{H}_2\text{O}$

M 256,51 g/mol

D 3,10

mp 41,5 °C

Solubility: 1130 g/l (H_2O , 20 °C)

[7790-84-3] • EC No. 233-331-6

UN No. 2570 • ADR 6.1 III • WGK 3

 **Danger** H301-H330-H340-H350-H360FD-H372-H400-H410

Guarantee analysis:

Appearance..... fine, white crystals
 Assay..... ≥99,0 %
 Chloride (Cl)..... ≤0,001 %
 Nitrate and nitrite (as NO_3)..... ≤0,003 %
 In H_2O insoluble matter..... ≤0,005 %
 Calcium (Ca)..... ≤0,005 %
 Copper (Cu)..... ≤0,002 %
 Iron (Fe)..... ≤0,001 %
 Potassium (K)..... ≤0,01 %
 Sodium (Na)..... ≤0,02 %
 Lead (Pb)..... ≤0,003 %
 Zinc (Zn)..... ≤0,05 %

4482.2	25 g	plastic	16,70 €

4482.1	100 g	plastic	51,50 €

4482.3	250 g	plastic	87,00 €

4482.4	500 g	plastic	130,65 €

Original pack 6 x 500 g 124,12/500 g

4482.5	1 kg	plastic	246,20 €

Original pack 6 x 1 kg 233,89/1 kg

Cadmium telluride

▶ Quantum Dots, hydrophilic see p. 2075

Caesium Standards

- ▶ Caesium AAS Standard Solution see p. 2167
- ▶ Caesium ICP Standard Solution see p. 2170
- ▶ Caesium ICP Standard Solution see p. 2175

Caesium carbonate

Cesium carbonate

Cs_2CO_3

M 325,82 g/mol

D 4,072

mp 610 °C (dec.)

Solubility: 2615 g/l (H_2O , 15 °C)

[534-17-8] • EC No. 208-591-9

WGK 1

 **Warning** H315-H319-H335

Caesium carbonate

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5618.1	5 g	plastic	32,15 €

5618.2	25 g	plastic	112,35 €

Caesium carbonate

≥99,9 %, p.a.

Base for organic chemistry

Type analysis:

Appearance.....	colourless, cryst. and hygroscopic substance
Assay.....	≥99,9 %
Lithium (Li).....	≤0,0005 %
Sodium (Na).....	≤0,01 %
Potassium (K).....	≤0,02 %
Rubidium (Rb).....	≤0,02 %
Calcium (Ca).....	≤0,0005 %
Magnesium (Mg).....	≤0,0002 %
Barium (Ba).....	≤0,003 %
Strontium (Sr).....	≤0,0005 %
Aluminium (Al).....	≤0,001 %
Iron (Fe).....	≤0,0003 %
Chromium (Cr).....	≤0,0002 %
P ₂ O ₅	≤0,002 %
Sulphate (SO ₄).....	≤0,005 %
Chloride (Cl).....	≤0,01 %
Nitrate (NO ₃).....	≤0,003 %
Silicate (SiO ₂).....	≤0,005 %
Loss on ignition (500 °C).....	≤0,5 %

6873.1	5 g	plastic	15,60 €

6873.2	25 g	plastic	32,15 €

6873.3	100 g	plastic	131,70 €

6873.4	500 g	plastic	321,45 €

Original pack 6 x 500 g 305,38/500 g

Caesium chloride

Cesium chloride

CsCl

M 168,36 g/mol

D 3,983 • bp 1303 °C • mp 646 °C

Solubility: 1800 g/l (H₂O, 20 °C)

[7647-17-8] • EC No. 231-600-2 • WGK 1

⚠ Warning H361

Caesium chloride

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5061.1	10 g	plastic	49,35 €

5061.2	50 g	plastic	145,15 €

Caesium chloride

≥99,999 %, p.a., ultra quality

Reagent for density gradient centrifugation.

Guarantee analysis:

Assay.....	≥99,999 %
Aluminium (Al).....	≤0,00001 %
Barium (Ba).....	≤0,0001 %
Lead (Pb).....	≤0,0001 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,00001 %
Iron (Fe).....	≤0,00002 %
Potassium (K).....	≤0,0001 %
Lithium (Li).....	≤0,00005 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,0001 %
Sodium (Na).....	≤0,00003 %
Rubidium (Rb).....	≤0,0001 %
Strontium (Sr).....	≤0,0001 %
Sulphate (SO ₄).....	≤0,0005 %
Silicate (SiO ₂).....	≤0,0001 %
Extinction (50 % in H ₂ O):	
260 nm.....	≤0,02
280 nm.....	≤0,02

8627.3	50 g	plastic	44,00 €

8627.1	100 g	plastic	74,20 €

8627.2	1 kg	plastic	489,15 €

Original pack 6 x 1 kg 464,69/1 kg

For further information, please see page 1191

Caesium chloride

≥99,9 %, extra pure, for biochemistry

Reagent for density gradient centrifugation.

Type analysis:

Assay.....	≥99,9 %
Sulphate (SO ₄).....	≤0,005 %
Aluminium (Al).....	≤0,002 %
Barium (Ba).....	≤0,005 %
Calcium (Ca).....	≤0,005 %
Chromium (Cr).....	≤0,002 %
Iron (Fe).....	≤0,002 %
Potassium (K).....	≤0,005 %
Lithium (Li).....	≤0,0005 %
Magnesium (Mg).....	≤0,005 %
Manganese (Mn).....	≤0,002 %
Sodium (Na).....	≤0,005 %
Rubidium (Rb).....	≤0,02 %
Strontium (Sr).....	≤0,005 %
Silicate (SiO ₂).....	≤0,004 %
In water insoluble matter, max. 25 ppm, may cause a light turbidity or opalescence in a concentrated solution.	

7878.1	100 g	plastic	42,90 €

7878.3	250 g	plastic	94,50 €

7878.2	1 kg	plastic	332,20 €

Original pack 6 x 1 kg 315,59/1 kg

For further information, please see page 1191

Caesium nitrate**Caesium nitrate**

ROTI®METIC 99,999 % (5N)

Cesium nitrate

CsNO₃

M 194,91 g/mol

D 3,66

mp 414 °C

Solubility: 150 g/l (H₂O, 20 °C)

[7789-18-6] • EC No. 232-146-8

UN No. 1451 • ADR 5.1 III • WGK 1

⚠ Danger H272

Type analysis:

Assay (metals basis).....	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

4505.1	10 g	plastic	85,90 €

4505.2	50 g	plastic	321,45 €

Caesium sulphate**Caesium sulphate**

≥99,99 %, p.a.

Reagent for density gradient centrifugation.

Cesium sulphate

Cs₂SO₄

M 361,89 g/mol

D 4,243

mp 1010 °C

Solubility: 1790 g/l (H₂O, 20 °C)

[10294-54-9] • EC No. 233-662-6

⚠ ⚠ Warning H302-H361

Guarantee analysis:

Assay.....	≥99,99 %
Aluminium (Al).....	≤0,0001 %
Barium (Ba).....	≤0,001 %
Calcium (Ca).....	≤0,0001 %
Chromium (Cr).....	≤0,00005 %
Iron (Fe).....	≤0,00005 %
Potassium (K).....	≤0,0006 %
Lithium (Li).....	≤0,0001 %
Magnesium (Mg).....	≤0,0001 %
Manganese (Mn).....	≤0,0002 %
Sodium (Na).....	≤0,0002 %
Rubidium (Rb).....	≤0,001 %
Strontium (Sr).....	≤0,0002 %
Chloride (Cl).....	≤0,001 %
Extinction (50 % in H ₂ O):	
260 nm.....	≤0,02
280 nm.....	≤0,02
Suitable for density gradient centrifugation	

9355.3	25 g	plastic	37,55 €

9355.1	100 g	plastic	119,90 €

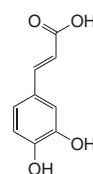
9355.2	1 kg	plastic	811,65 €

Original pack 6 x 1 kg 771,07/1 kg

For further information, please see page 1191

2-Caffeoyl tartaric acid

▶ Caftaric acid see p. 1704

Caffeic acid

3,4-Dihydroxycinnamic acid

C₉H₈O₄

M 180,16 g/mol

[331-39-5] • EC No. 206-361-2

WGK 2

⚠ Warning H351

Caffeic acid

≥98 %

Storage temp.: +4 °C

Type analysis:

Appearance.....	beige powder
Assay.....	≥98,0 %

5869.3	5 g	glass	17,75 €

5869.1	10 g	glass	28,95 €

5869.2	50 g	glass	110,20 €

Caffeic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %
Residual solvents (GC) ≤2,0 %
Water (KF) ≤2,0 %
Assay (qNMR) ≥90,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE08.1	25 mg	glass	525,70 €

Caffeic acid

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC) ≥90,0 %
Identity complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC08.1	100 mg	glass	89,80 €

Caffeic acid

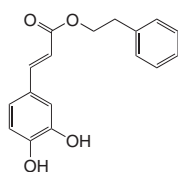
ROTICHROM® TLC

Reference substance for thin layer chromatography

Storage temp.: +4 °C

5574.1	100 mg	glass	33,25 €

Caffeic acid phenethyl ester



Caffeic acid phenethyl ester

≥99 %, for biochemistry

Phenethyl-3,4-dihydroxycinnamate, CAPE

C₁₇H₁₆O₄

M 284,31 g/mol

mp 127-129 °C

[104594-70-9]

⚠ Warning H315-H319-H335

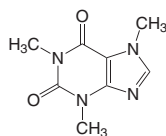
Type analysis:

Assay (HPLC) ≥99,0 %
Solution (5 % in Aceton) colourless to yellow
Water (KF) ≤0,5 %
Melting point 127-129 °C

5465.1	25 mg	glass	36,45 €

5465.2	50 mg	glass	54,75 €

Caffeine



1,3,7-Trimethylxanthine, 7-Methyltheobromine

C₈H₁₀N₄O₂

M 194,20 g/mol

D ~1,23

mp 234-239 °C • flp ~236 °C

[58-08-2] • EC No. 200-362-1

UN No. 1544 • ADR 6.1 III • WGK 1

⚠ Danger H301

Caffeine

≥98,5 %, for biochemistry, anhydrous

Type analysis:

Appearance white cryst. powder
Assay (dry substance) 98,5-101,5 %
Melting point 234-237 °C
Appearance of solution complies
Sulphate (SO₄) ≤0,05 %
Heavy metals ≤0,001 %
Loss on drying ≤0,5 %

N815.1	50 g	plastic	10,25 €

N815.2	100 g	plastic	13,90 €

N815.3	500 g	plastic	41,40 €

Original pack 6 x 500 g	39,33/500 g

Caffeine

ROTI®CALIPURE

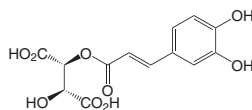
Melting point standard 235-237 °C, anhydrous

Type analysis:

Meniscus formation 235-237 °C
Complete liquefaction 235-237 °C

9739.1	1 g	glass	27,85 €

Caftaric acid



Caftaric acid

ROTICHROM® HPLC

Reference substance for HPLC

From *Echinacea pallida*.

2-Caffeoyl tartaric acid

C₁₃H₁₂O₉

M 312,24 g/mol

Storage temp.: +4 °C

[67879-58-7]

Type analysis:

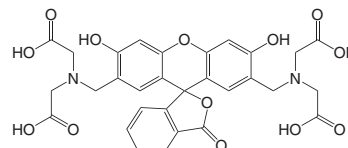
Purity (HPLC) >98 %

1125.1	10 mg	glass	353,70 €

Cakodylic acid sodium salt

▶ Cacodylic acid sodium salt trihydrate
see p. 1702

Calcein



Calcein

p.a.

Metal indicator for Ca in the presence of Mg
Fluorexon, Fluorescein complexone

C₃₀H₂₆N₂O₁₃

M 622,55 g/mol

mp 200 °C

[1461-15-0] • EC No. 215-957-1

WGK 3

Type analysis:

Appearance yellow to orange powder
Suitability as indicator complies

7688.1	5 g	glass	33,25 €

7688.2	25 g	glass	99,90 €

7688.3	100 g	glass	274,15 €

Calcium

Calcium

≥99,5 %, granules

Ca

M 40,08 g/mol

bp 1484 °C

mp ~840 °C

[7440-70-2] • EC No. 231-179-5

UN No. 1401 • ADR 4.3 II • WGK 1

⚠ Danger H261

Type analysis:

Assay ≥99,5 %
Particle size ~6 mesh

2729.1	50 g	glass	65,05 €

Calcium Standards

▶ Calcium AAS Standard Solution
see p. 2167

▶ Calcium ICP Standard Solution
see p. 2170

▶ Calcium ICP Standard Solution
see p. 2175

▶ Calcium IC Standard Solution
see p. 2180

Calcium acetate hydrate

Calcium acetate hydrate

≥99 %, USP, extra pure

 $\text{Ca}(\text{CH}_3\text{COO})_2 \cdot x \text{H}_2\text{O}$ M 158,17 + x H₂O g/mol

[62-54-4] • EC No. 200-540-9

WGK 1

Guarantee analysis:

Assay (compl., dry substance).....	99,0-100,5 %
Identity.....	complies
Easily oxidizable substance.....	complies
pH value (5 % solution).....	6,3-9,6
Water.....	≤7,0 %
Chloride (Cl).....	≤0,05 %
Sulphate (SO ₄).....	≤0,06 %
Fluoride (F).....	≤0,005 %
Nitrate (NO ₃).....	complies
Heavy metals (as Pb).....	≤0,0025 %
Arsenic (As).....	≤0,0003 %
Lead (Pb).....	≤0,001 %

0260.1	500 g	plastic	17,10 €
Original pack 6 x 500 g			
0260.2	1 kg	plastic	26,35 €
Original pack 6 x 1 kg			
0260.3	5 kg	plastic	94,10 €

Calcium acetate monohydrate

Calcium acetate monohydrate

≥99 %, p.a., ACS

 $\text{Ca}(\text{CH}_3\text{COO})_2 \cdot \text{H}_2\text{O}$

M 176,18 g/mol

D 1,50

[5743-26-0] • EC No. 200-540-9

WGK 1

Guarantee analysis:

Assay (compl.).....	≥99,0 %
In H ₂ O insoluble matter.....	≤0,005 %
Alkalinity.....	complies
Acidity.....	≤0,035 meq/g
Chloride (Cl).....	≤0,001 %
Sulphate (SO ₄).....	≤0,01 %
Heavy metals (as Pb).....	≤0,005 %
Barium (Ba).....	≤0,01 %
Iron (Fe).....	≤0,001 %
Potassium (K).....	≤0,01 %
Magnesium (Mg).....	≤0,05 %
Sodium (Na).....	≤0,02 %
Strontium (Sr).....	≤0,05 %

P011.1	500 g	plastic	32,15 €
Original pack 6 x 500 g			
P011.2	1 kg	plastic	60,10 €
Original pack 6 x 1 kg			

Calcium arachinate/-behenate

► Arachidic acid calcium salt see p. 1653

Calcium carbide

Carbide

CaC₂

M 64,10 g/mol

D 2,22 • bp 2300 °C

mp 2160 °C

[75-20-7] • EC No. 200-848-3

UN No. 1402 • ADR 4.3 II • WGK 1

Danger H260-H315-H318

Calcium carbide

techn., 0,3-1 mm

Suitable for water analysis.

Type analysis:

Granulation.....	0,3-1,0 mm
Gas yield.....	260 l C ₂ H ₂ ±3 %/kg

6110.1	1 kg	tinplate	22,25 €
Original pack 6 x 1 kg			

Calcium carbide

techn., 1-3 mm

Type analysis:

Granulation.....	1-3 mm
Gas yield.....	260 l C ₂ H ₂ ±3 %/kg

6666.1	500 g	tinplate	16,05 €
Original pack 6 x 500 g			
6666.2	1 kg	tinplate	23,15 €
Original pack 6 x 1 kg			
6666.3	2,5 kg	tinplate	44,00 €
6666.4			
5 kg	tinplate	73,00 €	

Calcium carbide

techn., 7-20 mm

Type analysis:

Granulation.....	7-20 mm
Gas yield.....	260 l C ₂ H ₂ ±3 %/kg

6667.1	500 g	tinplate	18,20 €
Original pack 6 x 500 g			
6667.2	1 kg	tinplate	28,95 €
Original pack 6 x 1 kg			
6667.3	2,5 kg	tinplate	57,95 €
6667.4			
5 kg	tinplate	102,05 €	

Calcium carbonate

CaCO₃

M 100,09 g/mol

Solubility: ~14 mg/l (H₂O, 20 °C)

[471-34-1] • EC No. 207-439-9

Calcium carbonate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5616.1	5 g	plastic	42,90 €
5616.2	25 g	plastic	133,85 €

Calcium carbonate

≥99 %, p.a., precipitated

Disintegrating agent, for the determination of alkalis in silicates.

Guarantee analysis:

Assay (compl.).....	≥99,0 %
In HCl insoluble matter.....	≤0,005 %
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,03 %
Barium (Ba).....	complies
Iron (Fe).....	≤0,002 %
Magnesium (Mg).....	≤0,05 %
Sodium (Na).....	≤0,25 %
Copper (Cu).....	≤0,0005 %
Potassium (K).....	≤0,02 %
Strontium (Sr).....	≤0,1 %

P012.1	500 g	plastic	63,35 €
Original pack 6 x 500 g			
P012.2	1 kg	plastic	111,30 €
Original pack 6 x 1 kg			
P012.3	2,5 kg	plastic	223,10 €

Calcium carbonate

≥98,5 %, Ph.Eur., USP, BP, precipitated

Guarantee analysis:

Assay (dry substance).....	98,5-100,5 %
Identity.....	complies
In CH ₃ COOH insoluble matter.....	≤0,2 %
Loss on drying (200 °C).....	≤2,0 %
Chloride (Cl).....	≤0,033 %
Fluoride (F).....	≤0,005 %
Sulphate (SO ₄).....	≤0,25 %
Magnesium and alkali metals.....	≤1 %
Heavy metals (as Pb).....	≤0,002 %
Arsenic (As).....	≤0,0003 %
Barium (Ba).....	complies
Lead (Pb).....	≤0,0003 %
Iron (Fe).....	≤0,02 %
Mercury (Hg).....	≤0,00005 %

P013.1	500 g	plastic	15,30 €
Original pack 6 x 500 g			
P013.2	1 kg	plastic	24,20 €
Original pack 6 x 1 kg			
P013.3	5 kg	plastic	96,25 €

Calcium carbonate

≥98,5 %, powdered

Type analysis:

Assay (dry substance).....	≥98,5 %
Chloride (Cl).....	≤0,05 %
Sulphate (SO ₄).....	≤0,5 %
Antimony (Sb).....	≤0,01 %
Lead (Pb).....	≤0,005 %
Cadmium (Cd).....	≤0,0001 %
Copper (Cu).....	≤0,01 %
Zinc (Zn).....	≤0,01 %
Particle size d ₅₀	1,0 µm

6230.1	1 kg	plastic	14,95 €
Original pack 6 x 1 kg			
6230.2	5 kg	plastic	39,70 €
6230.5			
25 kg	plastic	125,70 €	

Calcium chloride

Chlorocalcium

CaCl₂

M 110,99 g/mol

Solubility: 740 g/l (H₂O, 20 °C)

[10043-52-4] • EC No. 233-140-8

WGK 1

⚠ Warning H319

Calcium chloride

≥98 %, dehydrated, powder

Drying agent

Type analysis:

Assay (CaCl ₂)	≥98,0 %
Fluoride (F)	≤0,004 %
Water insoluble content	≤0,1 %
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0002 %
Iron (Fe)	≤0,001 %
Mercury (Hg)	≤0,0001 %

CN93.1	500 g	plastic	23,90 €
Original pack 6 x 500 g			22,71/500 g
CN93.2	1 kg	plastic	35,40 €
Original pack 6 x 1 kg			33,63/1 kg
CN93.3	2,5 kg	plastic	74,20 €

Calcium chloride

≥96 %, dehydrated, granular material

Drying agent

Type analysis:

Assay (CaCl ₂)	≥96,0 %
Heavy metals	≤0,005 %
Iron (Fe)	≤0,001 %
Magnesium (Mg)	≤0,1 %
Zinc (Zn)	≤0,003 %
Particle size	~0,5-5 mm

CN92.1	500 g	plastic	22,80 €
Original pack 6 x 500 g			21,66/500 g
CN92.2	1 kg	plastic	34,95 €
Original pack 6 x 1 kg			33,20/1 kg
CN92.3	2,5 kg	plastic	72,60 €

Calcium chloride

≥94 %, dehydrated

Drying agent

Type analysis:

Assay (CaCl ₂)	≥94 %
Sulphate (SO ₄)	≤0,1 %
Barium (Ba)	≤0,1 %
Iron (Fe)	≤0,0005 %
NaCl	≤2 %
MgCl ₂	≤0,1 %
Potassium chloride (KCl)	≤3 %
Particle size	~2-5 mm (4-8 mesh)

A119.1	1 kg	plastic	17,10 €
Original pack 6 x 1 kg			16,25/1 kg
A119.2	5 kg	plastic	44,65 €
A119.5	25 kg	plastic	107,40 €

Calcium chloride hydrate

Calcium chloride hydrate

ROTI®METIC 99,999 % (5N)

CaCl₂ · x H₂OM 110,99 + x H₂O g/mol

mp ~30 °C

[22691-02-7]

WGK 1

⚠ Warning H319

Type analysis:

Assay (metals basis) 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5056.1	10 g	plastic	107,40 €

Calcium chloride dihydrate

CaCl₂ · 2 H₂O

M 147,02 g/mol

D 1,85

mp ~176 °C

Solubility: ~1000 g/l (H₂O, 0 °C)

[10035-04-8] • EC No. 233-140-8

WGK 1

⚠ Warning H319

Calcium chloride dihydrate

≥99 %, p.a., ACS

Reagent for the preparation of freezing mixtures, molecular biology.

Guarantee analysis:

Assay (compl.)	≥99,0 %
pH value (5 %, water)	4,5-8,5
In H ₂ O insoluble matter	≤0,01 %
Sulphate (SO ₄)	≤0,01 %
Phosphate (PO ₄)	≤0,001 %
Ammonium (NH ₄)	≤0,005 %
Oxidizing substances (as NO ₃)	≤0,003 %
Barium (Ba)	≤0,005 %
Lead (Pb)	≤0,0005 %
Iron (Fe)	≤0,0003 %
Potassium (K)	≤0,01 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,005 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,02 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Strontium (Sr)	≤0,01 %
Zinc (Zn)	≤0,001 %

5239.2	500 g	plastic	16,05 €
Original pack 6 x 500 g			15,25/500 g
5239.1	1 kg	plastic	22,40 €
Original pack 6 x 1 kg			21,28/1 kg
5239.3	2,5 kg	plastic	48,30 €

Calcium chloride dihydrate

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins	≤5,0 I.U./g
Assay	≥99 %
Appearance of solution	complies
pH value (5 % solution)	4,5-9,2
Sulphate (SO ₄)	≤0,024 %
Heavy metals (as Pb)	≤0,0005 %
Aluminium (Al)	≤0,00002 %
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,001 %

HN04.1	250 g	plastic	14,95 €

HN04.2	500 g	plastic	24,20 €

Original pack 6 x 500 g 22,99/500 g

HN04.3	1 kg	plastic	36,45 €

Original pack 6 x 1 kg 34,63/1 kg

Calcium chloride dihydrate

≥99 %, Ph.Eur., USP

Guarantee analysis:

Assay (compl.)	99,0-103,0 %
Identity	complies
pH value (5 % solution)	4,5-9,2
Appearance of solution	complies
Free acid, free alkali	complies
Sulphate (SO ₄)	≤0,03 %
Fe, Al and phosphates	complies
Magnesium and alkali metals	≤0,5 %
Heavy metals	≤0,001 %
Aluminium (Al)	≤0,0001 %
Barium (Ba)	complies
Iron (Fe)	≤0,001 %

T885.2	500 g	plastic	16,90 €

Original pack 6 x 500 g 16,06/500 g

T885.1	1 kg	plastic	27,45 €

Original pack 6 x 1 kg 26,08/1 kg

T885.3	2,5 kg	plastic	66,55 €

Calcium chloride hexahydrate

Chlorocalcium hexahydrate

CaCl₂ · 6 H₂O

M 219,09 g/mol

mp ~30 °C

Solubility: 5360 g/l (H₂O, 20 °C)

[7774-34-7] • EC No. 233-140-8

WGK 1

⚠ Warning H319

Calcium chloride hexahydrate

≥98 %, p.a.

Analytical reagent, molecular biology

Guarantee analysis:

Assay (compl.)	≥98,0 %
In H ₂ O insoluble matter, precipitated by NH ₄ OH	≤0,01 %
Oxidizing substances (as NO ₃)	≤0,003 %
Phosphate (PO ₄)	≤0,001 %
Sulphate (SO ₄)	≤0,01 %
Ammonium (NH ₄)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0005 %
Barium (Ba)	≤0,005 %
Copper (Cu)	≤0,0005 %
Iron (Fe)	≤0,0025 %
Magnesium (Mg)	≤0,005 %
Nickel (Ni)	≤0,0005 %
Manganese (Mn)	≤0,0005 %
Strontium (Sr)	≤0,01 %
Zinc (Zn)	≤0,001 %
Notice	Melting point ~30 °C

T886.2	500 g	plastic	27,85 €
Original pack 6 x 500 g 26,46/500 g			
T886.1	1 kg	plastic	46,15 €
Original pack 6 x 1 kg 43,84/1 kg			
T886.3	2,5 kg	plastic	90,85 €

Calcium chloride hexahydrate

≥97 %, Ph.Eur.

Guarantee analysis:

Assay (compl.)	97,0-103,0 %
Identity	complies
Appearance of solution	complies
Acid or alkaline react. substances	complies
Sulphate (SO ₄)	≤0,02 %
Aluminium (Al)	complies
Heavy metals (as Pb)	≤0,0015 %
Barium (Ba)	complies
Iron (Fe)	≤0,0007 %
Magnesium and alkali metals	≤0,3 %
Notice	Melting point ~30 °C

CP89.1	500 g	plastic	17,75 €
Original pack 6 x 500 g 16,86/500 g			
CP89.2	1 kg	plastic	25,30 €
Original pack 6 x 1 kg 24,04/1 kg			
CP89.3	2,5 kg	plastic	50,45 €

tri-Calcium dicitrate tetrahydrate

tri-Calcium dicitrate tetrahydrate

≥97 %, extra pure

Calcium(II) citrate, Tricalcium citrate, TCC

C₁₂H₁₀Ca₃O₁₄ · 4 H₂O

M 570,51 g/mol

Solubility: 1 g/l (H₂O, 20 °C)

[5785-44-4] • EC No. 212-391-7

WGK 1

Type analysis:

Assay (dry substance)	≥97,0 %
Fluoride (F)	≤0,005 %
Aluminium (Al)	≤0,005 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Mercury (Hg)	≤0,0001 %
Heavy metals (as Pb)	≤0,0005 %
Loss on drying	10,0-14,0 %

7450.1	500 g	plastic	23,55 €
Original pack 6 x 500 g 22,37/500 g			
7450.2	1 kg	plastic	37,55 €
Original pack 6 x 1 kg 35,67/1 kg			
7450.3	2,5 kg	plastic	80,10 €

Calcium EDTA disodium salt dihydrate

► Ethylenediamine tetraacetic acid calcium disodium salt dihydrate see p. 1814

D-Calciumgluconate monohydrate

► D-Gluconic acid calcium salt see p. 1853

Calcium hydrate

► Calcium hydroxide see p. 1707

Calcium hydrogen phosphate

Calcium hydrogen phosphate

≥98 % extra pure, anhydrous

Calcium phosphate dibasic, sec. Calcium phosphate, Calcium monohydrogen phosphate CaHPO₄

M 136,06 g/mol

Solubility: 0,1 g/l (H₂O, 20 °C)

[7757-93-9] • EC No. 231-826-1

WGK 1

Type analysis:

Assay (compl.)	≥98,0 %
Chloride (Cl)	≤0,05 %
Sulphate (SO ₄)	≤0,5 %
Heavy metals (as Pb)	≤0,005 %
Arsenic (As)	≤0,0005 %
Iron (Fe)	≤0,05 %
Lead (Pb)	≤0,00005 %

9490.1	100 g	plastic	21,40 €
9490.2	500 g	plastic	42,90 €
Original pack 6 x 500 g 40,76/500 g			
9490.3	1 kg	plastic	81,60 €
Original pack 6 x 1 kg 77,52/1 kg			

Calcium hydrogen phosphate dihydrate

Calcium hydrogen phosphate dihydrate

≥98 %, Ph.Eur., USP

Calcium phosphate dibasic, sec. Calcium phosphate, Calcium monohydrogen phosphate CaHPO₄ · 2 H₂O

M 172,10 g/mol

D 2,32

Solubility: 0,2 g/l (H₂O, 25 °C)

[7789-77-7] • EC No. 231-826-1

WGK 1

Guarantee analysis:

Assay (compl.)	98,0-105,0 %
Identity	complies
In HCl insoluble matter	≤0,2 %
Fluoride (F)	≤0,005 %
Carbonate (CO ₃)	complies
Chloride (Cl)	≤0,033 %
Sulphate (SO ₄)	≤0,5 %
Arsenic (As)	≤0,0003 %
Barium (Ba)	complies
Iron (Fe)	≤0,04 %
Heavy metals (as Pb)	≤0,003 %
Loss on ignition (800 °C)	24,5-26,5 %

HN70.1	500 g	plastic	17,75 €
Original pack 6 x 500 g 16,86/500 g			
HN70.2	1 kg	plastic	27,45 €
Original pack 6 x 1 kg 26,08/1 kg			
HN70.3	2,5 kg	plastic	54,75 €

Calcium hydroxide

Calcium hydrate, slaked lime

Ca(OH)₂

M 74,10 g/mol

D 2,24

mp 550 °C (dec.)

Solubility: 1,7 g/l (H₂O, 20 °C)

[1305-62-0] • EC No. 215-137-3

WGK 1

  **Danger** H318-H315-H335

Calcium hydroxide

ROTI[®]METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis) 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5617.1	5 g	plastic	53,65 €
5617.2	25 g	plastic	181,70 €

Calcium hydroxide

≥96 %, p.a.

For detection of CO₂

Guarantee analysis:

Assay	≥96 %
In HCl insoluble matter	≤0,03 %
Carbonate (as CaCO ₃)	≤3 %
Chloride (Cl)	≤0,005 %
Sulphur containing parts (as SO ₄)	≤0,1 %
Heavy metals (as Pb)	≤0,003 %
Iron (Fe)	≤0,05 %
Potassium (K)	≤0,05 %
Magnesium (Mg)	≤0,5 %
Sodium (Na)	≤0,05 %
Strontium (Sr)	≤0,05 %

CN87.1	500 g	plastic	37,55 €
Original pack 6 x 500 g 35,67/500 g			
CN87.2	1 kg	plastic	62,25 €
Original pack 6 x 1 kg 59,14/1 kg			
CN87.3	2,5 kg	plastic	127,95 €

Calcium hydroxide

≥95 %, Ph.Eur., USP, BP

Guarantee analysis:

Assay (compl.)	95,0-100,5 %
In HCl insoluble matter	≤0,5 %
Carbonate (as CaCO ₃)	≤5,0 %
Chloride (Cl)	≤0,033 %
Sulphate (SO ₄)	≤0,4 %
Mg and alkali salts	≤4,0 %
Heavy metals (as Pb)	≤0,002 %
Arsenic (As)	≤0,0003 %
Residual solvents	complies

KK03.1	500 g	plastic	13,80 €
Original pack 6 x 500 g 13,11/500 g			
KK03.2	1 kg	plastic	19,25 €
Original pack 6 x 1 kg 18,29/1 kg			
KK03.3	5 kg	plastic	69,35 €

Calcium hydroxide

≥96 %, powdered

Type analysis:

Assay	≥96 %
Water	0,20 %
Sulphite (SO ₃)	0,01 %
Aluminium oxide (Al ₂ O ₃)	0,07 %
Calcium oxide (CaO)	74,6 %
Ferric oxide (Fe ₂ O ₃)	0,04 %
Carbon dioxide (CO ₂)	0,6 %
Magnesium oxide (MgO)	0,60 %
Manganese oxide (Mn ₂ O ₄)	0,02 %
Silicate (SiO ₂)	0,10 %
Loss on ignition	24,5 %
Hydrate water	23,7 %

3529.4 1 kg plastic 14,20 €

Original pack 6 x 1 kg 13,49/1 kg

3529.1 2,5 kg plastic 23,55 €

3529.2 10 kg plastic 50,45 €

3529.3 50 kg plastic 96,25 €

penta-Calcium hydroxide triphosphate

► tri-Calcium phosphate see p. 1709

Calcium hypochlorite

Calcium hypochlorite

≥65 %, granulated

Desinfectant and oxidizing agent

CaCl₂O₂

M 142,99 g/mol

D 2,35

Solubility: 200 g/l (H₂O, 20 °C)

[7778-54-3] • EC No. 231-908-7

UN No. 2880 • ADR 5.1 II • WGK 2

Danger

H272-H314-H400-H335-H302-EU031

Type analysis:

Available chlorine (Ca(OCl) ₂)	≥65 %
Water	5,5-8,5 %
Iron (Fe)	≤0,05 %

5164.1 500 g plastic 21,40 €

Original pack 6 x 500 g 20,33/500 g

5164.3 1 kg plastic 31,95 €

Original pack 6 x 1 kg 30,35/1 kg

5164.2 2,5 kg plastic 62,90 €

Calcium-L-lactate

► L-(+)-Lactic acid calcium salt hydrate see p. 1920

► L-(+)-Lactic acid calcium salt pentahydrate see p. 1920

Calcium-lignosulphonate

► Lignosulphonic acid calcium salt see p. 1931

Calcium monohydrogen phosphate

► Calcium hydrogen phosphate see p. 1707
► Calcium hydrogen phosphate dihydrate see p. 1707

Calcium nitrate hydrate

Calcium nitrate hydrate

ROTI®METIC 99,999 % (5N)

Ca(NO₃)₂ · x H₂O

M 164,09 + x H₂O g/mol

D 1,82

mp ~40 °C (dec.)

[35054-52-5] • EC No. 233-332-1

UN No. 1454 • ADR 5.1 III • WGK 1

Danger H272-H315-H319-H335

Type analysis:

Assay (metals basis)	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5058.1 5 g plastic 46,15 €

5058.2 25 g plastic 149,45 €

Calcium nitrate tetrahydrate

Lime salpetre

Ca(NO₃)₂ · 4 H₂O

M 236,15 g/mol

D 1,82

Solubility: 1470 g/l (H₂O, 0 °C)

[13477-34-4] • EC No. 233-332-1

UN No. 1454 • ADR 5.1 III • WGK 1

Danger H272-H319

Calcium nitrate tetrahydrate

≥99 %, p.a., ACS

Application in pyrotechnics, as component of freezing salt solutions and as fertilizer.

Guarantee analysis:

Assay (compl.)	99,0-103,0 %
pH value (5 % solution)	5,0-7,0
In water insoluble matter	≤0,005 %
Chloride (Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,002 %
Nitrite (NO ₂)	≤0,001 %
Ammonium (NH ₄)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Barium (Ba)	≤0,005 %
Iron (Fe)	≤0,0005 %
Lead (Pb)	≤0,0005 %
Magnesium (Mg)	≤0,01 %
Strontium (Sr)	≤0,01 %
Copper (Cu)	≤0,0005 %
Potassium (K)	≤0,005 %
Sodium (Na)	≤0,005 %
Aluminium (Al)	≤0,001 %
Cadmium (Cd)	≤0,0005 %
Cobalt (Co)	≤0,0005 %
Chromium (Cr)	≤0,0005 %
Manganese (Mn)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

P740.1 500 g plastic 21,75 €

Original pack 6 x 500 g 20,66/500 g

P740.2 1 kg plastic 33,90 €

Original pack 6 x 1 kg 32,21/1 kg

P740.3 2,5 kg plastic 74,75 €

Calcium nitrate tetrahydrate

≥98 %, extra pure

Type analysis:

Assay	≥98,0 %
pH value (5 % solution)	5,0-7,5
Chloride (Cl)	≤0,01 %
Sulphate (SO ₄)	≤0,01 %
Heavy metals (as Pb)	≤0,002 %
Iron (Fe)	≤0,001 %

X886.1 500 g plastic 12,70 €

Original pack 6 x 500 g 12,07/500 g

X886.2 1 kg plastic 16,90 €

Original pack 6 x 1 kg 16,06/1 kg

X886.3 5 kg plastic 48,30 €

Calcium oxalate monohydrate

Calcium oxalate monohydrate

≥98 %

Oxalic acid calcium salt monohydrate

CaC₂O₄ · H₂O

M 146,12 g/mol

[563-72-4] • EC No. 209-260-1

WGK 1

Warning H302+H312

Type analysis:

Appearance	white powder
Assay	≥98,0 %
Identity	complies
Chloride (Cl)	≤0,05 %
Sulphate (SO ₄)	≤0,05 %

6145.1 1 kg plastic 36,45 €

Original pack 6 x 1 kg 34,63/1 kg

Calcium oxide

Calcium oxide

≥96 %, powdered, extra pure

Lime caustic, Quicklime

CaO

M 56,08 g/mol

bp 2850 °C

mp 2580 °C

Solubility: ~1,5 g/l (H₂O, 20 °C)

[1305-78-8] • EC No. 215-138-9

UN No. 1910 • WGK 1

Danger H315-H318-H335

Type analysis:

Assay	96,0-100,5 %
In HCl insoluble matter	≤0,5 %
Loss on ignition	≤3,5 %
Fluoride (F)	≤0,015 %
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0002 %

CN88.1 500 g plastic 13,90 €

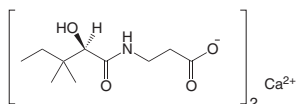
Original pack 6 x 500 g 13,21/500 g

CN88.2 1 kg plastic 21,75 €

Original pack 6 x 1 kg 20,66/1 kg

CN88.3 5 kg plastic 76,90 €

Calcium D(+)-pantothenate



Calcium D(+)-pantothenate

≥98 %, Ph.Eur., for biochemistry

D(+)-Pantothenic acid calcium salt

$C_{18}H_{32}CaN_2O_{10}$

M 476,53 g/mol

mp 190 °C • flp 145 °C

Solubility: 350 g/l (H_2O , 20 °C)

[137-08-6] • EC No. 205-278-9

WGK 1

Guarantee analysis:

Appearance..... white powder

Assay (perchloric acid titration, dry substance)..... 98,0-101,0 %

Identity..... complies

pH value (5 % in H_2O)..... 6,8-8,0

Appearance of solution (5 % in H_2O), clear, colourless

Specific rotation $[\alpha]_D^{20}$ (5 % in H_2O , dry substance)..... +25,5° to +27,5°

3-Aminopropionic acid..... ≤0,5 %

Chloride (Cl)..... ≤0,02 %

Heavy metals (as Pb)..... ≤0,002 %

Loss on drying..... ≤3,0 %

3812.2 100 g plastic 24,65 €

3812.1 250 g plastic 44,00 €

tri-Calcium phosphate

tri-Calcium phosphate

Ph.Eur., extra pure

penta-Calcium hydroxide triphosphate

$HCa_5O_{13}P_3$

M 502,32 g/mol

[12167-74-7] • EC No. 235-330-6

Guarantee analysis:

Assay (Ca)..... 35,0-40,0 %

Identity..... complies

Identity Calcium..... complies

Identity Phosphate..... complies

Substances insoluble in HCl..... ≤0,2 %

Chloride (Cl)..... ≤0,15 %

Fluoride (F)..... ≤0,0075 %

Sulphate (SO_4)..... ≤0,5 %

Heavy metals (as Pb)..... ≤0,003 %

Arsenic (As)..... ≤0,0004 %

Iron (Fe)..... ≤0,04 %

Loss on ignition (800 °C)..... ≤8,0 %

8450.1 250 g plastic 12,40 €

8450.2 1 kg plastic 24,00 €

Original pack 6 x 1 kg 22,80/1 kg

8450.3 2,5 kg plastic 48,30 €

sec. Calcium phosphate

► Calcium hydrogen phosphate see p. 1707

► Calcium hydrogen phosphate dihydrate see p. 1707

Calcium phosphate dibasic

► Calcium hydrogen phosphate see p. 1707

► Calcium hydrogen phosphate dihydrate see p. 1707

Calcium sulphate dihydrate

$CaSO_4 \cdot 2 H_2O$

M 172,17 g/mol

D 2,32

Solubility: ~2 g/l (H_2O , 20 °C)

[10101-41-4] • EC No. 231-900-3

WGK 1

Calcium sulphate dihydrate

≥98 %, p.a., ACS

Guarantee analysis:

Assay (compl.)..... 98,0-101,0 %

In HCl insoluble matter..... ≤0,01 %

Carbonate (CO_3)..... complies

Chloride (Cl)..... ≤0,002 %

Nitrate (NO_3)..... ≤0,002 %

Heavy metals (as Pb)..... ≤0,001 %

Arsenic (As)..... ≤0,0004 %

Lead (Pb)..... ≤0,001 %

Iron (Fe)..... ≤0,001 %

Magnesium (Mg)..... ≤0,02 %

Strontium (Sr)..... ≤0,05 %

Nickel (Ni)..... ≤0,001 %

Copper (Cu)..... ≤0,001 %

Potassium (K)..... ≤0,005 %

Sodium (Na)..... ≤0,02 %

P741.1 500 g plastic 27,85 €

Original pack 6 x 500 g 26,46/500 g

P741.2 1 kg plastic 45,70 €

Original pack 6 x 1 kg 43,42/1 kg

P741.3 2,5 kg plastic 99,45 €

Calcium sulphate dihydrate

≥98 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (compl.)..... 98,0-102,0 %

Identity..... complies

Chloride (Cl)..... ≤0,03 %

Arsenic (As)..... ≤0,001 %

Iron (Fe)..... ≤0,01 %

Heavy metals (as Pb)..... ≤0,001 %

Acidity/alkalinity..... complies

Loss on ignition (800 °C)..... 18,0-22,0 %

Loss on drying (250 °C)..... 19,0-23,0 %

0256.1 500 g plastic 13,45 €

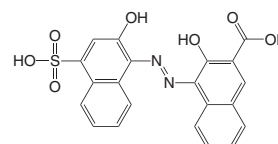
Original pack 6 x 500 g 12,78/500 g

0256.2 1 kg plastic 17,75 €

Original pack 6 x 1 kg 16,86/1 kg

0256.3 5 kg plastic 69,80 €

Calconcarboxylic acid



Calconcarboxylic acid

p.a.

For metal titration.

2-Hydroxy-1-(2-hydroxy-4-sulfo-1-naphthylazo)-naphthalene-3-carboxylic acid; Patton and Reeder's Reagent

$C_{21}H_{14}N_2O_7S$

M 438,41 g/mol

mp 300 °C

[3737-95-9] • EC No. 223-117-0

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... black-violet powder

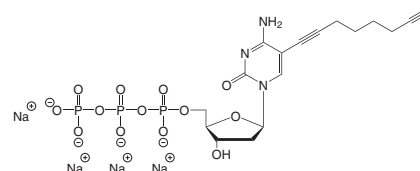
Maximum absorption..... ≤572 nm

2676.1 5 g glass 24,20 €

2676.2 10 g glass 34,95 €

2676.3 50 g glass 91,95 €

C8-Alkyne-dCTP



C8-Alkyne-dCTP

≥99 %, 100 mM in water

Use of a family B polymerase is recommended.

5-(Octa-1,7-diynyl)-5'-O-triphosphate-2'-deoxycytidine

$C_{17}H_{20}N_3O_{13}P_3Na_4$

M 659,23 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1004297-66-8]

WGK 3

Type analysis:

Appearance..... clear solution

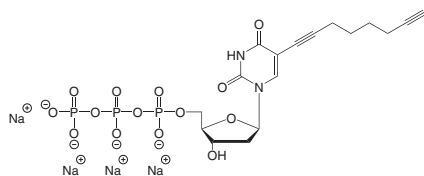
Assay (HPLC)..... ≥99 %

7801.1 0,5 μmol plastic 83,75 €

7801.2 2,5 μmol plastic 321,45 €

7801.3 5,0 μmol plastic 488,60 €

C8-Alkyne-dUTP



C8-Alkyne-dUTP

≥99 %, 100 mM in water

Use of a family B polymerase is recommended.

5-(Octa-1,7-diynyl)-5'-O-triphosphate-2'-deoxyuridine

C₁₇H₁₉N₂O₁₄P₃Na₄

M 660,22 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1004297-65-7]

WGK 3

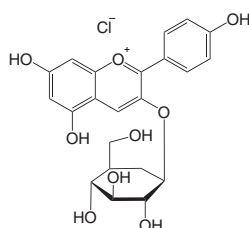
Type analysis:

Appearance: clear solution

Assay (HPLC): ≥99 %

7799.1	0,5 µmol	plastic	83,75 €
7799.2	2,5 µmol	plastic	321,45 €
7799.3	5,0 µmol	plastic	488,60 €

Callistephin (chloride)



Callistephin (chloride)

ROTICHRON® HPLC

Reference substance for HPLC

Pelargonidin chloride 3-glucoside

C₂₁H₂₁ClO₁₀

M 468,85 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[18466-51-8]

Type analysis:

Purity (HPLC): ≥95,0 %

8956.2	10 mg	glass	353,70 €

Calomel

► Mercury(II) chloride see p. 1956

2-Camphanone

► (+)-Camphor see p. 1710

Camphene

C₁₀H₁₆

M 136,24 g/mol

D 0,84 • bp 158-160 °C

mp 42-45 °C • flp 26 °C

Solubility: 0,0042 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[79-92-5] • EC No. 201-234-8

UN No. 1325 • ADR 4.1 II • WGK 2

⚠ ⚠ ⚠ Danger H228-H319-H410

Camphene

~90 %

Type analysis:

Assay (GC): ~90 %

Tricyclene (GC): ≤10 %

7558.2	100 g	glass	17,75 €

7558.1	500 g	glass	57,95 €

Original pack 6 x 500 g 55,05/500 g

Camphene

ROTICHRON® GC

Reference substance for GC

Type analysis:

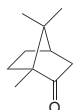
Purity (GC): ≥95 %

5288.1	1 g	plastic	75,15 €

D-(+)-Camphor

► (+)-Camphor see p. 1710

(+)-Camphor



2-Camphanone, D-(+)-Camphor, (1R)-1,7,7-Trimethylbicyclo [2.2.1] heptan-2-one

C₁₀H₁₆O

M 152,24 g/mol

D 0,99 • bp 209 °C

mp 179 °C • flp 66 °C

Solubility: 15 g/l (H₂O, 20 °C)

[464-49-3] • EC No. 207-355-2

UN No. 2717 • ADR 4.1 III • WGK 2

⚠ ⚠ ⚠ Warning H228-H315-H319-H335

(+)-Camphor

≥98 %

Type analysis:

Appearance: colourless crystals

Assay (GC): ≥98 %

Melting point: 177-182 °C

6155.1	250 g	plastic	166,55 €

(+)-Camphor

ROTICHRON® GC

Reference substance for GC

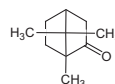
Storage temp.: +4 °C

Type analysis:

Purity (GC): ≥96 %

3861.1	1 g	plastic	75,15 €

DL-Camphor

C₁₀H₁₆O

M 152,24 g/mol

D 0,992 • bp 204 °C

mp 172-176 °C • flp 64 °C

[21368-68-3] • EC No. 244-350-4

UN No. 2717 • ADR 4.1 III • WGK 1

⚠ ⚠ ⚠ Warning H228-H315-H319-H335

DL-Camphor

≥95 %

Type analysis:

Appearance: white, cryst. powder and/or pieces

Assay (GC): 95,5-100,0 %

7552.1	500 g	plastic	72,60 €

Original pack 6 x 500 g 68,97/500 g

DL-Camphor

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC): ≥95 %

4329.1	1 g	plastic	75,15 €

Campylobacter Agar, blood-free (Base)

Campylobacter Agar, blood-free (Base)

for microbiology

For isolation of *Campylobacter jejuni*, *Campylobacter coli*, and *Campylobacter lariidis* in foods, and other samples.Application: Use 45,5 g for 1 l agar. After cooling add 2 vials (2x5 ml) reconstituted *Campylobacter* Supplement (Art. No. 4857.1).

Campy-Selective-Bloodfree-Medium.

Bolton-Agar, Blood-free CCDA, Modified CCDA

Storage temp.: +20 °C • WGK 1

Formulation:

Casein peptone	10 g/l
Beef extract	10 g/l
Sodium chloride	5 g/l
Casein hydrolysed	3 g/l
Bacteriological charcoal	4 g/l
Sodium deoxycholate	1 g/l
Iron sulphate	0,25 g/l
Sodium pyruvate	0,25 g/l
Agar	12 g/l
pH value	7,4 ±0,2

5756.1	500 g	plastic	147,85 €

Original pack 6 x 500 g 140,46/500 g

For further information, please see page 1318

Campylobacter Preston Supplement

Campylobacter Preston Supplement



for microbiology

For selective isolation of *Campylobacter spp.*

Application: One vial Campylobacter Preston Supplement is reconstituted in 5 ml sterile 1:1 mixture of acetone and demineralized water and is subsequently added to 500 ml autoclaved Campylobacter Selective Agar (Art. No. 8847.1) and 5-10 % defibrinated blood.

Preston Supplement

Storage temp.: +4 °C

UN No. 2811 • ADR 6.1 III • WGK 3

Danger H300-H341-H360D-H411

Formulation per vial:

Polymyxin B sulphate.....	2500 IU
Cycloheximide.....	50 mg
Rifampicin.....	5 mg
Trimetoprim.....	5 mg

8851.1	10 vials	glass	167,70 €

For further information, please see page 1343

Campylobacter Selective Agar (Base)

Campylobacter Selective Agar (Base)



for microbiology

For isolation of *Campylobacter coli* and *C. jejuni*.

Application: Use 18,5 g for 475 ml agar. After cooling add 5-7 % lysed blood and 1 vial of Campylobacter Preston Supplement (Art. No. 8851).

Preston Agar, Campy Agar

Storage temp.: +20 °C • WGK 1

Formulation:

Casein peptone.....	10 g/l
Beef extract.....	10 g/l
Sodium chloride (NaCl).....	5 g/l
Agar.....	12 g/l
pH value.....	7,5 ±0,2

8847.1	500 g	plastic	129,00 €

Original pack 6 x 500 g	122,55/500 g

For further information, please see page 1318

Campylobacter Supplement

Campylobacter Supplement lyophilised

Media supplement for selective isolation of *Campylobacter jejuni*, *C. coli*, and *C. lariidis*.

One box of 10 vials Campylobacter Supplement is sufficient for 10 x 500 ml Campylobacter Agar, blood-free.

CCDA Supplement

Storage temp.: +4 °C • WGK 1

Danger H334-H317

Formulation:

Cefoperazone.....	16 mg
Amphotericin B.....	5 mg per vial

4857.1	10 vials	glass	145,15 €

For further information, please see page 1343

Campy-Selective-Bloodfree-Medium, CCDA

► Campylobacter Agar, blood-free (Base) see p. 1710

Canada balsam

Canada balsam

natural, for microscopy

Balsamum Canadense

D 0,99

flp 43 °C

[8007-47-4] • EC No. 232-362-2

UN No. 1993 • ADR 3 III • WGK 2

Warning H226

Type analysis:

Appearance.....	yellowish translucent, highly viscous
Odour.....	characteristic (like conifers)
Density (20 °C).....	0,980-0,998
Refractive index n _D ²⁰	1,520-1,530
Flash point.....	43 °C
Solubility in:	
Ether.....	1:1
Toluene.....	1:1
Chloroform.....	1:1

8016.1	25 ml	glass	18,20 €

8016.2	100 ml	glass	44,00 €

For further information, please see page 1408

Candida chromogenic Agar

Candida chromogenic Agar

for microbiology

Selective medium for isolation and quick identification of pathogenicous *Candida* species.

Application: Use 45,9 g for 1 l agar.

Storage temp.: +4 °C

WGK 2

Danger H350

Formulation:

Peptone.....	10 g/l
Glucose.....	20 g/l
Chloroamphenicol.....	0,5 g/l
Chromogene Mixture.....	0,4 g/l
Agar.....	15 g/l
pH value.....	6,1 ±0,2

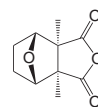
2922.2	100 g	plastic	139,25 €

2922.1	500 g	plastic	504,20 €

Original pack 6 x 500 g	478,99/500 g

For further information, please see page 1319

Cantharidin



Cantharidin

for biochemistry

Kantharidin

C₁₀H₁₂O₄

M 196,20 g/mol

mp 216 °C

[56-25-7] • EC No. 200-263-3

UN No. 2811 • ADR 6.1 I

Danger H300+H310+H330

Typanalyse:

Appearance.....	white, cryst. powder
Melting point.....	216-218 °C

3322.1	25 mg	glass	23,15 €

CAPE

► Caffeic acid phenethyl ester see p. 1704

Capping reagent I

Capping reagent I

for DNA synthesis with ABI™ and PolyGen® Synthesizer

Mixture of acetic anhydride, pyridine and tetrahydrofuran

D 0,93 • bp ~65 °C

flp -21 °C

Storage temp.: +4 °C

UN No. 2924 • ADR 3 (8) II • WGK 2

Danger H225-H318-H302+H332-H335-H351-H315-EU019

2255.1	200 ml	glass	34,95 €

2255.2	450 ml	glass	73,65 €

2255.3	2,5 l	glass	203,20 €

Original pack 4 x 2,5 l	193,04/2,5 l

For further information, please see page 1430

Capping reagent II

Capping reagent II

for DNA synthesis with ABI™ and PolyGen® Synthesizer

Mixture of 1-Methylimidazole and tetrahydrofuran

D 0,92 • bp ~65 °C

flp -21 °C

Storage temp.: +4 °C

UN No. 2924 • ADR 3 (8) II • WGK 1

Danger H225-H314-H302-H335-H351-EU019

2256.1	200 ml	glass	33,90 €

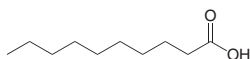
2256.2	450 ml	glass	70,45 €

2256.3	2,5 l	glass	186,55 €

Original pack 4 x 2,5 l	177,22/2,5 l

For further information, please see page 1430

Capric acid



Decanoic acid
 $C_{10}H_{20}O_2$
 M 172,27 g/mol
 D 0,89 • bp 270 °C
 mp 31 °C • flp 148 °C
 Solubility: 0,15 g/l (H_2O , 20 °C)
 Storage temp.: +4 °C
 [334-48-5] • EC No. 206-376-4
 WGK 1

⚠ **Warning** H315-H319-H335

Capric acid

>99 %, for synthesis

Type analysis:

Assay (GC). >99 %

8797.1	100 g	glass	18,20 €

8797.2	1 kg	glass	76,25 €

Original pack 6 x 1 kg 72,44/1 kg

Capric acid

ROTICHRON® GC

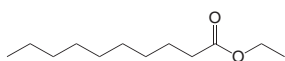
Reference substance for GC

Type analysis:

Purity (GC). ≥99 %

3164.1	1 g	glass	24,20 €

Capric acid ethyl ester



Capric acid ethyl ester

ROTICHRON® GC

Reference substance for GC

Ethyl caprate

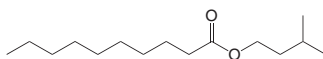
$C_{12}H_{24}O_2$
 M 200,32 g/mol
 D 0,86 • bp 242 °C
 mp -20 °C • flp 102 °C
 Solubility: 0,016 g/l (H_2O , 20 °C)
 Storage temp.: +4 °C
 [110-38-3] • EC No. 203-761-9
 WGK 2

Type analysis:

Purity (GC). ≥97 %

3575.1	1 g	plastic	75,15 €

Capric acid isoamyl ester



Capric acid isoamyl ester

ROTICHRON® GC

Reference substance for GC

Isoamyl caprate

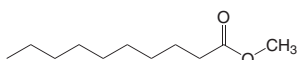
$C_{15}H_{30}O_2$
 M 242,4 g/mol
 Storage temp.: +4 °C
 [2306-91-4] • EC No. 218-004-8
 WGK 2

Type analysis:

Purity (GC). ≥93 %

4420.1	1 g	plastic	75,15 €

Capric acid methyl ester



Decanoic acid methyl ester, Methyldecanoate

$C_{11}H_{22}O_2$
 M 186,29 g/mol
 D 0,87 • bp 224 °C
 mp ~ -13 °C • flp 94 °C
 Storage temp.: +4 °C
 [110-42-9] • EC No. 203-766-6
 WGK 1

⚠ **Warning** H315

Capric acid methyl ester

>97 %, for synthesis

Type analysis:

Assay (GC). >97 %

3325.1	100 ml	glass	59,70 €

Capric acid methyl ester

ROTICHRON® GC

Reference substance for GC

Type analysis:

Purity (GC). ≥98 %

6709.1	1 g	plastic	75,15 €

Capric alcohol

► 1-Decanol see p. 1761

Capric aldehyde



Capric aldehyde

≥97 %, for synthesis

Decanal
 $C_{10}H_{20}O$
 M 156,27 g/mol
 D 0,83 • bp ~220 °C
 mp 7 °C • flp 88 °C
 [112-31-2] • EC No. 203-957-4
 WGK 2

⚠ **Warning** H315

Type analysis:

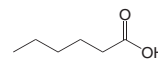
Assay (GC). ≥97 %

Density (d 20 °C/4 °C). 0,815-0,844

Stabilised with α-Tocopherol

7547.1	100 ml	glass	104,20 €

Caproic acid



Caproic acid

≥98 %, for synthesis

Hexanoic acid
 $C_6H_{12}O_2$
 M 116,16 g/mol
 D ~0,93 • bp 205 °C
 mp -2 °C
 [142-62-1] • EC No. 205-550-7
 UN No. 2829 • ADR 8 III • WGK 1
 ⚠ **Danger** H314-H302-H311

Type analysis:

Assay (GC). ≥98,0 %

Density (d 20 °C/4 °C). 0,921-0,932

8799.1	100 ml	glass	16,70 €

8799.3	500 ml	glass	28,50 €

8799.2	1 l	glass	48,60 €

Original pack 6 x 1 l 46,17/1 l

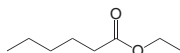
8799.4	2,5 l	glass	97,75 €

Original pack 4 x 2,5 l 92,86/2,5 l

Caproic acid allyl ester

► Allyl caproate see p. 1624

Caproic acid ethyl ester



Caproic acid ethyl ester

ROTICHRON® GC

Reference substance for GC

C₈H₁₆O₂

M 144,22 g/mol

D 0,87 • bp 168 °C

mp -67 °C • flp 51 °C

Solubility: 0,63 g/l (H₂O, 25 °C)

Storage temp.: +4 °C

[123-66-0] • EC No. 204-640-3

UN No. 3272 • ADR 3 III • WGK 1

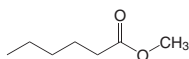
⚠ Warning H226

Type analysis:

Purity (GC) ≥98 %

6019.1	1 g	plastic	75,15 €

Caproic acid methyl ester



Caproic acid methyl ester

ROTICHRON® GC

Reference substance for GC

Methyl caproate, Hexanoic acid methyl ester

C₇H₁₄O₂

M 130,19 g/mol

D ~0,844 • bp 151 °C

mp -71 °C • flp 45 °C

Solubility: 1,33 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[106-70-7] • EC No. 203-425-1

UN No. 3272 • ADR 3 III • WGK 1

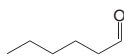
⚠ Warning H226

Type analysis:

Purity (GC) ≥97 %

6653.1	1 g	plastic	75,15 €

Caproic aldehyde



Hexanal

C₆H₁₂O

M 100,16 g/mol

D 0,81 • bp 119-124 °C

mp -56 °C • flp 25 °C

Solubility: 6 g/l (H₂O, 20 °C)

[66-25-1] • EC No. 200-624-5

UN No. 1207 • ADR 3 III • WGK 1

⚠ ⚠ Warning H226-H315-H319-H335

Caproic aldehyde

≥98 %, for synthesis

Type analysis:

Assay (GC) ≥98,0 %

Density (d 20 °C/4 °C) 0,813-0,820

3327.1	100 ml	glass	35,40 €

Caproic aldehyde

ROTICHRON® GC

Reference substance for GC

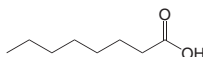
Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥94 %

6757.1	1 g	plastic	75,15 €

Caprylic acid



Caprylic acid

ROTICHRON® GC

Reference substance for GC

n-Octanoic acid

C₈H₁₆O₂

M 144,21 g/mol

D ~0,910 • bp 237 °C

mp 12-16 °C • flp 127 °C

Storage temp.: +4 °C

[124-07-2] • EC No. 204-677-5

UN No. 3265 • ADR 8 III • WGK 1

⚠ Danger H314

Type analysis:

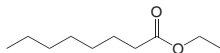
Purity (GC) ≥99 %

3168.1	1 g	glass	37,10 €

Caprylic acid

► Octanoic acid see p. 1999

Caprylic acid ethyl ester



Caprylic acid ethyl ester

ROTICHRON® GC

Reference substance for GC

C₁₀H₂₀O₂

M 172,27 g/mol

D 0,87 • bp 208 °C

mp -48 °C • flp 79 °C

Solubility: 0,07 g/l (H₂O, 25 °C)

Storage temp.: +4 °C

[106-32-1] • EC No. 203-385-5

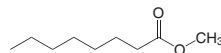
WGK 2

Type analysis:

Purity (GC) ≥99 %

6018.1	1 g	plastic	75,15 €

Caprylic acid methyl ester



Methyl caprylate, Octanoic acid methyl ester, Methyl octanoate

C₉H₁₈O₂

M 158,24 g/mol

D 0,88 • bp 193 °C

mp -37 °C • flp 69 °C

Storage temp.: +4 °C

[111-11-5] • EC No. 203-835-0

WGK 1

⚠ Warning H315

Caprylic acid methyl ester

≥99 %, for synthesis

Type analysis:

Appearance clear, almost colourless liquid

Assay (GC) ≥99 %

Density (d 20 °C/4 °C) 0,8760-0,8800

Refractive index n_D²⁰ 1,4150-1,4190

3331.1	10 ml	glass	23,90 €

Caprylic acid methyl ester

ROTICHRON® GC

Reference substance for GC

Type analysis:

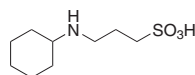
Purity (GC) ≥99 %

4349.1	1 g	plastic	75,15 €

Caprylic alcohol

► 1-Octanol see p. 1999

CAPS



CAPS

PUFFERAN® ≥99 %

Cyclohexylamino propanesulphonic acid

C₉H₁₉NO₃S

M 221,32 g/mol

[1135-40-6] • EC No. 214-492-1

Guarantee analysis:

Appearance white powder

Assay (N) ≥99,0 %

Water ≤1,0 %

pH value (1 % in H₂O) 4,9-6,0Solubility (5 % in H₂O) clear, solubleAbsorption (0,5 M in H₂O):

280 nm ≤0,1

250 nm ≤0,05

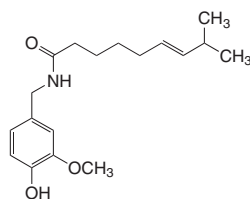
9168.1	25 g	plastic	17,45 €

9168.3	100 g	plastic	44,65 €

9168.2	250 g	plastic	106,45 €

For further information, please see page 1214

Capsaicin



Capsaicin

50 %, natural

 $C_{18}H_{27}NO_3$

M 305,42 g/mol • mp 62-65 °C

[404-86-4] • EC No. 206-969-8

UN No. 3462 • ADR 6.1 II • WGK 1

Danger

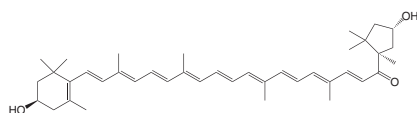
H301-H334-H318-H317-H335

Type analysis:

Appearance.....almost white to yellow crystals
 Capsaicin (HPLC).....≥50 %
 Dihydrocapsaicin.....≥20 %
 Loss on drying.....≤1,0 %

8804.1	100 mg	glass	89,15 €

Capsanthin



Capsanthin

ROTICHRON® TLC

Reference substance for thin layer chromatography

 $C_{40}H_{56}O_3$

M 584,85 g/mol

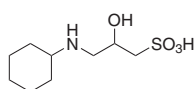
Storage temp.: -20 °C

Transport temp.: room temp.

[465-42-9] • EC No. 207-364-1

5674.1	1 mg	glass	256,95 €

CAPSO



CAPSO

PUFFERAN® ≥98 %

3-N-Cyclohexylamino-2-hydroxypropane sulphonic acid

 $C_9H_{19}NO_4S$

M 237,3 g/mol • mp 275 °C

Solubility: 100 g/l (H_2O , 20 °C)

[73463-39-5] • WGK 1

Guarantee analysis:

Assay (titr.).....≥98 %
 Water (KF).....≤1,0 %
 pH value (1 % solution).....5,0-6,5
 UV-Absorption (0,5 M in H_2O):
 280 nm.....≤0,05
 260 nm.....≤0,05

5584.3	25 g	plastic	26,70 €

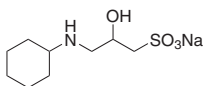
5584.1	100 g	plastic	81,20 €

5584.2	500 g	plastic	299,95 €

Original pack 6 x 500 g 284,95/500 g

For further information, please see page 1214

CAPSO sodium salt



CAPSO sodium salt

PUFFERAN® ≥95 %

3-N-Cyclohexylamino-2-hydroxypropane sulphonic acid sodium salt

 $C_9H_{18}NO_4NaS$

M 259,3 g/mol

[102601-34-3]

Type analysis:

Assay (titr.).....≥95 %
 Water (KF).....≤6,0 %
 pH value (1 % solution).....10,9-11,6

6861.1	25 g	plastic	25,70 €

For further information, please see page 1214

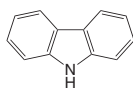
Carbamide

► Urea see p. 2232

Carbamoylurea

► Biuret see p. 1680

Carbazole



Carbazole

ROTI®CALIPURE

Melting point standard 243-247 °C

Dibenzopyrrole, Diphenylenimine, 9-Azafluorene

 $C_{12}H_9N$

M 167,21 g/mol

bp 351 °C

mp 243-247 °C

[86-74-8] • EC No. 201-696-0

UN No. 3077 • ADR 9 III • WGK 2

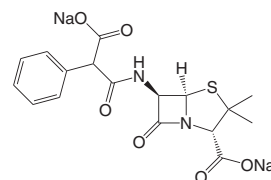
Warning H410

Type analysis:

Meniscus formation.....243-247 °C
 Complete liquefaction.....243-247 °C

9752.1	1 g	glass	27,85 €

Carbenicillin disodium salt



Carbenicillin disodium salt

≥98 %, for biochemistry

β-lactam antibiotic, semi synthetic penicillin

α-Carboxybenzyl penicillin disodium salt

 $C_{17}H_{16}N_2O_6SNa_2$

M 422,4 g/mol

D 0,7

Storage temp.: +4 °C

[4800-94-6]

WGK 2

Danger H334-H317

Type analysis:

Appearance.....white to nearly white powder
 Assay (HPLC).....≥98 %
 pH value (5 % in H_2O).....6,0-7,5
 Water.....≤6 %

6344.1	1 g	glass	26,35 €

6344.2	5 g	plastic	60,10 €

6344.3	25 g	plastic	274,15 €

For further information, please see page 1364

Carbide

► Aluminium carbide see p. 1626

► Calcium carbide see p. 1705

Carbinol

► Methanol see p. 1960

Carbohydrates (Saccharides)

Art. No.	Description	Page
4114	N-Acetyl-D-galactosamine	1610
8993	N-Acetyl-D-glucosamine	1610
5525	N-Acetyl-D-mannosamine	1611
7480	N-Acetylneuraminic acid	1611
8954	DL-Arabinose	1652
5118	L(+)-Arabinose	1652
5510	D(+)-Arabitol	1653
7738	L(-)-Arabitol	1653
5840	D(+)-Cellobiose	1723
5463	α-D-Cellobiose octaacetate	1723
3363	α-Chloralose	1728
4122	α-Cyclodextrin	1753
9916	2-Deoxy-D-galactose	1763
CN96	2-Deoxy-D-glucose	1763
CN97	2-Deoxy-D-ribose	1763
8718	Dextran 2,5	1765
7615	Dextran 6	1765
7616	Dextran 10	1765
7617	Dextran 20	1765
8943	Dextran 35	1765
7626	Dextran 40	1766
9227	Dextran 40	1765
9228	Dextran 70	1766
7618	Dextran 100	1766

7619	Dextran 150	1766
9233	Dextran 250	1766
9219	Dextran 500	1766
7610	Dextran sulphate 8 sodium salt	1766
7612	Dextran sulphate 40 sodium salt	1766
5956	Dextran sulphate 500 sodium salt	1767
6778	Dextrin	1767
6777	Dextrin	1767
3488	Dextrin	1767
4944	Dulcitol	1796
4981	D(-)-Fructose	1842
4982	D-Fructose-1,6-diphosphate trisodium salt octahydrate	1842
KK10	L(-)-Fucose	1842
7411	D-Galactosamine hydrochloride	1843
4987	D(+)-Galactose	1844
5550	α-D-Galactose-1-phosphate dipotassium salt pentahydrate	1844
4123	β-D-Gentiobiose	1848
3769	D(+)-Glucosamine hydrochloride	1854
X997	D(+)-Glucose	1854
HN06	D(+)-Glucose	1854
7509	L(-)-Glucose	1854
6780	D(+)-Glucose monohydrate	1854
6887	D(+)-Glucose monohydrate	1855
6119	α-D-Glucose-1-phosphate disodium salt tetrahydrate	1855
5544	D-Glucose-6-phosphate monosodium salt	1855
CN72	D-Glucose-6-phosphate disodium dihydrate	1855
4124	D-Glucuronic acid	1856
4355	D-Glucuronic acid sodium salt monohydrate	1856
HP51	Glycogen	1861
6329	meso-Inositol	1901
4191	meso-Inositol	1901
6884	Isomaltotriose	1910
8400	Isomaltulose	1911
8921	Lactose monohydrate	1921
6868	Lactose monohydrate	1921
CN98	Lactulose	1921
8951	D(+)-Maltose monohydrate	1947
4175	D(-)-Mannitol	1950
4220	D(+)-Mannose	1951
4222	D(+)-Melezitose monohydrate	1954
4223	D(+)-Melibiose monohydrate	1954
8356	1-O-Methyl-β-D-glucopyranoside	1967
8407	1-O-Methyl-β-D-glucuronic acid, sodium salt	1967
5241	D(+)-Raffinose pentahydrate	2078
4655	L(+)-Rhamnose monohydrate	2083
7168	D(-)-Ribose	2085
4621	D(+)-Saccharose	2116
4661	D(+)-Saccharose	2116
9286	D(+)-Saccharose	2116
9097	D(+)-Saccharose	1191
6213	D-Sorbitol	2164
4028	L(-)-Sorbitol	2164
6161	D-Tagatose	2195
5151	D(+)-Trehalose dihydrate	2216
9711	Xylitol	2247
5537	D(+)-Xylose	2247
4061	L-Xylose	2247

Carbol-Gentianaviolett solution

► Carbol gentian violet solution see p. 1715

Carbol gentian violet solution

Carbol gentian violet solution for microscopy

For Gram staining.

UN No. 1993 • ADR 3 III • WGK 2

⚠ Warning H226

Type analysis:

Suitability for microscopy..... complies

CN00.1	500 ml	glass	21,40 €

CN00.2	1 l	glass	30,65 €

Original pack 6 x 1 l 29,12/1 l

For further information, please see page 1395

Carbolic acid

► Phenol see p. 2034

Carbolic fuchsine solution

Carbolic fuchsine solution for microscopy

For bacterial staining (Gram staining and staining of acid-fast bacteria, e.g. TB bacteria acc. to Ziehl-Neelsen).

D 0,987

UN No. 1760 • ADR 8 II • WGK 2

⚠ ⚠ Danger H314-H341

A130.2	500 ml	glass	20,35 €

A130.1	1 l	glass	32,15 €

Original pack 6 x 1 l 30,54/1 l

For further information, please see page 1395

Carbonic acid diethyl ester

► Diethyl carbonate see p. 1773

Carbonic acid dimethyl ester

► Dimethyl carbonate see p. 1783

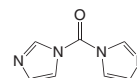
Carbonic acid diphenyl ester

► Diphenyl carbonate see p. 1788

N-(Na-Carbonyl-Arg-Val-Arg-al)-Phe dihydrochloride

► Antipain dihydrochloride see p. 1651

1,1'-Carbonyldiimidazole (CDI)



1,1'-Carbonyldiimidazole (CDI)

≥98 %

Activation agent for carboxylic acids. Coupling reagent for peptide synthesis.

CDI

C₇H₆N₄O

M 162,1 g/mol

mp 116-120 °C

[530-62-1] • EC No. 208-488-9

UN No. 3263 • ADR 8 III • WGK 1

⚠ ⚠ Danger H302-H314

Type analysis:

Appearance..... colourless to white powder

Assay (HPLC)..... ≥98 %

Water (KF)..... ≤0,5 %

6992.1	10 g	glass	25,30 €

6992.2	25 g	glass	46,15 €

6992.3	100 g	glass	104,85 €

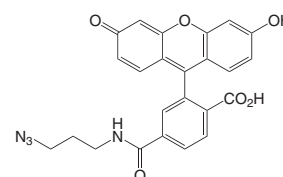
6992.4	500 g	glass	418,20 €

Original pack 6 x 500 g 397,29/500 g

Carbowax

► Polyethylene glycol see p. 2046

6-Carboxyfluorescein Azide (6-FAM-Azide)



6-Carboxyfluorescein Azide (6-FAM-Azide)

≥95 %

Fluorescent dye

4-((3-Azidopropyl)carbamoyl)-2-(6-hydroxy-3-oxo-3H-xanthen-9-yl)benzoic acid, 6-FAM-Azide

C₂₄H₁₈N₄O₆

M 458,43 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

WGK 3

Type analysis:

Appearance..... orange solid

Assay (HPLC)..... ≥95 %

Absorption max. (buffer, pH 9)..... 496 nm

Emission max. (buffer, pH 9)..... 516 nm

molar extinction coefficient ε..... 83 000 cm⁻¹M⁻¹

Solubility..... DMSO, DMF, MeOH

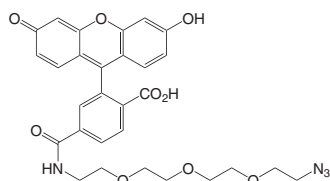
7806.1	1 mg	plastic	41,85 €

7806.2	5 mg	plastic	71,95 €

7806.3	10 mg	plastic	109,15 €

7806.4	100 mg	plastic	424,65 €

6-Carboxyfluorescein-PEG3-Azide (6-FAM-PEG3-Azide)



6-Carboxyfluorescein-PEG3-Azide (6-FAM-PEG3-Azide)

≥96 %

Fluorescent dye

4-((2-(2-(2-Azidoethoxy)ethoxy)ethoxy)ethyl)carbamoyl)-2-(6-hydroxy-3-oxo-3H-xanthen-9-yl)benzoic acid, 6-FAM-PEG3-Azide

C₂₉H₂₈N₄O₉

M 576,55 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

WGK 3

Type analysis:

Appearance.....orange solid
Assay (HPLC).....≥96 %
Absorption max. (buffer, pH 9).....496 nm
Emission max. (buffer, pH 9).....516 nm
molar extinction coefficient ε.....83 000 cm⁻¹M⁻¹
Solubility.....DMSO, DMF, MeOH
For a 10 mM solution: add 173 µl to 1 mg.

7812.1	1 mg	plastic	122,45 €
7812.2	5 mg	plastic	465,50 €

2-Carboxy-2'-hydroxy-5'-sulfoformazyl-benzene-monosodium salt

► Zincon see p. 2252

Carboxylic acid C18

► Stearic acid see p. 2183

Carboxymethylcellulose sodium salt

Sodium carboxymethylcellulose

[9004-32-4]

WGK 1

Carboxymethylcellulose sodium salt

≥99,5 %, powdered

Type analysis:

Active assay (dry substance).....≥99,5 %
Moisture.....≤10,0 %
Heavy metals.....≤0,002 %
Degree of substitution.....0,75-0,85 %
pH value (1 %, H₂O).....6,5-8,0
Viscosity (Brook., 1 %, 25 °C).....1000-1500 mPa s

3333.1	250 g	plastic	32,15 €
3333.2	1 kg	plastic	95,70 €
Original pack 6 x 1 kg			90,92/1 kg

Carboxymethylcellulose sodium salt

≥98 %, granulated

Used as binder, thickener and dispersing agent.

Type analysis:

Active assay.....≥98,0 %
Moisture.....≤8,0 %
Sodium (Na).....7,0-8,9 %
Degree of substitution.....0,65-0,90
pH value (1 %, H₂O).....6,5-8,5
Viscosity (2 % solution).....1500-3100 mPa s

6190.1	250 g	plastic	22,80 €
6190.2	1 kg	plastic	73,65 €
Original pack 6 x 1 kg			69,97/1 kg

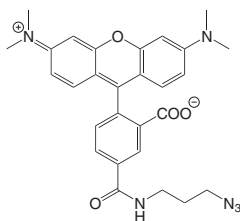
N-[N-(L-3-trans-Carboxy-oxirane-2-carbonyl)leucyl]-agmatine

► E-64 see p. 1796

α-Carboxypenicillin Disodium

► Carbenicillin disodium salt see p. 1714

5-Carboxytetramethyl-rhodamine Azide (5-TAMRA-Azide)



5-Carboxytetramethyl-rhodamine Azide (5-TAMRA-Azide)

≥95 %

Fluorescent dye

5-((3-Azidopropyl)carbamoyl)-2-(6-(dimethylamino)-3-(dimethyliminio)-3H-xanthen-9-yl)benzoate, 5-TAMRA-Azide

C₂₈H₂₈N₆O₄

M 512,56 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1192590-89-8]

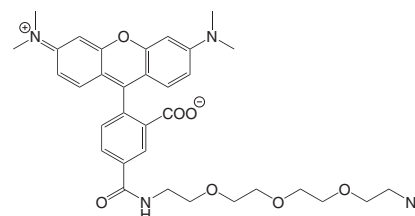
WGK 3

Type analysis:

Appearance.....dark red solid
Assay (LCMS).....≥95 %
Absorption max. (DMF).....546 nm
Emission max. (DMF).....579 nm
molar extinction coefficient ε.....91 000 cm⁻¹M⁻¹
Solubility.....DMSO, DMF, MeOH
For a 10 mM solution: add 195 µl to 1 mg.

7807.1	1 mg	plastic	41,85 €
7807.2	5 mg	plastic	71,95 €
7807.3	10 mg	plastic	109,15 €
7807.4	100 mg	plastic	424,65 €

5-Carboxytetramethyl-rhodamine-PEG3-Azide (5-TAMRA-PEG3-Azide)



5-Carboxytetramethyl-rhodamine-PEG3-Azide (5-TAMRA-PEG3-Azide)

≥95 %

Fluorescent dye

5-((2-(2-(2-Azidoethoxy)ethoxy)ethoxy)ethyl)carbamoyl)-2-(6-(dimethylamino)-3-(dimethyliminio)-3H-xanthen-9-yl)benzoate, 5-TAMRA-PEG3-Azide

C₃₃H₃₈N₆O₇

M 630,69 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1380486-02-1]

WGK 3

Type analysis:

Appearance.....dark red solid
Assay (HPLC).....≥95 %
Absorption max. (DMF).....546 nm
Emission max. (DMF).....579 nm
molar extinction coefficient ε.....91 000 cm⁻¹M⁻¹
Solubility.....DMSO, DMF, MeOH, Water (low)
For a 10 mM solution: add 158 µl to 1 mg.

7808.1	1 mg	plastic	41,85 €
7808.2	5 mg	plastic	71,95 €
7808.3	10 mg	plastic	109,15 €
7808.4	100 mg	plastic	424,65 €

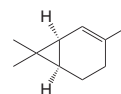
α-Carboxy-α-3-thienylmethyl-penicillin disodium salt

► Ticarcillin disodium salt see p. 2210

Cardiogreen

► Indocyanine green see p. 1899

(+)-2-Carene



(+)-2-Carene

ROTICHRON® GC

Reference substance for GC

C₁₀H₁₆

M 136,23 g/mol

D ~0,862 • bp 167-168 °C

flp 38 °C

Storage temp.: +4 °C

[4497-92-1] • EC No. 224-792-4

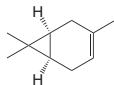
UN No. 2319 • ADR 3 III

Warning H226

Type analysis:

Purity (GC)..... ≥93 %

4952.1 1 g plastic 75,15 €

δ-3-Carene**δ-3-Carene****ROTICHRON® GC**

Reference substance for GC

C₁₀H₁₆

M 136,23 g/mol

D ~0,864 • bp 166-170 °C

flp 43 °C

Storage temp.: +4 °C

[13466-78-9] • EC No. 236-719-3

UN No. 2319 • ADR 3 III • WGK 2

Danger

H304-H226-H315-H317-H412

Type analysis:

Purity (GC)..... ≥90 %

3572.1 1 g plastic 36,45 €

Carmine (C.I. 75470)**Carmine (C.I. 75470)****for microscopy**

Karmin

C₂₂H₂₀O₁₃

M 492,38 g/mol

[1390-65-4] • EC No. 215-724-4

WGK 1

Type analysis:

Suitability for microscopy..... complies

Absorption max. (in H₂O)..... 525-535 nm

Loss on drying (110 °C)..... ≤5,0 %

6859.1 10 g glass 41,40 €

6859.2 25 g glass 85,90 €

For further information, please see page 1397

Carmoisine

► Chromotrope® FB (C.I. 14720) see p. 1735

Carnauba wax**Carnauba wax****natural-coloured flakes**

Cera Carnauba

D ~0,99

mp 81-86 °C

[8015-86-9] • EC No. 232-399-4

Type analysis:

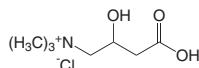
Appearance..... light yellow flakes

Drop point..... 81-86 °C

Acid value (mg KOH/g)..... 2-7

3514.1 1 kg plastic 46,15 €

Original pack 6 x 1 kg 43,84/1 kg

DL-Carnitinchloride**DL-Carnitinchloride****≥98 %, for biochemistry**

Bicarnesin HCl, (±)-Carnitin hydrochloride

C₇H₁₅O₃N • HCl

M 197,66 g/mol

mp 197-199 °C

[461-05-2] • EC No. 207-309-1

WGK 1

Warning H315-H319-H335
Type analysis:

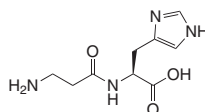
Appearance..... white, fine crystals

Assay..... ≥98,0 %

7212.1 25 g plastic 54,30 €

(±)-Carnitin hydrochloride

► DL-Carnitinchloride see p. 1717

L-Carnosine**L-Carnosine****≥98 %, for biochemistry**

N-β-Alanyl-L-histidine, H-β-Ala-His-OH

C₉H₁₄N₄O₃

M 226,24 g/mol

mp ~250 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[305-84-0] • EC No. 206-169-9

WGK 2

Type analysis:

Assay (titr.)..... ≥98 %

Solution (2 % in H₂O)..... colourless, clear

Water (KF)..... ≤1,0 %

Specific rotation [α]_D²⁰ (c=2 in H₂O)..... +21,0° ±1°

Heavy metals (as Pb)..... ≤0,001 %

4148.1 1 g glass 24,20 €

4148.2 5 g glass 79,05 €

Ψ,Ψ-Carotene

► Lycopene see p. 1940

Carotene**Carotene****Natural, oil-soluble, liquid, E-161 b**Carotenoids from *Tagetes erecta*C₄₀H₅₆

M 536,89 g/mol

D 1,0

mp 183 °C • flp 103 °C

Storage temp.: +4 °C

[7235-40-7] • EC No. 230-636-6

WGK 1

Type analysis:

Appearance..... red-brown liquid

Dye content..... ≥2,5 % lutein

Solubility..... completely soluble in cooking-oils

Water (KF)..... ≤1 %

Density (20 °C)..... 0,92-0,94

Viscosity (20 °C/Brookfield)..... ≤300 mPa s

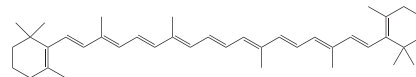
Intensity of colour (in dichloromethane/ethanol):

Intensity of colour E/1 %/450 nm..... 69-73

Arsenic (As)..... ≤0,0003 %

Lead (Pb)..... ≤0,0002 %

7864.1 250 g glass 38,60 €

β-Carotene**β-Carotene****ROTICHRON® ~CHR**C₄₀H₅₆

M 536,89 g/mol

D 1,0

mp 1863 °C • flp 103 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[7235-40-7] • EC No. 230-636-6

WGK 1

5669.1 10 mg glass 209,65 €

β-β-Carotene-3-ol

► β-Cryptoxanthin see p. 1750

Carotinoids

Art. No.	Description	Page
5674	Capsanthin	1714
5669	β-Carotene	1717
5675	β-Cryptoxanthin	1750
4452	Helenien	1868
5671	Lutein	1939
1180	Lycopene	1940
5670	Lycopene	1940
5673	Physalien	2041
5672	Zeaxanthin	2250

Carrageenan, iota

Carrageenan, iota

acc. to FAO/WHO, EEC, FCC, highly pure

Weakly gelling Carrageenan of iota type. Forms soft gels. For gelling of watery liquids like culture media for plants or animals in general, and for gelling of dairy products in particular. Manufactured from cultured and controlled sea weeds.

Carrageenan E407

[9062-07-1] • EC No. 232-949-3

Guarantee analysis:

Appearance	white-pale tan
Viscosity (in milk)	2000-3500 mPa s
Particle size (98 %)	<0,149 mm
Loss on drying	<12 %
Arsenic (As)	<3 ppm
Lead (Pb)	<5 ppm
Cadmium (Cd)	<2 ppm
Mercury (Hg)	<1 ppm
Heavy metals	<20 ppm
pH value	7,0-11,0
Microbiological Analysis	complies

3675.1	25 g	plastic	21,00 €

3675.2	100 g	plastic	53,65 €

3675.3	500 g	plastic	186,00 €

Original pack 6 x 500 g 176,70/500 g

For further information, please see page 1362

Carrageenan, kappa

Carrageenan, kappa

acc. to FAO/WHO, EEC, FCC, highly pure

Strongly gelling Carrageenan of kappa type. Forms gels of high gel strength. For gelling of watery liquids like e.g. culture media for plants or animals. Manufactured from cultured and controlled sea weeds.

Carrageenan E407

[11114-20-8] • EC No. 234-350-2

Guarantee analysis:

Appearance	white-pale tan
Gel strength (1,5 %, aqueous)	1200-1800 g/cm ²
Particle size (99 %)	<0,25 mm
Loss on drying	<12 %
Arsenic (As)	<3 ppm
Lead (Pb)	<5 ppm
Cadmium (Cd)	<2 ppm
Mercury (Hg)	<1 ppm
Heavy metals	<20 ppm
pH value	7,0-11,0
Microbiological Analysis	complies
Contains KCl	

3059.1	25 g	plastic	21,00 €

3059.2	100 g	plastic	53,65 €

3059.3	500 g	plastic	186,00 €

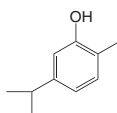
Original pack 6 x 500 g 176,70/500 g

For further information, please see page 1362

Carrier Ampholyte

▶ Roti[®]lyte Carrier Ampholyte see p. 2102

Carvacrol



Carvacrol

≥97 %

5-Isopropyl-2-methyl-phenol, Isothymol, 2-Hydroxy-p-cymene

C₁₀H₁₄O

M 150,21 g/mol

D 0,98 • bp 236-238 °C

mp 3-4 °C

Solubility: 1,25 g/l (H₂O, 25 °C)

[499-75-2] • EC No. 207-889-6

UN No. 3265 • ADR 8 III • WGK 1

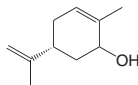
⚠ Warning H302-H315-H319

Type analysis:

Appearance	colourless liquid
Assay (GC)	≥97,0 %
Density (d 20 °C/4 °C)	0,976-0,978

8808.1	10 ml	glass	30,35 €

(-)-Carveol



(-)-Carveol

97 %, mixture of isomers

p-Mentha-6,8-dien-2-ol

C₁₀H₁₆O

M 152,24 g/mol

D 0,958 • bp 226-227 °C

flp 98 °C

[99-48-9] • EC No. 202-757-4

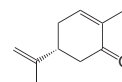
⚠ Warning H315-H319-H335

Type analysis:

Assay (GC)	≥96,5 %
Appearance	clear, colourless liquid
Specific rotation [α] _D ²⁰ (c=1 % in CHCl ₃)	-112° ±5°

7219.1	5 g	glass	71,50 €

(-)-Carvone

C₁₀H₁₄O

M 150,22 g/mol

D 0,92 • bp 230-231 °C

flp 88 °C

Solubility: insoluble (H₂O, 20 °C)

Storage temp.: +4 °C

[6485-40-1] • EC No. 229-352-5

WGK 2

⚠ Warning H302

(-)-Carvone

ROTICHRON[®] GC

Reference substance for GC

Type analysis:

Purity (GC) ≥98 %

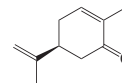
5286.1	1 g	plastic	75,15 €

(-)-Carvone

ROTICHRON[®] ~CHR

8811.1	100 ml	glass	47,20 €

(+)Carvone



(+)Carvone

ROTICHRON[®] GC

Reference substance for GC

C₁₀H₁₄O

M 150,22 g/mol

D ~0,960 • bp 229 °C

flp 89 °C

Solubility: 1,3 g/l (H₂O, 18 °C)

Storage temp.: +4 °C

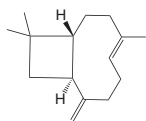
[2244-16-8] • EC No. 218-827-2

WGK 1

Type analysis:

Purity (GC) ≥94 %

6947.1	1 g	plastic	75,15 €

β-Caryophyllene**β-Caryophyllene****ROTICHRON® GC**

Reference substance for GC

C₁₅H₂₄

M 204,36 g/mol

D 0,89 • bp 260-261 °C

flp >100 °C

Storage temp.: +4 °C

[87-44-5] • EC No. 201-746-1

WGK 1

Type analysis:

Purity (GC)..... ≥95 %

7232.1	1 g	plastic	75,15 €

Caryophyllin

► Oleonic acid see p. 2012

Casamino acids

► Casein hydrolysate see p. 1719

Casein**Casein**

≥95 %, soluble in alkalis

Solubility: 20 g/l (H₂O, 25 °C)

[9000-71-9] • EC No. 232-555-1

Type analysis:

Assay (ex N, dry substance)..... ≥95 %

Ash content (800 °C)..... ≤3 %

Loss on drying (105 °C)..... ≤10 %

Free acid (as lactic acid)..... ≤1,5 %

Particle size (<315 µm)..... ≥95 %

Fat..... ≤1,0 %

Glucose (TLC)..... ≤0,2 %

Lactose (TLC)..... ≤0,5 %

Microbiological assay..... complies

7555.2	100 g	plastic	23,90 €

7555.1	500 g	plastic	96,25 €

Original pack 6 x 500 g			91,44/500 g

Casein hydrolysate

Casamino acids

Solubility: 310 g/l (H₂O, 23 °C)

Storage temp.: +20 °C

[65072-00-6] • EC No. 265-363-1

WGK 1

Casein hydrolysate, bacteriological

for biochemistry, acidic hydrolysate

Type analysis:

Total nitrogen..... 7,0-8,0 %

pH value..... 4,5-6,0

Loss on drying..... <6 %

Ratio AN/TN..... 56-93 %

A157.3	250 g	plastic	84,85 €

A157.1	500 g	plastic	130,10 €

Original pack 6 x 500 g			123,60/500 g

A157.2	1 kg	plastic	239,20 €

Original pack 6 x 1 kg			227,24/1 kg

For further information, please see page 1356

Casein hydrolysate, standard

for molecular biology, acidic hydrolysate

Ingredient of molecular and microbiological nutrient media, vitamin-free.

Type analysis:

Total nitrogen..... ≥5,0 %

Amino nitrogen..... ≥3,5 %

Ratio AN/TN..... ≥56 %

Ash content..... ≤45 %

pH value (2 % solution)..... 6,5-7,5

AE41.1	500 g	plastic	63,45 €

Original pack 6 x 500 g			60,28/500 g

AE41.2	1 kg	plastic	112,35 €

Original pack 6 x 1 kg			106,73/1 kg

For further information, please see page 1356

Casein peptone Lecithin Polysorbate Broth

► TAT Broth (Base) see p. 2197

Casein-sodium

► Sodium-Casein see p. 2143

CASO Agar**CASO Agar**

Ph.Eur., for microbiology

For isolation and cultivation of non-fastidious organisms.

Application: Use 40 g for 1 l agar.

Agar medium B (Ph.Eur. 6.0), Casein Soya

Bean Digest Agar (Ph.Eur. 6.3, 7.0 and 8.0), Soy

Peptone Agar, **TSB Agar**, Trypticasein Soy

Agar

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Casein peptone (pancreas hydrolysate)..... 15 g/l

Soy peptone (papain hydrolysate)..... 5 g/l

Sodium chloride (NaCl)..... 5 g/l

Agar..... 15 g/l

pH value..... 7,3 ±0,2

X937.1	500 g	plastic	66,15 €

Original pack 6 x 500 g			62,84/500 g

X937.2	1 kg	plastic	117,75 €

Original pack 6 x 1 kg			111,86/1 kg

X937.3	2,5 kg	plastic	231,15 €

For further information, please see page 1319

CASO Agar with Lecithin/Polysorbate 80**CASO Agar with Lecithin/Polysorbate 80**

for microbiology

For detection of microorganisms from cosmetics and disinfected surfaces.

Application: Use 45,7 g for 1 l agar.

TSA Letheen, Tryptone Soy Agar Letheen,

TSA with Tween® 80 and Lecithin

Storage temp.: +20 °C

WGK 1

Formulation:

Pancreatic digest of casein..... 15 g/l

Soy peptone..... 5 g/l

Sodium chloride (NaCl)..... 5 g/l

Lecithin..... 0,7 g/l

Polysorbate 80..... 5 g/l

Agar..... 15 g/l

pH value..... 7,2 ±0,2

8848.1	500 g	plastic	105,35 €

Original pack 6 x 500 g			100,08/500 g

For further information, please see page 1320

CASO Broth

Storage temp.: +20 °C

WGK 1

CASO Broth

Ph.Eur., for microbiology

For cultivation of fastidious and non-fastidious microorganisms.

Application: Use 30 g for 1 l broth.

Broth medium A (Ph.Eur. 6.0), Casein Soya Bean Digest Broth (Ph.Eur. 6.3, 7.0 and 8.0), Soy Peptone Broth, **TSB Broth**, Tryptic Soy Broth

Guarantee analysis:

Casein peptone (pancreas hydrolysate) 17 g/l
 Soy peptone (papain hydrolysate) 3 g/l
 di-Potassium hydrogen phosphate 2,5 g/l
 Sodium chloride (NaCl) 5 g/l
 Glucose monohydrate 2,5 g/l
 pH value 7,3 ±0,2

X938.1	500 g	plastic	64,40 €
Original pack 6 x 500 g			61,18/500 g
X938.2	1 kg	plastic	105,90 €
Original pack 6 x 1 kg			100,61/1 kg
X938.3	2,5 kg	plastic	206,40 €

For further information, please see page 1319

CASO Broth, granulated
granulated, Ph.Eur., for microbiology

For cultivation of fastidious and non-fastidious microorganisms.

Application: Use 30 g for 1 l broth.

Broth medium A (Ph.Eur. 6.0), Casein Soya Bean Digest Broth (Ph.Eur. 6.3, 7.0 and 8.0), Soy Peptone Broth, **TSB Broth**, Tryptic Soy Broth

Guarantee analysis:

Casein peptone (pancreas hydrolysate) 17 g/l
 Soy peptone (papain hydrolysate) 3 g/l
 di-Potassium hydrogen phosphate 2,5 g/l
 Sodium chloride (NaCl) 5 g/l
 Glucose monohydrate 2,5 g/l
 pH value 7,3 ±0,2
 Granulation complies

6678.1	500 g	plastic	96,25 €
Original pack 6 x 500 g			91,44/500 g
6678.2	1 kg	plastic	152,15 €
Original pack 6 x 1 kg			144,54/1 kg

For further information, please see page 1319

CASO Broth vegetal
for molecular biology, animal-free

For cultivation of fastidious and non-fastidious microorganisms.

Application: Use 30 g for 1 l broth.

Soy Peptone Broth, **TSB Broth**, Tryptic Soy Broth

Formulation:

Vegetable peptone 20 g/l
 di-Potassium hydrogen phosphate 2,5 g/l
 Sodium chloride (NaCl) 5 g/l
 Glucose 2,5 g/l
 pH value 7,3 ±0,2

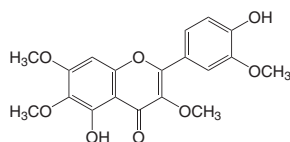
0139.1	500 g	plastic	77,95 €
Original pack 6 x 500 g			74,05/500 g

For further information, please see page 1319

Cassic acid

► Rhein see p. 2084

Casticin



Vitexicarpin

C₁₉H₁₈O₈

M 374,32 g/mol

[479-91-4]

WGK 3

Casticin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %
 Residual solvents (GC) ≤1,0 %
 Water (KF) ≤1,0 %
 Assay (qNMR) ≥90,0 %
 Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE39.1	10 mg	glass	783,70 €

Casticin

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC) ≥85,0 %
 Identity complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC39.1	25 mg	glass	467,65 €

Casticin

ROTICHROM® HPLC

Reference substance for HPLC

From *Vitex agnus castus*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC) >98 %

1126.1	20 mg	glass	413,90 €

Castor oil

Castor oil

Ph.Eur., nativ, extra pure

Oleum Ricini

D 0,95 • bp >350 °C

mp -10 to -18 °C • flp 229 °C

[8001-79-4] • EC No. 232-293-8

WGK 1

Guarantee analysis:

Appearance clear, colourless to yellowish oil
 Identity complies
 Relative density (20 °C) 0,952-0,965
 Refractive index (20 °C) 1,477-1,481
 Optical rotation +3,5° to +6,0°
 Absorption (270 nm) ≤0,7
 Acid value ≤1,5 mg KOH/g
 Peroxide value ≤10 meq O₂/kg
 Unsaponifiable matter ≤0,8 %
 Iodine value 82-90 g I₂/100 g
 Water ≤0,3 %
 Hydroxyl value ≥160 mg KOH/g
 GC-fatty acid constituents:
 C 16:0 Palmitic acid ≤2,0 %

C 18:0 Stearic acid ≤2,5 %
 C 18:1 Oleic acid 2,5-6,0 %
 C 18:1 Ricinoleic acid 85,0-92,0 %
 C 18:2 Linoleic acid 2,5-7,0 %
 C 18:3 Linolenic acid ≤1,0 %
 C 20:1 Eicosenoic acid ≤1,0 %
 Foreign oils (Ph.Eur.) ≤1,0 %

4702.1	1 l	glass	26,80 €
Original pack 6 x 1 l			25,46/1 l
4702.3	2,5 l	glass	47,20 €
Original pack 4 x 2,5 l			44,84/2,5 l
4702.4	5 l	plastic	78,40 €
Original pack 2 x 5 l			74,48/5 l
4702.2	10 l	plastic	147,85 €

Catalase

Catalase

≥11 700 U/mg material
(approx. 40 000 U/mg protein)

From bovine liver, freeze-dried

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-05-2] • EC No. 232-577-1

WGK 1

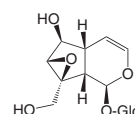
Type analysis:

Appearance brown green material
 Activity ≥11 700 U/mg material

6025.1	5 MU	plastic	138,70 €

For further information, please see page 1221

Catalpol



Catalpol

ROTICHROM® HPLC

Reference substance for HPLC

From *Picrorhiza kurroa*.C₁₅H₂₂O₁₀

M 362,33 g/mol

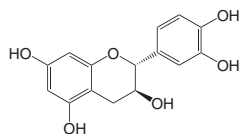
Storage temp.: +4 °C

[2415-24-9] • EC No. 219-324-0

Type analysis:

Purity (HPLC) >99 %

1127.1	25 mg	glass	267,70 €

(+)-Catechin

(+)-Catechol
 $C_{15}H_{14}O_6$
 M 290,28 g/mol
 mp 173-177 °C
 Storage temp.: +4 °C
 [154-23-4] • EC No. 205-825-1
 WGK 1

⚠ **Warning** H315-H319-H335

(+)-Catechin

≥98 %

From *Camellia sinensis*.

Type analysis:

Assay (HPLC) ≥98,0 %

6356.1	10 mg	glass	134,95 €

(+)-Catechin

ROTICHROM® ~CHR

From *Camellia sinensis*.

6200.1	1 g	glass	30,65 €

DL-Catechin hydrate**DL-Catechin hydrate**

>96 %, for biochemistry

trans-3,3',4',5,7-Pentahydroxyflavan

$C_{15}H_{14}O_6 \cdot x H_2O$

M 290,28 + x H₂O g/mol

mp 200 °C

[7295-85-4] • EC No. 230-731-2

WGK 1

⚠ **Warning** H315-H319-H335

Type analysis:

Appearance light beige powder

Assay (HPLC) ≥96 %

8822.1	1 g	glass	105,25 €

Catechins / Tannins

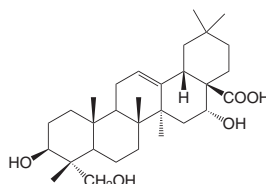
Art. No.	Description	Page
6356	(+)-Catechin	1721
6200	(+)-Catechin	1721
8822	DL-Catechin hydrate	1721
7293	(-)-Epicatechin	1805
NE41	(-)-Epicatechin	1805
NC41	(-)-Epicatechin	1805
1139	(-)-Epicatechin	1805
5798	(-)-Epicatechin	1805
6358	(-)-Epicatechin gallate	1805
6361	(-)-Epigallocatechin gallate	1805
4480	(-)-Gallocatechin	1845
1151	Hamamelitannin	1866
2726	Tannic acid	2196
4239	Tannic acid	2196

(+)-Catechol

▶ (+)-Catechin see p. 1721

Cation exchanger

▶ Dowex® Cation exchanger see p. 1795

Caulophyllogenin**Caulophyllogenin**

ROTICHROM® HPLC

Reference substance for HPLC

$C_{30}H_{48}O_5$

M 488,71 g/mol

mp >300 °C

Storage temp.: +4 °C

[52936-64-8] • EC No. 258-265-5

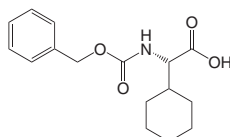
Type analysis:

Purity (HPLC) ≥99 %

7439.1	5 mg	glass	461,20 €

Caulosapogenin

▶ Hederagenin see p. 1868

Cbz-cyclohexyl-L-glycine**Cbz-cyclohexyl-L-glycine**

≥98 %, for biochemistry

Cbz-L-Chg-OH

$C_{16}H_{21}NO_4$

M 291,34 g/mol

mp 111 °C

Storage temp.: +4 °C

[69901-75-3]

WGK 1

Type analysis:

Assay (HPLC) ≥98,0 %

Water (KF) ≤1,0 %

6636.1	500 mg	glass	30,00 €

6636.2	1 g	glass	53,25 €

6636.3	5 g	glass	177,40 €

Cbz-L-Chg-OH

▶ Cbz-cyclohexyl-L-glycine see p. 1721

CCA

▶ Coliforms chromogenic Agar (ISO)
 see p. 1742

CCDA Supplement

▶ Campylobacter Supplement see p. 1711

CDI

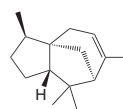
▶ 1,1'-Carbonyldiimidazole (CDI)
 see p. 1715

CDTA

▶ trans-1,2-Diaminocyclohexane-
 N,N,N',N'-tetracetic acid monohydrate
 see p. 1768

CdTe

▶ Quantum Dots, hydrophilic see p. 2075

(-)-α-Cedrene**(-)-α-Cedrene**

ROTICHROM® GC

Reference substance for GC

$C_{15}H_{24}$

M 204,35 g/mol

D ~0,932 • bp 261-262 °C

flp 104 °C

Storage temp.: +4 °C

[469-61-4] • EC No. 207-418-4

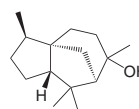
UN No. 3082 • ADR 9 III • WGK 2

⚠ **Warning** H400-H410-H315-H319

Type analysis:

Purity (GC) ≥96 %

8908.1	100 mg	plastic	181,70 €

Cedrol**Cedrol**

ROTICHROM® GC

Reference substance for GC

$C_{15}H_{26}O$

M 222,37 g/mol

mp 86-87 °C

Storage temp.: +4 °C

[77-53-2] • EC No. 201-035-6

WGK 2

Type analysis:

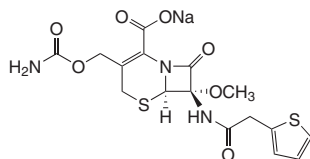
Purity (GC) ≥94 %

3235.1	1 g	plastic	75,15 €

Cefomonil

▶ Cefsulodin sodium salt see p. 1722

Cefoxitin sodium salt



Cefoxitin sodium salt

≥98 %, for biochemistry
Cephalosporin-antibiotic
 $C_{16}H_{16}N_3NaO_7S_2$
M 449,43 g/mol
mp >160 °C
Solubility: 50 g/l
Storage temp.: +4 °C
[33564-30-6] • EC No. 251-574-6
WGK 1

Danger H334-H335-H315-H319-H317

Type analysis:

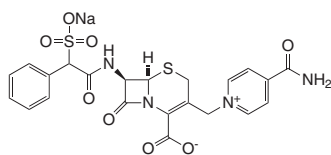
Assay (HPLC) ≥98 %
Solution (1 % in H_2O) colourless to light yellowish
Water (KF) ≤2,0 %
Spec. rotation $[\alpha]_D^{20}$ (c=1 in methanol) +203° to +214°
pH value (10 % in water) 4,2-7,0
Heavy metals (as Pb) ≤0,002 %

4156.1 250 mg glass 47,85 €

4156.2 500 mg glass 76,90 €

For further information, please see page 1364

Cefsulodin sodium salt



Cefsulodin sodium salt

≥97 %, for biochemistry
Cephalosporin-antibiotic
Cefomonil, Pseudocef
 $C_{22}H_{19}N_4O_8S_2Na$
M 554,53 g/mol
Solubility: 50 mg/l (H_2O , 20 °C)
Storage temp.: -20 °C
Transport temp.: room temp.
[52152-93-9] • EC No. 257-692-4
WGK 1

Danger H334-H335-H315-H319-H317

Type analysis:

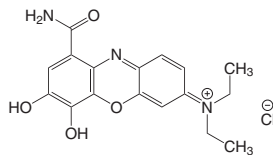
Assay ≥97 %
Solution (5 % in water) yellowish, clear
Water (KF) ≤4 %
pH value (c=2 in water) 3,3-4,8
Spec. rotation $[\alpha]_D^{20}$ (c=1 in water) +15,5° to +18,5°

4014.1 100 mg glass 47,85 €

4014.2 250 mg glass 83,75 €

For further information, please see page 1364

Celestine blue (C.I. 51050)



Celestine blue (C.I. 51050)

for microscopy
 $C_{17}H_{18}ClN_2O_4$
M 363,80 g/mol
mp 227-230 °C
[1562-90-9] • EC No. 216-346-2 • WGK 3

Type analysis:

Appearance black to dark brown powder
Appearance of solution (0,1 % in H_2O) dark blue to dark purple

7646.1 5 g glass 22,50 €

7646.2 25 g glass 81,60 €

7646.3 100 g glass 278,45 €

For further information, please see page 1398

Celite®

[68855-54-9] • EC No. 272-489-0

Celite® 503

filter aid on silicate basis
Flux calcinated white diatoms

Type analysis:

Wet density ≤345 g/l
Sieve residue (150 mesh) ≤16,5 %
Permeability (Darcy) 1,27-2,4

0007.2 1 kg plastic 23,90 €

Original pack 6 x 1 kg 22,71/1 kg

0007.1 2,5 kg plastic 48,30 €

Celite® 535

filter aid on silicate basis
Flux calcinated white diatoms

Type analysis:

Wet density ≤370 g/l
Sieve residue (150 mesh) ≤25 %
Permeability (Darcy) 1,8-3,9

0009.2 1 kg plastic 18,50 €

Original pack 6 x 1 kg 17,58/1 kg

0009.1 2,5 kg plastic 37,55 €

Celite® 545

filter aid on silicate basis
Flux calcinated white diatoms

Type analysis:

Wet density ≤480 g/l
Sieve residue (150 mesh) ≤30 %
Permeability (Darcy) 3,5-5,5

0011.3 250 g plastic 11,00 €

0011.2 1 kg plastic 21,00 €

Original pack 6 x 1 kg 19,95/1 kg

0011.1 2,5 kg plastic 30,00 €

0011.4 10 kg plastic 88,70 €

0011.5 25 kg plastic 166,65 €

Celite® Hyflo Super Cel®

filter aid on silicate basis
Flux calcinated white diatoms

Type analysis:

Wet density ≤345 g/l
Sieve residue (150 mesh) ≤12 %
Permeability (Darcy) 0,73-1,64

0005.2 1 kg plastic 22,05 €

Original pack 6 x 1 kg 20,95/1 kg

0005.1 2,5 kg plastic 40,75 €

Celite®, calcinated

[91053-39-3] • EC No. 293-303-4

Celite® 512

filter aid on silicate basis
Calcinated pink diatoms

Type analysis:

Wet density ≤346 g/l
Sieve residue (150 mesh) ≤12 %
Permeability (Darcy) 0,28-0,76

0050.2 1 kg plastic 19,90 €

Original pack 6 x 1 kg 18,91/1 kg

0050.1 2,5 kg plastic 37,55 €

Celite® Standard Super Cel®

filter aid on silicate basis
Calcinated pink diatoms

Type analysis:

Wet density ≤338 g/l
Sieve residue (150 mesh) ≤7 %
Permeability (Darcy) 0,16-0,36

0003.2 1 kg plastic 20,65 €

Original pack 6 x 1 kg 19,62/1 kg

0003.1 2,5 kg plastic 38,20 €

Cel Culture Media

Art. No.	Description	Page
9031	Roti®-CELL DMEM : F12	2089
9005	Roti®-CELL DMEM High Glucose	2090
9006	Roti®-CELL DMEM High Glucose	2090
9007	Roti®-CELL DMEM High Glucose	2090
9010	Roti®-CELL DMEM High Glucose	2090
9011	Roti®-CELL DMEM High Glucose	2090
9019	Roti®-CELL DMEM High Glucose	2090
9023	Roti®-CELL DMEM High Glucose	2090
9030	Roti®-CELL DMEM Low Glucose	2090
9027	Roti®-CELL DMEM Low Glucose	2090
9124	Roti®-CELL DPBS	2090
9130	Roti®-CELL 10x DPBS	2090
9131	Roti®-CELL DPBS	2091
9058	Roti®-CELL Eagle's MEM-Alpha	2091
9082	Roti®-CELL Eagle's MEM-Alpha	2091
9049	Roti®-CELL Eagle's MEM / Earle's	2091
9048	Roti®-CELL Eagle's MEM / Earle's	2091
9047	Roti®-CELL Eagle's MEM / Earle's	2091
9044	Roti®-CELL Eagle's MEM / Earle's	2091
9056	Roti®-CELL Eagle's MEM / Hanks'	2091
9108	Roti®-CELL Ham's F12	2092
9117	Roti®-CELL Hanks' BSS	2092
9118	Roti®-CELL Hanks' BSS	2092
9119	Roti®-CELL Hanks' BSS	2092
9122	Roti®-CELL Hanks' BSS	2092
9033	Roti®-CELL Iscove's MDM	2092

9035	Roti®-CELL Iscove's MDM	2092
9109	Roti®-CELL Leibovitz's L15	2092
9111	Roti®-CELL McCoy's 5A	2092
9112	Roti®-CELL Medium 199 / Earle's	2092
9085	Roti®-CELL RPMI-1640	2093
9086	Roti®-CELL RPMI-1640	2093
9091	Roti®-CELL RPMI-1640	2093
9093	Roti®-CELL RPMI-1640	2093
9094	Roti®-CELL RPMI-1640	2093
9099	Roti®-CELL RPMI-1640	2093
9104	Roti®-CELL RPMI-1640	2093
9114	Roti®-CELL TC100	2094
9116	Roti®-CELL William's E	2094

Cell Culture Ready-made Solutions

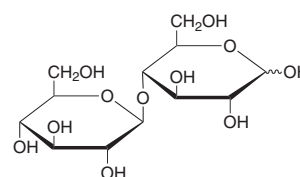
Art. No.	Description	Page
L787	DOTAP	1794
CP11	Geneticin disulphate (G418)-solution	1847
2039	Geneticin disulphate (G418)-solution	1847
HN09	Gentamycin sulphate solution	1848
2475	Gentamycin sulphate solution	1848
CP12	Hygromycin B solution	1894
1287	Hygromycin B solution	1894
9165	Roti®-CELL Bicarbonate solution	2089
9124	Roti®-CELL DPBS	2090
9130	Roti®-CELL 10x DPBS	2090
9131	Roti®-CELL DPBS	2091
9135	Roti®-CELL DPBS/EDTA	2091
9155	Roti®-CELL Glucose solution	2091
9183	Roti®-CELL Glutamine solution	2091
9117	Roti®-CELL Hanks' BSS	2092
9118	Roti®-CELL Hanks' BSS	2092
9119	Roti®-CELL Hanks' BSS	2092
9122	Roti®-CELL Hanks' BSS	2092
9157	Roti®-CELL HEPES solution	2092
9185	Roti®-CELL MEM-NEAA solution	2093
9143	Roti®-CELL PBS	2093
9150	Roti®-CELL 10x PBS	2093
9152	Roti®-CELL PBS/EDTA	2093
9182	Roti®-CELL Pyruvate solution	2093
9186	Roti®-CELL Water	2094
P001	Roti®-Fect	2096
CL21	Roti®-Fect Plus	2097
2913	Roti®-Fect RNAi Buffer	2097
3129	Roti®-Fect RNAi Kit	2097
AE29	Roti®-Insectofect	2099
3255	Water	2241

Cell Culture Reagents

Art. No.	Description	Page
6831	L-Alanyl-L-glutamine	1620
CP77	Albumin Fraction V, very low endotoxin	1621
CP84	Albumin Fraction V, endotoxin-tested	1621
HP62	Ampicillin sodium salt	1645
1655	L-Arginine	1654
1989	L-Arginine monohydrochloride	1655
KK37	L-Asparagine monohydrate	1657
1690	L-Aspartic acid	1658
HN04	Calcium chloride dihydrate	1706
1693	L-Cysteine	1756
1694	L-Cysteine hydrochloride monohydrate	1756
1695	L-Cystine	1757
4198	DEAE Dextran	1760
A994	Dimethyl sulphoxide	1785
L787	DOTAP	1794
6833	Flavine-adenine-dinucleotide disodium salt (FAD)	1828

CP11	Geneticin disulphate (G418)-solution	1847
2039	Geneticin disulphate (G418)-solution	1847
HN09	Gentamycin sulphate solution	1848
2475	Gentamycin sulphate solution	1848
HN06	D(+)-Glucose	1854
1743	L-Glutamic acid	1856
HN08	L-Glutamine	1857
6832	L-Glutathione reduced	1858
HN07	Glycine	1861
HN77	HEPES	1870
1696	L-Histidine	1879
1697	L-Histidine hydrochloride monohydrate	1879
CP12	Hygromycin B solution	1894
1287	Hygromycin B solution	1894
1698	L-Isoleucine	1910
1699	L-Leucine	1930
6829	L-Lysine monohydrate	1941
1700	L-Lysine hydrochloride	1941
HN11	Magnesium acetate tetrahydrate	1943
HN03	Magnesium chloride hexahydrate	1944
1702	L-Methionine	1963
1703	L-Ornithine monohydrochloride	2015
HP49	Penicillin G potassium salt	2024
HP48	Penicillin G sodium salt	2024
HP10	Pen/Strep-PreMix	2024
1709	L-Phenylalanine	2035
HN10	Potassium acetate	2050
HN02	Potassium chloride	2053
1713	L-Proline	2066
9165	Roti®-CELL Bicarbonate solution	2089
9135	Roti®-CELL DPBS/EDTA	2091
9155	Roti®-CELL Glucose solution	2091
9183	Roti®-CELL Glutamine solution	2091
9157	Roti®-CELL HEPES solution	2092
9185	Roti®-CELL MEM-NEAA solution	2093
9143	Roti®-CELL PBS	2093
9150	Roti®-CELL 10x PBS	2093
9152	Roti®-CELL PBS/EDTA	2093
9182	Roti®-CELL Pyruvate solution	2093
9186	Roti®-CELL Water	2094
P001	Roti®-Fect	2096
CL21	Roti®-Fect Plus	2097
2913	Roti®-Fect RNAi Buffer	2097
3129	Roti®-Fect RNAi Kit	2097
AE29	Roti®-Insectofect	2099
1714	L-Serine	2126
HN05	Sodium acetate trihydrate	2140
HN00	Sodium chloride	2144
HN12	tri-Sodium citrate dihydrate	2145
HN01	Sodium hydrogen carbonate	2148
HP66	Streptomycin sulphate	2184
HP63	Tetracycline hydrochloride	2202
1738	L-Threonine	2208
3170	TRIS	2223
1739	L-Tryptophane	2227
1741	L-Tyrosine	2230
1742	L-Valine	2235
0242	Vancomycin hydrochloride	2235
3255	Water	2241

D(+)-Cellobiose



D(+)-Cellobiose

≥98 %, for biochemistry
4-O-β-D-Glucopyranosyl-D-glucose

$C_{12}H_{22}O_{11}$

M 342,29 g/mol

mp 225 °C

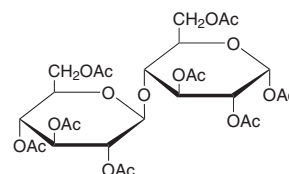
[528-50-7] • EC No. 208-436-5

Type analysis:

Appearance: white to off-white, cryst. powder
Assay (HPLC): ≥98,0 %
Specific rotation $[\alpha]_D^{20}$ (c=1 in H_2O , 15 h): +33° to +35°
Loss on drying (3 h, 110 °C): ≤2,0 %
Solution (5 % in H_2O): clear, colourless
Heavy metals (as Pb): ≤0,001 %

5840.1	5 g	plastic	17,10 €
5840.3	25 g	plastic	51,50 €
5840.2	100 g	plastic	192,45 €

α-D-Cellobiose octaacetate



α-D-Cellobiose octaacetate

≥98 %, for biochemistry

Octaacetyl-α-D-cellobiose

$C_{28}H_{38}O_{19}$

M 678,60 g/mol

mp 225-229 °C

[5346-90-7] • EC No. 226-304-5

Type analysis:

Assay (TLC): ≥98,0 %
Spec. rotation $[\alpha]_D^{20}$ (c=1 in chloroform): +41,0° to +43,0°
Water (KF): ≤0,5 %
Melting point: 225-229 °C

5463.1	5 g	plastic	28,50 €
5463.2	25 g	plastic	96,65 €

X-β-D-Cellobioside

▶ 5-Bromo-4-chloro-3-indoxyl-β-D-cellobioside see p. 1689

Cell proliferation test solution

▶ Rotitest® Vital see p. 2113

Cellulose

Cellulose

for column chromatography

Fibre length 0,02-0,1 mm

mp 200 °C (dec.)

[9004-34-6] • EC No. 232-674-9

Guarantee analysis:

pH value 5-7
 Water ≤10 %

5873.1	500 g	plastic	32,50 €
Original pack 6 x 500 g			30,88/500 g
5873.2	1 kg	plastic	53,90 €
Original pack 6 x 1 kg			51,21/1 kg

Cellulose acetate

Cellulose acetate

pure

Acetylcellulose

[9004-35-7]

Type analysis:

Appearance white granules

4458.1	250 g	plastic	26,55 €

Cerium Standards

- ▶ Cerium ICP Standard Solution see p. 2170
- ▶ Cerium ICP Standard Solution see p. 2175

Cera alba

- ▶ Beeswax white see p. 1668

Cera Carnaubae

- ▶ Carnauba wax see p. 1717

Cera flava

- ▶ Beeswax yellow see p. 1668

Ceric(IV) sulphate solution
(0,1 N)Ceric(IV) sulphate solution
(0,1 N)

0,1 mol/l - 0,1 N volumetric standard solution

D 1,07 • bp 100 °C

UN No. 2796 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H319

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %
 Titer. 0,998-1,002

P719.1	1 l	plastic	60,75 €
Original pack 6 x 1 l			57,71/1 l

For further information, please see page 1546

Cerium trichloride

- ▶ Cerium(III) chloride see p. 1724

Cerium(III) acetate hydrate

Cerium(III) acetate hydrate

ROTI®METIC 99,99 % (5N)

Ce(CH₃CO₂)₃ · x H₂OM 317,25 + x H₂O g/mol

mp ~115 °C

Solubility: ~260 g/l (H₂O, 20 °C)

[17829-82-2]

WGK 1

⚠ Warning H335

Type analysis:

Assay (metals basis) 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5372.1	10 g	plastic	74,10 €

5372.2	50 g	plastic	289,20 €

Cerium(III) acetate hydrate

Cerium(III) acetate hydrate

ROTI®REMATIC 99,99 %

Ce(CH₃CO₂)₃ · x H₂OM 317,25 + x H₂O g/mol

[537-00-8] • EC No. 208-654-0

WGK 3

Type analysis:

Assay (TREC*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7084.1	10 g	plastic	68,70 €

7084.2	50 g	plastic	213,95 €

Cerium(IV) ammonium nitrate

Ammonium cerium(IV) nitrate

(NH₄)₂Ce(NO₃)₆

M 548,23 g/mol

D 2,49

mp ~108 °C

Solubility: 1410 g/l (H₂O, 20 °C)

[16774-21-3] • EC No. 240-827-6

UN No. 1477 • ADR 5.1 II • WGK 2

⚠ ⚠ ⚠ Danger H272-H314-H302

Cerium(IV) ammonium nitrate

≥99,5 %, p.a.

Titration reagent in volumetry.

Guarantee analysis:

Assay (oxidim.) ≥99,5 %
 Chloride (Cl) ≤0,01 %
 Sulphate (SO₄) ≤0,01 %
 Aluminium (Al) ≤0,005 %
 Barium (Ba) ≤0,001 %
 Chromium (Cr) ≤0,005 %
 Copper (Cu) ≤0,001 %
 Potassium (K) ≤0,001 %
 Nickel (Ni) ≤0,001 %
 Strontium (Sr) ≤0,001 %

HN28.1	50 g	plastic	41,40 €

HN28.2	100 g	plastic	74,75 €

HN28.3	250 g	plastic	138,70 €

Cerium(IV) ammonium nitrate

≥99 %, extra pure

Type analysis:

Assay ≥99 %
 Silicate (SiO₂) ≤0,05 %
 Ferric oxide (Fe₂O₃) ≤0,02 %
 Sodiumoxide (Na₂O) ≤0,02 %
 Chloride (Cl) ≤0,01 %

3338.1	100 g	plastic	37,55 €

3338.2	250 g	plastic	80,55 €

3338.3	1 kg	plastic	273,60 €

Original pack 6 x 1 kg 259,92/1 kg

Cerium(IV) ammonium sulphate dihydrate

- ▶ Ammonium cerium(IV) sulphate dihydrate see p. 1636

Cerium(III) chloride

Cerium(III) chloride

ROTI®REMATIC 99,99 %

Cerium trichloride

CeCl₃

M 246,47 g/mol

mp 817 °C

Solubility: soluble (H₂O, 20 °C)

[7790-86-5] • EC No. 232-227-8 • WGK 3

Type analysis:

Assay (TREC*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7078.1	5 g	plastic	33,25 €

7078.2	25 g	plastic	76,25 €

Cerium(III) nitrate hexahydrate

Ce(NO₃)₃ · 6 H₂O

M 434,23 g/mol

mp 150 °C (dec.)

Solubility: 1760 g/l (H₂O, 25 °C)

[10294-41-4] • EC No. 233-297-2

UN No. 1477 • ADR 5.1 II • WGK 1

⚠ ⚠ ⚠ Danger H272-H318

Cerium(III) nitrate hexahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5312.1	5 g	plastic	59,05 €

Cerium(III) nitrate hexahydrate

ROTI®REMATIC 99,99 %

Type analysis:

Assay (TREC*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7049.1	5 g	plastic	50,45 €

7049.2	25 g	plastic	75,15 €

Cerium(III) nitrate hexahydrate

≥99,5 %, p.a.

Type analysis:

Assay CeO_2 (TREO).....	≥99,5 %
Assay (TREO*).....	~39,0 %
Ferric oxide (Fe_2O_3).....	≤0,0015 %
Sodium oxide (Na_2O).....	≤0,005 %
Calcium oxide (CaO).....	≤0,005 %
Total REO impurities.....	≤0,5 %
Sulphate (SO_4).....	≤0,02 %
Chloride (Cl).....	≤0,01 %
*Total rare earth oxide	

HN18.1	100 g	plastic	69,35 €
HN18.2	500 g	plastic	267,70 €
Original pack 6 x 500 g			254,32/500 g

Cerium(III) oxalate hydrate**Cerium(III) oxalate hydrate**

ROTI®REMETIC 99,9 %

$\text{Ce}_2(\text{C}_2\text{O}_4)_3 \cdot x \text{H}_2\text{O}$
 M 544,29 + x H_2O g/mol
 [15750-47-7] • EC No. 205-362-5
 WGK 3

⚠ Warning H302+H312

Type analysis:

Assay (TREO*).....	99,9 %
*Total rare earth oxide	
Chemical analysis (ICP, AAS): specified trace impurities in ppm range	

7067.1	10 g	plastic	68,70 €
7067.2	50 g	plastic	235,45 €

Cerium(IV) oxide**Cerium(IV) oxide**

ROTI®REMETIC 99,99 %

CeO_2
 M 172,11 g/mol
 mp ~2000 °C
 Solubility: insoluble (H_2O , 20 °C)
 [1306-38-3] • EC No. 215-150-4
 WGK 1

Type analysis:

Assay (TREO*).....	99,99 %
*Total rare earth oxide	
Chemical analysis (ICP, AAS): specified trace impurities in ppm range	

7042.1	10 g	plastic	33,25 €
7042.2	50 g	plastic	111,30 €

Cerium(III) sulphate**Cerium(III) sulphate**

ROTI®METIC 99,99 % (4N), anhydrous

Cerous sulphate
 $\text{Ce}_2(\text{SO}_4)_3$
 M 568,42 g/mol
 mp 920 °C (dec.)
 [13454-94-9] • EC No. 236-644-6
 WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Assay (metals basis).....	99,99 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5603.1	25 g	plastic	181,70 €

Cerium(III) sulphate octahydrate**Cerium(III) sulphate octahydrate**

ROTI®METIC 99,995 % (4N5)

Cerous sulphate
 $\text{Ce}_2(\text{SO}_4)_3 \cdot 8 \text{H}_2\text{O}$
 M 712,54 g/mol
 mp 250 °C (dec.)
 [10450-59-6] • EC No. 236-644-6
 WGK 1

Type analysis:

Assay (metals basis).....	99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5601.1	50 g	plastic	170,95 €
5601.2	250 g	plastic	665,45 €

Cerium(IV) sulphate tetrahydrate**Cerium(IV) sulphate tetrahydrate**

≥98 %, p.a.

Titration agent for cerimetry.
 $\text{Ce}(\text{SO}_4)_2 \cdot 4 \text{H}_2\text{O}$
 M 404,30 g/mol
 D 5,02
 mp 180-200 °C
 Solubility: 38 g/l (H_2O , 50 °C)
 [10294-42-5] • EC No. 237-029-5
 WGK 2

⚠ Warning H315-H319

Guarantee analysis:

Assay (iodom.).....	≥98 %
In H_2SO_4 insoluble matter.....	≤0,1 %
Substances not precipitated by NH_4OH	≤0,3 %
Chloride (Cl).....	≤0,01 %
Heavy metals (as Pb).....	≤0,003 %
Lead (Pb).....	≤0,003 %
Iron (Fe).....	≤0,015 %
Copper (Cu).....	≤0,005 %
Nickel (Ni).....	≤0,005 %

P014.2	50 g	plastic	59,70 €
P014.1	100 g	plastic	103,10 €

Cerium trinitrate

▶ Cerium(III) nitrate hexahydrate see p. 1724

Cerotic acid methyl ester**Cerotic acid methyl ester**

95 %

Hexacosanoic acid methyl ester

 $\text{C}_{27}\text{H}_{54}\text{O}_2$

M 410,73 g/mol

mp 61-63 °C

[5802-82-4] • EC No. 227-355-6

WGK 1

Type analysis:

Appearance.....	light beige powder
Assay (GC).....	~95 %
Melting point.....	61-63 °C

7752.1	250 mg	glass	223,10 €

Cesium Standards

- ▶ Caesium AAS Standard Solution see p. 2167
- ▶ Caesium ICP Standard Solution see p. 2170
- ▶ Caesium ICP Standard Solution see p. 2175

Cesium salts

- ▶ Caesium carbonate see p. 1702
- ▶ Caesium chloride see p. 1703
- ▶ Caesium nitrate see p. 1703
- ▶ Caesium sulphate see p. 1703

Ceten

▶ 1-Hexadecene see p. 1874

Cetrimide Agar (Base)**Cetrimide Agar (Base)**

Ph.Eur., for microbiology

For isolation and identification of *Pseudomonas aeruginosa*.

Application: Use 45,3 g for 1 l agar, add 10 ml glycerol.

Agar medium N (Ph.Eur. 6.0), Cetrimide Agar (Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

UN No. 3077 • ADR 9 III • WGK 2

⚠ Warning H410

Guarantee analysis:

Gelatin peptone (Pancreas hydrolysate).....	20 g/l
Magnesium chloride.....	1,4 g/l
Potassium sulphate.....	10 g/l
Cetrimide.....	0,3 g/l
Agar.....	13,6 g/l
pH value.....	7,2 ± 0,2

X918.1	500 g	plastic	88,70 €
Original pack 6 x 500 g			84,27/500 g

For further information, please see page 1320

Cetyl alcohol



Cetyl alcohol

≥95 %

1-Hexadecanol, Alcohol C 16

C₁₆H₃₄O

M 242,45 g/mol

D 0,81 • bp 305-330 °C

mp 49-54 °C • flp ~155 °C

Solubility: <0,1 mg/l (H₂O, 25 °C)

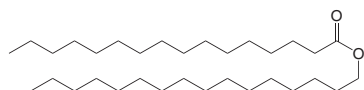
[36653-82-4] • EC No. 253-149-0

Type analysis:

Appearance..... white tablets
Assay..... ≥95 %
Water..... ≤0,1 %
Colour (Hazen)..... ≤10
Ester value..... ≤0,5
Acid value..... ≤1,0
Iodine value..... ≤1,0
Melting point..... 49-54 °C

5762.1	1 kg	plastic	45,70 €
Original pack 6 x 1 kg			43,42/1 kg

Cetyl palmitate



Cetyl palmitate

synthetic

Spermaceti, Cetaceum

C₃₂H₆₄O₂

M 480,96 g/mol

mp 45-52 °C

[540-10-3] • EC No. 208-736-6

Type analysis:

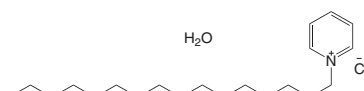
Appearance.....
..... white, ceraceous powder respectively granules

9229.2	100 g	plastic	16,70 €

9229.1	1 kg	plastic	106,45 €

Original pack 6 x 1 kg 101,13/1 kg

Cetylpyridinium chloride monohydrate



Cetylpyridinium chloride monohydrate

≥98 %, for biochemistry

Cationic detergent

Hexadecylpyridinium chloride monohydrate, CPC

C₂₁H₃₈ClN • H₂O

M 358,01 g/mol

mp 77-83 °C

Solubility: 50 g/l (H₂O, 20 °C)

[6004-24-6] • EC No. 204-593-9

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H301-H330-H400-H410-H315-H319-H335

Type analysis:

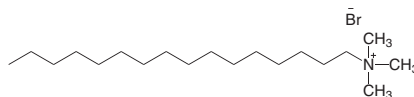
Assay..... ≥98 %

CN27.1	100 g	plastic	26,35 €

CN27.2	500 g	plastic	98,40 €

Original pack 6 x 500 g 93,48/500 g

Cetyltrimethylammonium bromide



Cetyltrimethylammonium bromide

≥99 %, for biochemistry

Cationic detergent

Hexadecyl-trimethylammonium bromide, CTAB

C₁₉H₄₂BrN

M 364,46 g/mol

mp 248-251 °C • flp 244 °C

Solubility: 3 g/l (H₂O, 20 °C)

[57-09-0] • EC No. 200-311-3

UN No. 3077 • ADR 9 III • WGK 3

Danger

H400-H302-H315-H318-H335-H373

Type analysis:

Assay (photometr., dry substance)..... ≥99 %
pH value..... 5,0-7,0
Sulphate (SO₄²⁻)..... ≤0,02 %
Iron (Fe)..... ≤0,001 %
Melting point..... 249-253 °C
Loss on drying..... ≤1,0 %

9161.1	100 g	plastic	18,20 €

9161.3	500 g	plastic	61,85 €

Original pack 6 x 500 g 58,76/500 g

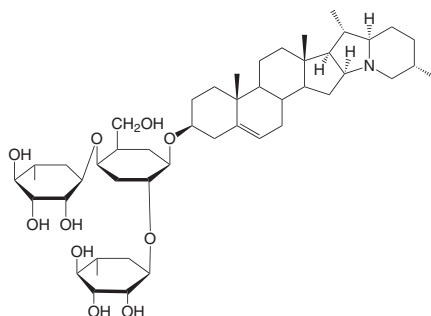
9161.2	1 kg	plastic	110,65 €

Original pack 6 x 1 kg 105,12/1 kg

CFA

► 3-Chloro-4-fluoroaniline see p. 1730

(-)-α-Chaconine



(-)-α-Chaconine

ROTICHRON® HPLC

From *Solanum tuberosum*

C₄₅H₇₃NO₁₄

M 852,07 g/mol

mp ~243 °C

Storage temp.: +4 °C

[20562-03-2] • WGK 3

Warning H361

Type analysis:

Purity (HPLC)..... ≥98 %

4192.1	5 mg	glass	224,70 €

Chalcone

► Benzylidene acetophenone see p. 1673

Chamazulene



Chamazulene

ROTICHRON® GC

1,4-Dimethyl-7-ethyl-azulene

C₁₄H₁₆

M 184,28 g/mol

Storage temp.: +4 °C

[529-05-5] • EC No. 208-449-6

WGK 1

Type analysis:

Purity (GC)..... ≥99 %

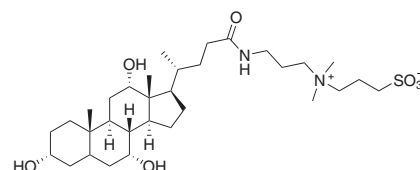
2918.1	10 mg	glass	453,65 €

Chapman Lactose Agar

► TTC Chapman Agar

(with sodium heptadecylsulphate) (Base)
see p. 2228

CHAPS



CHAPS

PUFFERAN® ≥98 %, for biochemistry

Buffer substance, zwitterionic detergent

3-[(3-Cholamidopropyl)dimethyl ammonio]-
1-propane sulphonate

C₃₂H₅₈N₂SO₇

M 614,9 g/mol

mp 116 °C

Storage temp.: +4 °C

[75621-03-3]

Warning H315-H319-H335

Guarantee analysis:

Appearance..... white powder
Assay..... ≥98 %
Loss on drying..... ≤2 %
Absorption:
400 nm..... ≤0,02
290 nm..... ≤0,05

1479.1	5 g	plastic	55,80 €

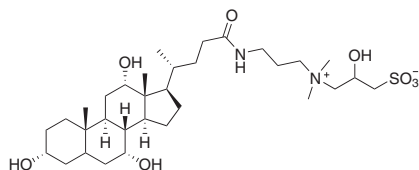
1479.3	10 g	plastic	93,00 €

1479.2	25 g	plastic	192,45 €

1479.4	100 g	plastic	407,45 €

For further information, please see page 1216

CHAPSO



CHAPSO

PUFFERAN® ≥99 %, for biochemistry

Buffer substance, zwitterionic detergent

3-[(3-Cholamidopropyl)-dimethylamino]-2-hydroxy-1-propanesulphonate

C₃₂H₅₈N₂O₈S

M 630,88 g/mol

mp ~184 °C

Storage temp.: +4 °C

[82473-24-3]

WGK 1

⚠ Warning H315-H319-H335

Guarantee analysis:

Assay (HPLC).....	≥99 %
Water (KF).....	≤2 %
UV-absorption (1 % in H ₂ O):	
260 nm.....	≤0,1
350 nm.....	≤0,01

HN73.1	1 g	plastic	54,75 €

HN73.2	5 g	plastic	177,40 €

HN73.3	10 g	plastic	321,45 €

For further information, please see page 1216

Charcoal activated

C

M 12,01 g/mol

mp 3550 °C

[7440-44-0] • EC No. 231-153-3

Charcoal activated

p.a., powder

Adsorbent

Guarantee analysis:

Substances soluble in ethanol.....	≤0,2 %
Substances soluble in HCl.....	≤1,0 %
Substances soluble in H ₂ O.....	≤0,2 %
Methylene blue adsorption (0,15 % solution).....	≥100 ml/g
Chloride (Cl).....	≤0,01 %
Sulphate (SO ₄).....	≤0,01 %
Sulphide (S).....	complies
Lead (Pb).....	≤0,002 %
Calcium (Ca).....	≤0,05 %
Iron (Fe).....	≤0,025 %
Copper (Cu).....	≤0,002 %
Nickel (Ni).....	≤0,002 %
Ash content.....	≤1 %
Loss on drying (120 °C).....	≤10 %

X865.1	250 g	plastic	21,20 €

X865.2	500 g	plastic	32,80 €

Original pack 6 x 500 g	31,16/500 g

X865.3	1 kg	plastic	60,10 €

Original pack 6 x 1 kg	57,10/1 kg

For further information, please see page 1590

Charcoal activated

1-3 mm, made from peat, grey

Fractured coal

Type analysis:

Methylene blue adsorption.....	11 g/100 g
Bulk density.....	290 kg/m ³
Ash.....	≤8,0 %
Water.....	≤2,0 %
pH value.....	alkaline
Iodine value.....	≥700
Particle size:	
>3,15 mm.....	≤10,0 %
<0,7 mm.....	≤5,0 %

5966.1	1 kg	plastic	28,95 €

Original pack 6 x 1 kg	27,50/1 kg

5966.2	5 kg	plastic	106,45 €

5966.4	25 kg	plastic	418,20 €

For further information, please see page 1590

Charcoal activated

~3 mm, steam activated

For gas cleaning. Extruded charcoal.

Type analysis:

Butane adsorption (p/p ₀ =0,1).....	18-23 g/100 g
Moisture.....	≤5 %
Bulk density.....	430-480 kg/m ³

0998.1	500 g	plastic	35,40 €

Original pack 6 x 500 g	33,63/500 g

0998.2	1 kg	plastic	59,05 €

Original pack 6 x 1 kg	56,10/1 kg

0998.3	5 kg	plastic	212,35 €

For further information, please see page 1590

Charcoal activated

C

M 12,01 g/mol

[7440-44-0] • EC No. 231-153-3

UN No. 1362 • ADR 4.2 III

⚠ Warning H252

Charcoal activated

powder, for decolourisation

Activation process: Phosphoric acid activation.

Type analysis:

Calcium (Ca).....	≤0,02 %
Iron (Fe).....	≤0,015 %
Phosphate (PO ₄).....	≤3,5 %
Water.....	≤15 %
pH value.....	2,0-3,5
Methylene blue adsorption.....	≥25 g/100 g
Particle size:	
>75 µm.....	10 %
>10 µm.....	91 %

5963.3	500 g	plastic	29,60 €

Original pack 6 x 500 g	28,12/500 g

5963.1	1 kg	plastic	45,70 €

Original pack 6 x 1 kg	43,42/1 kg

5963.2	5 kg	plastic	111,30 €

For further information, please see page 1590

Charcoal activated

for the determination of AOX (column method)

Type analysis:

Iodine value.....	≥1050 mg/g
Chloride (Cl).....	≤0,0005 %
Particle size.....	~50-150 µm

1299.1	10 g	glass	70,85 €

Charcoal activated

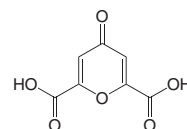
for the determination of AOX (shaking method)

Type analysis:

Iodine value.....	≥1050 mg/g
Chloride (Cl).....	≤0,0005 %
Particle size.....	≤50 µm

1319.1	10 g	glass	66,15 €

Chelidonic acid



Chelidonic acid

98 % cryst.

C₇H₄O₆

M 184,10 g/mol

mp ~260 °C

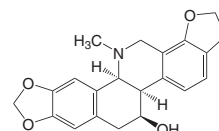
[99-32-1] • EC No. 202-749-0

Guarantee analysis:

Assay (titr.).....97,5-102,5 %

6240.1	5 g	glass	206,95 €

Chelidonine



Stylophorin

C₂₀H₁₉NO₅

M 353,36 g/mol

mp 125-135 °C

Storage temp.: +4 °C

[476-32-4] • EC No. 207-504-1

WGK 2

⚠ Warning H302+H312+H332

Chelidonine

ROTICHROM® HPLC

Reference substance for HPLC

From *Chelidonium majus*.

Type analysis:

Purity (HPLC).....>98 %

1129.1	25 mg	glass	263,40 €

Chelidonine

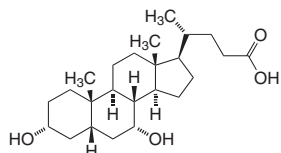
ROTICHROM® TLC

Type analysis:

Appearance.....	colourless, cryst. powder
Melting point.....	125-135 °C

6235.1	25 mg	glass	145,15 €

Chenodeoxycholic acid



Chenodeoxycholic acid

≥98 %, for biochemistry
Anionic detergent
3α,7α-Dihydroxy-5β-cholan-20-oic acid
 $C_{24}H_{40}O_4$
M 392,58 g/mol
mp 162-167 °C
[474-25-9] • EC No. 207-481-8
WGK 1

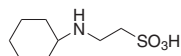
Warning H361-H302+H312+H332

Type analysis:

Assay (titr.) ≥98 %
Solution (5 % in ethanol) colourless, clear
Water (KF) ≤3 %
Spec. rotation $[\alpha]_D^{25}$ (c=1 in ethanol) +12° ±1°
Sulphated ash ≤0,1 %
Heavy metals (as Pb) ≤0,002 %

4128.1	5 g	glass	32,15 €
4128.2	10 g	glass	60,10 €
4128.3	25 g	glass	116,65 €

CHES



CHES

PUFFERAN® ≥99 %
2-(Cyclohexylamino)ethanesulphonic acid
 $C_8H_{17}NO_3S$
M 207,29 g/mol
[103-47-9] • EC No. 203-115-6

Guarantee analysis:

Assay (titr.) ≥99,0 %
Loss on drying ≤1,0 %
pH value 5,0-6,0
UV-absorption (0,1 M in H_2O):
280 nm ≤0,05
260 nm ≤0,04

9166.1	10 g	plastic	13,15 €
9166.3	25 g	plastic	21,00 €
9166.2	100 g	plastic	56,90 €

For further information, please see page 1214

Chile salt peter

► Sodium nitrate see p. 2154

Chitin

Chitin

from crab shells
 $(C_8H_{13}NO_5)_n$
M ~400.000 g/mol
[1398-61-4] • EC No. 215-744-3

8845.1	100 g	plastic	36,05 €
8845.2	1 kg	plastic	267,70 €
Original pack 6 x 1 kg			254,32/1 kg

Chitosamine hydrochloride

► D(+)-Glucosamine hydrochloride
see p. 1854

Chitosan

Chitosan

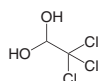
for biochemistry
Partly deacetylated chitin
[9012-76-4]

Type analysis:

Appearance white to light yellowish powder
Degree of Deacetylation ≥90 %
Water content ≤8,0 %

5375.1	10 g	plastic	31,95 €

Chloral hydrate



Chloral hydrate

≥99,5 %, Ph.Eur., BP, USP
Trichloroacetaldehyde monohydrate
 $C_2H_3Cl_3O_2$
M 165,40 g/mol
mp 52 °C
Solubility: 6600 g/l (H_2O , 20 °C)
[302-17-0] • EC No. 206-117-5
WGK 2

Danger H301-H315-H319

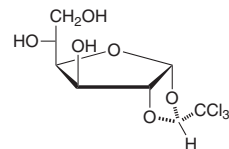
Guarantee analysis:

Assay (acidim.) 99,5-101,0 %
Identity complies
Appearance of solution complies
pH value (10 % in H_2O) 3,5-5,5
Chloral alcoholate complies
Heavy metals (as Pb) ≤0,002 %
Chloride (Cl) ≤0,007 %
Sulphated ash ≤0,1 %
Non volatile matter ≤0,1 %
Toluene ≤0,089 %
Benzene complies
Matter discoloured by H_2SO_4 complies
Acid react. substances complies

K318.3	100 g	plastic	24,65 €
K318.1	500 g	plastic	100,95 €
Original pack 6 x 500 g			95,90/500 g
K318.2	2,5 kg	plastic	428,95 €

For further information, please see page 1380

α-Chloralose



α-Chloralose

(≤20 % β-Anomer)
α-D-Glucochloralose
 $C_8H_{11}Cl_3O_6$
M 309,54 g/mol
mp 187 °C
Solubility: 4,4 g/l (H_2O , 15 °C)
[15879-93-3] • EC No. 240-016-7
WGK 1

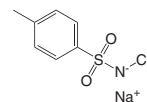
Warning H302+H332

Type analysis:

Appearance white to brownish powder
Water (KF) ≤0,5 %
Sulphated ash ≤0,4 %
Specific rotation $[\alpha]_D^{25}$ (c=2 in ethanol, after 5 h) +16° to +25°

3363.2	25 g	plastic	16,05 €
3363.1	100 g	plastic	51,10 €
3363.3	250 g	plastic	99,90 €

Chloramine T trihydrate



Chloramine T trihydrate

≥98 %, p.a.
Chlorination reagent for determining halogens.
Toluene-4-sulphonochloramide sodium,
N-Chloro-4-toluenesulphonamide sodium
 $CH_3C_6H_4SO_2NCINa \cdot 3 H_2O$
M 281,69 g/mol
mp 167-170 °C (dec.) • flp 192 °C
Solubility: 150 g/l (H_2O , 25 °C)
[7080-50-4] • EC No. 204-854-7
UN No. 3263 • ADR 8 III • WGK 2

Danger

H334-H314-H302-EUH031

Guarantee analysis:

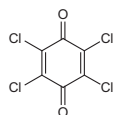
Assay (iodom.) ≥98,0 %
pH value (5 % solution) 8,0-11,0
In ethanol insoluble parts ≤1,5 %
Ortho-compounds complies
Iron (Fe) ≤0,02 %
Heavy metals (as Pb) ≤0,05 %

0271.1	250 g	plastic	20,35 €
0271.2	500 g	plastic	31,75 €
Original pack 6 x 500 g			30,16/500 g
0271.3	1 kg	plastic	57,95 €
Original pack 6 x 1 kg			55,05/1 kg

Chloramphenicol-LB Selective Agar

► LB-Agar (Luria/Miller) / Chloramph34
see p. 1926

p-Chloranil



p-Chloranil

≥99 %, p.a.

Reagent for the dehydrogenation of hydroaromatic compounds.

2,3,5,6-Tetrachloro-1,4-benzoquinone

$C_6Cl_4O_2$

M 245,86 g/mol

mp 290-295 °C

[118-75-2] • EC No. 204-274-4

UN No. 3077 • ADR 9 III • WGK 2

Warning H315-H317-H318-H410

Guarantee analysis:

Assay (GC): ≥98,0 %
Sulphated ash: ≤0,1 %

KK33.1	10 g	glass	20,10 €
KK33.2	25 g	glass	33,25 €
KK33.3	100 g	glass	100,95 €

4-Chloranthranilic acid

► 2-Amino-4-chlorobenzoic acid see p. 1631

Chloride Standards

► Chloride IC Standard Solution see p. 2180

Chlornickel

► Nickel(II) chloride hexahydrate see p. 1985

1-Chloroadamantane



1-Chloroadamantane

≥98 %, for synthesis

$C_{10}H_{15}Cl$

M 170,68 g/mol

mp 161-166 °C

[935-56-8] • EC No. 213-305-0

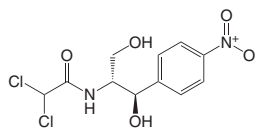
WGK 3

Type analysis:

Appearance: white to light grey solid
Assay (titr.): ≥98,0 %

7627.1	5 g	glass	12,80 €
7627.2	25 g	glass	21,40 €
7627.3	100 g	glass	53,65 €

Chloroamphenicol



Chloroamphenicol

≥98,5 %, Ph.Eur., for biochemistry

Bacteriostatic antibiotic

Chloromycetin

$C_{11}H_{12}Cl_2N_2O_5$

M 323,15 g/mol

D 0,7

mp 150 °C

Solubility: 2,5 g/l (H_2O , 25 °C)

Storage temp.: +20 °C

[56-75-7] • EC No. 200-287-4

WGK 2

Danger H350-H361

Guarantee analysis:

Appearance: white to light grey, cryst. powder
Assay (dry substance): 98,5-102,0 %
Identity: complies
Solubility: complies
Chloride (Cl): ≤0,01 %
Specific rotation $[\alpha]_D^{25}$: +18,5° to +20,5°
Acid or alkaline react. substances: complies
Related substances: ≤0,5 %
Ash content: ≤0,1 %
Loss on drying: ≤0,5 %

3886.2	25 g	plastic	17,75 €
3886.1	50 g	plastic	29,60 €
3886.3	100 g	plastic	48,40 €

For further information, please see page 1364

Chlorauric acid hydrate

► Hydrogen tetrachloroaurate(III) hydrate
see p. 1889

Chlorobenzene



Chlorobenzene

≥99,5 %, for synthesis

Phenyl chloride

C_6H_5Cl

M 112,56 g/mol

D 1,11 • bp 132 °C

mp -45 °C • flp 27 °C

[108-90-7] • EC No. 203-628-5

UN No. 1134 • ADR 3 III • WGK 2

Warning H226-H332-H411

Type analysis:

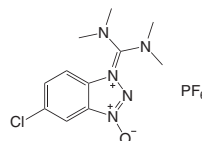
Assay (GC): ≥99,5 %
Density (d 20 °C/4 °C): 1,106-1,110
Acidity (as HCl): ~0,01 %
Water: ~0,05 %

KK01.1	100 ml	glass	12,40 €
KK01.2	500 ml	glass	22,05 €
KK01.3	1 l	glass	33,25 €
Original pack 6 x 1 l			31,59/1 l

o-Chlorobenzene

► 1,2-Dichlorobenzene see p. 1770

O-(1H-6-Chlorobenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium hexafluoro-phosphate (HCTU)



O-(1H-6-Chlorobenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium hexafluoro-phosphate (HCTU)

≥99 %

Coupling reagent for peptide synthesis

HCTU

$C_{11}H_{15}ClF_6N_5OP$

M 413,69 g/mol

mp >185 °C

Storage temp.: +4 °C

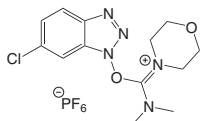
[330645-87-9]

Type analysis:

Assay (HPLC): ≥99,0 %
Water (KF): ≤0,5 %

2112.1	5 g	glass	19,25 €
2112.2	25 g	glass	31,10 €
2112.3	100 g	glass	88,05 €
2112.5	1 kg	glass	536,45 €
Original pack 6 x 1 kg			509,63/1 kg

4-((6-Chloro-1H-benzotriazol-1-yl)-oxy)-(dimethylamino)methylene)-morpholin-4-ium hexafluorophosphate (HDMC)



4-((6-Chloro-1H-benzotriazol-1-yl)-oxy)-(dimethylamino)methylene)-morpholin-4-ium hexafluorophosphate (HDMC)

≥99 %

Coupling reagent for peptide synthesis
HDMC

$C_{13}H_{17}F_6N_5O_2P$

M 455,5 g/mol

mp 165-175 °C

Storage temp.: +4 °C

[1082951-62-9]

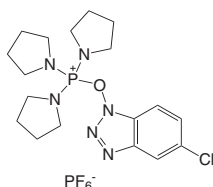
WGK 3

Type analysis:

Appearance..... white powder
Assay (HPLC)..... ≥99 %
Loss on drying..... ≤0,5 %

6893.1	5 g	glass	38,20 €
6893.2	25 g	glass	149,45 €
6893.3	100 g	glass	504,20 €

6-Chloro-benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyClock®)



6-Chloro-benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyClock®)

≥98,5 %

Coupling reagent for peptide synthesis
PyClock®

$C_{18}H_{27}ClF_6N_6OP_2$

M 554,84 g/mol

mp 174-180 °C

Storage temp.: +4 °C

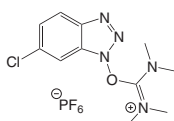
[893413-42-8]

Type analysis:

Assay (HPLC)..... ≥98,5 %
Loss on drying..... ≤0,5 %

2123.1	5 g	glass	25,30 €
2123.2	25 g	glass	79,45 €
2123.3	100 g	glass	274,15 €
2123.5	1 kg	glass	1816,75 €
Original pack 6 x 1 kg			1725,91/1 kg

O-(6-Chlorobenzotriazol-1-yl)-N,N,N',N'-tetramethyluroni-um tetrafluoroborate (TCTU)



O-(6-Chlorobenzotriazol-1-yl)-N,N,N',N'-tetramethyluroni-um tetrafluoroborate (TCTU)

≥98 %

Coupling reagent for peptide synthesis
TCTU

$C_{11}H_{15}BClF_4N_5O$

M 355,5 g/mol

[330641-16-2] • WGK 3

Warning H302

Type analysis:

Appearance..... white powder
Assay (HPLC)..... ≥98 %
Water (KF)..... ≤0,5 %
Loss on drying..... ≤0,5 %

6890.1	5 g	glass	25,30 €
6890.2	25 g	glass	80,10 €
6890.3	100 g	glass	203,20 €

Chlorocalcium hexahydrate

► Calcium chloride hexahydrate see p. 1706

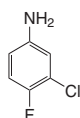
Chloro-4,4'-dimethoxy-triphenyl-methane

► 4,4'-Dimethoxytrityl chloride see p. 1781

Chlorofluoroaniline

► 3-Chloro-4-fluoroaniline see p. 1730

3-Chloro-4-fluoroaniline



3-Chloro-4-fluoroaniline

≥95 %

Chlorofluoroaniline, CFA

C_6H_5ClFN

M 145,56 g/mol • bp 230 °C

mp 42-46 °C • flp 114 °C

Solubility: 10 g/l (H_2O , 20 °C)

[367-21-5] • EC No. 206-682-8 • WGK 2

Warning H302

Type analysis:

Assay (GC)..... ≥95,0 %
Solution (1 % in acetone)..... colourless to brown, clear
Melting point..... 42-46 °C

5461.1	25 g	plastic	40,75 €
5461.2	100 g	plastic	117,20 €

Chloroform

► Trichloromethane/Chloroform see p. 2217

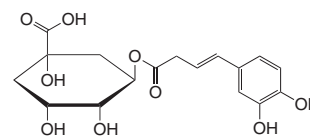
Chloroform D1

► Trichloromethane/Chloroform D1
see p. 2218

Chloroform D1 with TMS

► Trichloromethane/Chloroform D1 with TMS
(0,03 vol.%) see p. 2219

Chlorogenic acid



$C_{16}H_{18}O_9$

M 354,32 g/mol

mp 202-206 °C

[327-97-9] • EC No. 206-325-6

WGK 3

Chlorogenic acid

≥97 %

Type analysis:

Appearance..... white to off-white powder
Assay (dry substance)..... ≥97 %
Melting point..... 202-206 °C
Specific rotation $[\alpha]_D^{20}$ (c=1 in H_2O)..... -40° to -36°

6385.1	250 mg	glass	27,45 €
6385.2	1 g	glass	85,90 €

Chlorogenic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %
Residual solvents (GC)..... ≤2,0 %
Water (KF)..... ≤5,0 %
Assay (qNMR)..... ≥90,0 %
Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE06.1	25 mg	glass	467,65 €

Chlorogenic acid

ROTICHRON® Working Standard

Type analysis:

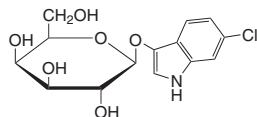
Assay (HPLC)..... ≥90,0 %
Identity..... complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC06.1	100 mg	glass	89,80 €

Chlorogenic acid**ROTICHROM® TLC**

Reference substance for thin layer chromatography

5558.1	50 mg	glass	37,55 €

6-Chloro-3-indoxyl- β -D-galactopyranoside**6-Chloro-3-indoxyl- β -D-galactopyranoside****≥98 %, for biochemistry** β -Galactosidase substrate

Rose-Gal

 $C_{14}H_{16}ClNO_6$

M 329,74 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[138182-21-5]

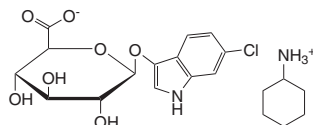
Guarantee analysis:

Assay (HPLC).....	≥98 %
Solution (5% in methanol).....	
.....colourless to light yellowish, clear	
Water (KF).....	≤1 %
Spec. rotation $[\alpha]_D^{20}$ (c=1 in methanol).....	-49° to -45°

4251.1	25 mg	glass	31,10 €

4251.2	50 mg	glass	40,35 €

4251.3	100 mg	glass	57,95 €

6-Chloro-3-indoxyl- β -D-glucuronic acid cyclohexylammonium salt**6-Chloro-3-indoxyl- β -D-glucuronic acid cyclohexylammonium salt****≥98 %, for biochemistry** β -Glucuronidase substrate

Rose-Glucuro CHASalt

 $C_{14}H_{14}ClNO_7 \cdot C_6H_{13}N$

M 442,9 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[138182-20-4] • WGK 1

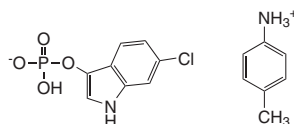
Guarantee analysis:

Assay (HPLC).....	≥98 %
Solution (1 % in DMF).....	nearly colourless, clear
Water (KF).....	≤2 %
Specific rotation $[\alpha]_D^{20}$ (c=1 in DMF/water 1:1).....	-68° to -72°

4057.1	10 mg	glass	28,95 €

4057.2	50 mg	glass	42,90 €

4057.3	100 mg	glass	71,95 €

6-Chloro-3-indoxyl phosphate p-toluidine salt**6-Chloro-3-indoxyl phosphate p-toluidine salt****≥98 %, for biochemistry**

Alkaline phosphatase substrate

Rose-Phos p-toluidine salt

 $C_8H_7ClNO_4P \cdot C_7H_9N$

M 354,73 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[159954-33-3]

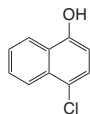
⚠ Warning H315-H319-H335

Guarantee analysis:

Assay (HPLC).....	≥98 %
Solution (1 % in methanol).....	
.....colourless to almost colourless, clear	
Water (KF).....	≤1 %

4247.1	50 mg	glass	43,55 €

4247.2	100 mg	glass	79,05 €

4-Chloro-1-naphthol**4-Chloro-1-naphthol****≥97 %, for biochemistry**

Peroxidase substrate

4-CN

 $C_{10}H_7ClO$

M 178,62 g/mol

mp ~120 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[604-44-4] • EC No. 210-068-5

WGK 1

⚠ Warning H315-H319-H335

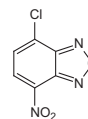
Guarantee analysis:

Assay (GC).....	≥97 %
Solution (10 % in methanol, 45 °C).....	
.....yellow to brownish, almost clear	
Water (KF).....	≤0,5 %
Melting point.....	118-122 °C

4104.1	5 g	glass	26,35 €

4104.2	10 g	glass	43,55 €

4104.3	25 g	glass	84,85 €

4-Chloro-7-nitro-benzofurazan**4-Chloro-7-nitro-benzofurazan****≥99 %, p.a.**

For detection of amino acids, some alkaloids, sulphonamides.

NBD-chloride, 7-Chloro-4-nitro-2,1,3-benzoxadiazol

 $C_6H_2ClN_3O_3$

M 199,55 g/mol

mp 96-99 °C

[10199-89-0] • EC No. 233-496-4

WGK 3

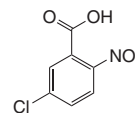
⚠ Warning H315-H319

Guarantee analysis:

Assay (GC).....	≥99,0 %
Sulphated ash.....	≤0,1 %

KK31.1	1 g	glass	16,05 €

KK31.2	5 g	glass	44,00 €

5-Chloro-2-nitrobenzoic acid**5-Chloro-2-nitrobenzoic acid****≥98 %** $C_7H_4ClNO_4$

M 201,57 g/mol

mp 137-141 °C

Solubility: 9,67 g/l (H₂O, 25 °C)

[2516-95-2] • EC No. 219-738-1

⚠ Warning H315-H319-H335

Guarantee analysis:

Assay (titr.).....	≥98,0 %
Solution (1 % in ethanol).....	
.....almost colourless to colourless	
Water (KF).....	≤1,0 %
Melting point.....	137-141 °C

5456.1	25 g	plastic	23,55 €

5456.2	100 g	plastic	64,40 €

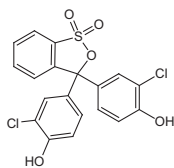
7-Chloro-4-nitro-2,1,3-benzoxadiazol

▶ 4-Chloro-7-nitro-benzofurazan see p. 1731

 α -Chloro-4-nitrotoluene

▶ 4-Nitrobenzyl chloride see p. 1991

Chlorophenol red



Chlorophenol red

p.a.

Indicator pH 4,8-6,4

3',3''-Dichlorophenol sulphonephthalein

C₁₉H₁₂Cl₂O₅S

M 423,27 g/mol

mp 261 °C

Solubility: insoluble (H₂O, 20 °C)

[4430-20-0] • EC No. 224-619-2

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Maximum absorption. 560-575 nm
 Loss on drying (110 °C). ≤5 %

0347.1	5 g	glass	27,85 €
0347.2	10 g	glass	44,65 €
0347.3	25 g	glass	95,70 €

4-Chlorophenol solution

4-Chlorophenol solution

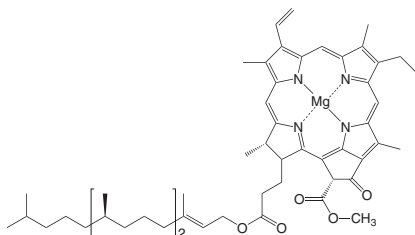
200 mg AOX/I

For determination of AOX acc. to EN ISO 9562:2004, DEV H14

WGK 1

2495.1	100 ml	plastic	48,30 €

Chlorophyll A



Chlorophyll A

powd.

E140, isolated from algae (*Anacystis nidulans*).C₅₅H₇₂MgN₄O₅

M 893,48 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

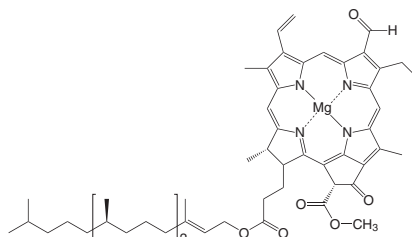
[479-61-8] • EC No. 207-536-6

Type analysis:

Appearance. deep green to deep blue powder
 UV-absorptionsmax. (I). 426-430 nm
 UV-absorptionsmax. (II). 658-662 nm

6360.1	1 mg	glass	349,40 €
6360.2	5 mg	glass	1451,25 €

Chlorophyll B



Chlorophyll B

≥90 %, powd.

E140, isolated from spinach.

C₅₅H₇₀MgN₄O₆

M 907,46 g/mol

mp 183-185 °C

Storage temp.: +4 °C

[519-62-0] • EC No. 208-272-4

Type analysis:

Appearance. dark green, fine powder
 Assay (HPLC). ≥90 %

6365.1	1 mg	glass	222,00 €
6365.2	5 mg	glass	1236,25 €

Chlorophyll sodium salt

Chlorophyll sodium salt

water-soluble, E 140

Not copperized

Type analysis:

Appearance. grey-green powder
 Dye content. ≥97 % Na chlorophyllin
 Loss on drying (105 °C). ≤10 %
 pH value (10 % H₂O solution). 8,5-10,0
 Intensity of colour E/1% / 401 nm. 680-780 in buffer pH 9
 Intensity of colour E/1 %/653 nm. 145-165 in buffer pH 9
 Arsenic (As). ≤0,0003 %
 Lead (Pb). ≤0,0005 %

6217.1	10 g	plastic	30,00 €

Chloroplatinic acid hydrate

► Hydrogen hexachloroplatinate(IV) hydrate
 see p. 1888

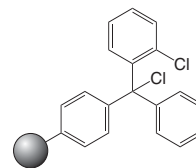
N-Chloro-4-toluene sulphonic acid amide

► Chloramine T trihydrate see p. 1728

Chlorotrimethylsilane

► Trimethylchlorosilane see p. 2221

2-Chlorotrityl chloride resin



2-Chlorotrityl chloride resin

100-200 mesh, 1 % DVB

For peptide synthesis

CTC resin

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance. pale yellow-brown beads
 Loading. 1,0-1,6 mmol/g
 Identity (IR). complies
 Swelling. 3 ml/g (DMF, 24 h)
 Kaiser test. negative
 Particle size. 75-150 µm (100-200 mesh)

7405.1	5 g	plastic	70,85 €
7405.2	25 g	plastic	278,45 €

3-[(3-Cholamidopropyl)-dimethylamino]-2-hydroxy-1-propanesulphonate

► CHAPSO see p. 1727

3-[(3-Cholamidopropyl)-dimethyl ammonio]-1-propane sulphonate

► CHAPS see p. 1726

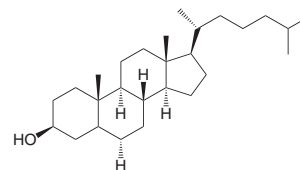
Cholera Agar

► TCBS Agar see p. 2198

Cholera Medium TCBS

► TCBS Agar see p. 2198

5-α-Cholestan-3β-ol



5-α-Cholestan-3β-ol

≥90 %

Dihydrocholesterol

C₂₇H₄₈O

M 388,68 g/mol

mp 138-142 °C

[80-97-7] • EC No. 201-315-8

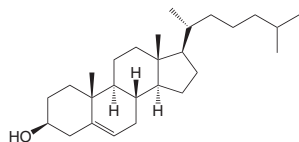
WGK 1

Type analysis:

Assay (GC). ≥90,0 %
 Optical rotation [α]_D²⁰ (1% CHCl₃). +22° to +24°

3400.1	5 g	plastic	97,75 €

Cholesterol

**Cholesterol**

≥95 %, Ph.Eur., for biochemistry

 $C_{27}H_{46}O$

M 386,67 g/mol

D 1,07

mp 147-150 °C • flp 250 °C

Solubility: insoluble (H_2O , 20 °C)

Storage temp.: +4 °C

[57-88-5] • EC No. 200-353-2

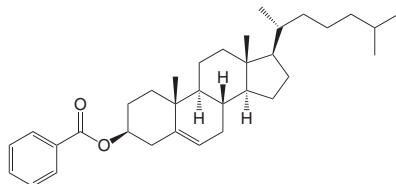
WGK 1

Guarantee analysis:

Appearance: white to off-white, cryst. powder
 Content (total sterols): 97,0-103,0 %
 Assay (cholesterol): ≥95,0 %
 Identity: complies
 Melting point: 147-150 °C
 Sulphated ash: ≤0,1 %
 Loss on drying: ≤0,3 %
 Acid react. substances: complies
 Solubility in ethanol % vol.: complies

8866.1	100 g	plastic	107,40 €

Cholesterol benzoate

**Cholesterol benzoate**

>97,5 %, cryst.

 $C_{34}H_{50}O_2$

M 490,76 g/mol

mp ~150 °C

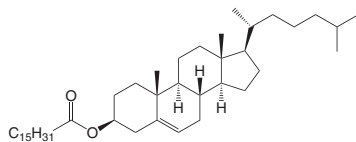
[604-32-0] • EC No. 210-064-3

Type analysis:

Appearance: white, cryst. powder
 Assay: >97,5 %

3402.1	10 g	plastic	44,00 €

Cholesterol palmitate

**Cholesterol palmitate**

≥97 %, pure

 $C_{43}H_{76}O_2$

M 625,08 g/mol

mp ~76 °C

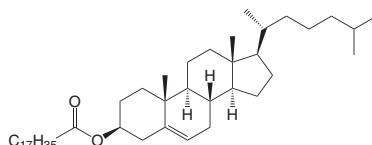
[601-34-3] • EC No. 210-002-5

Type analysis:

Assay: ≥97 %

3404.1	5 g	plastic	44,00 €

Cholesterol stearate

**Cholesterol stearate**

≥97 %, pure

 $C_{45}H_{80}O_2$

M 653,14 g/mol

mp 79-81 °C

[35602-69-8] • EC No. 252-637-0

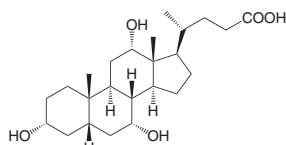
WGK 1

Type analysis:

Assay: ≥97 %

3405.1	5 g	glass	31,10 €

Cholic acid

**Cholic acid**

≥99 %

 $C_{24}H_{40}O_5$

M 408,58 g/mol

mp 195-202 °C

Solubility: 0,28 g/l (H_2O , 15 °C)

Storage temp.: +4 °C

[81-25-4] • EC No. 201-337-8

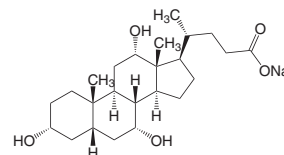
Type analysis:

Assay (HPLC): ≥99 %
 Loss on drying: ≤0,5 %
 Deoxy cholic acid: ≤1 %

8137.1	25 g	plastic	42,50 €

8137.2	100 g	plastic	84,40 €

Cholic acid sodium salt

**Cholic acid sodium salt**

≥99 %, for biochemistry

Anionic detergent

Sodium cholate

 $C_{24}H_{39}NaO_5$

M 430,57 g/mol

[361-09-1] • EC No. 206-643-5

WGK 1

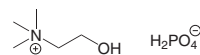
Type analysis:

Assay (dry substance): ≥99,0 %

Water (KF): ≤5 %

Specific rotation $[\alpha]_D^{20}$: +34° to +37°

3407.1	50 g	plastic	54,75 €

Choline-dihydrogenphosphate
(Choline DHP)**Choline-dihydrogenphosphate
(Choline DHP)**

≥98 %

Ionic liquid

Choline DHP

 $C_5H_{16}NO_5P$

M 201,06 g/mol

mp 190 °C

[83846-92-8]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance: white to yellowish, solid

Assay: ≥98 %

Water (KF): ≤0,25 %

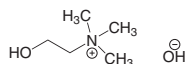
2028.1	25 g	glass	231,15 €

2028.2	100 g	glass	525,70 €

Lit.: "Protein solubilising and stabilising ionic liquids" K. Fujita, D. R. MacFarlane, M. Forsyth, *Chem. Commun.* **2005**, 4804-4806.

For further information, please see page 1459

Choline hydroxide



Choline hydroxide

~48 % in water

$C_5H_{15}NO_2$

M 121,18 g/mol

D 1,08

Storage temp.: +4 °C

[123-41-1] • EC No. 200-535-1

UN No. 3267 • ADR 8 II

Danger H314

Type analysis:

Assay ~48 %
Density (20 °C). ~1,08

3406.1	250 ml	glass	274,15 €

Chondroitin sulphate sodium salt

Chondroitin sulphate sodium salt

for biochemistry

from bovine trachea

$(C_{14}H_{20}NNaO_{15}S)_n$

Storage temp.: +4 °C

[9007-28-7] • EC No. 232-696-9

Type analysis:

Appearance bright powder
Assay ≥90,0 %
pH value 5,5-7,5
Loss on drying ≤10 %

5197.1	25 g	plastic	41,40 €

Christensen Agar

► Urea Agar acc. to Christensen (Base)
see p. 2232

Chromium Standards

- Chromium AAS Standard Solution
see p. 2167
- Chromium ICP Standard Solution
see p. 2170
- Chromium ICP Standard Solution
see p. 2175

Chromate Standards

- Chromate IC Standard Solution
see p. 2181

Chromic acid potassium salt

- Potassium chromate see p. 2053

Chromic(III) potassium sulphate 12-hydrate

- Chromium(III) potassium sulphate dodecahydrate see p. 1734

Chromium(III) nitrate nonahydrate

$Cr(NO_3)_3 \cdot 9 H_2O$

M 400,14 g/mol

D 1,80 • bp 100 °C (dec.)

mp 36-37 °C

Solubility: 810 g/l (H_2O , 20 °C)

[7789-02-8] • EC No. 236-921-1

UN No. 2720 • ADR 5.1 III • WGK 2

Warning H272-H315-H319

Chromium(III) nitrate nonahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis). 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5619.1	5 g	plastic	55,80 €

5619.2	25 g	plastic	166,65 €

Chromium(III) nitrate nonahydrate

≥98 %, p.a.

Type analysis:

Assay (iodom.). ≥98,0 %
Chloride (Cl). ≤0,005 %
Ammonium (NH_4). ≤0,001 %
Sulphate (SO_4). ≤0,005 %
Lead (Pb). ≤0,002 %
Calcium (Ca). ≤0,005 %
Cadmium (Cd). ≤0,001 %
Iron (Fe). ≤0,02 %
Copper (Cu). ≤0,001 %
Magnesium (Mg). ≤0,005 %
Sodium (Na). ≤0,01 %
Nickel (Ni). ≤0,005 %
Zinc (Zn). ≤0,001 %

8773.1	100 g	plastic	17,10 €

8773.2	500 g	plastic	34,30 €

Original pack 6 x 500 g 32,59/500 g

8773.3	1 kg	plastic	60,10 €

Original pack 6 x 1 kg 57,10/1 kg

Chromium(III) oxide

Chromium(III) oxide

ROTI®METIC 99,9 % (3N)

Cr_2O_3

M 151,99 g/mol

D 5,22 • bp ~3000 °C

mp 2435 °C

[1308-38-9] • EC No. 215-160-9

Type analysis:

Assay (metals basis). 99,9 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4498.1	5 g	plastic	33,25 €

4498.2	25 g	plastic	134,40 €

Chromium(III) potassium sulphate dodecahydrate

Potassium chromium(III) sulphate, Alum chrome

$KCr(SO_4)_2 \cdot 12 H_2O$

M 499,41 g/mol

D 1,83

mp 89 °C

Solubility: 250 g/l (H_2O , 20 °C)

[7788-99-0] • EC No. 233-401-6

WGK 2

Warning H315-H319

Chromium(III) potassium sulphate dodecahydrate

≥98 %, p.a., ACS

Guarantee analysis:

Assay (iodom.). ≥98,0 %
pH value (5 % in H_2O). 2,8-4,0
In H_2O insoluble matter. ≤0,005 %
Chloride (Cl). ≤0,002 %
Aluminium (Al). ≤0,005 %
Ammonium (NH_4). ≤0,01 %
Lead (Pb). ≤0,005 %
Cadmium (Cd). ≤0,005 %
Calcium (Ca). ≤0,005 %
Iron (Fe). ≤0,01 %
Copper (Cu). ≤0,001 %
Zinc (Zn). ≤0,005 %
Heavy metals (as Pb). ≤0,01 %

4389.1	250 g	plastic	51,10 €

4389.2	500 g	plastic	97,30 €

Original pack 6 x 500 g 92,44/500 g

Chromium(III) potassium sulphate dodecahydrate

≥98 %

Type analysis:

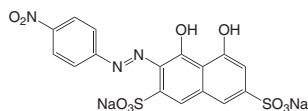
Assay (iodom.). ≥98 %
Chloride (Cl). ≤0,03 %
Lead (Pb). ≤0,01 %
Iron (Fe). ≤0,03 %

3535.3	100 g	plastic	11,30 €

3535.1	1 kg	plastic	39,25 €

Original pack 6 x 1 kg 37,29/1 kg

3535.2	10 kg	plastic	278,45 €

Chromotrope® 2B (C.I. 16575)**Chromotrope® 2B (C.I. 16575)**

for microscopy

 $C_{16}H_9N_3Na_2O_{10}S_2$

M 513,37 g/mol

mp >300 °C

[548-80-1] • EC No. 208-959-9

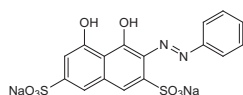
WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... dark green to brown powder
Absorption max. (in H_2O)..... 514 nm

7647.1	5 g	glass	13,15 €
7647.2	25 g	glass	22,05 €
7647.3	100 g	glass	55,80 €

Chromotrope® 2R (C.I. 16570)**Chromotrope® 2R (C.I. 16570)**

for microscopy

Indicator for complexometry.

 $C_{16}H_{10}N_2Na_2O_8S_2$

M 468,39 g/mol

[4197-07-3] • EC No. 224-085-0

WGK 3

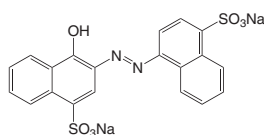
⚠ Warning H315-H319-H335

Type analysis:

Maximum absorption..... 500-520 nm
Loss on drying (110 °C)..... ≤10 %

4937.2	10 g	glass	26,80 €
4937.1	50 g	glass	99,90 €

For further information, please see page 1398

Chromotrope® FB (C.I. 14720)**Chromotrope® FB (C.I. 14720)**

for microscopy

Acid Red 14, Azorubine, Carmoisine

 $C_{20}H_{12}N_2Na_2O_7S_2$

M 502,43 g/mol

[3567-69-9] • EC No. 222-657-4

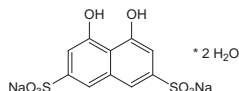
WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... dark red to black powder
Appearance of solution (0,1 % in H_2O)..... clear
Loss on drying..... ≤8 %

7648.1	5 g	glass	13,15 €
7648.2	25 g	glass	22,05 €
7648.3	100 g	glass	55,80 €

Chromotropic acid disodium salt dihydrate**Chromotropic acid disodium salt dihydrate**

≥98,5 %, p.a., ACS

Analytical reagent.

4,5-Dihydroxy-2,7-naphthalene disulphonic acid sodium salt

 $C_{10}H_6Na_2O_8S_2 \cdot 2 H_2O$

M 400,30 g/mol

mp >300 °C

Solubility: 170 g/l (H_2O , 20 °C)

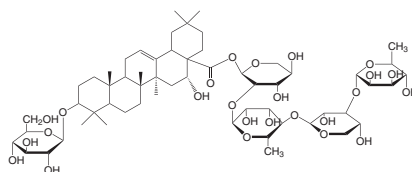
[5808-22-0] • EC No. 204-972-9

WGK 3

Guarantee analysis:

Assay (titr.)..... ≥98,5 %
Water (KF)..... 8,5-9,5 %
Solution (5 % in H_2O)..... clear solution
In H_2O insoluble matter..... ≤0,02 %
Suitability for determination of nitrate and formaldehyde..... complies

KK30.1	10 g	glass	32,15 €
KK30.2	25 g	glass	68,70 €

Chrysanthellin A**Chrysanthellin A**

ROTICHRON® HPLC

Reference substance for HPLC

 $C_{58}H_{94}O_{25}$

M 1191,37 g/mol

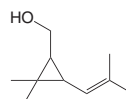
Storage temp.: +4 °C

[73039-13-1] • EC No. 277-245-7

Type analysis:

Purity (HPLC)..... ≥96 %

5261.1	10 mg	glass	370,90 €

Chrysanthemyl alcohol**Chrysanthemyl alcohol**

>97,5 %

mixture of cis-trans isomers

 $C_{10}H_{18}O$

M 154,25 g/mol

bp 66-69 °C

flp 84 °C

[18383-59-0] • EC No. 227-045-0

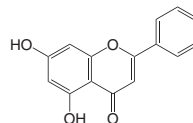
Type analysis:

Appearance..... light yellowish liquid
Assay (GC)..... >97,5 %
Refractive index n_D^{20} 1,4730-1,4770

7243.1	2,5 g	glass	52,15 €

Chrysotropic acid

▶ Scopoletin see p. 2122

Chrysin**Chrysin**

≥97 %

5,7-Dihydroxyflavone

 $C_{15}H_{10}O_4$

M 254,24 g/mol

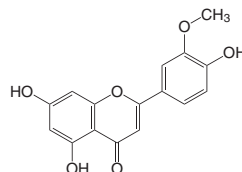
mp 277-281 °C

[480-40-0] • EC No. 207-549-7

Type analysis:

Appearance..... yellow powder
Assay (HPLC)..... 97,0-100,0 %

6475.1	500 mg	glass	18,85 €

Chrysoeriol**Chrysoeriol**

ROTICHRON® HPLC

Reference substance for HPLC

 $C_{16}H_{12}O_6$

M 300,26 g/mol

Storage temp.: +4 °C

[491-71-4] • EC No. 207-742-6

Type analysis:

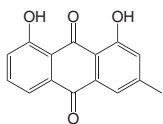
Purity (HPLC)..... ≥99 %

6044.1	5 mg	glass	238,65 €

Chrysoidine solution

► Neisser's solution III see p. 1982

Chrysophanic acid



Chrysophanic acid

ROTICHROM® HPLC

Reference substance for HPLC

Chrysophanol

$C_{15}H_{10}O_4$

M 254,23 g/mol

mp 196 °C (subl.)

Storage temp.: +4 °C

[481-74-3] • EC No. 207-572-2

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Purity (HPLC)..... ≥99 %

7442.1	10 mg	glass	155,90 €

Chrysophanol

► Chrysophanic acid see p. 1736

Chymotrypsin

Chymotrypsin

>1000 USP-U/mg, for biochemistry

Made from bovine pancreas.

α-Chymotrypsin

Storage temp.: -20 °C

Transport temp.: room temp.

[9004-07-3] • EC No. 232-671-2

WGK 1

⚠ ⚠ Danger H334-H335-H315-H319

Type analysis:

Identity..... complies

Activity..... >1000 USP-U/mg

pH value (1 % in H_2O)..... 3,0-5,0

Trypsin..... <25 USP-U/mg

Sulphated ash..... <2,5 %

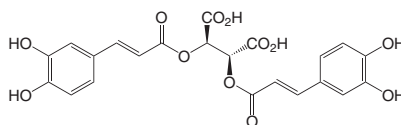
Loss on drying..... <5,0 %

0238.1	100 mg	glass	23,55 €

0238.2	500 mg	glass	49,35 €

0238.3	1 g	glass	81,20 €

Cichoric acid



Cichoric acid

ROTICHROM® HPLC

Reference substance for HPLC

From *Echinacea pallida*.

2,3-Dicaffeoyltartaric acid

$C_{22}H_{18}O_{12}$

M 474,38 g/mol

Storage temp.: +4 °C

[70831-56-0]

Type analysis:

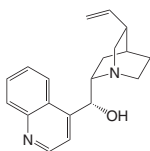
Purity (HPLC)..... >98 %

1130.1	10 mg	glass	375,20 €

CIN-Agar

► Yersinia Selective Agar (Base) see p. 2248

Cinchonidine



Cinchonidine

~96 %

$C_{19}H_{22}N_2O$

M 294,40 g/mol

mp ~204 °C

[485-71-2] • EC No. 207-622-3

UN No. 1544 • ADR 6.1 III • WGK 1

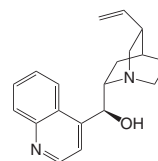
⚠ Warning H302

Type analysis:

Assay..... ≥95,5 %

8872.1	25 g	plastic	99,45 €

Cinchonine



Cinchonine

≥99 %

For resolution of racemates and synthesis.

$C_{19}H_{22}N_2O$

M 294,40 g/mol

mp ~260 °C

Solubility: 0,25 g/l (H_2O , 20 °C)

[118-10-5] • EC No. 204-234-6

UN No. 1544 • ADR 6.1 III • WGK 1

⚠ Warning H302-H317

Type analysis:

Assay (titr.)..... ≥99,0 %

Specific rotation $[\alpha]_D^{20}$ (c=0,5 in methanol).....

..... +218° to +222°

8875.1	50 g	plastic	213,95 €

1,4-Cineole



1,4-Cineole

ROTICHROM® GC

Reference substance for GC

$C_{10}H_{18}O$

M 154,25 g/mol

D ~0,890 • bp 173-174 °C

mp -46 °C • flp 47 °C

Storage temp.: +4 °C

[470-67-7] • EC No. 207-428-9

UN No. 1993 • ADR 3 III • WGK 2

⚠ Warning H226

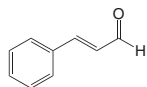
Type analysis:

Purity (GC)..... ≥87 %

5833.1	1 g	plastic	75,15 €

1,8-Cineole

► Eucalyptol see p. 1820

Cinnamaldehyde

3-Phenyl-2-propenal
 C_9H_8O
 M 132,16 g/mol
 D ~1,05 • bp 252 °C
 mp -7 °C • flp 138 °C
 Solubility: 1,1 g/l (H_2O , 20 °C)
 [104-55-2] • EC No. 203-213-9
 WGK 1

⚠ **Warning** H315-H317

Cinnamaldehyde

≥98 %, for synthesis

Type analysis:

Assay (GC). ≥98 %
 Density (20 °C). 1,047-1,051

5549.1	250 ml	glass	23,15 €

Cinnamaldehyde

ROTICHRON® GC

Reference substance for GC
 Storage temp.: +4 °C

Type analysis:

Purity (GC). ≥97 %

3618.1	1 g	plastic	75,15 €

trans-Cinnamaldehyde**trans-Cinnamaldehyde**

≥98,5 %, for synthesis

D ~1,05 • bp 250-252 °C
 Storage temp.: +4 °C
 [14371-10-9] • EC No. 203-213-9
 WGK 1

⚠ **Warning** H315-H317-H319-H335

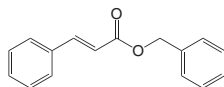
Type analysis:

Appearance. clear, colourless to yellow liquid
 Assay (GC). 98,5-100,0 %

7195.1	250 ml	glass	59,05 €

Cinnamein

▶ Cinnamic acid benzyl ester see p. 1737

Cinnamic acid benzyl ester**Cinnamic acid benzyl ester**

ROTICHRON® GC

Reference substance for GC
 Benzyl cinnamate, Cinnamein

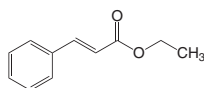
$C_{16}H_{14}O_2$
 M 238,29 g/mol
 D 1,11 • bp 350 °C
 mp 34 °C • flp 180 °C
 Storage temp.: +4 °C
 [103-41-3] • EC No. 203-109-3
 UN No. 3077 • ADR 9 III • WGK 2

⚠ H411

Type analysis:

Purity (GC). ≥94 %

5088.1	1 g	plastic	75,15 €

Cinnamic acid ethyl ester**Cinnamic acid ethyl ester**

ROTICHRON® GC

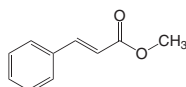
Reference substance for GC
 Ethyl cinnamate

$C_{11}H_{12}O_2$
 M 176,22 g/mol
 D ~1,049 • bp 271 °C
 mp 6-8 °C • flp 135 °C
 Storage temp.: +4 °C
 [103-36-6] • EC No. 203-104-6 • WGK 1

Type analysis:

Purity (GC). ≥98 %

3211.1	1 g	plastic	75,15 €

Cinnamic acid methyl ester**Cinnamic acid methyl ester**

≥98 %, for synthesis

Methyl cinnamate

$C_{10}H_{10}O_2$
 M 162,19 g/mol
 bp 260-261 °C
 mp 33-38 °C • flp 113 °C
 [103-26-4] • EC No. 203-093-8 • WGK 1

Type analysis:

Assay. ≥98,0 %

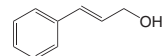
3643.1	25 g	plastic	11,00 €

3643.2	100 g	plastic	17,75 €

3643.3	500 g	plastic	49,35 €
Original pack 6 x 500 g			46,88/500 g

8'-Cinnamoylharpagid

▶ Harpagoside see p. 1867

Cinnamyl alcohol**Cinnamyl alcohol**

≥98 %, for synthesis

3-Phenyl-2-propen-1-ol
 $C_9H_{10}O$
 M 134,18 g/mol
 D ~1,04 • bp 258 °C
 mp 31-34 °C • flp 126 °C
 Solubility: 1,8 g/l (H_2O , 20 °C)
 [104-54-1] • EC No. 203-212-3
 WGK 2

⚠ **Warning** H302-H315-H319-H317

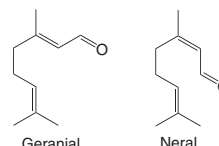
Type analysis:

Assay (GLC). ≥98 %
 Melting point. 32-34 °C

4905.1	100 g	glass	18,85 €

CIN Supplement

▶ Yersinia Supplement see p. 2248

Citral

Geranium aldehyde, Geranial + Neral

$C_{10}H_{16}O$
 M 152,23 g/mol
 D ~0,88 • bp 288 °C
 mp <-20 °C • flp 98 °C
 Solubility: 0,4 g/l (H_2O , 25 °C)
 Storage temp.: +4 °C
 [5392-40-5] • EC No. 226-394-6
 WGK 1

⚠ **Warning** H315-H317

Citral

for biochemistry

Type analysis:

Appearance. yellow oil
 Assay (GC). 95-98 %
 Density (20 °C). 0,885-0,895
 Refractive index n_D^{20} 1,486-1,491

5937.1	100 ml	glass	20,35 €

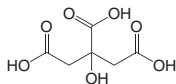
Citral**ROTICHROM® GC**

Reference substance for GC

Type analysis:

Purity (GC) ≥95 %

5292.1	1 g	plastic	75,15 €

C**Citric acid** $C_6H_8O_7$

M 192,13 g/mol

D 1,542

mp 153 °C

Solubility: 1330 g/l (H_2O , 20 °C)

[77-92-9] • EC No. 201-069-1 • WGK 1

⚠ Warning H319

Citric acid

≥99,5 %, p.a., ACS, anhydrous

Guarantee analysis:

Assay (acidim.)	≥99,5 %
In H_2O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,001 %
Phosphate (PO_4)	≤0,001 %
Oxalate (C_2O_4)	≤0,05 %
Sulphur compounds (as SO_4)	≤0,002 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00001 %
Lead (Pb)	≤0,0002 %
Calcium (Ca)	≤0,0025 %
Iron (Fe)	≤0,0003 %
Magnesium (Mg)	≤0,0005 %
Nickel (Ni)	≤0,0002 %
Ash content (as SO_4)	≤0,02 %
Matter discoloured by H_2SO_4	complies

X863.1	500 g	plastic	18,20 €

Original pack 6 x 500 g 17,29/500 g

X863.2	1 kg	plastic	27,85 €

Original pack 6 x 1 kg 26,46/1 kg

X863.3	2,5 kg	plastic	55,80 €

X863.5	25 kg	plastic	342,95 €

For further information, please see page 1214

Citric acid

≥99,5 %, Ph.Eur., anhydrous

Guarantee analysis:

Assay (dry substance)	99,5-100,5 %
Appearance of solution	complies
Identity	complies
Water	≤0,5 %
Sulphated ash	≤0,05 %
Chloride (Cl)	≤0,0005 %
Sulphate (SO_4)	≤0,01 %
Oxalate (as $C_2H_2O_4$)	≤0,01 %
Heavy metals (as Pb)	≤0,0005 %
Iron (Fe)	≤0,0003 %
Arsenic (As)	≤0,0001 %
Calcium (Ca)	≤0,003 %
Reaction with H_2SO_4	complies

6490.3	500 g	plastic	13,45 €

Original pack 6 x 500 g 12,78/500 g

6490.1	1 kg	plastic	21,75 €

Original pack 6 x 1 kg 20,66/1 kg

6490.2	5 kg	plastic	79,45 €

6490.5	25 kg	plastic	231,70 €

Citric acid

≥99,5 %, extra pure, anhydrous

Type analysis:

Assay	≥99,5 %
Lead (Pb)	≤0,001 %
Iron (Fe)	≤0,001 %
Heavy metals	≤0,001 %
Ash content	≤0,1 %
Water	≤0,5 %

7624.1	1 kg	plastic	16,70 €

Original pack 6 x 1 kg 15,87/1 kg

7624.2	5 kg	plastic	66,15 €

7624.3	10 kg	plastic	109,55 €

7624.4	25 kg	plastic	209,65 €

Citric acid ammonium iron(III) salt

► Ammonium iron(III) citrate see p. 1640

Citric acid monohydrate $C_6H_8O_7 \cdot H_2O$

M 210,14 g/mol

D 1,54

mp 135-152 °C

Solubility: 1630 g/l (H_2O , 20 °C)

[5949-29-1] • EC No. 201-069-1

WGK 1

⚠ Warning H319

Citric acid monohydrate

≥99,5 %, p.a., ACS, ISO

Buffer substance

Guarantee analysis:

Assay (acidim.)	≥99,5 %
In H_2O insoluble matter	≤0,005 %
Ash content (as SO_4)	≤0,02 %
Matter discoloured by H_2SO_4	complies
Chloride (Cl)	≤0,0005 %
Oxalate (C_2O_4)	≤0,05 %
Phosphate (PO_4)	≤0,001 %
Sulphur compounds (as SO_4)	≤0,002 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00001 %
Lead (Pb)	≤0,0002 %
Calcium (Ca)	≤0,002 %
Iron (Fe)	≤0,0003 %
Copper (Cu)	≤0,00005 %
Magnesium (Mg)	≤0,0005 %
Nickel (Ni)	≤0,0002 %

3958.2	500 g	plastic	17,75 €

Original pack 6 x 500 g 16,86/500 g

3958.1	1 kg	plastic	27,85 €

Original pack 6 x 1 kg 26,46/1 kg

3958.3	2,5 kg	plastic	51,10 €

3958.4	5 kg	plastic	94,50 €

3958.5	25 kg	plastic	327,90 €

Citric acid monohydrate

≥99,5 %, Ph.Eur.

Guarantee analysis:

Appearance	white, cryst. powder
Assay (dry substance)	99,5-100,5 %
Identity	complies
Appearance of solution	complies
Water (KF)	7,5-8,8 %
Sulphate (SO_4)	≤0,015 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0001 %
Mercury (Hg)	≤0,0001 %
Oxalate (as $C_2H_2O_4$)	≤0,01 %
Reaction with H_2SO_4	complies
Sulphated ash	≤0,05 %

5110.3	500 g	plastic	13,15 €

Original pack 6 x 500 g 12,49/500 g

5110.1	1 kg	plastic	21,00 €

Original pack 6 x 1 kg 19,95/1 kg

5110.2	5 kg	plastic	55,40 €

5110.5	25 kg	plastic	169,35 €

Citric acid monohydrate

for removing lime deposits

1818.1	1 kg	plastic	14,30 €

Original pack 6 x 1 kg 13,59/1 kg

For further information, please see page 1078

Citric acid mono sodium salt

► Mono sodium citrate see p. 2144

Citric acid potassium salt

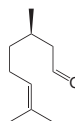
► tri-Potassium citrate monohydrate see p. 2053

Citric acid triammonium salt

► tri-Ammonium citrate see p. 1637

Citric acid trisodium salt dihydrate

► tri-Sodium citrate dihydrate see p. 2144

Citronellal**Citronellal****ROTICHROM® GC**

Reference substance for GC

 $C_{10}H_{18}O$

M 154,25 g/mol

D ~0,86 • bp 208 °C (dec.)

flp 75 °C

Storage temp.: +4 °C

[106-23-0] • EC No. 203-376-6

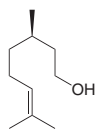
UN No. 3082 • ADR 9 III • WGK 1

⚠ ⚠ Warning H315-H317-H411

Type analysis:

Purity (GC) ≥93 %

6008.1	1 g	plastic	75,15 €

(+)- β -Citronellol**(+)- β -Citronellol****ROTICHROM® GC**

Reference substance for GC

 $C_{10}H_{20}O$

M 156,27 g/mol

D 0,86 • bp 109-111 °C (13 hPa)

mp <-20 °C • flp 102 °C

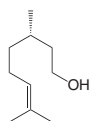
Storage temp.: +4 °C

[106-22-9] • EC No. 203-375-0

UN No. 3082 • ADR 9 III • WGK 1

Warning H315-H317-H411
Type analysis:Purity (GC)..... ≥ 95 %

6006.1	1 g	plastic	75,15 €

(-)- β -Citronellol**(-)- β -Citronellol****ROTICHROM® GC**

Reference substance for GC

 $C_{10}H_{20}O$

M 156,27 g/mol

D ~0,854 • bp 109-111 °C (13 hPa)

flp 99 °C

Storage temp.: +4 °C

[7540-51-4] • EC No. 231-415-7

UN No. 3082 • ADR 9 III • WGK 2

Warning H315-H317-H411
Type analysis:Purity (GC)..... ≥ 90 %

6645.1	1 g	plastic	75,15 €

($\pm$)- β -Citronellol**($\pm$)- β -Citronellol****ROTICHROM® GC**

Reference substance for GC

 $C_{10}H_{20}O$

M 156,27 g/mol

D ~0,859

mp <-20 °C • flp 102 °C

Storage temp.: +4 °C

[106-22-9] • EC No. 203-375-0

UN No. 3082 • ADR 9 III • WGK 1

Warning H315-H317-H411
Type analysis:Purity (GC)..... $\geq 88,0$ %

6193.1	1 g	plastic	75,15 €

Claviformin

► Patulin see p. 2021

CLED Agar**CLED Agar****for microbiology**

For cultivation, differentiation and enumeration of gram-positive and gram-negative bacteria from the urinary tract.

Application: Use 36 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Casein peptone.....	4 g/l
Gelatine peptone.....	4 g/l
Beef extract.....	3 g/l
Lactose.....	10 g/l
L-Cysteine.....	0,128 g/l
Bromothymol blue.....	0,02 g/l
Agar.....	15 g/l
pH value.....	7,3 $\pm$ 0,2

2835.1	500 g	plastic	86,55 €

Original pack 6 x 500 g 82,22/500 g

2835.2	1 kg	plastic	146,00 €

Original pack 6 x 1 kg 138,70/1 kg

For further information, please see page 1320

CLED Agar plus**CLED Agar plus****for microbiology**

For cultivation, easy differentiation by colour, and enumeration of gram-positive and gram-negative bacteria from the urinary tract.

Application: Use 36,2 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Casein peptone.....	4 g/l
Gelatine peptone.....	4 g/l
Beef extract.....	3 g/l
Lactose.....	10 g/l
L-Cysteine.....	0,128 g/l
Bromothymol blue.....	0,02 g/l
Andrade's indicator.....	0,01 g/l
Agar.....	15 g/l
pH value.....	7,5 $\pm$ 0,2

2836.1	500 g	plastic	91,95 €

Original pack 6 x 500 g 87,35/500 g

For further information, please see page 1320

Cleland's Reagent

► 1,4-Dithioerythritol see p. 1789

► 1,4-Dithiothreitol see p. 1789

Clostridium perfringens Supplement**Clostridium perfringens Supplement****lyophilised**Media supplement for selective isolation of *Clostridium perfringens*.

One box of 10 vials Clostridium perfringens Supplement is sufficient for 10 x 500 ml TSC Agar or for 10 x 500 ml m-CP Agar.

Storage temp.: +4 °C

WGK 1

Formulation per vial:

D-Cycloserine.....0,2 g

CL52.1	10 vials	glass	203,20 €

For further information, please see page 1343

Club-moss spores

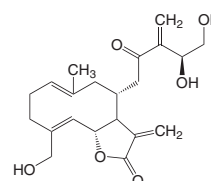
► Lycopodium see p. 1940

4-CN

► 4-Chloro-1-naphthol see p. 1731

CN Agar

► Pseudomonas Selective Agar (Base) see p. 2071

Cnicin $C_{20}H_{26}O_7$

M 378,42 g/mol

mp 142-143 °C

Storage temp.: +4 °C

[24394-09-0] • EC No. 246-221-8

Warning H315-H319-H335
Cnicin**ROTICHROM® HPLC**Reference substance for HPLC
From *Cnicus benedictus*.**Type analysis:**Purity (HPLC)..... ≥ 98 %

2823.1	10 mg	glass	235,45 €

Cnicin**ROTICHROM® ~CHR**

4560.1	10 mg	glass	69,90 €

Cobalt Standards

► Cobalt AAS Standard Solution see p. 2167

► Cobalt ICP Standard Solution see p. 2170

► Cobalt ICP Standard Solution see p. 2175

Cobalt powder**Cobalt powder****ROTI®METIC 99,999 % (5N)**

Co

M 58,93 g/mol

D 8,86 • bp 2927 °C

mp 1495 °C

[7440-48-4] • EC No. 231-158-0

UN No. 3288 • ADR 6.1 I • WGK 3

 **Danger** H302-H317-H319-H330-H334-H350-H361f-H410
Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5620.1	5 g	plastic	78,40 €
5620.2	25 g	plastic	256,95 €

Cobalt(II) acetate tetrahydrate**Cobalt(II) acetate tetrahydrate****≥98 %, p.a., ACS**Co(CH₃COO)₂ · 4 H₂O

M 249,08 g/mol

D 1,70

Solubility: ~380 g/l (H₂O, 25 °C)

[6147-53-1] • EC No. 200-755-8

UN No. 3077 • ADR 9 III • WGK 3

 **Danger**

H334-H350i-H360F-H341-H410-H317

Guarantee analysis:

Assay (compl.)..... 98,0-102,0 %

In H₂O insoluble matter..... ≤0,01 %

Chloride (Cl)..... ≤0,002 %

Nitrate (NO₃)..... ≤0,01 %Sulphate (SO₄)..... ≤0,005 %

Calcium (Ca)..... ≤0,005 %

Copper (Cu)..... ≤0,002 %

Iron (Fe)..... ≤0,001 %

Potassium (K)..... ≤0,01 %

Magnesium (Mg)..... ≤0,005 %

Manganese (Mn)..... ≤0,01 %

Sodium (Na)..... ≤0,05 %

Lead (Pb)..... ≤0,001 %

Nickel (Ni)..... ≤0,1 %

Zinc (Zn)..... ≤0,01 %

HN29.1	50 g	plastic	24,20 €
HN29.2	100 g	plastic	37,55 €
HN29.3	250 g	plastic	79,45 €

Cobalt agarose beads

▶ Roti®garose-His/Co Beads see p. 2097

Cobalt charged IMAC columns

▶ Roti®garose-His/Co Columns see p. 2097

Cobalt(II) chloride hexahydrateCoCl₂ · 6 H₂O

M 237,93 g/mol

D 1,92

mp ~86 °C

Solubility: 562 g/l (H₂O, 25 °C)

[7791-13-1] • EC No. 231-589-4

UN No. 3077 • ADR 9 III • WGK 2

 **Danger**

H302-H334-H317-H341-H350i-H360F-H410

Cobalt(II) chloride hexahydrate**≥99 %, p.a., ACS, ISO**

Colour indicator for drying agents, starting material for the preparation of further cobalt compounds.

Guarantee analysis:

Assay (compl.)..... 99,0-102,0 %

In H₂O insoluble matter..... ≤0,005 %Nitrate (NO₃)..... ≤0,01 %Sulphate (SO₄)..... ≤0,005 %Ammonium (NH₄)..... ≤0,005 %

Lead (Pb)..... ≤0,003 %

Calcium (Ca)..... ≤0,005 %

Iron (Fe)..... ≤0,005 %

Potassium (K)..... ≤0,01 %

Copper (Cu)..... ≤0,001 %

Magnesium (Mg)..... ≤0,005 %

Manganese (Mn)..... ≤0,01 %

Sodium (Na)..... ≤0,05 %

Nickel (Ni)..... ≤0,05 %

Zinc (Zn)..... ≤0,002 %

Substances not precipitated by (NH₄)₂S..... ≤0,25 %

T889.2	50 g	plastic	55,40 €
T889.3	100 g	plastic	85,50 €
T889.1	250 g	plastic	165,55 €

Cobalt(II) chloride hexahydrate**≥98 %, extra pure****Typ analysis:**

Assay (compl.)..... ≥98,0 %

Sulphate (SO₄)..... ≤0,01 %

Lead (Pb)..... ≤0,001 %

Iron (Fe)..... ≤0,001 %

Nickel (Ni)..... ≤0,001 %

Zinc (Zn)..... ≤0,001 %

In H₂O insoluble matter..... ≤0,02 %

7095.1	50 g	plastic	47,20 €
7095.2	100 g	plastic	71,95 €

Cobalt(II) nitrate hexahydrate

Cobaltous nitrate

Co(NO₃)₂ · 6 H₂O

M 291,04 g/mol

D 1,87 • bp 100 °C (dec.)

mp 57 °C

Solubility: 1030 g/l (H₂O, 25 °C)

[10026-22-9] • EC No. 233-402-1

UN No. 1477 • ADR 5.1 III • WGK 3

 **Danger** H272-H334-H350i-

H360F-H341-H400-H410-H317

Cobalt(II) nitrate hexahydrate**ROTI®METIC 99,999 % (5N)****Typ analysis:**

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5291.1	10 g	plastic	160,20 €
5291.2	25 g	plastic	396,70 €

Cobalt(II) nitrate hexahydrate**≥98 %, p.a., ACS****Guarantee analysis:**

Assay (compl.)..... 98,0-102,0 %

In H₂O insoluble matter..... ≤0,01 %

Chloride (Cl)..... ≤0,002 %

Sulphate (SO₄)..... ≤0,005 %

Iron (Fe)..... ≤0,001 %

Lead (Pb)..... ≤0,002 %

Calcium (Ca)..... ≤0,005 %

Sodium (Na)..... ≤0,05 %

Nickel (Ni)..... ≤0,15 %

Magnesium (Mg)..... ≤0,005 %

Potassium (K)..... ≤0,01 %

Copper (Cu)..... ≤0,002 %

Zinc (Zn)..... ≤0,01 %

HN16.1	50 g	plastic	26,35 €
HN16.2	100 g	plastic	43,55 €
HN16.3	250 g	plastic	90,20 €

Cobaltous nitrate

▶ Cobalt(II) nitrate hexahydrate see p. 1740

Cobalt(III) sodium nitrite

▶ Sodium hexanitrocobaltate(III) see p. 2147

Cobalt(II) sulphate hydrate**Cobalt(II) sulphate hydrate****ROTI®METIC 99,999 % (5N)**

Cobalt(II) sulphate

CoSO₄ · x H₂OM 154,99 + x H₂O g/mol

bp 420 °C

mp 41 °C

Solubility: 383 g/l (H₂O, 20 °C)

[60459-08-7]

UN No. 3077 • ADR 9 III • WGK 3

 **Danger**

H302-H334-H317-H341-H350i-H360F-H410

Type analysis:

Assay (metals basis)..... 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5326.1	10 g	plastic	67,65 €

Cobalt(II) sulphate heptahydrate

CoSO₄ · 7 H₂O
 M 281,10 g/mol
 mp 41 °C (dec.)
 Solubility: 383 g/l (H₂O, 25 °C)
 [10026-24-1] • EC No. 233-334-2
 UN No. 3077 • ADR 9 III • WGK 2

Danger

H302-H317-H334-H341-H350i-H360F-H410

Cobalt(II) sulphate heptahydrate

≥97 %, p.a.

For manufacturing of ceramics.

Guarantee analysis:

Assay.....	≥97,0 %
In H ₂ O insoluble matter.....	≤0,01 %
Lead (Pb).....	≤0,001 %
Calcium (Ca).....	≤0,001 %
Iron (Fe).....	≤0,001 %
Potassium (K).....	≤0,001 %
Copper (Cu).....	≤0,001 %
Magnesium (Mg).....	≤0,005 %
Sodium (Na).....	≤0,005 %
Nickel (Ni).....	≤0,005 %
Zinc (Zn).....	≤0,001 %

4390.1	100 g	plastic	33,25 €

4390.2	250 g	plastic	71,95 €

4390.3	500 g	plastic	132,15 €

Original pack 6 x 500 g	125,54/500 g

Cobalt(II) sulphate heptahydrate

≥97,5 %, extra pure

Type analysis:

Assay.....	≥97,5 %
Aluminium (Al).....	≤0,005 %
Iron (Fe).....	≤0,005 %
Nickel (Ni).....	≤0,005 %
In water insoluble matter.....	≤0,05 %

7327.1	100 g	plastic	14,55 €

7327.2	500 g	plastic	33,25 €

Original pack 6 x 500 g	31,59/500 g

7327.3	1 kg	plastic	55,80 €

Original pack 6 x 1 kg	53,01/1 kg

7327.4	2,5 kg	plastic	124,60 €

Coccionella

► Cochineal see p. 1741

Cochin

► Oil of lemon-grass see p. 2006

Cochineal colouring matter

► Carmine (C.I. 75470) see p. 1717

Cochineal

Cochineal

pure

Whole lice from *Coccus cacti*.

Coccionella

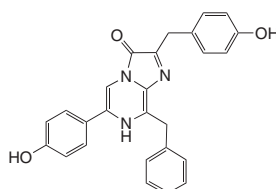
[1343-78-8] • EC No. 215-680-6

Type analysis:

Appearance..... grey violet

6500.1	25 g	plastic	27,10 €

Coelenterazine



Coelenterazine

≥95 %, for biochemistry

Luciferase substrate

C₂₆H₂₁N₃O₃

M 423,48 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[55779-48-1]

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (TLC)..... ≥95 %

4094.3	1 mg	glass	52,15 €

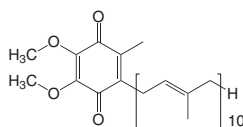
4094.4	2,5 mg	glass	95,70 €

For further information, please see page 1232

Coenzyme I

► NAD see p. 1979

Coenzyme Q 10



Coenzyme Q 10

≥98 %, for biochemistry

Ubiquinone 50

C₅₉H₉₀O₄

M 863,37 g/mol

mp 49-51 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[303-98-0] • EC No. 206-147-9

Type analysis:

Assay (HPLC)..... ≥98 %

4047.1	25 mg	glass	62,25 €

For further information, please see page 1225

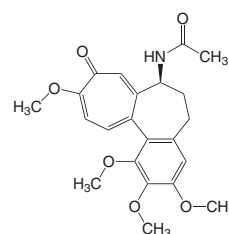
Coenzymes

Art. No.	Description	Page
HN35	Adenosin-5'-triphosphate disodium salt	1616
4047	Coenzyme Q 10	1741
6833	Flavine-adenine-dinucleotide disodium salt	1828
5581	Flavine-adenine-dinucleotide disodium salt	1828
AE11	NAD	1979
AE12	NADH disodium salt	1979
AE13	NADP disodium salt	1979
AE14	NADPH tetrasodium salt	1980

Colamine

► Ethanolamine see p. 1811

Colchicine



Colchicine

≥94 %, for biochemistry

C₂₂H₂₅NO₆

M 399,45 g/mol

mp 155-157 °C (dec.)

Solubility: 45 g/l (H₂O, 20 °C)

[64-86-8] • EC No. 200-598-5

UN No. 1544 • ADR 6.1 I • WGK 3

Danger H300-H340

Type analysis:

Appearance..... pale yellow powder

Assay (HPLC)..... 94,0-101,0 %

Water (KF)..... ≤2,0 %

Specific rotation [α]_D²⁰ (1% in ethanol)..... -250° to -240°

8884.1	500 mg	glass	47,20 €

Cold spray

► Solidofix®-Cryo spray see p. 2161

Coli Fluoro Broth

Coli Fluoro Broth

for microbiology

Enrichment medium for the simultaneous and easy detection of total Coliforms and *E. coli* in water, foods and dairy products.

Application: Use 17 g for 1 l broth.

Storage temp.: +4 °C

WGK 1

Formulation:

Tryptose.....	5 g/l
Sodium chloride.....	5 g/l
Dipotassium phosphate.....	2,7 g/l
Potassium phosphate.....	2 g/l
Sorbitol.....	1 g/l
Tryptophane.....	1 g/l
Sodium lauryl sulphate.....	0,1 g/l
Chromogenic-fluorogenic mixture.....	0,23 g/l
pH value.....	6,8 ±0,2

2923.2	100 g	plastic	122,05 €

2923.1	500 g	plastic	421,40 €

Original pack 6 x 500 g 400,33/500 g

For further information, please see page 1321

Coliforms chromogenic Agar (ISO)

Coliforms chromogenic Agar (ISO)

ISO 9308-1, for microbiology

For detection and enumeration of *E. coli* and other coliforms in water.

Application: Use 26,45 g for 1 l agar.

CCA

Storage temp.: +24 °C

WGK 1

Guarantee analysis:

Sodium chloride (NaCl).....	5,0 g/l
di-Sodium hydrogen phosphate.....	2,7 g/l
Sodium dihydrogen phosphate.....	2,2 g/l
Yeast extract.....	2,0 g/l
Casein, enzymatically digested.....	1,0 g/l
Sodium pyruvate.....	1,0 g/l
Tryptophane.....	1,0 g/l
Sorbitol.....	1,0 g/l
Chromogene Mixture.....	0,4 g/l
Sodium heptadecyl sulphate (Tergitol-7).....	0,15 g/l
Agar.....	10 g/l
pH value.....	6,8 ±0,2

8849.1	500 g	plastic	428,95 €

Original pack 6 x 500 g 407,50/500 g

For further information, please see page 1321

Coliforms chromogenic Agar

Coliforms chromogenic Agar

for microbiology

For selective enrichment and simultaneous detection of *E. coli* and other Coliforms in water and food samples.

Application: Use 26,4 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Sodium chloride (NaCl).....	5 g/l
Phosphate buffer.....	4,9 g/l
Peptone.....	3 g/l
Sodium pyruvate.....	1 g/l
Tryptophane.....	1 g/l
Sorbitol.....	1 g/l
Chromogene Mixture.....	0,36 g/l
Sodium heptadecyl sulphate (Tergitol-7).....	0,1 g/l
Agar.....	10 g/l
pH value.....	6,8 ±0,2

CL45.2	100 g	plastic	117,75 €

CL45.1	525 g	plastic	428,95 €

For further information, please see page 1321

Colistinsulphate

Colistinsulphate

≥19000 IU/mg, for biochemistry

Bacteriostatic antibiotic, peptide antibiotic

Polymyxin E₁-disulphate

C₄₅H₈₅N₁₃O₁₀ · H₂SO₄

M 1066,32 g/mol

mp 200-220 °C

Storage temp.: +4 °C

[1264-72-8] • EC No. 215-034-3

UN No. 2811 • ADR 6.1 III • WGK 2

 Danger H302

Type analysis:

Activity.....	≥19 000 IU/mg
Sulphate (SO ₄).....	15-18 %
pH value (1 % in H ₂ O).....	4,0-6,0
Loss on drying.....	≤3,5 %

CN31.1	100 mg	glass	23,15 €

CN31.2	250 mg	glass	46,15 €

CN31.3	1 g	glass	71,50 €

For further information, please see page 1364

Colophony

Colophony

for biochemistry

D 1,07

mp ~90 °C • flp >180 °C

Solubility: 130 mg/l (H₂O, 20 °C)

[8050-09-7] • EC No. 232-475-7

WGK 1

 Warning H317

Type analysis:

Appearance.....	glassy, yellow chunks
Softening point (ring+pellet).....	min. 71 °C
Acid value.....	145-185 mg KOH/g

9051.3	250 g	plastic	12,40 €

9051.1	1 kg	plastic	25,30 €

Original pack 6 x 1 kg 24,04/1 kg

9051.2	5 kg	card board	103,75 €

Columbia Agar (Base)

Columbia Agar (Base)

Ph.Eur., for microbiology

For cultivation of fastidious and non-fastidious microorganisms, also for Mycoplasmas.

Application: Use 42,5 g for 1 l agar. If required, add 50-110 ml defibr. blood.

Medium Q (Ph.Eur. 6.0), Columbia Agar

(Ph.Eur. 6.3, 7.0 and 8.0), Columbia Blood Agar (Base)

Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Casein peptone (Pancreas hydrolysate).....	10 g/l
Meat peptone (Pepsin hydrolysate).....	5 g/l
Heart peptone (Pancreas hydrolysate).....	3 g/l
Yeast extract.....	5 g/l
Corn starch.....	1 g/l
Sodium chloride (NaCl).....	5 g/l
Agar.....	13,5 g/l
pH value.....	7,3 ±0,2

X919.1	500 g	plastic	71,50 €

Original pack 6 x 500 g 67,93/500 g

X919.2	1 kg	plastic	127,95 €

Original pack 6 x 1 kg 121,55/1 kg

For further information, please see page 1321

Colza oil

Colza oil

crude oil

Oleum Rapae

D 0,917

flp >100 °C

[8002-13-9] • EC No. 232-299-0

Type analysis:

Density (20 °C).....	0,915-0,919
Refractive index (20 °C).....	1,467-1,475
Optical rotation (20 °C).....	-5° to +5°
Solubility (in ethanol).....	insoluble

6964.1	1 l	glass	32,15 €

Original pack 6 x 1 l 30,54/1 l

6964.2	2,5 l	glass	62,25 €

Original pack 4 x 2,5 l 59,14/2,5 l

6964.3	5 l	plastic	106,35 €

Original pack 2 x 5 l 101,03/5 l

Common salt

► Sodium chloride see p. 2143

Compact Dry

Storage temp.: +20 °C

WGK 1

Compact Dry X-BC**NISSUI for microbiology**Ready-made plates with anhydrous chromogenic nutrient medium for detection of *Bacillus cereus*.Growth area is 20 cm²**Type analysis:**

Appearance nutrient disk light yellow
 Loss on drying <10,0 %
 Sterility complies
 pH value 6,8-7,2
 Growth of test strains complies

1070.1	40 plates	blister	96,25 €
1070.2	240 plates	blister	510,65 €

For further information, please see page 1312

Compact Dry CF**NISSUI for microbiology**

Ready-made plates with anhydrous chromogenic nutrient medium for detection of coliforms.

Growth area is 20 cm²

Ready-made agar plate coliforms

Type analysis:

Appearance nutrient disk light yellow
 Loss on drying <10,0 %
 Sterility complies
 pH value 6,8-7,2
 Growth of test strains complies

4827.1	40 plates	blister	70,85 €
4827.2	240 plates	blister	364,45 €

For further information, please see page 1311

Compact Dry EC**NISSUI for microbiology**Ready-made plates with anhydrous chromogenic nutrient medium for detection of coliforms in general, particularly *E. coli*.Growth area is 20 cm²Ready-made agar plate *E. coli***Type analysis:**

Appearance nutrient disk light yellow
 Loss on drying <10,0 %
 Sterility complies
 pH value 6,8-7,2
 Growth of test strains complies

4826.1	40 plates	blister	71,95 €
4826.2	240 plates	blister	385,95 €

For further information, please see page 1311

Compact Dry ETB**NISSUI for microbiology**

Ready-made plates with anhydrous chromogenic nutrient medium for detection of enterobacteriaceae.

Growth area is 20 cm²

Ready-made agar plate enterobacteria

Type analysis:

Appearance nutrient disk light pink
 Loss on drying <10,0 %
 Sterility complies
 pH value 7,2-7,6
 Growth of test strains complies

4828.1	40 plates	blister	79,05 €
4828.2	240 plates	blister	407,45 €

For further information, please see page 1312

Compact Dry X-SA**NISSUI for microbiology**Ready-made plates with anhydrous chromogenic nutrient medium for detection of *Staphylococcus aureus*.Growth area is 20 cm²**Type analysis:**

Appearance nutrient disk light yellow
 Loss on drying <10,0 %
 Sterility complies
 pH value 7,2-7,6
 Growth of test strains complies

1087.1	40 plates	blister	96,25 €
1087.2	240 plates	blister	510,65 €

For further information, please see page 1313

Compact Dry SL**NISSUI for microbiology**

Ready-made plates with anhydrous chromogenic nutrient medium for detection of salmonellae.

Growth area is 20 cm²

Ready-made agar plate salmonells

Type analysis:

Appearance nutrient disk violet
 Loss on drying <10,0 %
 Sterility complies
 pH value 5,5-6,3
 Growth of test strains complies

4817.1	40 plates	blister	91,95 €
4817.2	240 plates	blister	456,90 €

For further information, please see page 1312

Compact Dry TC**NISSUI for microbiology**

Ready-made plates with anhydrous chromogenic nutrient medium for total germ count.

Growth area is 20 cm²

Ready-made agar plate total count

Type analysis:

Appearance nutrient disk light yellow
 Loss on drying <10,0 %
 Sterility complies
 pH value 6,8-7,2
 Growth of test strains complies

4816.1	40 plates	blister	68,30 €
4816.2	240 plates	blister	342,95 €

For further information, please see page 1312

Compact Dry YM**NISSUI for microbiology**

Ready-made plates with anhydrous chromogenic nutrient medium for detection of yeasts and moulds.

Growth area is 20 cm²

Ready-made agar plate yeasts and molds

Type analysis:

Appearance nutrient disk light yellow
 Loss on drying <10,0 %
 Sterility complies
 pH value 5,2-5,8
 Growth of test strains complies

4818.1	40 plates	blister	71,95 €
4818.2	240 plates	blister	385,95 €

For further information, please see page 1313

Compact Dry Swab**NISSUI for microbiology**

All-in-one set of swab and nutrient broth for microbiological sampling of surfaces.

Contains 1 ml **Peptone Water, buffered****Type analysis:**

Appearance nutrient broth light yellow
 Turbidity clear
 Sterility complies
 pH value 6,8-7,2

4809.1	40 swabs	box	93,00 €
4809.2	240 swabs	box	482,70 €

For further information, please see page 1313

Compact Dry Dilution Rack MRD**ELMEX for microbiology**

For preparation of dilution series of microbiological samples. Sterile nutrient broth. 128 wells in 32 racks of 4 separable wells each.

Maximum Recovery Solution in racks**Type analysis:**

Appearance of solution light beige
 Turbidity clear
 Peptone 1,0 g/l
 NaCl 8,5 ± 0,5 g/l
 Sterility complies
 pH value 7,1 ± 0,5

1096.1	128 wells	box	170,95 €

For further information, please see page 1314

Compact Dry Dilution Rack**ELMEX for microbiology**For preparation of dilution series of microbiological samples. **Sterile PBS**. 128 wells in 32 racks of 4 separable wells each.**Type analysis:**

Appearance of solution limpid to light yellow
 Turbidity clear
 Content NaCl 0,85 ± 0,1 %
 Sterility complies
 pH value 7,1 ± 0,5

4823.1	128 wells	box	144,60 €

For further information, please see page 1314

C

Complexing Agents

Art. No.	Description	Page
6716	Acetyl acetone	1608
6717	2-(2-Aminoethylamino)ethanol	1631
X863	Citric acid	1738
6490	Citric acid	1738
3958	Citric acid monohydrate	1738
5110	Citric acid monohydrate	1738
1412	trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate	1768
1411	trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate	1768
6723	Diethylene triamine	1774
1407	Diethylene triamine pentaacetic acid	1774
2677	Dimethylglyoxim	1784
KK24	Dimethylglyoxime disodium salt octahydrate	1784
4153	2,2'-Dipyridyl	1789
3054	EGTA	1802
3049	Ethylenediamine	1814
4218	Ethylenediamine	1814
8040	Ethylenediamine tetraacetic acid	1814
CN06	Ethylenediamine tetraacetic acid	1814
6506	Ethylenediamine tetraacetic acid calcium disodium salt dihydrate	1814
6499	Ethylenediamine tetraacetic acid copper disodium salt dihydrate	1815
3053	Ethylenediamine tetraacetic acid dipotassium salt dihydrate	1815
1408	Ethylenediamine tetraacetic acid dipotassium salt dihydrate	1815
8043	Ethylenediamine tetraacetic acid disodium salt dihydrate	1815
X986	Ethylenediamine tetraacetic acid disodium salt dihydrate	1815
6498	Ethylenediamine tetraacetic acid iron(III) sodium salt trihydrate	1815
6508	Ethylenediamine tetraacetic acid magnesium disodium salt dihydrate	1816
6510	Ethylenediamine tetraacetic acid manganese disodium salt dihydrate	1816
1410	Ethylenediamine tetraacetic acid tetra-sodium salt dihydrate	1816
3619	Ethylenediamine tetraacetic acid tetra-sodium salt hydrate	1816
CP87	Ethylenediamine tetraacetic acid tetra-sodium salt tetrahydrate	1816
1409	Ethylenediamine tetraacetic acid tri-potassium salt dihydrate	1817
6518	Ethylenediamine tetraacetic acid zinc disodium salt dihydrate	1817
2557	8-Hydroxyquinoline	1893
KK32	Neocuproine hemihydrate	1983
8653	Nitrilotriacetic acid	1990
4384	Nitrilotriacetic acid	1990
T113	Oxalic acid dihydrate	2017
8879	Oxalic acid dihydrate	2017
9113	1,10-Phenanthroline monohydrate	2033
KK21	1,10-Phenanthroline hydrochloride monohydrate	2033
8645	Potassium hydrogen tartrate	2050
8087	Potassium sodium tartrate tetrahydrate	2062
7998	Potassium sodium tartrate tetrahydrate	2062
T110	di-Sodium tartrate dihydrate	2158
0254	di-Sodium tartrate dihydrate	2158
5529	D(-)-Tartaric acid	2197
4891	DL-Tartaric acid	2197
K302	L(+)-Tartaric acid	2197
4890	L(+)-Tartaric acid	2197

COMU®

- 1-[(1-(Cyano-2-ethoxy-2-oxoethylidene-aminoxy) dimethylaminomorpholino)] uronium hexafluorophosphate (COMU®) see p. 1752

Con A

- Concanavalin A see p. 1744

Concanavalin A

Concanavalin A lyophilized

From *Canavalia ensiformis*.

Con A

Storage temp.: +4 °C

[11028-71-0] • EC No. 234-258-2

WGK 1

Danger H334-H317

Type analysis:

Appearance..... white lyophilisate
Solubility (1 mg/ml PBS)..... slightly cloudy,
..... colourless solution

7246.1	100 mg	glass	88,05 €

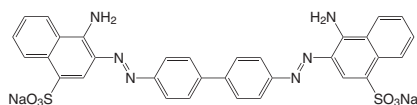
Conductivity standards

- Standards for conductivity measurement see p. 2182

Conductivity Standards

Art. No.	Description	Page
2432	Conductivity Standard 84 µS/cm	2182
2433	Conductivity Standard 147 µS/cm	2182
2434	Conductivity Standard 1413 µS/cm	2182
2435	Conductivity Standard 12880 µS/cm	2182
2462	Conductivity Standard 5 µS/cm	2182
2463	Conductivity Standard 100 µS/cm	2182
2464	Conductivity Standard 500 µS/cm	2182
2465	Conductivity Standard 1000 µS/cm	2182
2466	Conductivity Standard 10000 µS/cm	2182
2467	Conductivity Standard 500000 µS/cm	2182

Congo red (C.I. 22120)



Congo red (C.I. 22120)

for microscopy

Bacteriology, indicator pH 3,0-5,0

Direct Red 28, Disodium-3,3'[[1,1-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalen-1-sulphonate)

C₃₂H₂₂N₆Na₂O₆S₂

M 696,66 g/mol

mp 360 °C

Solubility: 25 g/l (H₂O, 20 °C)

[573-58-0] • EC No. 209-358-4

WGK 3

Danger H350-H361d

Type analysis:

Absorption max. (in H₂O).....490-500 nm
Loss on drying.....≤3,0 %
pH-transition range.....3,0 (blue)-5,0 (red)
Suitability for microscopy.....complies

0322.1	5 g	glass	14,55 €

0322.2	25 g	glass	26,35 €

0322.3	100 g	glass	52,70 €

For further information, please see page 1398

Contact plates

- Roti®-ContiPlates see p. 2094

Coomassie blue G 250

- Brilliant blue G 250 (C.I. 42655) see p. 1687

Coomassie blue R 250

- Brilliant blue R 250 (C.I. 42660) see p. 1687

Coomassie-Staining solution

- Roti®-Blue see p. 2089
► Roti®-Blue quick see p. 2089
► Rotiphorese® Blue R see p. 2107

Copper

Cu

M 63,54 g/mol

D 8,96 • bp 2595 °C

mp 1083 °C

[7440-50-8] • EC No. 231-159-6

Copper shot

ROTI®METIC 99,9995 % (5N5)

Type analysis:

Assay (metals basis).....99,9995 %
Particle size.....3-6 mm
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5621.1	25 g	plastic	53,65 €

5621.2	100 g	plastic	133,20 €

Copper beads

≥99,9 %, beads

Type analysis:

Assay.....≥99,9 %
Particle size.....1-10 mm

2728.1	100 g	glass	36,45 €

Copper sheet

sheet: 0,1 mm thick, 60 cm wide

8540.1	250 g	card board	32,80 €

8540.2	1 kg	card board	69,80 €

Original pack 6 x 1 kg 66,31/1 kg

Copper wool

~99 %

Type analysis:

Assay (Cu).....~99 %
Lead (Pb).....≤0,05 %

9597.1	100 g	plastic	16,05 €
9597.2	250 g	plastic	28,95 €

Copper, nano**Copper, nano**

ROTI®nanoMETIC ≥97 %, 40 nm

Cu

M 63,54 g/mol

D 8,96 • bp 2567 °C

mp 1083 °C

[7440-50-8] • EC No. 231-159-6

Type analysis:

Appearance.....brown to red brown powder
Assay (dry substance).....≥97 %
Particle size.....~40 nm
Specific surface (BET).....10-20 m²/g
Stabilized with Oleic acid

8279.1	5 g	glass	31,10 €
8279.2	25 g	glass	120,30 €
8279.3	100 g	glass	439,70 €

Copper powder

Cu

M 63,54 g/mol

D 8,96 • bp 2567 °C

mp 1083 °C

[7440-50-8] • EC No. 231-159-6

UN No. 3089 • ADR 4.1 III

⚠️ ⚠️ Warning H228-H400

Copper powder

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....99,999 %
Particle size.....<100 mesh
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5386.1	10 g	glass	117,20 €
5386.2	50 g	glass	482,70 €

Copper powder

≥99,8 %, p.a., <63 µm

Type analysis:

Assay (Cu).....≥99,8 %

CP21.1	100 g	plastic	16,35 €
CP21.2	500 g	plastic	49,35 €
Original pack 6 x 500 g			46,88/500 g

Copper Standards

- ▶ Copper AAS Standard Solution see p. 2167
- ▶ Copper ICP Standard Solution see p. 2170
- ▶ Copper ICP Standard Solution see p. 2175

Copper(II) acetate monohydrate

Cupric acetate

Cu(CH₃COO)₂ · H₂O

M 199,65 g/mol

D 1,88

mp ~115 °C

Solubility: ~72 g/l (H₂O, 20 °C)

[6046-93-1] • EC No. 205-553-3

UN No. 3077 • ADR 9 III • WGK 3

⚠️ ⚠️ ⚠️ Danger H302-H318-H410

Copper(II) acetate monohydrate

≥99 %, p.a., ACS

Spray reagent for TLC.

Guarantee analysis:

Assay (iodom.).....≥99 %
pH value (5 % solution).....5,0-5,5
In H₂O insoluble matter.....≤0,01 %
Chloride (Cl).....≤0,003 %
Sulphate (SO₄).....≤0,005 %
Calcium (Ca).....≤0,005 %
Iron (Fe).....≤0,002 %
Potassium (K).....≤0,01 %
Sodium (Na).....≤0,01 %
Nickel (Ni).....≤0,01 %

HN30.1	50 g	plastic	19,90 €
HN30.2	100 g	plastic	29,60 €
HN30.3	250 g	plastic	60,75 €

Copper(II) acetate monohydrate

≥98 %, extra pure

Type analysis:

Assay.....≥98 %
In H₂O insoluble matter.....≤0,1 %
pH (5 % in H₂O).....5-6
Chloride (Cl).....≤0,05 %
Sulphate (SO₄).....≤0,05 %
Iron (Fe).....≤0,01 %

8625.1	100 g	plastic	13,90 €
8625.2	500 g	plastic	37,55 €
Original pack 6 x 500 g			35,67/500 g
8625.3	1 kg	plastic	75,15 €
Original pack 6 x 1 kg			71,39/1 kg

Copper(I) bromide**Copper(I) bromide**

≥99,999 %, ROTI®click Grade

for Click Chemistry

CuBr

M 143,45 g/mol

mp 504 °C

[7787-70-4] • EC No. 232-131-6 • WGK 2

⚠️ Warning H315-H319-H335

Type analysis:

Appearance.....light green powder
Assay (metals basis).....≥99,999 %

7813.1	5 mg	plastic	11,00 €
7813.2	10x5 mg	plastic	66,55 €

Copper(II) carbonate, basic**Copper(II) carbonate, basic**

≥95 %, extra pure

Cupric carbonate

CuCO₃ · Cu(OH)₂

M 221,12 g/mol

mp 200 °C (dec.)

[12069-69-1] • EC No. 235-113-6 • WGK 2

⚠️ Warning H302

Type analysis:

Assay.....≥95,0 %
Chloride (Cl).....≤0,05 %
Iron (Fe).....≤0,05 %
Loss on drying.....≤0,5 %
Insoluble in HCl.....≤0,05 %

7318.1	250 g	plastic	27,85 €
7318.2	500 g	plastic	47,85 €
Original pack 6 x 500 g			45,46/500 g
7318.3	1 kg	plastic	83,75 €
Original pack 6 x 1 kg			79,56/1 kg
7318.4	2,5 kg	plastic	181,70 €

Copper(I) chloride

Copper monochloride

CuCl

M 99,00 g/mol

D 4,14 • bp 1367 °C

mp 422 °C

Solubility: 0,001-0,1 g/l (H₂O)

[7758-89-6] • EC No. 231-842-9

UN No. 2802 • ADR 8 III • WGK 3

⚠️ ⚠️ ⚠️ Danger

H302+H312-H315-H318-H410

Copper(I) chloride

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5379.1	10 g	plastic	78,40 €
5379.2	50 g	plastic	256,95 €

Copper(I) chloride

≥98 %, p.a., ACS

Absorption reagent in gas analysis, identification of arsenic and antimony hydrides.

Guarantee analysis:

Assay.....	≥98 %
Insoluble matter in acid.....	≤0,02 %
Sulphate (SO ₄).....	≤0,1 %
Lead (Pb).....	≤0,02 %
Cadmium (Cd).....	≤0,0005 %
Calcium (Ca).....	≤0,01 %
Chromium (Cr).....	≤0,005 %
Cobalt (Co).....	≤0,0005 %
Iron (Fe).....	≤0,005 %
Potassium (K).....	≤0,005 %
Magnesium (Mg).....	≤0,0005 %
Manganese (Mn).....	≤0,0005 %
Sodium (Na).....	≤0,05 %
Nickel (Ni).....	≤0,0005 %
Zinc (Zn).....	≤0,0005 %

4391.1	100 g	plastic	18,20 €

4391.2	250 g	plastic	34,95 €

4391.3	500 g	plastic	61,20 €

Original pack 6 x 500 g 58,14/500 g

4391.4	1 kg	plastic	109,15 €

Original pack 6 x 1 kg 103,69/1 kg

Copper(I) chloride

≥97 %, extra pure

Type analysis:

Assay (mangan.).....	≥97 %
Sulphate (SO ₄).....	≤0,05 %
Iron (Fe).....	≤0,02 %
Substances not precipitated by H ₂ S (as SO ₄).....	≤2 %

CN81.1	250 g	plastic	22,80 €

CN81.2	500 g	plastic	37,55 €

Original pack 6 x 500 g 35,67/500 g

CN81.3	1 kg	plastic	60,10 €

Original pack 6 x 1 kg 57,10/1 kg

Copper(II) chloride dihydrate

Copper dichloride dihydrate

CuCl₂ · 2 H₂O

M 170,48 g/mol • D 2,54

Solubility: 1150 g/l (H₂O, 20 °C)

[10125-13-0] • EC No. 231-210-2

UN No. 2802 • ADR 8 III • WGK 3



Danger H301-H315-H319-H400-H410
Copper(II) chloride dihydrate

≥99 %, p.a.

Catalyst

Guarantee analysis:

Assay (compl.).....	≥99 %
pH value (5 %, 20 °C).....	3,0-3,8
Sulphate (SO ₄).....	≤0,005 %
Total nitrogen (N).....	≤0,004 %
Arsenic (As).....	≤0,0001 %
Calcium (Ca).....	≤0,002 %
Iron (Fe).....	≤0,001 %
Potassium (K).....	≤0,002 %
Magnesium (Mg).....	≤0,002 %
Sodium (Na).....	≤0,002 %
Nickel (Ni).....	≤0,005 %
Lead (Pb).....	≤0,004 %

CN82.1	250 g	plastic	23,15 €

CN82.2	500 g	plastic	37,85 €

Original pack 6 x 500 g 35,96/500 g

CN82.3	1 kg	plastic	63,35 €

Original pack 6 x 1 kg 60,18/1 kg

Copper(II) chloride dihydrate

≥98 %, extra pure

Type analysis:

Assay.....	≥98,0 %
pH value (5 % solution).....	3,0-4,0
In H ₂ O insoluble matter.....	≤0,05 %
Sulphate (SO ₄).....	≤0,01 %
Arsenic (As).....	≤0,01 %
Lead (Pb).....	≤0,005 %
Calcium (Ca).....	≤0,01 %
Iron (Fe).....	≤0,01 %
Magnesium (Mg).....	≤0,01 %
Zinc (Zn).....	≤0,06 %

2623.1	250 g	plastic	17,10 €

2623.2	500 g	plastic	26,35 €

Original pack 6 x 500 g 25,03/500 g

2623.3	1 kg	plastic	42,50 €

Original pack 6 x 1 kg 40,38/1 kg

2623.4	2,5 kg	plastic	93,45 €

Copper dichloride dihydrate

► Copper(II) chloride dihydrate see p. 1746

Copper EDTA disodium salt dihydrate

► Ethylenediamine tetraacetic acid copper disodium salt dihydrate see p. 1815

Copper(I) iodide**Copper(I) iodide**ROTI[®]METIC 99,995 % (4N5)

CuI

M 190,45 g/mol

D 5,67 • bp 1290 °C

mp 591 °C

Solubility: ~0,0002 g/l (H₂O, 20 °C)

[7681-65-4] • EC No. 231-674-6

UN No. 3077 • ADR 9 III • WGK 3



Warning

H302-H315-H319-H335-H400-H410

Type analysis:

Assay (metals basis).....	99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5300.1	10 g	plastic	59,05 €

5300.2	50 g	plastic	213,95 €

Copper monochloride

► Copper(I) chloride see p. 1745

Copper nitrate trihydrate

► Copper(II) nitrate trihydrate see p. 1746

Copper(II) nitrate trihydrate

Cupric nitrate trihydrate

Cu(NO₃)₂ · 3 H₂O

M 241,60 g/mol

D 2,05

mp ~114 °C

Solubility: 1378 g/l (H₂O, 20 °C)

[10031-43-3] • EC No. 221-838-5

UN No. 1477 • ADR 5.1 II • WGK 3




Danger

H272-H400-H410-H302-H315-H319

Copper(II) nitrate trihydrate

≥99 %, p.a., ACS

Guarantee analysis:

Assay (iodom.).....	≥99,0 %
pH value (5 % solution).....	≥2,8
In H ₂ O insoluble matter.....	≤0,005 %
Chloride (Cl).....	≤0,002 %
Sulphate (SO ₄).....	≤0,01 %
Arsenic (As).....	≤0,0001 %
Lead (Pb).....	≤0,001 %
Cadmium (Cd).....	≤0,005 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,005 %
Potassium (K).....	≤0,005 %
Magnesium (Mg).....	≤0,002 %
Sodium (Na).....	≤0,005 %
Nickel (Ni).....	≤0,01 %
Zinc (Zn).....	≤0,03 %

P754.1	500 g	plastic	81,20 €

Original pack 6 x 500 g 77,14/500 g

P754.2	1 kg	plastic	152,15 €

Original pack 6 x 1 kg 144,54/1 kg

Copper(II) nitrate trihydrate

≥98 %, pure

Type analysis:

Assay.....	≥98,0 %
In H ₂ O insoluble matter.....	≤0,01 %
Chloride (Cl).....	≤0,02 %
Sulphate (SO ₄).....	≤0,02 %
Iron (Fe).....	≤0,01 %
Lead (Pb).....	≤0,005 %

0255.1	500 g	plastic	26,35 €

Original pack 6 x 500 g 25,03/500 g

0255.2	1 kg	plastic	40,35 €

Original pack 6 x 1 kg 38,33/1 kg

0255.3	2,5 kg	plastic	85,90 €

Copper(I) oxide**Copper(I) oxide**

≥97 %, red, powder

Cu₂O

M 143,08 g/mol

bp 1800 °C (dec.)

mp 1235 °C

[1317-39-1] • EC No. 215-270-7

UN No. 3077 • ADR 9 III • WGK 1



Warning H400-H410-H302
Type analysis:

Appearance.....	red powder
Assay.....	≥97 %
Chloride (Cl).....	≤0,5 %
Sulphate (SO ₄).....	≤0,5 %
Copper oxide (CuO).....	≤1,0 %

2733.1	250 g	glass	22,05 €
2733.2	500 g	glass	38,20 €
Original pack 6 x 500 g			36,29/500 g
2733.3	1 kg	glass	67,20 €
Original pack 6 x 1 kg			63,84/1 kg

Copper(II) oxide

CuO
M 79,55 g/mol
D 6,48
mp 1326 °C
Solubility: insoluble (H₂O, 20 °C)
[1317-38-0] • EC No. 215-269-1
UN No. 3077 • ADR 9 III • WGK 1
  **Warning** H400-H410-H302

Copper(II) oxide

p.a., ACS, as wire
For elementary analysis.

Guarantee analysis:

Assay (CuO).....≥55,0 %
Chloride (Cl).....≤0,005 %
Total carbon (as C).....≤0,002 %
Total nitrogen (as N).....≤0,002 %
Total sulphur (as SO₄).....≤0,005 %
Wire ~0,65 x 6 mm

4467.1	100 g	plastic	48,30 €

Copper(II) oxide

≥97,5 %, powder

Type analysis:

Appearance.....fine, black powder
Assay (CuO).....≥97,5 %
Copper (Cu).....≥78 %
Cuprous oxide (Cu₂O).....≤0,5 %

8169.2	500 g	plastic	28,50 €
Original pack 6 x 500 g			27,08/500 g
8169.1	1 kg	plastic	52,15 €
Original pack 6 x 1 kg			49,54/1 kg
8169.3	2,5 kg	plastic	111,70 €

Copper(II) oxide, nano

Copper(II) oxide, nano

ROTI®nanoMETIC ≥99 %, 15-35 nm

CuO
M 79,55 g/mol
D 6,315
mp 1326 °C
Solubility: insoluble (H₂O, 20 °C)
[1317-38-0] • EC No. 215-269-1
UN No. 3077 • ADR 9 III • WGK 1
  **Warning** H400-H410-H302

Type analysis:

Appearance.....black powder
Assay.....≥99 %
Particle size.....15-35 nm
Specific surface (BET).....30-55 m²/g
Phase.....monoclinic

8251.1	10 g	glass	19,25 €
8251.2	50 g	glass	72,60 €
8251.3	100 g	glass	117,20 €

Copper(II) sulphate

CuSO₄
M 159,60 g/mol
D 3,61
mp >560 °C (dec.)
Solubility: 203 g/l (H₂O, 20 °C)
[7758-98-7] • EC No. 231-847-6
UN No. 3288 • ADR 6.1 III • WGK 3
  **Warning**
H302-H315-H319-H400-H410

Copper(II) sulphate

≥98 %, p.a., anhydrous

Reagent for the detection of water, preparation of pigments.

Guarantee analysis:

Assay (iodom.).....≥98,0 %
pH value (5 % solution).....3,5-4,5
In H₂O insoluble matter.....≤0,01 %
Loss on drying (250 °C).....≤1 %
Substances not precipitated by H₂S (as SO₄).....≤0,15 %
Total nitrogen (as N).....≤0,005 %
Chloride (Cl).....≤0,002 %
Arsenic (As).....≤0,0001 %
Iron (Fe).....≤0,01 %
Magnesium (Mg).....≤0,005 %
Nickel (Ni).....≤0,005 %
Zinc (Zn).....≤0,05 %
Calcium (Ca).....≤0,01 %
Potassium (K).....≤0,005 %
Sodium (Na).....≤0,01 %
Lead (Pb).....≤0,01 %

P023.1	250 g	plastic	32,15 €
P023.2	1 kg	plastic	94,10 €
Original pack 6 x 1 kg			89,40/1 kg
P023.3	2,5 kg	plastic	195,15 €

Copper(II) sulphate

≥99 %, Ph.Eur., anhydrous

Guarantee analysis:

Assay (iodom., dry substance).....99,0-101,0 %
Identity.....complies
Appearance of solution.....complies
Chloride (Cl).....≤0,015 %
Iron (Fe).....≤0,015 %
Lead (Pb).....≤0,008 %
Loss on drying (250 °C).....≤1,0 %

CP86.1	250 g	plastic	20,65 €
CP86.2	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g
CP86.3	1 kg	plastic	56,90 €
Original pack 6 x 1 kg			54,06/1 kg

Copper(II) sulphate

≥98 %, anhydrous, ROTI®click Grade

for Click Chemistry

Type analysis:

Appearance.....light grey powder
Assay.....≥98 %

7816.1	10 mg	plastic	11,00 €
7816.2	5x10 mg	plastic	31,20 €

Copper(II) sulphate solution

► Fehling's solution I see p. 1826

Copper(II) sulphate pentahydrate

Cupric vitriol
CuSO₄ · 5 H₂O
M 249,69 g/mol
D 2,28
Solubility: 317 g/l (H₂O, 20 °C)
[7758-99-8] • EC No. 231-847-6
UN No. 3077 • ADR 9 III • WGK 3
  **Warning**
H400-H410-H302-H315-H319

Copper(II) sulphate pentahydrate

≥99,5 %, p.a., ACS, ISO

For the determination of reducing sugar (Fehling's solution). Used as spray in TLC.

Guarantee analysis:

Assay (iodom.).....≥99,5 %
pH value (5 % solution).....≥3,8
Insoluble matter.....≤0,005 %
Total nitrogen (as N).....≤0,001 %
Chloride (Cl).....≤0,001 %
Arsenic (As).....≤0,0001 %
Cadmium (Cd).....≤0,003 %
Calcium (Ca).....≤0,005 %
Iron (Fe).....≤0,003 %
Magnesium (Mg).....≤0,005 %
Nickel (Ni).....≤0,005 %
Zinc (Zn).....≤0,03 %
Cobalt (Co).....≤0,001 %
Potassium (K).....≤0,001 %
Sodium (Na).....≤0,005 %
Lead (Pb).....≤0,005 %

P024.1	500 g	plastic	26,35 €
Original pack 6 x 500 g			25,03/500 g
P024.2	1 kg	plastic	44,00 €
Original pack 6 x 1 kg			41,80/1 kg
P024.3	2,5 kg	plastic	82,70 €

Copper(II) sulphate pentahydrate

≥99 %, Ph.Eur., BP

Guarantee analysis:

Assay (iodom.).....99,0-100,5 %
Identity.....complies
pH value (5 % solution).....≥3,8
Appearance of solution.....complies
In H₂O insoluble matter.....≤0,025 %
Loss on drying (250 °C).....35,0-36,5 %
Volatile organic impurities.....complies
Chloride (Cl).....≤0,01 %
Arsenic (As).....≤0,0005 %
Lead (Pb).....≤0,005 %
Iron (Fe).....≤0,01 %
Nickel (Ni).....≤0,005 %

P025.1	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
P025.2	1 kg	plastic	49,35 €
Original pack 6 x 1 kg			46,88/1 kg
P025.3	5 kg	plastic	201,60 €

Copper(II) sulphate pentahydrate

≥98 %, cryst.

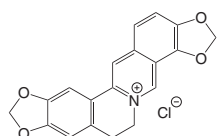
Type analysis:

Assay.....	≥98,0 %
Lead (Pb).....	≤0,02 %
Iron (Fe).....	≤0,015 %
Nickel (Ni).....	≤0,01 %

8175.1	1 kg	plastic	22,50 €
Original pack 6 x 1 kg			21,38/1 kg
8175.2	5 kg	plastic	80,55 €
8175.5	25 kg	plastic	218,80 €

Coppervitriole

► Copper(II) sulphate see p. 1747

Coptisin chloride**Coptisin chloride****ROTICHROM® HPLC**Reference substance for HPLC
From *Chelidonium majus*.

Bis(methylenedioxy)protoberberinchloride

C₁₉H₁₄NO₄Cl

M 355,78 g/mol

Storage temp.: +4 °C

[6020-18-4]

UN No. 1544 • ADR 6.1 II

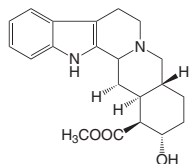
Danger H301+H311-H330-H373
Type analysis:

Purity (HPLC)..... >99 %

1131.1	10 mg	glass	213,95 €

Cornin

► Verbenalin see p. 2236

Corynanthine**Corynanthine****ROTICHROM® CHR**

Rauhimbine (Rauwolfia alkaloid)

C₂₁H₂₆N₂O₃

M 354,44 g/mol

mp 225-230 °C

Storage temp.: +4 °C

[483-10-3] • EC No. 207-590-0

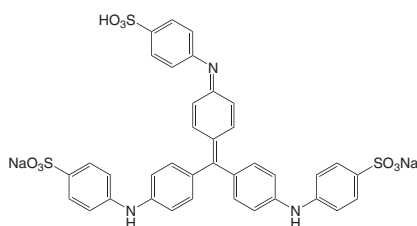
UN No. 1544 • ADR 6.1 II

Danger H301

8985.1	500 mg	glass	117,20 €

Cosbiol

► Squalane see p. 2165

Cotton blue (C.I. 42780)**Cotton blue (C.I. 42780)****extra pure**

For preparing "Amann" solution.

Methyl blue

C₃₇H₂₇N₃Na₂O₉S₃

M 799,82 g/mol

Solubility: 70 g/l (H₂O, 20 °C)

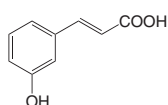
[28983-56-4] • EC No. 249-352-9

WGK 2

Type analysis:

Maximum absorption..... 590-610 nm

5750.1	10 g	plastic	17,75 €

m-Coumaric acid**m-Coumaric acid**

≥98 %

trans-m-Hydroxy cinnamic acid

C₉H₈O₃

M 164,16 g/mol

mp 194-195 °C

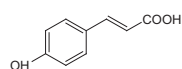
[14755-02-3] • EC No. 209-615-0

WGK 1

Warning H315-H319-H335
Type analysis:

Assay (GC)..... ≥98,0 %

9904.1	5 g	glass	55,80 €

p-Coumaric acid

trans-p-Hydroxycinnamic acid

C₉H₈O₃

M 164,16 g/mol

mp 215-220 °C

[7400-08-0] • EC No. 231-000-0

WGK 1

Warning H315-H319-H335
p-Coumaric acid

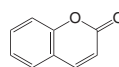
≥98 %

Type analysis:Appearance..... slightly yellow powder
Assay..... ≥98,0 %

9908.1	10 g	glass	32,80 €
9908.2	50 g	glass	67,20 €

p-Coumaric acid**ROTICHROM® CHR**

9906.1	1 g	glass	18,85 €

Coumarin

α-Benzopyrone, 5,6-Benzo-2-pyrone

C₉H₆O₂

M 146,15 g/mol

D 0,935 • bp 298-302 °C

mp ~70 °C • flp 162 °C

Solubility: 1,7 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[91-64-5] • EC No. 202-086-7

UN No. 2811 • ADR 6.1 III • WGK 1

Danger H301
Coumarin

≥98,5 %, DAB

Guarantee analysis:

Assay..... 98,5-101,5 %
 Identity..... complies
 Appearance of solution..... complies
 Related substances..... complies
 Sulphated ash..... <0,1 %
 Melting point..... 68-71 °C

7942.1	100 g	plastic	42,90 €

Coumarin**ROTICHROM® GC**

Reference substance for GC

Type analysis:

Purity (GC)..... ≥99 %

5284.1	1 g	glass	75,15 €

Coumarins

Art. No.	Description	Page
8889	Bergamottin	1674
1217	Bergamottin	1674
7006	Bergaptene	1674
8899	Bergaptene	1674
7942	Coumarin	1748
5284	Coumarin	1748
6618	Daphnetin	1758
5089	Dihydrocoumarin	1776
8690	Esculetin	1808
8704	Esculin sesquihydrate	1808
9369	Fraxidin	1841
9364	Fraxin	1841
7734	Herniarin	1872
NE47	Herniarin	1873
NC47	Herniarin	1873
8854	Isopimpinellin	1912
5883	Isoscopoletin	1913
6149	7-Methylcoumarin	1966
NE51	Osthon	2016
NC51	Osthon	2016
7415	Psoralen	2071
7494	Scoparone	2122
7210	Scopoletin	2122
5437	Umbelliferone	2231
2827	Umckalin	2231
5497	Xanthotoxin	2244
7499	Xanthotoxol	2244

Coupling Reagents

Art. No.	Description	Page
2131	O-(7-Azabenzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate (HATU)	1660
2148	O-(7-Azabenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TATU)	1660
2168	Benzotriazole-1-yl-oxy-tris-(dimethylamino)-phosphonium hexafluorophosphate (BOP)	1671
2178	Benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBOP®)	1672
2132	O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate (HBTU)	1672
2140	O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TBTU)	1672
2200	Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBrOP®)	1692
6992	1,1'-Carbonyldiimidazole (CDI)	1715
2112	O-(1H-6-Chlorobenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate (HCTU)	1729
6893	4-((6-Chloro-1H-benzotriazol-1-yl)oxy)(dimethylamino)methylene)-morpholin-4-ium hexafluorophosphate (HDMC)	1730
2123	6-Chloro-benzotriazole-1-yl-oxy-tris-pyrrolidinophosphonium hexafluorophosphate (PyClock®)	1730
6890	O-(6-Chlorobenzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TCTU)	1730
2100	1-[(1-(Cyano-2-ethoxy-2-oxoethylideneaminoxy)dimethylaminomorpholino)]uronium hexafluorophosphate (COMU®)	1752
4193	N,N'-Dicyclohexylcarbodiimide	1772
2103	3-(Diethoxy-phosphoryloxy)-1,2,3-benzotriazin-4-(3H)-one (DEPBT)	1773

6981	N,N'-Diisopropylcarbodiimide (DIC)	1780
6888	1-[(Dimethylamino)(morpholino)methylene]-1H-[1,2,3]triazolo[4,5-b]pyridine-1-ium 3-oxide hexafluorophosphate (HDMMA)	1782
6988	4-(Dimethylamino)pyridine (DMAP)	1783
2110	N,N'-Disuccinimidyl carbonate (DSC)	1789
2125	O-[(Ethoxycarbonyl)cyanomethylenamino]-N,N,N',N'-tetramethyluronium tetrafluoroborate (TOTU)	1812
6891	Ethyl cyanoglyxylate-2-oxyme potassium salt (K-Oxyma)	1813
2120	(Ethylcyano(hydroxyimino)-acetato-O ²)-tri-1-pyrrolidinylphosphonium hexafluorophosphate (PyOxim)	1813
2156	1-Ethyl-3-(3-dimethylaminopropyl)-carbodiimide hydrochloride (EDC-HCl)	1814
2118	Ethyl(hydroxyimino)-cyanoacetate (Oxyma Pure)	1818
2130	O-(N-Succinimidyl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TSTU)	2187

CPG-Supports for DNA-Synthesis

Art. No.	Description	Page
2318	Adenosine-CPG-Support	1615
2319	Cytidine-CPG-Support	1757
2320	Guanosine-CPG-Support	1865
2321	Thymidine-CPG-Support	2209

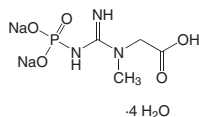
CPME

► Cyclopentyl methyl ether see p. 1755

Cream of tartar

► Potassium hydrogen tartrate see p. 2050

Creatine phosphate disodium salt tetrahydrate



Creatine phosphate disodium salt tetrahydrate

≥98 %, for biochemistry

C₄H₈N₃Na₂O₅P · 4 H₂O

M 327,14 g/mol

Storage temp.: +4 °C

[71519-72-7] • EC No. 213-074-6

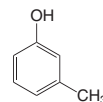
WGK 3

Type analysis:

Appearance..... white to almost white cryst. powder
 Assay (titr.)..... ≥98,0 %
 Appearance of solution (20 %, H₂O)..... colourless
 Water (KF)..... 21-26 %

8459.1	1 g	glass	17,75 €
8459.2	5 g	glass	50,45 €
8459.3	10 g	glass	81,20 €

m-Cresol



m-Cresol

≥99 %, for synthesis

3-Methylphenol

C₇H₈O

M 108,14 g/mol

D 1,03 • bp ~203 °C

mp 11 °C • flp 86 °C

Solubility: 31 g/l (H₂O, 20 °C)

[108-39-4] • EC No. 203-577-9

UN No. 2076 • ADR 6.1 (8) II • WGK 2

☠ ☞ Danger H301+H311-H314

Type analysis:

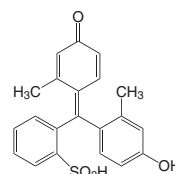
Assay (GC)..... ≥99,0 %
 Density (d 20 °C/4 °C)..... 1,031-1,037

9269.1	250 g	glass	36,45 €

o-Cresolphthalein complexone

► Metal phthaleine see p. 1958

m-Cresol purple



m-Cresol purple

p.a.

Indicator pH 1,2-2,8 and pH 7,4-9,0

2',2''-Dimethylphenolsulfonphthalein,

m-Cresolsulfonphthalein, MCP

C₂₁H₁₈O₅S

M 382,43 g/mol

Solubility: slightly soluble (H₂O, 20 °C)

[2303-01-7] • EC No. 218-960-6

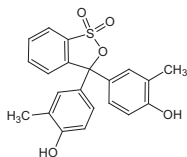
WGK 2

Type analysis:

Appearance..... green powder
 Assay..... ≥99,0 %
 pH-transition range..... 1,2 (red)-2,8 (yellow)
 pH-transition range..... 7,4 (yellow)-9,0 (purple)
 Maximum absorption..... ~579 nm

5160.1	1 g	glass	11,75 €
5160.2	5 g	glass	33,25 €
5160.3	10 g	glass	56,90 €

o-Cresol red



o-Cresol red

p.a.

Indicator pH 7,0-8,8

 $C_{21}H_{18}O_5S$

M 382,44 g/mol

mp 290 °C (dec.)

Solubility: slightly soluble (H_2O , 20 °C)

[1733-12-6] • EC No. 217-064-2

WGK 2

Guarantee analysis:

Specific Extinction E (1%/1cm) ≥ 1500

UV-spectrum: maximum at 568,0-576,0 nm

Solubility (0,1 % in ethanol) clearly soluble

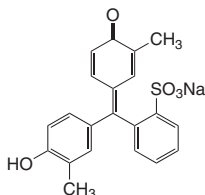
pH-transition range 7,0 (orange)-8,8 (purple)

KK15.1	5 g	glass	17,75 €

KK15.2	10 g	glass	27,85 €

KK15.3	25 g	glass	55,80 €

Cresol red sodium salt



Cresol red sodium salt

p.a.

Indicator pH 7,0-8,8

o-Cresolsulfonaphthaleine sodium salt

 $C_{21}H_{17}O_5SNa$

M 404,41 g/mol

mp >250 °C (dec.)

[62625-29-0] • EC No. 263-654-8

Type analysis:

Absorption peak (0,001 % in 0,01 N NaOH) 568 - 576 nm

pH-transition range 7,0 (yellow)-8,8 (purple)

5534.1	5 g	plastic	23,70 €

5534.2	25 g	plastic	97,40 €

o-Cresolsulfonaphthaleine sodium salt

► Cresol red sodium salt see p. 1750

m-Cresolsulfonaphthaleine

► m-Cresol purple see p. 1749

3,4-Cresotic acid

► 3-Hydroxy-4-methylbenzoic acid
see p. 1892

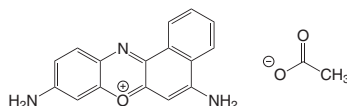
Cresyl echt violet

► Cresyl violet acetate see p. 1750

Cresyl fast violet

► Cresyl violet acetate see p. 1750

Cresyl violet acetate



Cresyl violet acetate

p.a.

Cresyl echt violet, cresyl fast violet

 $C_{18}H_{15}N_3O_3$

M 321,34 g/mol

mp 140-145 °C

Solubility: 20 g/l (H_2O)

[10510-54-0]

WGK 3

Type analysis:

Appearance dark green to almost black powder

Absorption max. (50 % C_2H_5OH) 596-599 nm

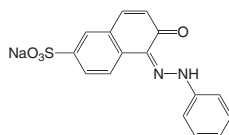
7651.1	5 g	glass	48,95 €

7651.2	10 g	glass	83,35 €

7651.3	25 g	glass	192,45 €

For further information, please see page 1398

Crocein orange G (C.I. 15970)



Crocein orange G (C.I. 15970)

for microscopy

Acid Orange 12, Ponceau 4G

 $C_{16}H_{11}N_2NaO_4S$

M 350,32 g/mol

Solubility: 1 g/l (H_2O)

[1934-20-9] • EC No. 217-697-4

WGK 3

Type analysis:

Appearance red orange to orange powder

Appearance of solution clear, orange

Dye content ≥ 70 %Absorption max. (1 % H_2O) ≥ 457 nm

7652.1	5 g	glass	13,15 €

7652.2	25 g	glass	22,05 €

7652.3	100 g	glass	55,80 €

Cronobacter chromogenic Agar

Cronobacter chromogenic Agar

ISO 22964:2006, for microbiology

Selective medium for detection of *Cronobacter* (formerly *Enterobacter*) *sakazakii* in milk powder and powdered infant formulae.

Application: Use 30,7 g for 1 l agar.

Storage temp.: +4 °C

Guarantee analysis:

Casein peptone (Pancreas hydrolysate) 7 g/l

Sodium chloride 5 g/l

Yeast extract 3 g/l

Sodium deoxycholate 0,6 g/l

Chromogene Mixture 0,15 g/l

Crystal Violet 0,002 g/l

Agar 15 g/l

pH value 7,0 $\pm$ 0,2

2997.1	100 g	plastic	209,65 €

For further information, please see page 1322

Crotaline

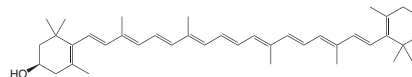
► Monocrotaline see p. 1974

Crotonaldehyde

► 2-Butenal see p. 1697

Cryospray

► Solidofix®-Cryo spray see p. 2161

 β -Cryptoxanthin β -Cryptoxanthin

ROTICHROM® TLC

Reference substance for thin layer

chromatography

 β , β -Caroten-3-ol $C_{40}H_{56}O$

M 552,85 g/mol

mp $\sim$ 169 °C

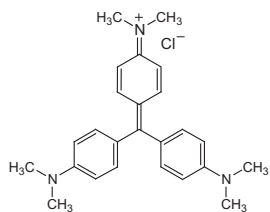
Storage temp.: -20 °C

Transport temp.: room temp.

[472-70-8]

5675.1	1 mg	glass	284,90 €

Crystal violet (C.I. 42555)



Crystal violet (C.I. 42555)

p.a., ACS

Indicator pH 0,0-2,0

Hexamethylpararosaniline chloride, Methyl violet 10B, Gentian violet

 $C_{25}H_{30}ClN_3$

M 407,99 g/mol

D 1,19

mp 189-194 °C

Solubility: 10 g/l (H_2O , 20 °C)

[548-62-9] • EC No. 208-953-6

UN No. 3077 • ADR 9 III • WGK 3

Danger

H318-H351-H400-H410-H302

Type analysis:

Assay (spectrophotometric)..... ≥90,0 %

Loss on drying (110 °C)..... ≤7,5 %

Suitability as indicator (in non aqueous solution) .

.....complies

Absorption.....complies

pH-transition range..... 0,0 (yellow)-2,0 (blue violet)

T123.2	5 g	glass	16,05 €

T123.1	25 g	glass	24,65 €

T123.3	100 g	glass	64,40 €

For further information, please see page 1398

Crystal violet solution

► Neisser's solution II see p. 1982

CSB Determination

Art. No.	Description	Page
P728	Ammonium iron(II) sulphate hexahydrate	1640
KK60	Ammonium iron(II) sulphate solution (0,12 N)	1641
T132	Ferriin solution	1827
T112	Mercury(II) sulphate	1957
X871	Mercury(II) sulphate solution 80 g/l	1957
P720	Potassium dichromate solution (0,12 N)	2054
P721	Potassium dichromate solution (0,25 N)	2054
X870	Silver sulphate solution (10 g/l)	2138
4623	Sulphuric acid 96 %	2191

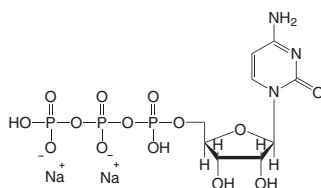
CTAB

► Cetyltrimethylammonium bromide see p. 1726

CTC resin

► 2-Chlorotriethyl chloride resin see p. 1732

CTP



CTP

≥98 %, lyophilised

Cytidine-5'-triphosphate, di-sodium salt

 $C_9H_{14}N_3O_{14}P_3Na_2 \cdot 3 H_2O$

M 581,16 g/mol

Storage temp.: -20 °C • Transport temp.:

cooled

[6757-06-8] • EC No. 252-849-3

K057.1	100 mg	plastic	19,60 €

K057.2	250 mg	plastic	48,95 €

K057.3	500 mg	plastic	95,15 €

K057.4	1 g	plastic	170,95 €

For further information, please see page 1210

CTP solution

CTP

≥99 %, 100 mM solution

Cytidine-5'-triphosphate

 $C_9H_{13}N_3O_{14}P_3$

M 480,13 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

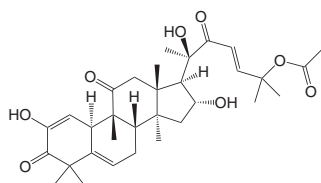
[6757-06-8] • EC No. 252-849-3

WGK 1

K048.1	25 µmol (250 µl)	plastic	37,55 €

For further information, please see page 1209

Cucurbitacin E



Cucurbitacin E

ROTICHRON® HPLC

Reference substance for HPLC

α-Elaterin

 $C_{32}H_{44}O_8$

M 556,69 g/mol

mp 228-234 °C

Storage temp.: +4 °C

[18444-66-1] • EC No. 242-325-2

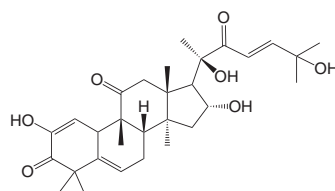
Warning H302+H312

Type analysis:

Purity (HPLC)..... ≥98 %

9741.1	10 mg	glass	289,20 €

Cucurbitacin I



Cucurbitacin I

ROTICHRON® HPLC

Reference substance for HPLC

Elatericin B

 $C_{30}H_{42}O_7$

M 514,65 g/mol

mp 148-150 °C

Storage temp.: +4 °C

[2222-07-3] • EC No. 218-736-8

UN No. 2811 • ADR 6.1 I

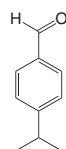
Danger H300-H311

Type analysis:

Purity (HPLC)..... ≥95 %

9032.2	5 mg	glass	284,90 €

Cuminaldehyde



Cuminaldehyde

ROTICHRON® GC

Reference substance for GC

4-Isopropylbenzaldehyde

 $C_{10}H_{12}O$

M 148,21 g/mol

D 0,98 • bp 232-235 °C

flp 93 °C

Solubility: insoluble (H_2O , 20 °C)

Storage temp.: +4 °C

[122-03-2] • EC No. 204-516-9

WGK 3

Warning H302

Type analysis:

Purity (GC)..... ≥90 %

6649.1	1 g	plastic	75,15 €

Cupric acetate

► Copper(II) acetate monohydrate see p. 1745

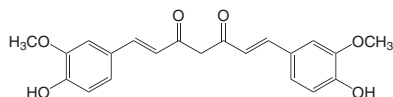
Cupric carbonate

► Copper(II) carbonate, basic see p. 1745

Cuprous chloride

► Copper(I) chloride see p. 1745

Curcumin



Diferuloylmethane

$C_{21}H_{20}O_6$

M 368,39 g/mol

mp 170-175 °C

Solubility: insoluble (H_2O , 20 °C)

Storage temp.: +4 °C

[458-37-7] • EC No. 207-280-5 • WGK 2

Curcumin

≥90 %, nat., powdered, oil-soluble

Mixture of curcumin, desmethoxycurcumin and bisdesmethoxycurcumin.

Type analysis:

Appearance: orange coloured powder
Dye content:≥90 %
Arsenic (As):≤0,0003 %
Lead (Pb):≤0,0002 %
Intensity of colour E/1%/420 ($CH_2Cl_2/EtOH$):≥1450
Produced by extraction from *Curcuma longa*, followed by purification

9469.1	10 g	glass	23,55 €
9469.2	25 g	glass	42,90 €
9469.3	50 g	glass	69,80 €

Curcumin

ROTICHROM® HPLC

Reference substance for HPLC
From *Curcuma longa*.

Type analysis:

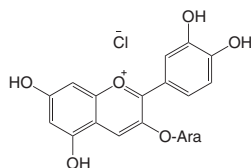
Purity (HPLC):>98 %

1132.1	20 mg	glass	353,70 €

Cyanide Standards

► Cyanide IC Standard Solution see p. 2181

Cyanidin 3-arabinoside chloride



Cyanidin 3-arabinoside chloride

ROTICHROM® HPLC

Reference substance for HPLC
From *Aronia melanocarpa*

$C_{20}H_{19}O_{10}Cl$

M 454,82 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

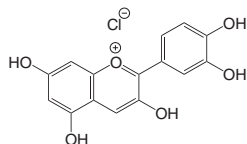
[57186-11-5] • WGK 1

Type analysis:

Purity (HPLC):≥95 %

0641.1	10 mg	glass	353,70 €

Cyanidin chloride



Cyanidin chloride

ROTICHROM® HPLC

Reference substance for HPLC

$C_{15}H_{11}O_6Cl$

M 322,70 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[528-58-5] • EC No. 208-438-6

WGK 2

Type analysis:

Purity (HPLC):≥96 %

4545.1	10 mg	glass	209,65 €

Cyanidin-3,5-diglucoside chloride

► Cyanin chloride see p. 1752

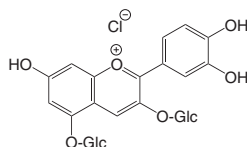
Cyanidin-3-galactoside chloride

► Idaein chloride see p. 1896

Cyanidin-3-O-glucoside

► Kuromanin chloride see p. 1918

Cyanin chloride



Cyanidin-3,5-diglucoside chloride

$C_{27}H_{31}O_{16}Cl$

M 646,98 g/mol

mp 203-204 °C

Storage temp.: +4 °C

[2611-67-8] • EC No. 220-034-1

Cyanin chloride

ROTICHROM® HPLC

Reference substance for HPLC
From *Rosa centifolia*.

Type analysis:

Purity (HPLC):>98 %

1133.1	20 mg	glass	213,95 €

Cyanin chloride

ROTICHROM® TLC

Reference substance for thin layer chromatography
From *Rosa centifolia*.

5568.1	25 mg	glass	50,55 €

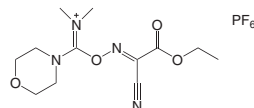
p-Cyanoaniline

► 4-Aminobenzonitrile see p. 1630

Cyanocobalamin

► Vitamin B₁₂ see p. 2237

1-[(1-(Cyano-2-ethoxy-2-oxoethylideneaminoxy)dimethylaminomorpholino)]uronium hexafluorophosphate (COMU®)



1-[(1-(Cyano-2-ethoxy-2-oxoethylideneaminoxy)dimethylaminomorpholino)]uronium hexafluorophosphate (COMU®)

≥99 %

Coupling reagent for peptide synthesis
COMU®

$C_{12}H_{19}F_6N_4O_4P$

M 428,27 g/mol

mp >135 °C (dec.)

Storage temp.: +4 °C

[1075198-30-9] • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC):≥99,0 %
Loss on drying:≤0,5 %
Solubility (10 % in DMF): clearly soluble

2100.1	5 g	plastic	33,90 €
2100.2	25 g	plastic	120,95 €
2100.3	100 g	plastic	418,20 €

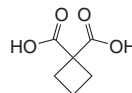
Cyanomethane

► Acetonitrile see p. 1605

3-Cyano-1-nitrobenzene

► 3-Nitrobenzonitrile see p. 1991

Cyclobutane-1,1-dicarboxylic acid



Cyclobutane-1,1-dicarboxylic acid

≥98 %

$C_6H_8O_4$

M 144,13 g/mol

mp 155-159 °C

Storage temp.: +4 °C

[5445-51-2] • EC No. 226-651-2

UN No. 3261 • ADR 8 II • WGK 3

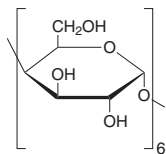
⚠ Danger H314

Type analysis:

Assay (titr.) ≥98,0 %
 Solution (5 % in H₂O) colourless, clear
 Water (KF) ≤0,5 %
 Melting point 155-159 °C

5451.1 5 g plastic 35,40 €

5451.2 25 g plastic 130,00 €

α-Cyclodextrin**α-Cyclodextrin****≥90 %, for biochemistry**

C₃₆H₆₀O₃₀
 M 972,86 g/mol
 mp ~275 °C
 [10016-20-3] • EC No. 233-007-4

⚠ **Warning H319**

Type analysis:

Assay (HPLC) ≥90 %
 Solution (10 % in water)
 colourless to slightly yellowish
 Loss on drying (3 h, 105 °C, vacuum) ≤2,5 %
 Specific rotation [α]_D²⁰ (c=1 in H₂O) +143° to +153°

4122.1 5 g glass 20,10 €

4122.2 25 g glass 64,40 €

4122.3 50 g plastic 106,45 €

Cyclo(Gly-Gly)

► Glycine anhydride see p. 1861

Cyclohexane

Hexahydrobenzene
 C₆H₁₂
 M 84,16 g/mol
 D 0,78 • bp 81 °C
 mp 6 °C • flp -18 °C
 Solubility: 0,05 g/l (H₂O, 20 °C)
 [110-82-7] • EC No. 203-806-2
 UN No. 1145 • ADR 3 II • WGK 2
 ⚠ ⚠ ⚠ ⚠ **Danger**
 H225-H304-H400-H410-H315-H336

Cyclohexane**ROTISOLV® HPLC****Guarantee analysis:**

Assay (GC) ≥99,9 %
 Water (KF) ≤0,01 %
 Free acid ≤0,001 %
 Non volatile matter ≤0,0005 %
 Transmission:
 255 nm ≥99 %
 240 nm ≥90 %
 215 nm ≥35 %
 Filtered through 0,2 µm membrane and filled under protective gas.

7333.2 1 l glass 44,00 €

Original pack 6 x 1 l 41,80/1 l

7333.1 2,5 l glass 79,05 €

Original pack 4 x 2,5 l 75,10/2,5 l

For further information, please see page 1515

Cyclohexane**ROTISOLV® ≥99,9 %, GC Ultra Grade**

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC) ≥99,9 %
 Colour (APHA) ≤10
 Water (KF) ≤0,01 %
 Free acid (as CH₃COOH) ≤0,001 %
 Evaporation residue ≤0,0001 %
 GC/ECD dioxins, furans and PCBs (as lindane) ≤5 ng/l
 GC/ECD pesticides (as lindane) ≤3 ng/l
 GC/NPD pesticides (as parathion) ≤5 ng/l
 PAH-test (less than 2 ppb, HPLC) complies
 Filtered through 0,2 µm membrane and filled under protective gas.

KK41.1 2,5 l glass 81,20 €

Original pack 4 x 2,5 l 77,14/2,5 l

Cyclohexane**ROTISOLV® ≥99,9 %, Pestilyse® plus**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC) ≥99,9 %
 Colour (APHA) ≤10
 Water (KF) ≤0,005 %
 Free acid (as CH₃COOH) ≤0,001 %
 Evaporation residue ≤0,0001 %
 GC/FID suitability (as 2-octanol) ≤10 ng/ml
 GC/ECD suitability (as heptachloro epoxide) ≤10 ng/l
 GC/ECD dioxins, furans and PCBs (as lindane) ≤5 ng/l
 GC/ECD pesticides (as lindane) ≤2 ng/l
 GC/NPD pesticides (as parathion) ≤5 ng/l
 GC/ECD volatile impurities (as ethylene dibromide) ≤5 ng/ml
 Oil index (any hydrocarbon C₁₀-C₄₀) ≤0,1 mg/l
 PAH-test (less than 2 ppb, HPLC) complies
 Fluorescence (as quinine):
 254 nm ≤1 ppb
 365 nm ≤1 ppb

7542.1 2,5 l glass 75,15 €

Original pack 4 x 2,5 l 71,39/2,5 l

Cyclohexane**ROTISOLV® ≥99,5 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC) ≥99,5 %
 Water (KF) ≤0,02 %
 Acidity ≤0,0005 meq/g
 Evaporation residue ≤0,0001 %
 GC/ECD (individual signal as lindane) ≤5 ng/l
 GC/PND (individual signal as ethylparathion) ≤10 ng/l

T163.2 1 l glass 32,60 €

Original pack 6 x 1 l 30,97/1 l

T163.1 2,5 l glass 72,60 €

Original pack 4 x 2,5 l 68,97/2,5 l

T163.3 4 l glass 96,25 €

Cyclohexane**ROTISOLV® ≥99,9 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC) ≥99,9 %
 Water (KF) ≤0,01 %
 Colour (Hazen) ≤10
 Acidity ≤0,0005 meq/g
 Evaporation residue ≤0,0005 %
 Fluorescence (as quinine):
 254 nm ≤1,0 ppb
 365 nm ≤1,0 ppb
 Transmission:
 250 nm ≥98 %
 240 nm ≥90 %
 232 nm ≥80 %
 223 nm ≥50 %
 208 nm ≥10 %

CP81.1 2,5 l glass 79,45 €

Original pack 4 x 2,5 l 75,48/2,5 l

Cyclohexane**ROTIPURAN® ≥99,5 %, p.a., ACS, ISO****Guarantee analysis:**

Assay (GC) ≥99,5 %
 Colour (APHA) ≤10
 Density (d 20 °C/4 °C) 0,776-0,780
 Water ≤0,01 %
 Acidity ≤0,0003 meq/g
 Melting point >6,0 °C
 Matter discoloured by H₂SO₄ complies
 KMnO₄ reducing substances (as O) complies
 Aromatic compounds (as benzene) ≤0,01 %
 Sulphur compounds (as S) ≤0,002 %
 Evaporation residue ≤0,001 %
 Cyclohexene (GC) ≤0,01 %
 Cyclopentane (GC) ≤0,05 %
 Methyl cyclohexane (GC) ≤0,05 %
 Thiophene complies
 Lead (Pb) ≤0,00001 %
 Cadmium (Cd) ≤0,000005 %
 Calcium (Ca) ≤0,00005 %
 Chromium (Cr) ≤0,000002 %
 Iron (Fe) ≤0,00001 %
 Cobalt (Co) ≤0,000002 %
 Copper (Cu) ≤0,000002 %
 Magnesium (Mg) ≤0,00001 %
 Manganese (Mn) ≤0,000002 %
 Nickel (Ni) ≤0,000002 %
 Zinc (Zn) ≤0,00001 %

6886.1 1 l glass 46,15 €

Original pack 6 x 1 l 43,84/1 l

6886.2 2,5 l glass 88,70 €

Original pack 4 x 2,5 l 84,27/2,5 l

Cyclohexane**≥99,5 % for synthesis****Type analysis:**

Appearance clear, colourless liquid
 Assay (GC) ≥99,5 %
 Density (15 °C) 0,775-0,784
 Refractive index n_D²⁰ 1,425-1,427

6570.1 1 l glass 20,35 €

Original pack 6 x 1 l 19,33/1 l

6570.3 2,5 l glass 29,80 €

Original pack 4 x 2,5 l 28,31/2,5 l

6570.2 10 l tinplate 77,95 €

6570.4 25 l tinplate 154,70 €

Cyclohexane**ROTICHROM® GC**

Reference substance for GC

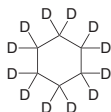
Storage temp.: +4 °C

Type analysis:

Purity (GC).....≥99 %

4901.1	1 g	glass	28,95 €

C

Cyclohexane D12**Cyclohexane D12****99,5 Atom%D**

For nuclear magnetic resonance spectroscopy.

 C_6D_{12}

M 96,23 g/mol

D 0,89 • bp 81 °C

mp 7 °C • flp -18 °C

[1735-17-7] • EC No. 210-077-3

UN No. 1145 • ADR 3 II • WGK 2

Danger

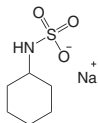
H225-H304-H315-H336-H400-H410

Guarantee analysis:
 Deuterising degree.....≥99,5 %
 Water (KF, H_2O+D_2O).....≤0,03 %

5200.1	5 ml	glass ampoule	85,90 €

1,2-Cyclohexane dinitrilo tetraacetic acid

► trans-1,2-Diaminocyclohexane-
N,N,N',N'-tetraacetic acid monohydrate
see p. 1768

Cyclohexane sulphamic acid sodium salt**Cyclohexane sulphamic acid sodium salt**

≥98,5 %, Ph.Eur., extra pure

Sodium cyclamate

 $C_6H_{12}NNaO_3S$

M 201,22 g/mol

Solubility: 200 g/l (H_2O , 20 °C)

[139-05-9] • EC No. 205-348-9

WGK 1

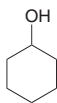
Warning H302
Guarantee analysis:
 Appearance..... white to almost white, cryst. powder
 Appearance of solution..... clear, colourless
 Assay (dry substance)..... 98,5-101,0 %
 Identity..... complies

 pH value (10 % solution)..... 5,5-7,5
 Loss on drying..... ≤1,0 %
 Sulphate (SO_4)..... ≤0,05 %
 Anilin..... ≤0,0001 %
 Cyclohexylamin..... ≤0,001 %
 Dicyclohexylamine..... ≤0,0001 %
 Sulfamic acid..... ≤0,1 %
 Heavy metals (as Pb)..... ≤0,001 %
 Arsenic (As)..... ≤0,0003 %
 Selenium (Se)..... ≤0,003 %
 Absorption:
 270 nm..... ≤0,10

8578.1	250 g	plastic	22,05 €

8578.2	1 kg	plastic	53,65 €

Original pack 6 x 1 kg 50,97/1 kg

Cyclohexanol**Cyclohexanol**

≥98,5 %, for synthesis

Hexalin, Hexahydrophenol

 $C_6H_{12}O$

M 100,16 g/mol

D ~0,94 • bp ~160 °C

mp 24 °C • flp 61 °C

Solubility: 56,7 g/l (H_2O , 20 °C)

[108-93-0] • EC No. 203-630-6

WGK 1

Warning H302+H332-H315-H335
Type analysis:
 Appearance..... clear, colourless
 Assay (GC)..... ≥98,5 %
 Water..... ≤0,1 %

7756.1	1 l	glass	27,45 €

Original pack 6 x 1 l 26,08/1 l

7756.2	2,5 l	glass	51,10 €

Original pack 4 x 2,5 l 48,55/2,5 l

Cyclohexanone $C_6H_{10}O$

M 98,15 g/mol

D 0,95 • bp 153-156 °C

mp ~ -31 °C • flp 43 °C

Solubility: 80 g/l (H_2O , 20 °C)

[108-94-1] • EC No. 203-631-1

UN No. 1915 • ADR 3 III • WGK 1

Danger

H226-H302+H312+H332-H318-H315

Cyclohexanone

≥99,5 %, extra pure

Type analysis:
 Assay (GC)..... ≥99,5 %
 Colour (Hazen)..... ≤10
 Density (20 °C)..... 0,945-0,950
 Water..... ≤0,2 %

CP27.1	1 l	glass	26,35 €

Original pack 6 x 1 l 25,03/1 l

CP27.2	2,5 l	glass	46,15 €

Original pack 4 x 2,5 l 43,84/2,5 l

CP27.3	10 l	tinplate	134,95 €

CP27.4	25 l	tinplate	238,65 €

Cyclohexanone**ROTICHROM® GC**

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC).....≥99 %

4353.1	1 g	plastic	75,15 €

Cyclohexatriene

► Benzene see p. 1669

Cyclohexatriene deuterated

► Benzene D6 see p. 1669

Cyclohexene**Cyclohexene**

≥99 %, for synthesis

1,2,3,4-Tetrahydrobenzene

 C_6H_{10}

M 82,15 g/mol

D ~0,81 • bp 81-84 °C

mp -104 °C • flp -15,6 °C

Solubility: 50 mg/l (H_2O , 20 °C)

[110-83-8] • EC No. 203-807-8

UN No. 2256 • ADR 3 II • WGK 1

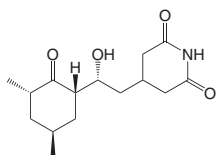
Danger

H225-H302-H304-H411

Type analysis:
 Appearance..... clear, colourless liquid
 Assay (GC)..... ≥99 %
 Refractive index n_D^{20} 1,445-1,447
 Evaporation residue..... ≤0,01 %

3451.1	500 ml	glass	55,80 €

Cycloheximide



Cycloheximide

≥96 %, for biochemistry

Glutarimid antibiotic, fungicidal
Naramycin A, ActidioneC₁₅H₂₃NO₄

M 281,36 g/mol

mp 112 °C

[66-81-9] • EC No. 200-636-0

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H300-H360D-H341-H411

Type analysis:

Appearance: white to light yellow powder

Assay: ≥96,0 %

8682.1	1 g	glass	34,95 €

8682.3	5 g	glass	138,70 €

8682.4	10 g	glass	239,20 €

For further information, please see page 1364

2-(Cyclohexylamino)-ethanesulphonic acid

► CHES see p. 1728

3-N-Cyclohexylamino-2-hydroxypropane sulphonic acid

► CAPSO see p. 1714

3-N-Cyclohexylamino-2-hydroxypropane sulphonic acid sodium salt

► CAPSO sodium salt see p. 1714

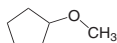
Cyclohexylamino propanesulphonic acid

► CAPS see p. 1713

Cyclopentacycloheptene

► Azulene see p. 1663

Cyclopentyl methyl ether



Cyclopentyl methyl ether

≥99 %, extra pure

CPME

C₆H₁₂O

M 100,16 g/mol

D 0,86 • bp 106 °C

mp <-140 °C • flp -1 °C

[5614-37-9] • EC No. 445-090-6

UN No. 3271 • ADR 3 II • WGK 2

Danger

H225-H302-H315-H319-H412-EU019

Type analysis:

Assay (GC): ≥99,0 %

Appearance of solution: clear

Water: ≤0,01 %

7763.1	250 ml	glass	33,25 €

7763.2	500 ml	glass	55,80 €

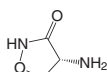
7763.3	1 l	glass	89,15 €

Original pack 6 x 1 l 84,69/1 l

7763.4	2,5 l	glass	177,40 €

Original pack 4 x 2,5 l 168,53/2,5 l

D-Cycloserine



D-Cycloserine

≥90 %, for biochemistry

Bacteriostatic antibiotic

Oxamycin, D-4-Amino-3-isoxazolidinone

C₃H₆N₂O₂

M 102,09 g/mol

mp 147 °C (dec.)

Storage temp.: +4 °C

[68-41-7] • EC No. 200-688-4

WGK 1

Type analysis:

Assay: ≥90 %

Specific rotation [α]_D²⁰: +108° to +114°

Loss on drying: ≤1 %

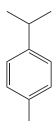
CN37.1	1 g	glass	22,50 €

CN37.2	5 g	plastic	49,35 €

CN37.3	10 g	plastic	92,35 €

For further information, please see page 1365

p-Cymene

C₁₀H₁₄

M 134,22 g/mol

D 0,86 • bp ~175 °C

mp -68 °C • flp 47 °C

Storage temp.: +4 °C

[99-87-6] • EC No. 202-796-7

UN No. 2046 • ADR 3 III • WGK 2

Warning H226-H315-H319-H335

p-Cymene

≥98,5 %

Type analysis:

Appearance: clear, almost colourless liquid

Assay (GC): ≥98,5 %

3465.1	500 ml	glass	52,15 €

p-Cymene

ROTICHRON® GC

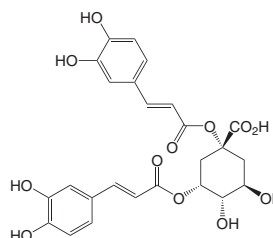
Reference substance for GC

Type analysis:

Purity (GC): ≥97 %

5282.1	1 g	plastic	75,15 €

Cynarin



1,3-Dicaffeoylquinic acid

C₂₅H₂₄O₁₂

M 516,44 g/mol

Storage temp.: +4 °C

[1182-34-9]

Warning H315-H319-H335

Cynarin

with analytical records

From *Cyanara scolymus*.

Type analysis:

Purity (HPLC): >99 %

Analytical records: HPLC, TLC, ¹H- NMR, ¹³C- NMR, UV, IR, MS, melting point.

T892.1	10 mg	glass	418,20 €

Cynarin

ROTICHRON® HPLC

Reference substance for HPLC.

From *Cyanara scolymus*.

Type analysis:

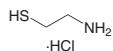
Purity (HPLC): >99 %

4457.1	10 mg	glass	321,45 €

8'-Cynnamoylharpagide

► Harpagoside see p. 1867

Cysteamine hydrochloride



Cysteamine hydrochloride

≥99 %, for biochemistry

2-Mercaptoethylamine hydrochloride

C₂H₇NS

M 113,61 g/mol

bp ~150 °C (dec.)

mp 66-70 °C

Solubility: ~440 g/l (H₂O, 20 °C)

[156-57-0] • EC No. 205-858-1

WGK 3

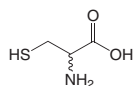
⚠ Warning H302

Type analysis:

Appearance.....white cryst. powder
Assay (dry substance).....≥99,0 %
Identity (IR).....complies
Heavy metals.....≤0,001 %
Loss on drying.....≤3,0 %

7625.1	25 g	glass	25,70 €
7625.2	100 g	glass	67,20 €
7625.3	250 g	glass	117,20 €

DL-Cysteine



DL-Cysteine

≥98 %, for biochemistry

DL-α-Amino-β-mercapto-propionic acid

C₃H₇NO₂S

M 121,16 g/mol

Storage temp.: +4 °C

[3374-22-9] • EC No. 222-160-2

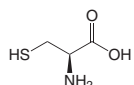
WGK 1

Type analysis:

Appearance.....white to off-white powder
Assay.....≥98,0 %
Water (KF).....≤0,5 %

8594.1	5 g	plastic	44,65 €
8594.2	25 g	plastic	110,65 €
8594.3	100 g	plastic	321,45 €

L-Cysteine



L-α-Amino-β-mercapto-propionic acid

C₃H₇NO₂S

M 121,16 g/mol

mp 220-228 °C

Solubility: ~160 g/l (H₂O, 20 °C)

[52-90-4] • EC No. 200-158-2

WGK 1

⚠ Warning H302

L-Cysteine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤24 E.U./g
Assay.....≥99 %
Loss on drying.....≤0,5 %
Specific rotation [α]_D²⁰.....+8,3° to +9,5°
Foreign amino acids.....complies
Ammonium (NH₄).....≤0,02 %
Chloride (Cl).....≤0,04 %
Sulphate (SO₄).....≤0,028 %
Heavy metals (as Pb).....≤0,001 %
Arsenic (As₂O₃).....≤0,0001 %
Iron (Fe).....≤0,001 %

1693.1	25 g	plastic	24,20 €
1693.2	100 g	plastic	60,10 €
1693.3	500 g	plastic	256,95 €
Original pack 6 x 500 g			244,10/500 g

L-Cysteine

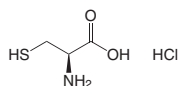
≥98 %, DAB, for biochemistry

Guarantee analysis:

Appearance.....white, cryst. powder
Appearance of solution.....clear and colourless
Identity.....complies
Assay.....98,0-101,0 %
pH value.....4,5-5,5
Specific rotation [α]_D²⁰.....+8,3° to +9,5°
Loss on drying.....≤0,5 %
Ash content (as SO₄).....≤0,05 %
Foreign amino acids.....complies
Chloride (Cl).....≤0,04 %
Sulphate (SO₄).....≤0,028 %
Ammonium (NH₄).....≤0,02 %
Arsenic (As₂O₃).....≤0,0001 %
Iron (Fe).....≤0,001 %
Heavy metals (as Pb).....≤0,001 %

3467.1	10 g	glass	13,65 €
3467.2	50 g	glass	27,45 €
3467.3	250 g	plastic	102,05 €

L-Cysteine hydrochloride



L-Cysteine hydrochloride

≥99 %, p.a., anhydrous

C₃H₇NO₂S · HCl

M 157,62 g/mol

D 0,84

[52-89-1] • EC No. 200-157-7

WGK 1

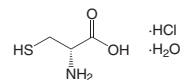
⚠ Warning H315-H319-H335

Guarantee analysis:

Assay.....≥99,0 %
pH value.....1,5-2,0
Heavy metals.....≤0,001 %

3468.1	10 g	plastic	13,90 €
3468.2	50 g	plastic	24,65 €
3468.3	250 g	plastic	70,65 €

D-Cysteine hydrochloride monohydrate



D-Cysteine hydrochloride monohydrate

≥98,5 %, for biochemistry

D-2-Amino-3-mercaptopropionic acid

hydrochloride monohydrate,

H-D-Cys-OH · HCl · H₂O

C₃H₇NO₂S · HCl · H₂O

M 175,7 g/mol

Storage temp.: +4 °C

[32443-99-5] • EC No. 251-043-9

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....white to off-white powder
Assay.....98,5-101,0 %
Specific rotation [α]_D²⁰ (c=8 in 6 N HCl).....-7,0° to -5,5°
Loss on drying.....8,0-12,0 %

7874.1	1 g	glass	22,50 €
7874.2	5 g	plastic	67,20 €

L-Cysteine hydrochloride monohydrate

L-2-Amino-3-mercaptopropionic acid

hydrochloride monohydrate,

H-L-Cys-OH · HCl · H₂O

C₃H₇NO₂S · HCl · H₂O

M 175,64 g/mol

Solubility: ~650 g/l (H₂O, 20 °C)

[7048-04-6] • EC No. 200-157-1

WGK 1

⚠ Warning H315-H319-H335

L-Cysteine hydrochloride monohydrate

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤24 E.U./g
Assay.....≥99 %
Loss on drying.....8,5-12,0 %
Specific rotation [α]_D²⁰.....+6,1° to +7,8°
Foreign amino acids.....complies
Ammonium (NH₄).....≤0,02 %
Chloride (Cl).....19,89-20,29 %
Sulphate (SO₄).....≤0,02 %
Heavy metals (as Pb).....≤0,001 %
Arsenic (As₂O₃).....≤0,0001 %
Iron (Fe).....≤0,001 %

1694.1	25 g	plastic	17,45 €
1694.2	100 g	plastic	39,25 €
1694.3	500 g	plastic	163,95 €
Original pack 6 x 500 g			155,75/500 g

L-Cysteine hydrochloride monohydrate

≥98,5 %, for biochemistry

Type analysis:

Appearance.....white, cryst. powder
Assay (dry substance).....98,5-101,0 %
Specific rotation $[\alpha]_D^{20}$+6,1° to +7,8°
pH value.....1,5-2,0
Ammonium (NH₄).....≤0,02 %
Chloride (Cl).....19,89-20,29 %
Sulphate (SO₄).....≤0,02 %
Arsenic (As₂O₃).....≤0,0001 %
Iron (Fe).....≤0,001 %
Heavy metals.....≤0,001 %
Foreign amino acids.....complies
Sulphated ash.....≤0,1 %
Loss on drying.....8,6-12,0 %

T203.1 50 g plastic 24,20 €

T203.2 100 g plastic 37,55 €

T203.3 500 g plastic 158,60 €

Original pack 6 x 500 g 150,67/500 g

DL-Cystine

DL-Cystine

≥98,5 %

C₆H₁₂N₂O₄S₂

M 240,30 g/mol

mp 250 °C

[923-32-0] • EC No. 213-094-5

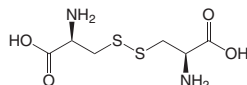
⚠ Warning H302

Type analysis:

Appearance.....white, cryst. powder
Assay.....≥98,5 %
Loss on drying.....≤0,2 %
Specific rotation $[\alpha]_D^{20}$-5° to +5°

5565.1 1 g glass 44,00 €

L-Cystine



3,3'-Dithio-bis-(2-amino propionic acid)

C₆H₁₂N₂O₄S₂

M 240,30 g/mol • D 1,68

mp 261-262 °C (dec.)

Solubility: insoluble (H₂O, 20 °C)

[56-89-3] • EC No. 200-296-3

L-Cystine

≥98,5 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤0,5 E.U./g
Assay.....≥98,5 %
Loss on drying.....≤0,2 %
Specific rotation $[\alpha]_D^{20}$-225° to -215°
Chloride (Cl).....≤0,05 %
Sulphate (SO₄).....≤0,02 %
Heavy metals (as Pb).....≤0,001 %
Arsenic (As₂O₃).....≤0,0001 %
Iron (Fe).....≤0,001 %

1695.1 25 g plastic 22,50 €

1695.2 100 g plastic 55,40 €

1695.3 500 g plastic 224,70 €

Original pack 6 x 500 g 213,47/500 g

L-Cystine

≥98,5 %, for biochemistry

Type analysis:

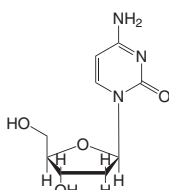
Appearance.....white, cryst. powder
Assay.....≥98,5 %
pH value.....5,0-6,5
Specific rotation $[\alpha]_D^{20}$-225° to -215°
Chloride (Cl).....≤0,05 %
Sulphate (SO₄).....≤0,02 %
Arsenic (As₂O₃).....≤0,0001 %
Iron (Fe).....≤0,001 %
Heavy metals (as Pb).....≤0,001 %
Loss on drying.....≤0,2 %
Ash content.....≤0,1 %

3471.1 100 g plastic 44,00 €

3471.2 500 g plastic 203,20 €

Original pack 6 x 500 g 193,04/500 g

Cytidine



Cytidine

≥99 %, for biochemistry

Cytosine-1-β-D-ribofuranoside

C₉H₁₃N₃O₅

M 243,22 g/mol • mp 210-220 °C

[65-46-3] • EC No. 200-610-9

Type analysis:

Assay (HPLC).....≥99,0 %
Heavy metals.....≤0,002 %
Loss on drying.....≤0,5 %

0717.1 10 g plastic 34,95 €

0717.2 25 g plastic 67,65 €

Cytidine-BCE-phosphoramidite

Cytidine-BCE-phosphoramidite

For DNA-synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-dC(N-Bz)P-(OCH₂CH₂CN)-N(iPr)₂

C₄₆H₅₂N₅O₈P

M 833,7 g/mol

Storage temp.: +4 °C

K922.1 1 g glass 32,15 €

For further information, please see page 1429

Cytidine-CPG-Support

Cytidine-CPG-Support

500 Å pore size

Support material for DNA-synthesis.

dC-Icaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥95,0 %
CPG loading.....30-40 μmol/g
Coupling efficiency.....≥99 %

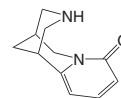
2319.3 1 g plastic 52,15 €

For further information, please see page 1429

Cytidine-5'-triphosphate disodium salt

▶ CTP see p. 1751

Cytidine



Cytidine

ROTICHRON® TLC

Reference substance for thin layer chromatography

From *Laburnum anagyroides*.

C₁₁H₁₄N₂O

M 190,24 g/mol

mp 155 °C

Solubility: 439 g/l (H₂O, 16 °C)

Storage temp.: +4 °C

[485-35-8] • EC No. 207-616-0

UN No. 1544 • ADR 6.1 II • WGK 3

⚠ Danger H301+H311-H330

5615.1 25 mg glass 102,15 €

Cytochrome C

Cytochrome C

≥95 %, for biochemistry

Iron porphyrin protein complex

M ~ 13 000 g/mol

Storage temp.: +4 °C

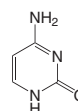
[9007-43-6] • EC No. 232-700-9

Type analysis:

Assay.....≥95 %
pH value.....5,0-7,0
Water.....<6,0 %

6301.1 250 mg glass 201,05 €

Cytosine



Cytosine

≥99 %, for biochemistry

C₄H₅N₃O

M 111,10 g/mol

mp 335 °C

[71-30-7] • EC No. 200-749-5

WGK 2

Type analysis:

Appearance.....white to off-white cryst. powder
Assay (HPLC).....≥99,0 %
Heavy metals.....≤0,001 %
Loss on drying.....≤0,5 %
Residue on ignition.....≤0,1 %

7295.1 5 g glass 28,50 €

7295.2 25 g plastic 66,15 €

7295.3 100 g plastic 177,40 €

Cytosine-1-β-D-ribofuranoside

► Cytidine see p. 1757

DAB

► 3,3'-Diaminobenzidine tetrahydrochloride see p. 1768

DABCO®



DABCO®

≥99 %

Anti-bleaching reagent in histology.

Triethylendiamine,
1,4-Diazabicyclo[2.2.2]octane

C₆H₁₂N₂

M 112,18 g/mol

D ~1,14 • bp 174-176 °C

mp ~160 °C • flp 62 °C

Solubility: 400 g/l (H₂O, 20 °C)

[280-57-9] • EC No. 205-999-9

UN No. 1325 • ADR 4.1 II • WGK 1

Danger

H228-H302-H315-H318-H335

Type analysis:

Appearance..... white to off-white crystals

Assay..... ≥99,0 %

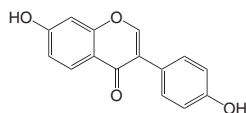
Water..... ≤0,5 %

0718.1	25 g	glass	18,50 €

0718.2	50 g	glass	33,00 €

For further information, please see page 1410

Daidzein



Daidzein

synthetic

C₁₅H₁₀O₄

M 254,23 g/mol

[486-66-8] • EC No. 207-635-4

Warning H315-H319

Type analysis:

Appearance..... white powder

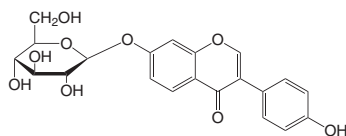
Melting range..... >300 °C (dec.)

6047.1	25 mg	glass	162,35 €

Daidzein-7-O-glucoside

► Daidzin see p. 1758

Daidzin



Daidzin

ROTICHRON® ~CHR

Daidzein-7-O-glucoside

C₂₁H₂₀O₉

M 416,38 g/mol

[552-66-9]

9323.1	5 mg	glass	184,90 €

Dammar

Dammar

light

Resina Dammar

mp 150 °C

[9000-16-2] • EC No. 232-528-4

Type analysis:

Melting point..... ≤150 °C

Acid value..... ≤35

Colour number (Gardner)..... ≤5

Total ash..... ≤0,5 %

6615.1	1 kg	plastic	33,25 €

Original pack 6 x 1 kg 31,59/1 kg

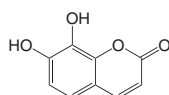
Dansyl chloride

► 5-(Dimethylamino)-1-naphthalenesulphonyl chloride see p. 1782

DAP · HCl

► DL-2,3-Diaminopropionic acid hydrochloride see p. 1768

Daphnetin



Daphnetin

ROTICHRON® ~CHR

7,8-Dihydroxycoumarin

C₉H₆O₄

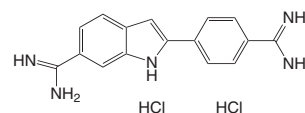
M 178,14 g/mol

mp 254-257 °C

[486-35-1] • EC No. 207-632-8

6618.1	10 mg	glass	252,65 €

DAPI



4',6-Diamidino-2-phenylindole dihydrochloride

C₁₆H₁₇Cl₂N₅

M 350,3 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[28718-90-3] • EC No. 249-186-7

WGK 3

DAPI

≥98 %, p.a.

For DNA-staining.

Guarantee analysis:

Appearance..... yellow powder

Assay (HPLC)..... ≥98 %

Solubility (10 mg/ml in H₂O)..... clear

6335.1	25 mg	glass	83,35 €

6335.2	100 mg	glass	231,15 €

For further information, please see page 1205

DAPI

≥98 %, for biochemistry

Type analysis:

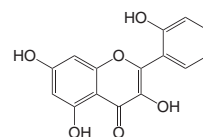
Assay (HPLC)..... ≥98 %

6843.1	10 mg	glass	34,30 €

6843.2	25 mg	glass	62,25 €

6843.3	100 mg	glass	181,70 €

Datiscetin



Datiscetin

ROTICHRON® HPLC

Reference substance for HPLC

2,3,5,7-Tetrahydroxyflavone

C₁₅H₁₀O₆

M 286,23 g/mol

Storage temp.: +4 °C

[480-15-9] • EC No. 207-541-3

Type analysis:

Purity (HPLC)..... ≥99 %

7444.1	10 mg	plastic	231,15 €

dATP**dATP**

≥95 %, lyophilised

2'-Deoxyadenosine-5'-triphosphate tri-sodium salt

 $C_{10}H_{13}N_5O_{12}P_3Na_3 \cdot 3 H_2O$

M 611,17 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[74299-50-6] • EC No. 277-809-2

K050.1	10 mg	plastic	20,35 €

K050.2	100 mg	plastic	125,70 €

For further information, please see page 1209

dATP solution**dATP**

≥99 %, 100 mM solution

2'-Deoxyadenosine-5'-triphosphate

 $C_{10}H_{13}N_5O_{12}P_3$

M 488,16 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[74299-50-6] • EC No. 277-809-2

K035.1	25 µmol (250 µl)	plastic	31,10 €

For further information, please see page 1207

DBE

► Dibasic ester see p. 1769

DBU► 1,8-Diazabicyclo[5.4.0]undec-7-ene
see p. 1769**DCC**► N,N'-Dicyclohexylcarbodiimide
see p. 1772**DCM**

► Dichloromethane see p. 1770

DCPIP► 2,6-Dichlorophenol-indophenol sodium salt
hydrate see p. 1772**dCTP****dCTP**

≥95 %, lyophilised

2'-Deoxycytidine-5'-triphosphate tri-sodium salt

 $C_9H_{13}N_3O_{13}P_3Na_3 \cdot 3 H_2O$

M 587,14 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[102783-51-7]

K053.1	10 mg	plastic	20,35 €

K053.2	100 mg	plastic	126,35 €

For further information, please see page 1209

dCTP solution**dCTP**

≥99 %, 100 mM solution

2'-Deoxycytidine-5'-triphosphate

 $C_9H_{13}N_3O_{13}P_3$

M 464,13 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

K038.1	25 µmol (250 µl)	plastic	31,10 €

For further information, please see page 1207

ddATP solution**ddATP solution**

≥98 %, 10 mM solution

2',3'-Dideoxyadenosine-5'-triphosphate

 $C_{10}H_{13}N_5O_{11}P_3$

M 472,16 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[94939-70-9] • EC No. 300-359-6

K040.1	1 µmol (100 µl)	plastic	42,90 €

For further information, please see page 1210

ddCTP solution**ddCTP solution**

≥98 %, 10 mM solution

2',3'-Dideoxycytidine-5'-triphosphate

 $C_9H_{13}N_3O_{12}P_3$

M 448,13 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[93939-77-6] • EC No. 300-366-4

K043.1	1 µmol (100 µl)	plastic	42,90 €

For further information, please see page 1210

ddGTP solution**ddGTP solution**

≥98 %, 10 mM solution

2',3'-Dideoxyguanosine-5'-triphosphate

 $C_{10}H_{13}N_5O_{12}P_3$

M 488,16 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[93939-69-6] • EC No. 300-358-0

K042.1	1 µmol (100 µl)	plastic	42,90 €

For further information, please see page 1210

ddNTP-Set**ddNTP-Set**

≥98 %, ddATP, ddCTP, ddGTP, ddTTP

ddNTP-set, composed of the nucleotide-single solutions

ddATP, ddCTP, ddGTP, ddTTP.

Concentration: 10 mM per ddNTP.

Dideoxynucleoside triphosphate set

Storage temp.: -20 °C

Transport temp.: cooled

K044.1	4 x 1 µmol (100 µl), 10 mM	plastic	137,50 €

For further information, please see page 1210

ddTTP solution**ddTTP solution**

≥98 %, 10 mM solution

2',3'-Dideoxythymidine-5'-triphosphate

 $C_{10}H_{14}N_2O_{13}P_3$

M 463,14 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[93939-78-7] • EC No. 300-368-5

K041.1	1 µmol (100 µl)	plastic	42,90 €

For further information, please see page 1210

Deacetyl-ianatoside C**Deacetyl-ianatoside C**

≥95 %, for biochemistry

 $C_{47}H_{74}O_{19}$

M 943,08 g/mol

[17598-65-1] • EC No. 241-568-1

UN No. 2811 • ADR 6.1 II • WGK 3

 **Danger** H300+H330-H373
Type analysis:

Appearance. white cryst. or fine-grained powder

Appearance of solution. clear, colourless

Assay (photometr.) 95,0-105,0 %

Specific rotation $[\alpha]_D^{20}$ +6,5° to +8,5°

Loss on drying. ≤5,0 %

Sulphated ash. ≤0,1 %

6850.1	50 mg	glass	64,00 €

DEAE Dextran

DEAE Dextran

for biochemistry

Transfection reagent

Diethylaminoethyl dextran

M ~500000 g/mol

[9013-34-7]

WGK 1

Guarantee analysis:

Appearance.....white to off-white powder
 Loss on drying.....≤10 %
 pH value (5 % in water).....5,0-7,0
 Nitrogen content (N).....3,0-3,8 %
 Sulphated ash.....≤2 %
 Free DEAE-Cl.....≤0,002 %

4198.1	25 g	plastic	51,50 €

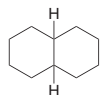
4198.2	100 g	plastic	163,95 €

For further information, please see page 1278

DEC

▶ Diethyl carbonate see p. 1773

Decahydronaphthalene



Decahydronaphthalene

≥98 % for synthesis

Decalin® (mixture of cis and trans isomers)

C₁₀H₁₈

M 138,24 g/mol

D ~0,89

flp +57 °C

[91-17-8] • EC No. 202-046-9

UN No. 1147 • ADR 3 III • WGK 1

Danger

H314-H226-H331-H304-H411

Type analysis:

Assay (GC).....≥98,0 %
 Density (20 °C).....0,870-0,895
 Refractive index n_D²⁰.....1,4740-1,4750

4438.1	1 l	glass	26,35 €

Original pack 6 x 1 l	25,03/1 l

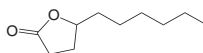
4438.3	2,5 l	glass	51,10 €

Original pack 4 x 2,5 l	48,55/2,5 l

4438.2	10 l	tinplate	164,50 €

For further information, please see page 1377

γ-Decalactone



γ-Decalactone

ROTICHRON® GC

Reference substance for GC. Racemate, synthetic.

C₁₀H₁₈O₂

M 170,25 g/mol

D 0,948 • bp 281 °C

flp 113 °C

Storage temp.: +4 °C

[706-14-9] • EC No. 211-892-8

WGK 1

Warning H315-H319-H335

Type analysis:

Purity (GC).....≥98 %

6704.1	1 g	plastic	75,15 €

Decalcifier soft

Decalcifier soft

for histology

Decalcifier solution on base of EDTA.

Used for gentle decalcification of bones and other calcified tissues. The solution is also suitable for immunological applications.

D 1,129

UN No. 1824 • ADR 8 II • WGK 2

Danger H290-H314-H373

Type analysis:

Appearance.....clear, colourless
 pH (20 °C).....7-9

6484.1	500 ml	plastic	22,25 €

6484.2	1 l	plastic	33,25 €

Original pack 6 x 1 l 31,59/1 l

For further information, please see page 1381

Decalcifier standard

Decalcifier standard

for histology

Acid-based decalcifier. Contains trichloroacetic acid and formalin.

Used for acid decalcification of bones and other calcified tissues.

D 1,01

UN No. 3265 • ADR 8 III • WGK 2

Danger

H314-H335-H350-H411-EUH208

Type analysis:

Appearance.....clear, colourless
 pH (20 °C).....0,9 ±0,3

6483.1	500 ml	plastic	22,25 €

6483.2	1 l	plastic	33,25 €

Original pack 6 x 1 l 31,59/1 l

For further information, please see page 1381

Decalin®

▶ Decahydronaphthalene see p. 1760

Decanal

▶ Capric aldehyde see p. 1712

n-Decane

C₁₀H₂₂

M 142,29 g/mol

D 0,73 • bp 174 °C

mp -30 °C • flp +46 °C

Solubility: 37 mg/l (H₂O, 20 °C)

[124-18-5] • EC No. 204-686-4

UN No. 2247 • ADR 3 III • WGK 2

Danger H304-H226-EUH066

n-Decane

≥99 %

Type analysis:

Assay (GC).....≥99,0 %
 Density (20 °C/20 °C).....0,7290-0,7330
 Refractive index n_D²⁰.....1,4100-1,4130

3475.1	100 ml	glass	24,65 €

3475.2	500 ml	glass	64,40 €

3475.3	1 l	glass	106,45 €

Original pack 6 x 1 l 101,13/1 l

3475.4	2,5 l	glass	203,20 €

Original pack 4 x 2,5 l 193,04/2,5 l

n-Decane

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC).....≥98,5 %

3474.1	1 g	plastic	75,15 €

Decane-1-sulphonic acid sodium salt



Decane-1-sulphonic acid sodium salt

≥99 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-decane sulphonate

C₁₀H₂₁NaO₃S

M 244,33 g/mol

mp >300 °C

[13419-61-9] • EC No. 236-525-9

WGK 2

Guarantee analysis:

Assay (acidim.).....≥99,0 %

Water.....≤1 %

Absorption:

A 210 nm (0,2 M in water).....≤0,05 AU

A 220 nm (0,2 M in water).....≤0,03 AU

A 230 nm (0,2 M in water).....≤0,02 AU

A 260 nm (0,2 M in water).....≤0,02 AU

KK51.1	10 g	glass	46,80 €
KK51.2	25 g	glass	91,30 €
KK51.3	100 g	glass	284,90 €

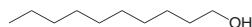
Decanoic acid

► Capric acid see p. 1712

Decanoic acid methyl ester

► Capric acid methyl ester see p. 1712

1-Decanol



1-Decanol

≥99 %, for synthesis

Decylalcohol, Caprinalcohol

$C_{10}H_{22}O$

M 158,28 g/mol

D ~0,83 • bp 230 °C

mp 7 °C • flp 108 °C

[112-30-1] • EC No. 203-956-9

UN No. 3082 • ADR 9 III • WGK 1

⚠ Warning H315-H319-H411

Type analysis:

Assay (GC) ≥99,0 %

Density (d 20 °C/4 °C) 0,829-0,830

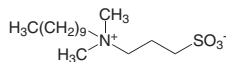
4151.1 1 l glass 57,95 €

Original pack 6 x 1 l 55,05/1 l

Decyl alcohol

► 1-Decanol see p. 1761

N-Decyl-N,N-dimethyl-3-ammonio-1-propane sulphonate



N-Decyl-N,N-dimethyl-3-ammonio-1-propane sulphonate

≥98 %, for biochemistry

Zwitterionic detergent

Sulfobetaine-10, SB-10

$C_{15}H_{33}NO_3S$

M 307,5 g/mol

[15163-36-7]

WGK 1

⚠ Warning H315-H319-H335

Guarantee analysis:

Assay (HPLC) ≥98,0 %

Loss on drying ≤2,0 %

Sulphated ash ≤0,1 %

1816.1 5 g glass 48,95 €

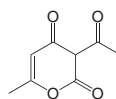
1816.2 25 g glass 127,95 €

For further information, please see page 1219

Defoamer

► Silicone anti-foaming emulsion see p. 2131

Dehydracetic acid



Dehydracetic acid

>98 %

$C_8H_8O_4$

M 168,15 g/mol

mp 109-111 °C

[520-45-6] • EC No. 208-293-9

WGK 1

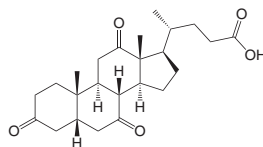
⚠ Warning H302

Type analysis:

Assay >98 %

7548.1 100 g plastic 59,05 €

Dehydrocholic acid



Dehydrocholic acid

≥99 %, for biochemistry

$C_{24}H_{34}O_5$

M 402,54 g/mol

mp ~238 °C

Storage temp.: +4 °C

[81-23-2] • EC No. 201-335-7

Type analysis:

Assay ≥99,0 %

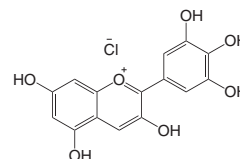
8139.1 25 g plastic 49,35 €

8139.2 100 g plastic 138,70 €

Delafields hematoxylin solution

► Hematoxylin solution acc. to Delafield see p. 1869

Delphinidin chloride



Delphinidin chloride

ROTICHRON® HPLC

Reference substance for HPLC

From *Vaccinium myrtillus* or *Vitis vinifera*

$C_{15}H_{11}O_7Cl$

M 338,70 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

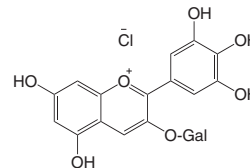
[528-53-0] • EC No. 208-437-0

Type analysis:

Purity (HPLC) ≥99 %

4537.1 10 mg plastic 317,15 €

Delphinidin 3-galactoside chloride



Delphinidin 3-galactoside chloride

ROTICHRON® HPLC

Reference substance for HPLC

From *Vaccinium myrtillus*

Empetrin

$C_{21}H_{21}O_{12}Cl$

M 500,84 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[28500-00-7]

WGK 1

Type analysis:

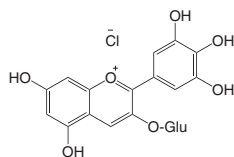
Purity (HPLC) ≥95 %

0643.1 10 mg glass 381,65 €

Delphinidin 3-glucorhamnoside

► Delphinidin 3-rutinoside chloride see p. 1762

Delphinidin 3-glucoside chloride



Delphinidin 3-glucoside chloride

ROTICHRON® HPLC

Reference substance for HPLC
From *Vaccinium myrtillus* or *Vitis vinifera*

Myrtillin

$C_{21}H_{21}O_{12}Cl$

M 500,84 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[6906-38-3]

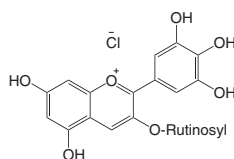
WGK 1

Type analysis:

Purity (HPLC)..... ≥95 %

0644.1	10 mg	glass	338,65 €

Delphinidin 3-rutinoside chloride



Delphinidin 3-rutinoside chloride

ROTICHRON® HPLC

Reference substance for HPLC
From *Ribes nigrum*

Delphinidin-3-glucorhamnoside, Tulipanin

$C_{27}H_{31}O_{16}Cl$

M 646,98 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[15674-58-5]

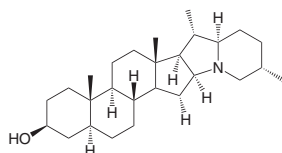
WGK 1

Type analysis:

Purity (HPLC)..... ≥97 %

0977.1	20 mg	glass	317,15 €

Demissidine



Demissidine

ROTICHRON® ~CHR

Solanine D

$C_{27}H_{45}NO$

M 399,66 g/mol

[474-08-8] • EC No. 207-478-1

UN No. 1544 • ADR 6.1 II

Danger H301

6635.1	50 mg	glass	75,15 €

D/E Neutralizing Agar

D/E Neutralizing Agar

for microbiology

For detection and enumeration of microorganisms from a sanitized environment.

Application: Use 54 g for 1 l agar.

Dey-Engley Agar

Storage temp.: +20 °C

WGK 1

Warning H317-EUH031

Formulation:

Dextrose.....	10 g/l
Lecithin.....	7 g/l
Sodium thiosulphate.....	6 g/l
Casein peptone.....	5 g/l
Polysorbate 80.....	5 g/l
Yeast extract.....	2,5 g/l
Sodium bisulfite.....	2,5 g/l
Sodium thioglycolate.....	1 g/l
Bromocresol purple.....	0,02 g/l
Agar.....	15 g/l
pH value.....	7,6 ±0,2

8850.1	500 g	plastic	91,40 €

Original pack 6 x 500 g 86,83/500 g

For further information, please see page 1322

Denhardt's solution, lyophilised powder (50x)

Denhardt's solution, lyophilised powder (50x)

BioScience-Grade, for molecular biology

Blocking reagent for hybridisation and stripping.

Storage temp.: +4 °C

WGK 1

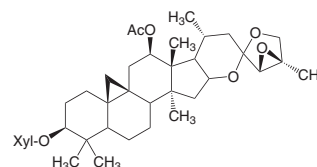
Type analysis:

Albumin Fraction V.....	0,5 g
Ficoll 400.....	0,5 g
Polyvinylpyrrolidone K30.....	0,5 g
pH value (stock solution in water).....	6,3 ±0,2

HP33.1	Powder mix f. 50 ml	plastic	91,95 €

For further information, please see page 1197

27-Deoxyactein



27-Deoxyactein

ROTICHRON® HPLC

Reference substance for HPLC
From *Cimicifuga racemosa*.

$C_{37}H_{56}O_{10}$

M 660,84 g/mol

Storage temp.: +4 °C

[264624-38-6]

Type analysis:

Purity (HPLC)..... >99 %

1134.1	5 mg	glass	403,15 €

2'-Deoxyadenosine-5'-triphosphate

▶ dATP solution see p. 1759

2-Deoxy-D-arabinohexose

▶ 2-Deoxy-D-glucose see p. 1763

Deoxycholate Citrate Agar

Deoxycholate Citrate Agar

Ph.Eur., for microbiology

For highly selective isolation of enteric pathogens, particularly *Salmonella* and *Shigella*.

Application: Use 70 g for 1 l agar.

Agar medium J (Ph.Eur. 6.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Beef extract.....	10 g/l
Meat peptone.....	10 g/l
Lactose monohydrate.....	10 g/l
Sodium citrate.....	20 g/l
Iron(III) citrate.....	1 g/l
Sodium deoxycholate.....	5 g/l
Neutral red.....	0,02 g/l
Agar.....	13,5 g/l
pH value.....	7,5 ±0,2

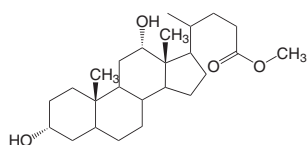
AE44.1	500 g	plastic	96,65 €

Original pack 6 x 500 g 91,82/500 g

AE44.2	1 kg	plastic	170,95 €

Original pack 6 x 1 kg 162,40/1 kg

For further information, please see page 1322

Deoxycholic acid methyl ester**Deoxycholic acid methyl ester**

~98 %, cryst.

 $C_{25}H_{42}O_4$

M 406,60 g/mol

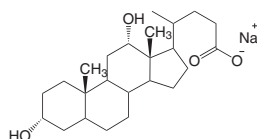
Storage temp.: +4 °C

[3245-38-3] • EC No. 221-819-1

Type analysis:

Assay.....~98 %

8146.1	250 mg	glass	29,60 €

Deoxycholic acid sodium salt**Deoxycholic acid sodium salt**

≥98 %, for biochemistry

Anionic detergent

Sodium deoxycholate, DOC

 $C_{24}H_{39}NaO_4$

M 414,64 g/mol

mp 357-365 °C

Solubility: ~330 g/l (H_2O , 15 °C)

Storage temp.: +4 °C

[302-95-4] • EC No. 206-132-7

WGK 1

⚠ Warning H302-H335-H315-H319

Type analysis:

Appearance.....white to almost white powder

Assay (titr.).....98,0-101,0 %

pH value (5 % in H_2O).....7,2-9,5Specific rotation $[\alpha]_D^{20}$ (c=2 in ethanol, dry substance).....+43° to +45°

Heavy metals.....≤0,002 %

Sodium cholate.....≤1,0 %

Loss on drying (105 °C).....≤5 %

3484.1	10 g	plastic	17,10 €

3484.2	50 g	plastic	52,60 €

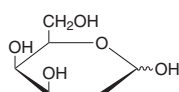
3484.3	100 g	plastic	91,30 €

2'-Deoxycytidine-5'-triphosphate tetrasodium salt

▶ dCTP solution see p. 1759

2-Deoxy-D-erythropentose

▶ 2-Deoxy-D-ribose see p. 1763

2-Deoxy-D-galactose**2-Deoxy-D-galactose**

≥99 %, for biochemistry

2-Deoxy-D-lyxohexose

 $C_6H_{12}O_5$

M 164,16 g/mol

mp 107-108 °C

[1949-89-9] • EC No. 217-765-3

Type analysis:

Assay (GC).....≥99 %

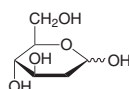
9916.1	250 mg	glass	22,40 €

9916.2	1 g	glass	43,55 €

9916.3	5 g	glass	160,20 €

6-Deoxy-L-galactose

▶ L(-)-Fucose see p. 1842

2-Deoxy-D-glucose**2-Deoxy-D-glucose**

≥98 %, for biochemistry

2-Deoxy-D-arabinohexose

 $C_6H_{12}O_5$

M 164,16 g/mol

mp ~148 °C

[154-17-6] • EC No. 205-823-0

WGK 1

Type analysis:

Assay.....≥98 %

Water.....≤1,0 %

Specific rotation $[\alpha]_D^{20}$+44° to +48°

Ash content.....≤1,0 %

CN96.1	50 mg	glass	15,60 €

CN96.2	1 g	glass	36,05 €

CN96.3	5 g	glass	126,35 €

2'-Deoxyguanosine-5'-triphosphate tetrasodium salt

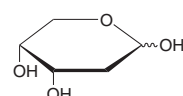
▶ dGTP see p. 1767

2'-Deoxyinosine-5'-triphosphate tetrasodium salt

▶ dITP solution see p. 1790

2-Deoxy-D-lyxohexose

▶ 2-Deoxy-D-galactose see p. 1763

Deoxyribonucleic acid sodium salt▶ Salmon Sperm DNA sodium salt
see p. 2118**2-Deoxy-D-ribose****2-Deoxy-D-ribose**

≥99 %, for biochemistry

2-Deoxy-D-erythropentose, Thymine

 $C_5H_{10}NO_4$

M 134,13 g/mol

mp ~90 °C

Solubility: ~50 g/l (H_2O , 20 °C)

[533-67-5] • EC No. 208-573-0

WGK 1

Type analysis:

Assay.....≥99 %

pH value.....6,0-8,0

Water.....≤1,0 %

Specific rotation $[\alpha]_D^{20}$-58° to -55°

Heavy metals.....≤0,002 %

Sulphated ash.....≤0,5 %

CN97.1	5 g	glass	38,20 €

CN97.2	10 g	glass	64,00 €

CN97.3	25 g	glass	139,25 €

2'-Deoxythymidine

▶ Thymidine see p. 2209

2'-Deoxythymidine-5'-triphosphate tetrasodium salt

▶ dTTP see p. 1796

2'-Deoxyuridine-5'-triphosphate tetrasodium salt

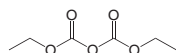
▶ dUTP solution see p. 1796

Depasan

▶ Sparteine sulphate see p. 2164

DEPBT▶ 3-(Diethoxy-phosphoryloxy)-
1,2,3-benzotriazin-4-(3H)-one see p. 1773

DEPC



DEPC

≥97 %, for biochemistry and molecular biology

Diethyl pyrocarbonate, Pyrocarbonic acid diethyl ester, Dicarboxylic acid diethyl ester.

$C_8H_{10}O_5$

M 162,14 g/mol

D -1,12 • bp 160-163 °C

flp 69 °C

Storage temp.: +4 °C

[1609-47-8] • EC No. 216-542-8

WGK 3

⚠ Warning H302+H332-H315-H319-H335

Type analysis:

Appearance: clear liquid
Assay (titr.): ≥97,0 %

K028.3	5 ml	glass	23,55 €
K028.1	25 ml	glass	73,00 €
K028.2	100 ml	plastic	126,75 €

For further information, please see page 1203

Derivation reagents

Art. No.	Description	Page
2328	γ-Aminopropyltriethoxysilane	1633
2330	N,O-Bis(trimethylsilyl) acetamide	1680
2331	N,O-Bis(trimethylsilyl)-trifluoroacetamide	1680
6870	N,N-Dimethylformamid dimethyl acetal	1784
0026	Heptafluorobutyric acid anhydride	1871
3840	1,1,1,3,3,3-Hexamethyldisilazane	1874
8007	N-Methyl-N-(trimethylsilyl)-trifluoroacetamide	1971
0027	Trifluoroacetic anhydride	2220
2338	Trimethylchlorosilane	2221
0013	N-(Trimethylsilyl)-diethylamine	2222
0012	N-(Trimethylsilyl)-imidazole	2222

Descaler

Descaler

ideal for removing lime deposits

D 1,23

UN No. 3412 • ADR 8 II • WGK 1

⚠ ⚠ Danger

H290-H302+H332-H314-EUH071

0023.1	500 ml	cardboard	7,85 €

For further information, please see page 1078

Desiccant sachet Silica gel orange

Desiccant sachet made of white long fiber paper with Silica gel orange filling. **Regeneration is not possible.**

WGK 1

Desiccant sachet Silica gel orange

10 g (4x9 cm), with indicator

Type analysis:

Adsorption capacity:

20 % rel. humidity: approx. 10 %
40 % rel. humidity: approx. 19 %
50 % rel. humidity: approx. 23 %
Colour change from orange to colourless.
Regeneration is not possible.

N077.2	75 pieces/box	30,00 €

For further information, please see page 1586

Desiccant sachet Silica gel orange

25 g (10x10 cm), with indicator

Type analysis:

Adsorption capacity:

20 % rel. humidity: approx. 10 %
40 % rel. humidity: approx. 19 %
50 % rel. humidity: approx. 23 %
Colour change from orange to colourless.
Regeneration is not possible.

N078.1	30 pieces/box	25,30 €

For further information, please see page 1586

Desiccant sachet Silica gel orange

50 g (9x12 cm), with indicator

Type analysis:

Adsorption capacity:

20 % rel. humidity: approx. 10 %
40 % rel. humidity: approx. 19 %
50 % rel. humidity: approx. 23 %
Colour change from orange to colourless.
Regeneration is not possible.

N079.1	20 pieces/box	36,05 €

For further information, please see page 1586

DETA

► Diethylene triamine see p. 1774

Detergents

Art. No.	Description	Page
CN21	Brij® 35	1687
CN27	Cetylpyridinium chloride monohydrate (CPC)	1726
9161	Cetyltrimethylammonium bromide (CTAB)	1726
1479	CHAPS	1726
HN73	CHAPSO	1727
4128	Chenodeoxycholic acid	1728
3407	Cholic acid sodium salt	1733
1816	N-Decyl-N,N-dimethyl-3-ammonio-1-propane sulphonate (Sulfobetaine-10)	1761
3484	Deoxycholic acid sodium salt (DOC)	1763
HN76	Digitonin	1776
1821	N-Dodecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate (Sulfobetaine-12)	1793

4129	n-Dodecyl-β-D-glucopyranoside	1794
CN26	Dodecyl-β-D-maltoside (DDM)	1794
1823	N-Hexadecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate (Sulfobetaine-16)	1874
CN25	Lithiumdodecyl sulphate (LDS)	1936
1800	N-Octyl-N,N-dimethyl-3-ammonio-1-propane sulphonate (Sulfobetaine-8)	1999
CN23	n-Octyl-β-D-glucopyranoside (OGP)	2000
4133	n-Octyl-β-D-thiogalactopyranoside	2000
4139	n-Octyl-β-D-thioglucoylpyranoside	2000
1057	Roti®-Stock 20 % SDS	2112
0183	SDS	2122
2326	SDS ultra pure	2122
4360	SDS / Sodium lauryl sulphate	2122
5136	SDS / Sodium lauryl sulphate	2122
8029	SDS Pellets	2122
CN30	SDS Pellets	2123
1822	N-Tetradecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate (Sulfobetaine-14)	2202
7452	Tetradecyltrimethylammonium bromide (MTAB)	2203
3051	Triton® X 100	2225
9127	Tween® 20	2229
9139	Tween® 80	2229
4859	Tween® 80	2229

Deuterated Compounds

Art. No.	Description	Page
HN83	Acetic acid D4	1599
AE51	Acetone D6	1605
7909	Acetone D6	1605
7911	Acetonitrile D3	1607
AE52	Acetonitrile D3	1607
7912	Benzene D6	1669
AE53	Benzene D6	1669
HN93	Bromobenzene D5	1689
5200	Cyclohexane D12	1754
HN80	Deuterium chloride 38 % solution in D ₂ O	1765
HN81	Deuterium oxide	1765
6672	Deuterium oxide	1765
HN82	1,2-Dichlorobenzene D4	1770
7913	Dichloromethane D2	1772
AE55	Dichloromethane D2	1772
CP92	N,N-Dimethylformamide D7	1784
7915	Dimethyl sulphoxide D6	1786
AE56	Dimethyl sulphoxide D6	1786
7916	Dimethyl sulphoxide D6 with TMS (0,03 vol.%)	1786
AE60	Dimethyl sulphoxide D6 with TMS (0,03 vol.%)	1786
HN84	Ethanol D1	1811
CP93	Ethanol D6	1811
HN92	Formic acid D2, 95 % solution in D ₂ O	1840
HN88	Iodomethane D3	1903
HN86	Methanol D1	1962
7918	Methanol D4	1962
AE57	Methanol D4	1962
7919	Methanol D4 with TMS (0,03 vol.%)	1962
HN91	Nitromethane D3	1992
7922	Pyridine D5	2072
CP94	Pyridine D5	2072
HN89	Sodium borodeuteride	2141
HN90	Sodium deuterium oxide 30 % solution in D ₂ O	2145
HN87	Sulphuric acid D2, 98 % solution in D ₂ O	2194
CP96	1,1,2,2-Tetrachloroethane D2	2202
AE58	Tetrahydrofuran D8	2204

7924	Toluene D8	2214
CP95	Toluene D8	2215
CP91	Trichloromethane/Chloroform D1	2218
7903	Trichloromethane/Chloroform D1	2218
AE54	Trichloromethane/Chloroform D1	2218
7905	Trichloromethane/Chloroform D1 with TMS (0,03 vol.%)	2219
AE59	Trichloromethane/Chloroform D1 with TMS (0,03 vol.%)	2219
CP97	Trifluoroacetic acid D	2220

Deuterium chloride 38 % solution in D₂O

Deuterium chloride 38 % solution in D₂O

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

DCI + D₂O

bp ~108,6 °C

[7698-05-7] • EC No. 231-715-8

UN No. 1789 • ADR 8 II • WGK 1

  **Danger** H314-H335-H290

Guarantee analysis:

Deuterising degree. ≥99,5 %
Assay (mass %) ≥38 %

HN80.1	10 ml	glass	33,25 €

Deuterium oxide

Heavy water, Water D₂

D₂O

M 20,03 g/mol

D ~1,11 • bp 101,4 °C • mp 3,8 °C

[7789-20-0] • EC No. 232-148-9

Deuterium oxide

100 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,97 %
Assay ≤370 Bq/g Tritium

HN81.1	10 ml	glass	24,20 €

HN81.4	10 ml	septum bottle	25,30 €

HN81.2	50 ml	glass	85,90 €

HN81.3	10 x 0,75 ml	glass ampoule	29,60 €

Deuterium oxide

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree. ≥99,8 %

6672.1	10 ml	glass	22,05 €

6672.5	10 ml	septum bottle	23,15 €

6672.2	25 ml	glass	41,85 €

6672.3	100 ml	glass	142,90 €

6672.4	500 ml	glass	643,95 €

6672.6	10 x 0,75 ml	glass ampoule	26,35 €

Deuterotrifluoroacetic acid

► Trifluoroacetic acid D see p. 2220

Dextran 2,5

Dextran 2,5

for biochemistry

(C₆H₁₀O₅)_n

M ~2500 g/mol

[9004-54-0] • EC No. 232-677-5

WGK 2

Type analysis:

Appearance. white to slightly off-white powder
pH value. 4,5-7,0
Specific rotation [α]_D²⁰. ≥+140°
Ash. ≤2,0 %
Loss on drying. ≤7,0 %

8718.1	10 g	plastic	26,80 €

8718.2	100 g	plastic	106,35 €

8718.3	500 g	plastic	428,95 €

Original pack 6 x 500 g 407,50/500 g

Dextran 6

Dextran 6

for biochemistry

(C₆H₁₀O₅)_n

M ~6 000 g/mol

[9004-54-0] • EC No. 232-677-5

WGK 2

Type analysis:

Appearance. white to slightly off-white powder
pH value. 4,5-7,0
Specific rotation [α]_D²⁰. ≥+148°
Ash. ≤2,0 %
Loss on drying. ≤7,0 %

7615.1	10 g	plastic	14,55 €

7615.2	100 g	plastic	51,50 €

7615.3	500 g	plastic	213,95 €

Original pack 6 x 500 g 203,25/500 g

Dextran 10

Dextran 10

for biochemistry

(C₆H₁₀O₅)_n

M ~10 000 g/mol

[9004-54-0] • EC No. 232-677-5

WGK 2

Type analysis:

Appearance. white to slightly off-white powder
pH value. 4,5-7,0
Specific rotation [α]_D²⁰. ≥+148°
Ash. ≤2,0 %
Loss on drying. ≤7,0 %

7616.1	10 g	plastic	14,55 €

7616.2	100 g	plastic	51,50 €

7616.3	500 g	plastic	213,95 €

Original pack 6 x 500 g 203,25/500 g

Dextran 20

Dextran 20

for biochemistry

(C₆H₁₀O₅)_n

M ~20 000 g/mol

[9004-54-0] • EC No. 232-677-5 • WGK 2

Type analysis:

Appearance. white to slightly off-white powder
pH value. 4,5-7,0
Specific rotation [α]_D²⁰. ≥+148°
Ash. ≤2,0 %
Loss on drying. ≤7,0 %

7617.1	10 g	plastic	14,55 €

7617.2	100 g	plastic	53,65 €

7617.3	500 g	plastic	213,95 €

Original pack 6 x 500 g 203,25/500 g

Dextran 35

Dextran 35

for biochemistry

(C₆H₁₀O₅)_n

M ~35 000 g/mol

[9004-54-0] • EC No. 232-677-5 • WGK 2

Type analysis:

Appearance. white powder
Molecular mass. 30000-40000
pH value. 4,5-7,0
Sulphate (SO₄). <0,03 %
Chloride (Cl). <0,01 %
Nitrogen (N). <0,01 %
Alcohol. <0,5 %
Specific rotation [α]_D²⁰. +192° to +200°
Ash content. <0,1 %
Loss on drying. <7,0 %

8943.2	10 g	plastic	14,55 €

8943.1	50 g	plastic	41,40 €

8943.3	100 g	plastic	67,20 €

Dextran 40

(C₆H₁₀O₅)_n

M ~40 000 g/mol

[9004-54-0] • EC No. 232-677-5 • WGK 2

Dextran 40

extra pure

Type analysis:

Appearance. white powder
Molecular mass. 35000-45000
pH value (10 % solution). 4,5-7,0
Appearance of solution. complies
Acid or alkaline react. substances. complies
Nitrogen (N). ≤0,011 %
Heavy metals. ≤0,001 %
Ethanol (GC). ≤0,5 %
Specific rotation [α]_D²⁰. +195° to +201°
Sulphated ash. ≤0,3 %
Loss on drying. ≤7,0 %

9227.3	10 g	plastic	14,55 €

9227.1	100 g	plastic	38,20 €

9227.4	250 g	plastic	76,25 €

9227.2	500 g	plastic	129,55 €

Original pack 6 x 500 g 123,07/500 g

Dextran 40
for biochemistry**Type analysis:**

Appearance..... white to almost white powder
Molecular mass..... 35000-45000
pH value (10 % solution)..... 4,5-7,0
Optical rotation..... +195° to +201°
Loss on drying..... ≤7,0 %

7626.1	10 g	plastic	10,65 €
7626.2	100 g	plastic	33,25 €
7626.3	250 g	plastic	67,65 €
7626.4	500 g	plastic	118,15 €
Original pack 6 x 500 g			112,24/500 g

Dextran 70**Dextran 70**
extra pure

(C₆H₁₀O₅)_n
M ~70 000 g/mol
[9004-54-0] • EC No. 232-677-5
WGK 2

Type analysis:

Appearance..... white powder
Molecular mass..... 63000-77000
Appearance of solution..... clear
pH value..... 4,5-7,0
Nitrogen (N)..... ≤0,011 %
Heavy metals..... ≤0,001 %
Specific rotation [α]_D²⁰..... +195° to +203°
Sulphate (SO₄)..... ≤0,03 %
Loss on drying..... ≤7,0 %

9228.3	10 g	plastic	14,55 €
9228.1	100 g	plastic	49,35 €
9228.4	250 g	plastic	100,95 €
9228.2	500 g	plastic	192,45 €
Original pack 6 x 500 g			182,83/500 g

Dextran 100**Dextran 100**
for biochemistry

(C₆H₁₀O₅)_n
M ~100 000 g/mol
[9004-54-0] • EC No. 232-677-5
WGK 2

Type analysis:

Appearance..... white to slightly off-white powder
pH value..... 4,5-7,0
Specific rotation [α]_D²⁰..... +195° to +203°
Ash..... ≤2,0 %
Loss on drying..... ≤7,0 %

7618.1	10 g	plastic	14,55 €
7618.2	100 g	plastic	51,50 €
7618.3	500 g	plastic	213,95 €
Original pack 6 x 500 g			203,25/500 g

Dextran 150**Dextran 150**
for biochemistry

(C₆H₁₀O₅)_n
M ~150 000 g/mol
[9004-54-0] • EC No. 232-677-5 • WGK 2

Type analysis:

Appearance..... white to slightly off-white powder
pH value..... 4,5-7,0
Specific rotation [α]_D²⁰..... +195° to +203°
Ash..... ≤2,0 %
Loss on drying..... ≤7,0 %

7619.1	10 g	plastic	14,55 €
7619.2	100 g	plastic	51,50 €
7619.3	500 g	plastic	213,95 €
Original pack 6 x 500 g			203,25/500 g

Dextran 250**Dextran 250**
for biochemistry

(C₆H₁₀O₅)_n
M ~250 000 g/mol
[9004-54-0] • EC No. 232-677-5 • WGK 2

Type analysis:

Appearance..... white powder
Molecular mass..... 225 000-275 000
pH value..... 4,5-7,0
Loss on drying..... <7,0 %
Rotation [α]_D²⁰..... +195° to +203°

9233.3	10 g	plastic	33,25 €
9233.1	100 g	plastic	167,20 €
9233.2	500 g	plastic	736,40 €
Original pack 6 x 500 g			699,58/500 g

Dextran 500**Dextran 500**
for biochemistry

(C₆H₁₀O₅)_n
M ~500 000 g/mol
[9004-54-0] • EC No. 232-677-5 • WGK 2

Type analysis:

Appearance..... white powder
Molecular mass..... 500 000
pH value..... 4,0-7,0
Specific rotation [α]_D²⁰..... +195° to +203°
Ash..... ≤2,0 %
Loss on drying..... ≤10,0 %

9219.3	10 g	plastic	22,40 €
9219.1	100 g	plastic	75,15 €
9219.2	500 g	plastic	321,45 €
Original pack 6 x 500 g			305,38/500 g

Dextranhydrogensulphate sodium salt

- ▶ Dextran sulphate 8 sodium salt see p. 1766
- ▶ Dextran sulphate 40 sodium salt see p. 1766
- ▶ Dextran sulphate 500 sodium salt see p. 1767

Dextran sulphate 8 sodium salt**Dextran sulphate 8 sodium salt**
for biochemistry

Dextranhydrogensulphate 8 sodium salt
M ~8 000 g/mol
[9042-14-2]
WGK 2

Type analysis:

Appearance..... off-white to light yellow powder
Specific viscosity (25 °C, 1 M NaCl)..... 0,018-0,032
pH value (1 % in H₂O)..... 5,0-7,5
Specific rotation [α]_D²⁰..... +75° to +105°
Loss on drying..... ≤10,0 %
Loss on ignition..... 35-50 %
Free sulphate..... ≤0,2 %
Sulphur (S)..... 17,0-20,0 %
Iron (Fe)..... ≤2,0 %
Chloride (Cl)..... ≤0,1 %
Glucose..... 35-48 %

7610.1	10 g	plastic	27,85 €
7610.2	25 g	plastic	51,50 €
7610.3	50 g	plastic	90,85 €
7610.4	100 g	plastic	170,95 €

Dextran sulphate 40 sodium salt**Dextran sulphate 40 sodium salt**
for biochemistry

Dextranhydrogensulphate 40 sodium salt
M ~40 000 g/mol
[9042-14-2]
WGK 2

Type analysis:

Appearance..... off-white to light yellow powder
Specific viscosity (25 °C, 1 M NaCl)..... 0,05-0,13
pH value (1 % in H₂O)..... 5,0-7,5
Specific rotation [α]_D²⁰..... +75° to +105°
Loss on drying..... ≤10,0 %
Loss on ignition..... 35-50 %
Free sulphate..... ≤0,2 %
Sulphur (S)..... 17,0-20,0 %
Iron (Fe)..... ≤2,0 %
Chloride (Cl)..... ≤0,1 %
Glucose..... 35-48 %

7612.1	10 g	plastic	27,85 €
7612.2	25 g	plastic	51,50 €
7612.3	50 g	plastic	90,85 €
7612.4	100 g	plastic	170,95 €

Dextran sulphate 500 sodium salt

Dextran sulphate 500 sodium salt

for biochemistry and molecular biology

Dextranhydrogensulphate 500 sodium salt

M ~500 000 g/mol

[9042-14-2]

WGK 2

Type analysis:

Appearance..... white to light yellow powder
Specific viscosity (25 °C, 1 M NaCl)..... 0,1-0,7
pH value (1 %, H₂O)..... 5,0-7,2
Specific rotation [α]_D²⁰..... +75° to +105°
Loss on drying..... ≤10 %
Loss on ignition..... 40-50 %
Free sulphate..... ≤0,2 %
Sulphur (S)..... 17-20 %
Iron (Fe)..... ≤2 %
Chloride (Cl)..... ≤0,1 %
Glucose..... 35-48 %

5956.5	10 g	plastic	27,85 €

5956.3	25 g	plastic	53,65 €

5956.4	50 g	plastic	91,30 €

5956.1	100 g	plastic	174,05 €

5956.2	500 g	plastic	768,65 €

Original pack 6 x 500 g 730,22/500 g

For further information, please see page 1197

Dextrin

Potato starch, Starch gum

(C₆H₁₀O₅)_n · x H₂O

[9004-53-9] • EC No. 232-675-4

WGK 1

Dextrin

white, extra pure

From potatoes, medium viscosity in solution.

Type analysis:

Appearance..... white, amorphous powder
Moisture..... ≤14,5 %
Solubility in cold water (10 %)...... 50-70 %

6778.1	1 kg	plastic	24,20 €

6778.2	5 kg	plastic	91,30 €

Dextrin

yellow, extra pure

Starch gum, from potatoes, medium viscosity in solution.

Type analysis:

Appearance..... yellow, amorphous powder
Moisture..... ≤12 %
Viscosity (40 %, 20 °C)..... 100-150 mPa s
Solubility in cold water..... ≥99,7 %

6777.1	1 kg	plastic	16,05 €

6777.2	5 kg	plastic	56,90 €

Dextrin

for microbiology

From potato starch.

Type analysis:

Appearance..... light yellow powder

3488.1	250 g	plastic	31,75 €

Dextrose

► D(+)-Glucose see p. 1854

► D(+)-Glucose monohydrate see p. 1854

Dey-Engley Agar

► D/E Neutralizing Agar see p. 1762

dGTP

dGTP

≥95 %, lyophilised

2'-Deoxyguanosine-5'-triphosphate tri-sodium salt

C₁₀H₁₃N₅O₁₃P₃Na₃ · 3 H₂O

M 627,16 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[93919-41-6] • EC No. 300-026-5

K052.1	10 mg	plastic	20,35 €

K052.2	100 mg	plastic	126,35 €

For further information, please see page 1209

dGTP solution

dGTP

≥99 %, 100 mM solution

2'-Deoxyguanosine-5'-triphosphate

C₁₀H₁₃N₅O₁₃P₃

M 504,16 g/mol

Storage temp.: -20 °C

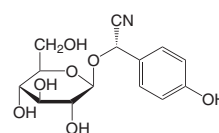
Transport temp.: cooled

[93919-41-6] • EC No. 300-026-5

K037.1	25 µmol (250 µl)	plastic	31,10 €

For further information, please see page 1207

Dhurrin



Dhurrin

ROTICHRON® HPLC

Reference substance for HPLC

(S)-4-Hydroxymandelonitrile-β-D-glucoside,
(S)-(β-D-Glucopyranosyloxy)(4-hydroxy-phenyl)acetonitrile

C₁₄H₁₇NO₇

M 311,29 g/mol

mp >200 °C (dec.)

Storage temp.: +4 °C

[499-20-7] • EC No. 207-878-6

⚠ Warning H302

Type analysis:

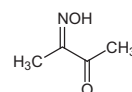
Purity (HPLC)..... ≥98 %

3866.1	1 mg	glass	52,70 €

3866.2	5 mg	glass	198,90 €

3866.3	25 mg	glass	639,65 €

Diacetyl monoxime



Diacetyl monoxime

≥99 %, p.a.

For determination of urea.

2,3-Butandione monoxime

C₄H₇NO₂

M 101,11 g/mol

bp 185-186 °C

mp ~75 °C

[57-71-6] • EC No. 200-348-5

WGK 2

Type analysis:

Assay (HPLC)..... ≥99 %

Melting point..... 74-77 °C

Sulphated ash..... ≤0,05 %

Solution (5 % in H₂O)..... clear solution

3494.1	25 g	plastic	16,90 €

3494.2	100 g	plastic	50,00 €

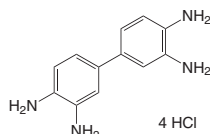
4',6-Diamidino-2-phenylindole dihydrochloride

► DAPI see p. 1758

1,4-Diaminobenzene

► 1,4-Phenylenediamine see p. 2036

3,3'-Diaminobenzidine tetrahydrochloride



3,3'-Diaminobenzidine tetrahydrochloride

≥98 %, p.a.

Substrate of horseradish peroxidase. For detection of endogenous peroxidase and for immunohistochemical stainings.

3,3',4,4'-Tetra-aminobiphenyl tetrahydrochloride, DAB

$C_{12}H_{14}N_4 \cdot 4 HCl$

M 360,10 g/mol

mp >300 °C

Storage temp.: +4 °C

[7411-49-6] • EC No. 231-018-9 • WGK 1

Warning

H315-H319-H341-H351-H335

Guarantee analysis:

Assay (titr.) ≥98 %
Sulphated ash ≤0,3 %

CN75.1	1 g	glass	21,40 €
CN75.2	5 g	plastic	67,65 €
CN75.3	10 g	plastic	115,60 €

For further information, please see page 1232

1,4-Diaminobutane

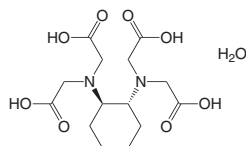
► Putrescin see p. 2072

► Putrescin dihydrochloride see p. 2072

α,ε-Diamino-N-capronic acid hydrochloride

► L-Lysine hydrochloride see p. 1941

trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate



1,2-Cyclohexane dinitrilo tetraacetic acid, CDTA, Titration complex IV

$C_{14}H_{22}N_2O_8 \cdot H_2O$

M 364,34 g/mol • mp 213 °C

Solubility: practically insoluble in H_2O (20 °C)

[125572-95-4] • EC No. 236-308-9 • WGK 2

Warning H315-H319

trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate

≥99 %, p.a., ACS

Guarantee analysis:

Appearance white cryst. powder
Assay ≥99,0 %
pH value (saturated sol.) 2,5-3,1

Chloride (Cl)	≤0,002 %
Sulphate (SO_4)	≤0,01 %
Heavy metals	≤0,001 %
Lead (Pb)	≤0,0001 %
Iron (Fe)	≤0,001 %
Sulphated ash	≤0,1 %
Water (KF)	4,8-5,6 %

1412.1	25 g	plastic	28,95 €
1412.2	100 g	plastic	85,90 €
1412.3	250 g	plastic	196,20 €
1412.4	500 g	plastic	364,45 €
Original pack 6 x 500 g			346,23/500 g

trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate

≥99 %, for synthesis

Type analysis:

Appearance white cryst. powder
Assay ≥99,0 %
pH value (saturated sol.) 2,5-3,1
Heavy metals ≤0,001 %
Water content 4,8-5,6 %

1411.1	100 g	plastic	64,00 €
1411.2	250 g	plastic	150,40 €
1411.3	500 g	plastic	261,80 €
Original pack 6 x 500 g			248,71/500 g
1411.4	1 kg	plastic	493,45 €
Original pack 6 x 1 kg			468,78/1 kg

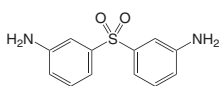
2,2'-Diaminodiethylamine

► Diethylene triamine see p. 1774

3,8-Diamino-5-(3-diethylamino-propyl)-6-phenyl-phenanthridinium iodide-methiodide

► Propidium iodide see p. 2069

3,3'-Diaminodiphenyl sulphone



NEW

3,3'-Diaminodiphenyl sulphone

≥99 %, for synthesis

3,3'-Sulphonyldianiline, 3-Aminophenyl sulphone

$C_{12}H_{12}N_2O_2S_2$

M 248,29 g/mol • mp 170-173 °C

[599-61-1] • EC No. 209-967-5 • WGK 1

Type analysis:

Appearance white to off-white powder
Assay ≥99,0 %
Loss on drying ≤0,5 %

8082.1	25 g	plastic	13,90 €
8082.2	250 g	plastic	32,15 €
8082.3	1 kg	plastic	64,40 €
Original pack 6 x 1 kg			61,18/1 kg

1,2-Diaminoethane

► Ethylenediamine see p. 1814

3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide

► Ethidium bromide see p. 1811

► Ethidium bromide solution 1 % see p. 1811

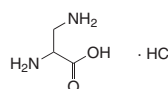
1,6-Diamino-hexane

► Hexamethylene diamine see p. 1875

3,8-Diamino-5-methyl-6-phenyl-phenanthridinium bromide

► Dimidium bromide see p. 1786

DL-2,3-Diaminopropionic acid hydrochloride



DL-2,3-Diaminopropionic acid hydrochloride

≥99 %, for biochemistry

3-Amino-DL-alanine hydrochloride, DAP · HCl

$C_3H_9ClN_2O_2$

M 140,57 g/mol

mp 223-227 °C

[54897-59-5] • EC No. 259-387-1

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (titr.) ≥99,0 %
Solution (5 % in H_2O) colourless
Melting point 223-227 °C

5431.1	1 g	glass	21,75 €
5431.2	5 g	plastic	76,25 €

L(+)-2,5-Diaminovaleric acid hydrochloride

► L-Ornithine monohydrochloride see p. 2015

Diamondfuchsin

► Fuchsin basic (C.I. 42510) see p. 1842

Diamond green G

► Brilliant Green (C.I. 42040) see p. 1687

3,3'-Dianisole-4,4'-bis(3,5-diphenyltetrazolium chloride)

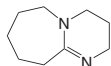
► Tetrazolium blue chloride see p. 2205

Diatomaceous earth

► Infusorial earth see p. 1900

1,4-Diazabicyclo[2.2.2]octane

► DABCO® see p. 1758

1,8-Diazabicyclo[5.4.0]undec-7-ene**1,8-Diazabicyclo[5.4.0]undec-7-ene**

≥98 %, for synthesis

Base for organic chemistry

DBU

C₉H₁₆N₂

M 152,24 g/mol

D 1,02 • bp 80-83 °C

mp -70 °C • flp 116 °C

[6674-22-2] • EC No. 229-713-7

UN No. 2922 • ADR 8 (6.1) II • WGK 2

Danger H290-H301-H314-H412
Type analysis:
 Appearance colourless to light yellow liquid
 Assay ≥98 %

6869.1	25 ml	glass	27,85 €
6869.2	100 ml	glass	81,20 €
6869.3	250 ml	glass	149,45 €
6869.4	500 ml	glass	267,70 €

1,3-Diaza-2,4-cyclopentadiene

► Imidazole see p. 1896

1,23-Diazo-3,6,9,12,15,18,21-heptaaxtricosane

► PEG7-Bis-Azide see p. 2022

Diazin Green S

► Janus green B (C.I. 11050) see p. 1914

Dibasic ester**Dibasic ester**

≥99 %, pure

DBE, Mixture of dicarboxylic acid methylesters (C₄-C₆)

D 1,09 • bp 209 °C

mp -55 °C • flp 99 °C

EC No. 906-170-0

WGK 3

Type analysis:
 Assay (GC) ≥99,0 %
 Colour (Hazen) ≤15
 Density (20 °C) 1,087-1,093
 Dimethyl adipate 8,0-22,0 %
 Dimethyl glutarate 57,0-67,0 %
 Dimethyl succinate 18,0-28,0 %

7973.1	1 l	plastic	21,40 €
Original pack 6 x 1 l			
7973.2	2,5 l	plastic	38,60 €
Original pack 4 x 2,5 l			
7973.3	5 l	plastic	64,40 €
Original pack 2 x 5 l			
			61,18/5 l

**Dibenz[de,kl]anthracene**

► Perylene see p. 2030

Dibenzopyrrole

► Carbazole see p. 1714

DIBK

► Diisobutyl ketone see p. 1779

5',5'-Dibromo-cresolsulphone-phthaleine

► Bromocresol purple see p. 1690

► Bromocresol purple sodium salt see p. 1690

4',5'-Dibromo-2',7'-dinitro-fluorescein disodium salt

► Eosin B (C.I. 45400) see p. 1804

3',3'-Dibromophenol-sulphonphthaleine

► Bromophenol red free acid see p. 1692

3',3'-Dibromothymol-sulphonphthaleine

► Bromothymol blue see p. 1692

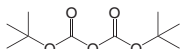
► Bromothymol blue sodium salt see p. 1692

N,N-Dibutyl-1-butanamine

► Tributylamine see p. 2216

2,6-Di-tert-butyl-p-cresol

► Butylated hydroxytoluene see p. 1699

Di-tert-butyl dicarbonate**Di-tert-butyl dicarbonate**

≥99 %

Protective group reagent

Boc₂O, Di-tert-butyl pyrocarbonateC₁₀H₁₈O₅

M 218,25 g/mol

D 0,949

mp 23 °C • flp 37 °C

Solubility: insoluble (H₂O, 20 °C)

Storage temp.: +4 °C

[24424-99-5] • EC No. 246-240-1

UN No. 2929 • ADR 6.1 (3) I • WGK 3

Danger H226-H330-H315-H319-H317
Type analysis:
 Appearance colorless solid
 Assay (GC) ≥99,0 %

6985.1	100 g	plastic	134,40 €
6985.2	500 g	plastic	428,95 €
Original pack 6 x 500 g			
			407,50/500 g

Di-tert-butyl pyrocarbonate

► Di-tert-butyl dicarbonate see p. 1769

DIC

► N,N'-Diisopropylcarbodiimide (DIC) see p. 1780

1,3-Dicaffeoylquinic acid

► Cynarin see p. 1755

2,3-Dicaffeoyltartaric acid

► Cichoric acid see p. 1736

Dichlorane Bengal Red Agar (with chloroamphenicol)**Dichlorane Bengal Red Agar (with chloroamphenicol)**

ISO 21527-1, for microbiology

Selective agar for enumeration of yeast and food mould fungi, especially for strongly hyphen-forming fungi.

Application: Use 31,6 g for 1 l agar.

DRBC Agar

Storage temp.: +20 °C

WGK 2

Danger H350
Formulation:
 Peptone 5 g/l
 Glucose 10 g/l
 Potassium phosphate 1 g/l
 Magnesium sulphate (MgSO₄) 0,5 g/l
 Chloroamphenicol 0,1 g/l
 Dichlorane 0,002 g/l
 Bengal red 0,025 g/l
 Agar 15 g/l
 pH value 5,6 ± 0,2

AE25.1	500 g	plastic	127,95 €
Original pack 6 x 500 g			
			121,55/500 g

For further information, please see page 1322

Dichlorane Glycerol Agar (Base)**Dichlorane Glycerol Agar (Base)**

ISO 21527-2, for microbiology

Selective agar for enumeration of yeast and food mould fungi, especially in half-dry and dry food.

Application: Use 31,6 g for 1 l agar, add 18 vol.-% glycerol.

DG18 Agar

Storage temp.: +20 °C

WGK 2

Danger H340-H350
Formulation:
 Peptone 5 g/l
 Glucose 10 g/l
 Potassium phosphate 1 g/l
 Magnesium sulphate (MgSO₄) 0,5 g/l
 Chloroamphenicol 0,1 g/l
 Dichlorane 0,002 g/l
 Agar 15 g/l
 pH value 5,6 ± 0,2

AE26.1	500 g	plastic	117,20 €
Original pack 6 x 500 g			
			111,34/500 g

For further information, please see page 1322

1,2-Dichlorobenzene



1,2-Dichlorobenzene

≥98 %, for synthesis

o-Chlorobenzene

C₆H₄Cl₂

M 147,00 g/mol

D 1,307 • bp 180 °C

mp -17 °C • flp 66 °C

[95-50-1] • EC No. 202-425-9

UN No. 1591 • ADR 6.1 III • WGK 2

Warning H400-H410-H302-H315-H319-H335

Type analysis:

Assay (GC) ≥98,0 %
Density (d 20 °C/4 °C) 1,305-1,307

4374.1 100 ml glass 12,40 €

4374.2 500 ml glass 24,20 €

4374.3 1 l glass 37,55 €

Original pack 6 x 1 l 35,67/1 l

1,2-Dichlorobenzene D4

1,2-Dichlorobenzene D4

99 Atom%D

For nuclear magnetic resonance spectroscopy.

C₆D₄Cl₂

M 151,03 g/mol

D 1,34 • bp 180 °C

mp -17 °C • flp 66 °C

[2199-69-1] • EC No. 218-606-0

UN No. 1591 • ADR 6.1 III • WGK 2

Warning

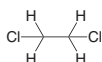
H400-H410-H302-H315-H319-H335

Guarantee analysis:

Deuterising degree ≥99 %
Water (KF, H₂O+D₂O) ≤0,01 %

HN82.1 5 ml glass 163,30 €

1,2-Dichloroethane



Ethylene chloride, Ethylene dichloride

C₂H₄Cl₂

M 98,96 g/mol

D 1,25 • bp 84 °C

mp -35,5 °C • flp 13 °C

Solubility: 8 g/l (H₂O, 20 °C)

[107-06-2] • EC No. 203-458-1

UN No. 1184 • ADR 3 (6.1) II • WGK 3

Danger

H225-H350-H302-H315-H319-H335

1,2-Dichloroethane

ROTIPURAN® ≥99,5 %, p.a.

Guarantee analysis:

Assay (GC) ≥99,5 %
Colour (Hazen) ≤50
Water ≤0,03 %
Density (d 20 °C/20 °C) ~1,25
Free chlorine (Cl) ≤0,00003 %
Aluminium (Al) ≤0,000005 %
Barium (Ba) ≤0,000005 %
Lead (Pb) ≤0,000002 %
Cadmium (Cd) ≤0,000002 %
Calcium (Ca) ≤0,000002 %
Chromium (Cr) ≤0,000002 %
Cobalt (Co) ≤0,000002 %
Iron (Fe) ≤0,0001 %
Potassium (K) ≤0,00002 %
Copper (Cu) ≤0,000002 %
Magnesium (Mg) ≤0,000005 %
Manganese (Mn) ≤0,000002 %
Sodium (Na) ≤0,00005 %
Nickel (Ni) ≤0,000002 %
Strontium (Sr) ≤0,000002 %
Zinc (Zn) ≤0,00001 %
Evaporation residue ≤0,002 %

6837.4 500 ml glass 19,25 €

6837.1 1 l glass 31,10 €

Original pack 6 x 1 l 29,55/1 l

6837.2 2,5 l glass 61,20 €

Original pack 4 x 2,5 l 58,14/2,5 l

6837.3 10 l tinplate 198,90 €

1,2-Dichloroethane

≥99 %, for synthesis

Type analysis:

Assay (GC) ≥99 %
Free acid (as HCl) ≤0,001 %
Iron (Fe) ≤0,0005 %
Evaporation residue ≤0,01 %

T869.1 1 l glass 19,25 €

Original pack 6 x 1 l 18,29/1 l

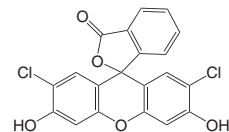
T869.2 2,5 l glass 38,20 €

Original pack 4 x 2,5 l 36,29/2,5 l

T869.3 10 l tinplate 99,45 €

T869.4 25 l tinplate 197,30 €

2',7'-Dichlorofluorescein



2',7'-Dichlorofluorescein

p.a., ACS

fluorescence indicator

C₂₀H₁₀Cl₂O₅

M 401,20 g/mol

[76-54-0] • EC No. 200-968-6 • WGK 2

Guarantee analysis:

Suitability as adsorption indicator complies
Insoluble in ethanol complies
Lead (Pb) ≤0,005 %
Copper (Cu) ≤0,005 %

X866.1 5 g plastic 82,25 €

2',7'-Dichlorofluorescein spray solution

2',7'-Dichlorofluorescein spray solution

for TLC

Ready-to-use spray solution for detection of Lipids (saturated, unsaturated).

0,2 g 2',7'-Dichlorofluorescein dissolved in 100 ml 2-propanol.

UN No. 1219 • ADR 3 II • WGK 1

Danger H225-H319-H336

Type analysis:

TLC-application complies

CP36.1 100 ml glass 35,00 €

Dichloromethane

Methylene chloride, DCM

CH₂Cl₂

M 84,93 g/mol

D ~1,33 • bp 40 °C

mp -95,1 °C

[75-09-2] • EC No. 200-838-9

UN No. 1593 • ADR 6.1 III • WGK 2

Warning H351

Dichloromethane

ROTISOLV® HPLC, not stabilized

Guarantee analysis:

Assay (GC) ≥99,9 %
Water (KF) ≤0,005 %
Free acid ≤0,0002 %
Non volatile matter ≤0,0001 %
Transmission:
255 nm ≥99 %
240 nm ≥80 %
235 nm ≥50 %
229 nm ≥10 %
Filtered through 0,2 µm membrane and filled under protective gas.

7334.2 1 l glass 33,90 €

Original pack 6 x 1 l 32,21/1 l

7334.1 2,5 l glass 53,25 €

Original pack 4 x 2,5 l 50,59/2,5 l

For further information, please see page 1515

Dichloromethane**ROTISOLV® ≥99,9 %, GC Ultra Grade**

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,02 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Evaporation residue.....	≤0,0002 %
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
PAH-test (less than 2 ppb, HPLC).....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	
Stabilized with 30-60 ppm Amylene	

KK47.1	2,5 l	glass	62,25 €
Original pack 4 x 2,5 l			59,14/2,5 l

Dichloromethane**ROTISOLV® ≥99,9 %, Pestilyse® plus**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,02 %
Free acid (as HCl).....	≤0,0005 %
Evaporation residue.....	≤0,0003 %
GC/FID suitability (as 2-octanol).....	≤10 ng/ml
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/ml
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤10 ng/l
Oil index (any hydrocarbon C ₁₀ -C ₄₀).....	≤0,1 mg/l
GC/ECD volatile impurities (as ethylene dibromide).....	≤5 ng/ml
PAH-test (less than 2 ppb, HPLC).....	complies
Fluorescence (as quinine):	
254 nm.....	≤1 ppb
365 nm.....	≤1 ppb
Stabilized with 30-60 ppm Amylene	

7562.1	2,5 l	glass	61,20 €
Original pack 4 x 2,5 l			58,14/2,5 l

Dichloromethane**ROTISOLV® ≥99,8 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,05 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l
Stabilized with approx. 50 ppm amylenes	

T162.2	1 l	glass	29,60 €
Original pack 6 x 1 l			28,12/1 l
T162.1	2,5 l	glass	60,10 €
Original pack 4 x 2,5 l			57,10/2,5 l
T162.3	4 l	glass	73,65 €

Dichloromethane**ROTISOLV® ≥99,8 %, UV/IR-Grade**

For chromatography and spectroscopy

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Transmission:	
260 nm.....	≥98 %
250 nm.....	≥90 %
240 nm.....	≥80 %
230 nm.....	≥5 %
Stabilized with approx. 50 ppm amylenes	

4433.1	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l

Dichloromethane**ROTIDRY® Sept ≥99,9 % (≤50 ppm H₂O)**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,005 %
Acidity (as HCl).....	≤0,001 %
Evaporation residue.....	≤0,001 %
Stabilized with approx. 50 ppm amylenes	

5176.1	250 ml	glass	33,90 €

Dichloromethane**ROTIDRY® ≥99,8 % (≤50 ppm H₂O)**

Dried; for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,005 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Stabilized with approx. 50 ppm amylenes	
Filtered through a membrane and filled under protective gas.	

AE03.1	1 l	glass	28,70 €
Original pack 6 x 1 l			27,27/1 l

Dichloromethane**ROTIPURAN® ≥99,5 %, p.a., ACS, ISO****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Colour (Hazen).....	≤10
Density (d 20 °C/4 °C).....	1,323-1,325
Water.....	≤0,02 %
Acidity.....	≤0,0003 meq/g
Free chlorine (Cl).....	≤0,0001 %
Chloroform (GC).....	≤0,05 %
Carbon tetrachloride (GC).....	≤0,01 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Boron (B).....	≤0,000002 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Cobalt (Co).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %
Tin (Sn).....	≤0,00001 %
Evaporation residue.....	≤0,001 %
Matter discoloured by H ₂ SO ₄ (Hazen).....	complies
Stabilized with approx. 20 ppm amylenes	

6053.3	100 ml	glass	14,55 €

6053.1	1 l	glass	32,80 €
Original pack 6 x 1 l			31,16/1 l
6053.2	2,5 l	glass	59,70 €
Original pack 4 x 2,5 l			56,72/2,5 l
6053.5	25 l	tinplate	289,20 €

Dichloromethane**≥99,5 %, Ph.Eur., extra pure****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Identity.....	complies
Appearance of solution.....	complies
Density (d 20 °C/20 °C).....	1,320-1,332
Refractive index n _D ²⁰	1,423-1,425
Free chlorine (Cl).....	complies
Water (KF).....	≤0,02 %
Chloride (Cl).....	≤0,0003 %
Acid react. substances.....	complies
Heavy metals (as Pb).....	≤0,0001 %
Evaporation residue.....	≤0,002 %
Related substances:	
Ethanol (GC).....	≤2,0 %
Chloroform (GC).....	≤0,005 %
Carbon tetrachloride (GC).....	≤0,001 %
2-Methylbut-2-ene.....	≤0,03 %
Sum of other impurities.....	≤0,1 %
Stabilized with approx. 20 ppm amylenes	

CP45.1	1 l	glass	24,95 €

Original pack 6 x 1 l			23,70/1 l

CP45.2	2,5 l	glass	49,35 €

Original pack 4 x 2,5 l			46,88/2,5 l

CP45.3	10 l	tinplate	126,75 €

CP45.4	25 l	tinplate	236,40 €

Dichloromethane**>99,5 %, for synthesis****Type analysis:**

Assay (GC).....	>99,5 %
Water.....	≤0,1 %
Density (20 °C).....	1,324-1,330
Refractive index n _D ²⁰	1,4230-1,4250
Stabilized with amylenes	

8424.4	100 ml	glass	9,60 €

8424.1	1 l	glass	18,85 €

Original pack 6 x 1 l			17,91/1 l

8424.2	2,5 l	glass	36,45 €

Original pack 4 x 2,5 l			34,63/2,5 l

8424.3	10 l	tinplate	95,60 €

8424.5	25 l	tinplate	164,40 €

Dichloromethane**≥99,9 %, for peptide synthesis****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,005 %
Non volatile matter.....	≤0,0005 %
Free amines.....	≤0,001 %
Stabilized with approx. 50 ppm amylenes	

P089.1	2,5 l	glass	56,90 €

Original pack 4 x 2,5 l			54,06/2,5 l

Dichloromethane D2

Methylene chloride D2
 CCl_2D_2
 M 86,95 g/mol
 D 1,36 • bp 39 °C
 mp -97 °C
 [1665-00-5] • EC No. 216-776-0
 UN No. 1593 • ADR 6.1 III • WGK 2
Warning H351

D

Dichloromethane D2

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree. ≥99,8 %
 Water (KF, $\text{H}_2\text{O}+\text{D}_2\text{O}$). ≤0,02 %

7913.1	10 ml	glass	85,90 €
7913.2	10 x 0,75 ml	glass ampoule	89,15 €

Dichloromethane D2

99,5 Atom%D

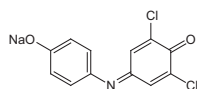
For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,5 %
 Water (KF, $\text{H}_2\text{O}+\text{D}_2\text{O}$). ≤0,03 %

AE55.3	5 ml	glass	42,50 €
AE55.1	10 ml	glass	77,95 €
AE55.2	25 ml	glass	170,95 €
AE55.4	50 ml	glass	246,20 €
AE55.5	10 x 0,75 ml	glass ampoule	82,25 €

2,6-Dichlorophenol-indophenol sodium salt hydrate



2,6-Dichlorophenol-indophenol sodium salt hydrate

p.a.

For determination of ascorbic acid.

DCPIP, Tillman's reagent
 $\text{C}_{12}\text{H}_6\text{Cl}_2\text{NNaO}_2 \cdot x \text{H}_2\text{O}$
 M 290,08 + x H_2O g/mol
 [620-45-1] • EC No. 210-640-4
 WGK 3

Guarantee analysis:

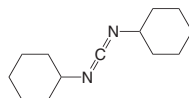
Loss on drying. ≤12 %
 Suitability for determination of ascorbic acid. complies

HN79.1	1 g	glass	15,30 €
HN79.2	5 g	glass	33,90 €
HN79.3	25 g	glass	137,10 €

3',3''-Dichlorophenol sulphonic phthalein

► Chlorophenol red see p. 1732

N,N'-Dicyclohexylcarbodiimide



N,N'-Dicyclohexylcarbodiimide

≥98 %, for peptide synthesis

Coupling reagent for peptide synthesis

DCC

$\text{C}_{13}\text{H}_{22}\text{N}_2$

M 206,33 g/mol

bp 32-35 °C

Solubility: 10 mg/l (H_2O , 20 °C)

[538-75-0] • EC No. 208-704-1

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H302-H310-H317-H318

Type analysis:

Assay (GC). ≥98,0 %
 Loss on ignition. ≤0,1 %
 Solubility (10 % in acetone). complete

4193.1	100 g	glass	18,50 €
4193.2	250 g	glass	34,95 €
4193.3	500 g	glass	62,90 €
Original pack 6 x 500 g			59,76/500 g
4193.4	1 kg	glass	116,65 €
Original pack 6 x 1 kg			110,82/1 kg
4193.5	2,5 kg	glass	267,70 €

13,19-Didehydro-12-hydroxy-senecionan-11,16-dione

► Seneciphylline see p. 2124

2',3'-Dideoxyadenosine-5'-triphosphate tetrasodium salt

► ddATP solution see p. 1759

2',3'-Dideoxycytidine-5'-triphosphate tetrasodium salt

► ddCTP solution see p. 1759

2',3'-Dideoxyguanosine-5'-triphosphate sodium salt

► ddGTP solution see p. 1759

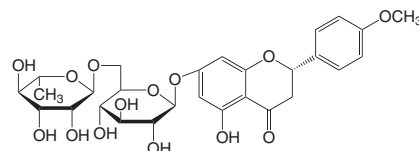
2',3'-Dideoxythymidine-5'-triphosphate sodium salt

► ddTTP solution see p. 1759

1,2-Dideutero-1,1,2,2-tetra-chloroethane

► 1,1,2,2-Tetrachloroethane D2 see p. 2202

Didymin



Didymin

ROTICHRON® HPLC

Reference substance for HPLC

Rutinosyl-7-isosakuranetin

$\text{C}_{28}\text{H}_{34}\text{O}_{14}$

M 594,57 g/mol

Storage temp.: +4 °C

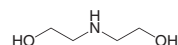
[14259-47-3] • EC No. 238-139-6

Type analysis:

Purity (HPLC). ≥99 %

7445.1	5 mg	glass	332,20 €

Diethanolamine



2,2'-Dihydroxy diethylamine,

Bis-(β-hydroxyethyl)-amine

$\text{C}_4\text{H}_{11}\text{NO}_2$

M 105,14 g/mol

D ~1,09 • bp 269-270 °C

mp 27-28 °C • flp 176 °C

[111-42-2] • EC No. 203-868-0

WGK 1

Danger H318-H373-H302-H315

Diethanolamine

ROTIPURAN® ≥99 %, p.a., ACS

For biochemistry.

Guarantee analysis:

Assay (GC). ≥99,0 %
 Melting point. 27-28 °C
 Colour (APHA). ≤15
 Water. ≤0,15 %
 Chloride (Cl). ≤0,001 %
 Ethanol amine (GC). ≤0,3 %
 Triethanol amine (GC). ≤0,3 %
 Ash content (as SO_4). ≤0,002 %
 Heavy metals (as Pb). ≤0,0001 %
 Iron (Fe). ≤0,0001 %
 Apparent equivalent weight. 104,0-106,0

0332.1	250 ml	glass	33,90 €
0332.2	500 ml	glass	58,60 €
0332.3	1 l	glass	100,95 €
Original pack 6 x 1 l			95,90/1 l

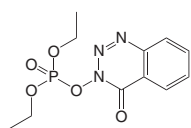
Diethanolamine

≥99 %, for synthesis

Type analysis:

Assay (GC).....≥99,0 %
 Water.....≤0,1 %
 Melting range.....25-28 °C

HN99.1	500 ml	plastic	27,45 €
HN99.2	1 l	plastic	35,15 €
Original pack 6 x 1 l			33,39/1 l
HN99.3	2,5 l	plastic	66,55 €
Original pack 4 x 2,5 l			63,22/2,5 l
HN99.4	5 l	plastic	99,45 €
Original pack 2 x 5 l			94,48/5 l
HN99.5	10 l	plastic	170,95 €

3-(Diethoxy-phosphoryloxy)-1,2,3-benzotriazin-4-(3H)-one**3-(Diethoxy-phosphoryloxy)-1,2,3-benzotriazin-4-(3H)-one**

≥98,5 %

Coupling reagent for peptide synthesis

DEPBT

C₁₁H₁₄N₃O₅P

M 299,22 g/mol

mp 72-77 °C

Storage temp.: +4 °C

[165534-43-0]

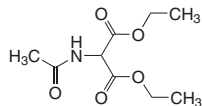
WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC).....≥98,5 %
 Loss on drying.....≤0,5 %

2103.1	5 g	glass	43,55 €
2103.2	25 g	glass	181,70 €

Diethyl acetamidomalonate**Diethyl acetamidomalonate**

≥99 %

Acetamidomalononic acid diethyl ester

C₉H₁₅NO₅

M 217,22 g/mol

bp 185 °C

mp 96-98 °C

Solubility: insoluble (H₂O, 20 °C)

[1068-90-2] • EC No. 213-952-9

Type analysis:

Assay (GC).....≥99,0 %
 Solution (5% in methanol).....colourless, clear
 Melting point.....96-98 °C

5428.1	25 g	plastic	95,60 €
5428.2	50 g	plastic	172,55 €

Diethylamine

N-Ethyleneamine

C₄H₁₁N

M 73,14 g/mol

D ~0,70 • bp 55-58 °C

mp -50 °C

[109-89-7] • EC No. 203-716-3

UN No. 1154 • ADR 3 (8) II • WGK 1

⚠ ⚠ ⚠ Danger

H225-H314-H302+H312+H332

Diethylamine

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC).....≥99,5 %
 Water.....≤0,1 %
 Colour (APHA).....≤20
 Lead (Pb).....≤0,00001 %
 Cadmium (Cd).....≤0,000005 %
 Calcium (Ca).....≤0,000005 %
 Chromium (Cr).....≤0,000002 %
 Iron (Fe).....≤0,00001 %
 Cobalt (Co).....≤0,000002 %
 Copper (Cu).....≤0,000002 %
 Magnesium (Mg).....≤0,00001 %
 Manganese (Mn).....≤0,000002 %
 Nickel (Ni).....≤0,000002 %
 Zinc (Zn).....≤0,00001 %
 Evaporation residue.....≤0,01 %
 Monoethylamine (GC).....≤0,5 %
 Triethylamine (GC).....≤0,5 %

3495.1 250 ml glass 16,90 €

3495.2 1 l glass 44,00 €

Original pack 6 x 1 l 41,80/1 l

Diethylamine

≥99,5 %, for synthesis

Type analysis:

Assay (GC).....≥99,5 %
 Water.....≤0,2 %

KK00.1 100 ml glass 12,15 €

KK00.2 500 ml glass 19,05 €

KK00.3 1 l glass 24,95 €

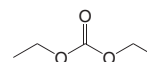
Original pack 6 x 1 l 23,70/1 l

KK00.4 2,5 l glass 42,90 €

Original pack 4 x 2,5 l 40,76/2,5 l

Diethylaminoethylidextran

▶ DEAE Dextran see p. 1760

Diethyl carbonate**Diethyl carbonate**

≥99,9 %

Carbonic acid diethyl ester, Ethyl carbonate, DEC

C₅H₁₀O₃

M 118,13 g/mol

D 0,98 • bp 126 °C

mp -43 °C • flp 33 °C

Solubility: insoluble (H₂O, 20 °C)

[105-58-8] • EC No. 203-311-1

UN No. 2366 • ADR 3, III • WGK 1

⚠ Warning H226

Type analysis:

Assay (GC).....≥99,9 %
 Water.....≤0,1 %
 Ethanol (GC).....≤0,2 %
 Density (20 °C).....0,973-0,976

2627.1 100 ml glass 13,15 €

2627.2 500 ml glass 21,75 €

2627.3 1 l glass 30,00 €

Original pack 6 x 1 l 28,50/1 l

2627.4 2,5 l glass 55,80 €

Original pack 4 x 2,5 l 53,01/2,5 l

Diethyl dicarbonate

▶ DEPC see p. 1764

Diethyldithiocarbamic acid silver salt

▶ Silver diethyldithiocarbamate see p. 2136

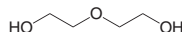
Diethyldithiocarbamic acid sodium salt

▶ Sodium diethyldithiocarbamate trihydrate see p. 2145

1,4-Diethylene dioxide

▶ 1,4-Dioxane see p. 1787

Diethylene glycol



Diethylene glycol

≥99 %, for synthesis

Diglycol, 2,2'-Dihydroxy diethyl ether

C₄H₁₀O₃

M 106,12 g/mol

D ~1,115 • bp 242-252 °C

mp -6 °C • flp 140 °C

[111-46-6] • EC No. 203-872-2

WGK 1

⚠ Warning H302

Type analysis:

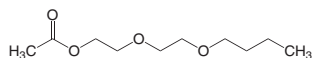
Assay (GC) ≥99 %
Density (20 °C) 1,115-1,120
Water (KF) ≤0,2 %

0968.1	1 l	plastic	16,35 €
Original pack 6 x 1 l			15,53/1 l
0968.2	2,5 l	plastic	27,45 €
Original pack 4 x 2,5 l			26,08/2,5 l
0968.3	10 l	plastic	69,35 €
0968.4	25 l	plastic	152,15 €

Diethylene glycol butyl ether

► Butyldiglycol see p. 1699

Diethylene glycol monobutyl ether acetate



Diethylene glycol monobutyl ether acetate

≥97 %, pure

2-(2-Butoxyethoxy)ethyl acetate, Butyldiglycol acetate

C₁₀H₂₀O₄

M 204,26 g/mol

D 0,98 • bp 238-248 °C

mp -32 °C • flp 102 °C

Solubility: 65 g/l (20 °C, H₂O)

[124-17-4] • EC No. 204-685-9

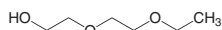
WGK 1

Type analysis:

Assay (GC) ≥97,0 %
Colour (Hazen) ≤20

8021.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
8021.2	2,5 l	glass	35,40 €
Original pack 4 x 2,5 l			33,63/2,5 l

Diethylene glycol monoethyl ether



Diethylene glycol monoethyl ether

≥99 %, pure

2-(2-Ethoxyethoxy)ethanol, Ethyldiglycol

C₆H₁₄O₃

M 134,17 g/mol

D 0,99 • bp 202 °C

mp -90 °C • flp 94 °C

[111-90-0] • EC No. 203-919-7

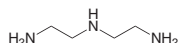
WGK 1

Type analysis:

Assay (GC) ≥99,0 %
Colour (Hazen) ≤15

8686.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
8686.2	2,5 l	glass	37,55 €
Original pack 4 x 2,5 l			35,67/2,5 l

Diethylene triamine



Diethylene triamine

≥98 %, for synthesis

2,2'-Diaminodiethylamine, DETA

C₄H₁₃N₃

M 103,17 g/mol

D 0,95 • bp 207 °C

mp -35 °C • flp 102 °C

[111-40-0] • EC No. 203-865-4

UN No. 2079 • ADR 8 II • WGK 2

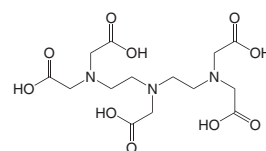
⚠ ⚠ Danger H302+H312-H314-H317

Type analysis:

Appearance clear colourless to yellowish liquid
Assay (GC) ≥98,0 %
Density 0,949-0,952
Refractive index n_D²⁰ 1,482-1,483
Water ≤0,3 %

6723.1	100 ml	glass	12,70 €
6723.2	500 ml	glass	25,70 €
6723.3	1 l	glass	37,55 €
Original pack 6 x 1 l			35,67/1 l
6723.4	2,5 l	glass	72,60 €
Original pack 4 x 2,5 l			68,97/2,5 l

Diethylene triamine pentaacetic acid



Diethylene triamine pentaacetic acid

≥99 %, for synthesis

Titration complex V

DTPA, Pentetic acid

C₁₄H₂₃N₃O₁₀

M 393,35 g/mol • mp 220-222 °C (dec.)

Solubility: 4,8 g/l (H₂O, 25 °C)

[67-43-6] • EC No. 200-652-8 • WGK 2

⚠ Warning H319

Type analysis:

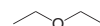
Appearance white cryst. powder
Assay ≥99,0 %
Chloride (Cl) ≤0,01 %
Nitrilotriacetic acid ≤0,5 %
Sulphate (SO₄) ≤0,05 %
Heavy metals (as Pb) ≤0,001 %
Iron (Fe) ≤0,001 %
pH value (saturated solution) 2,1-2,5
Loss on drying ≤0,2 %

1407.1	100 g	plastic	17,10 €
1407.2	250 g	plastic	28,95 €
1407.3	500 g	plastic	46,15 €
Original pack 6 x 500 g			43,84/500 g
1407.4	1 kg	plastic	81,60 €
Original pack 6 x 1 kg			77,52/1 kg

N,N-Diethylethane amine

► Triethylamine see p. 2219

Diethyl ether



Ether, Ethyl ether

C₄H₁₀O

M 74,12 g/mol

D 0,71 • bp 35 °C

mp -116,3 °C • flp -40 °C

Solubility: 69 g/l (H₂O, 20 °C)

[60-29-7] • EC No. 200-467-2

UN No. 1155 • ADR 3 I • WGK 1

⚠ ⚠ Danger

H224-H302-H336-EUH019-EUH066

Diethyl ether

ROTISOLV® ≥99,8 %, Pestilyse®, stab.

For residue and environmental analysis.

Guarantee analysis:

Assay (GC) ≥99,8 %
Water (KF) ≤0,1 %
Acidity ≤0,0005 meq/g
Evaporation residue ≤0,0005 %
GC/ECD (individual signal as lindane) ≤5 ng/l
GC/PND (individual signal as ethylparathion) ≤10 ng/l
Stabilized with approx. 1 % ethanol

T900.1	2,5 l	glass	76,25 €
Original pack 4 x 2,5 l			72,44/2,5 l

Diethyl ether**ROTIDRY® Sept ≥99,5 % (≤50 ppm H₂O), stab.**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC).....	≥99,5 %
Colour (APHA).....	≤10
Water (KF).....	≤0,005 %
Acidity (as CH ₃ COOH).....	≤0,001 %
Evaporation residue.....	≤0,001 %
Stabilized with approx. 10 ppm BHT	

5177.1	250 ml	glass	51,10 €

Diethyl ether**ROTIDRY® ≥99,5 % (≤50 ppm H₂O), stab.**

Dried; for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,5 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,005 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,001 %
Stabilized with ~5 ppm BHT	
Filtered through 0,2 µm membrane and filled under protective gas.	

AE04.1	1 l	glass	41,85 €
Original pack 6 x 1 l			39,76/1 l

Diethyl ether**ROTIPURAN® ≥99,5 %, p.a., stab.****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Density (20 °C).....	0,714-0,716
Water (KF).....	≤0,1 %
Acetone (GC).....	≤0,01 %
Ethanol (GC).....	≤0,1 %
Methanol (GC).....	≤0,1 %
Acid content (as CH ₃ COOH).....	≤0,01 %
Peroxides (as H ₂ O ₂).....	complies
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,000001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Cobalt (Co).....	≤0,000002 %
Iron (Fe).....	≤0,000001 %
Copper (Cu).....	≤0,000001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,00001 %
Zinc (Zn).....	≤0,000001 %
Tin (Sn).....	≤0,00001 %
Evaporation residue.....	≤0,002 %
Stabilized with ~5 ppm BHT	

3942.1	1 l	glass	41,40 €

Original pack 6 x 1 l				39,33/1 l

3942.2	2 l	glass	72,60 €

3942.4	5 l	aluminium	146,75 €

Original pack 2 x 5 l				139,41/5 l

3942.5	25 l	tinplate	418,20 €

Diethyl ether**≥99,5 %, Ph.Eur., stab.****Guarantee analysis:**

Appearance.....	clear, colourless
Assay (GC).....	≥99,5 %
Identity.....	complies
Density (d 20 °C/4 °C).....	0,714- 0,716
Water.....	≤0,05 %
Evaporation residue.....	≤0,002 %
Acid react. substances.....	complies
Distillation range.....	34,0-35,0 °C
Aldehydes.....	complies
Peroxides.....	complies
Foreign odour.....	complies
Stabilized with ~5 ppm BHT	

8810.1	1 l	glass	33,25 €

Original pack 6 x 1 l				31,59/1 l

8810.2	5 l	aluminium	119,25 €

Original pack 2 x 5 l				113,29/5 l

8810.4	25 l	tinplate	353,70 €

Diethyl ether**≥99,5 %, for synthesis, stab.****Type analysis:**

Assay (GC).....	≥99,5 %
Density (20 °C).....	0,714-0,716
Peroxides (as H ₂ O ₂).....	complies
Stabilized with ~5 ppm BHT	

5920.2	1 l	glass	30,65 €

Original pack 6 x 1 l				29,12/1 l

5920.3	5 l	aluminium	107,40 €

Original pack 2 x 5 l				102,03/5 l

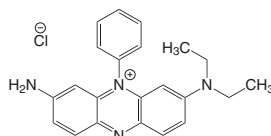
5920.4	25 l	tinplate	311,65 €

Diethylmethane

► n-Pentane see p. 2025

Diethyl pyrocarbonate

► DEPC see p. 1764

Diethyl safranine (C.I. 50206)**Diethyl safranine (C.I. 50206)****for microscopy**

Methylene violet 3RAX

C₂₂H₂₃ClN₄

M 378,91 g/mol

mp ~285 °C

[4569-86-2]

WGK 3

Type analysis:

Appearance.....	green cryst. powder
Appearance of solution (0,1 % in H ₂ O).....	clear red
Absorption max. (in H ₂ O).....	≤557 nm

7654.1	1 g	glass	11,00 €

7654.2	5 g	glass	22,40 €

7654.3	10 g	glass	33,90 €

Diferuloylmethane

► Curcumin see p. 1752

Differential Reinforced Clostridial Medium**Differential Reinforced Clostridial Medium****for microbiology**

For enrichment and enumeration of clostridia in foods and other samples.

Application: Use 27,5 g for 1 l broth.

DRCM

Storage temp.: +20 °C

WGK 1

Formulation:

Casein peptone.....	5 g/l
Meat peptone.....	5 g/l
Beef extract.....	8 g/l
Yeast extract.....	1 g/l
Soluble starch.....	1 g/l
Glucose monohydrate.....	1 g/l
Cystein hydrochloride.....	0,5 g/l
Sodium acetate.....	5 g/l
Sodium bisulfite.....	0,5 g/l
Ammonium iron(III) citrate.....	0,5 g/l
Sodium resazurin.....	0,002 g/l
pH value.....	7,1 ±0,2

CL78.1	500 g	plastic	98,80 €

Original pack 6 x 500 g				93,86/500 g

For further information, please see page 1323

Digilanide

► Lanatoside C see p. 1922

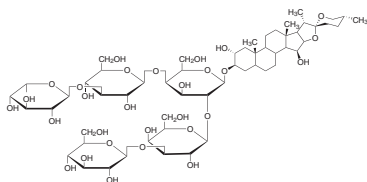
Digitalin

► Digitoxin see p. 1776

Digitoflavone

► Luteolin-7-glucoside see p. 1940

Digitonin



D $C_{56}H_{92}O_{29}$
 M 1229,32 g/mol
 mp ~250 °C
 [11024-24-1] • EC No. 234-255-6
 UN No. 3462 • ADR 6.1 III • WGK 3
 ⚠ **Danger** H301+H311+H331

Digitonin

Ultra Quality

Water soluble quality, for biochemistry.
 Non-ionic detergent.

Guarantee analysis:

Appearance: white, cryst. powder
 Solution (2,5 %, warm EtOH): clear, colourless
 Solubility (1 g dissolved in 20 ml H_2O by heating up to 95-98 °C for 15 min, clear colorless): complies
 Specific rotation $[\alpha]_D^{20}$:-48° ±2°
 Sulphated ash:≤0,3 %
 Loss on drying:≤6,0 %
 Water (KF):≤6,0 %

HN76.3	100 mg	glass	71,50 €
HN76.1	250 mg	glass	158,60 €
HN76.2	1 g	glass	526,75 €

For further information, please see page 1217

Digitonin

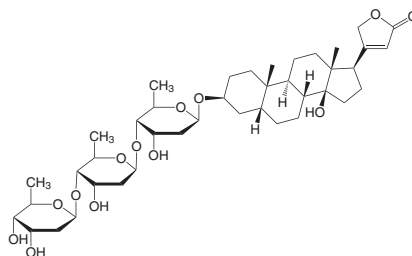
for biochemistry

Guarantee analysis:

Appearance: white to yellowish powder
 Appearance of solution (2,5 % EtOH):
clear, colourless to light yellowish
 Solubility (2,5 %, warm EtOH): complies
 Specific rotation $[\alpha]_D^{20}$:-48° ±3°
 Loss on ignition:≤0,3 %
 Loss on drying:≤6 %

4005.1	100 mg	glass	39,25 €
4005.2	500 mg	glass	131,70 €
4005.3	1 g	glass	235,45 €
4005.4	5 g	glass	924,50 €

Digitoxin



Digitoxin

ROTICHRON® ~CHR

Digitalin
 $C_{41}H_{64}O_{13}$
 M 764,96 g/mol
 mp 256-257 °C
 Solubility: 10 mg/l (H_2O , 20 °C)
 [71-63-6] • EC No. 200-760-5
 UN No. 2811 • ADR 6.1 I • WGK 3

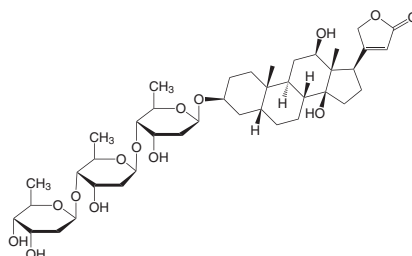
⚠ **Danger** H301+H331-H373

7359.1	50 mg	glass	35,40 €

Diglycine

► Glycylglycine see p. 1862

Digoxin



Digoxin

ROTICHRON® ~CHR

Lanoxin
 $C_{41}H_{64}O_{14}$
 M 780,96 g/mol
 mp 260-265 °C
 Solubility: 65 mg/l (H_2O , 25 °C)
 [20830-75-5] • EC No. 244-068-1
 UN No. 2811 • ADR 6.1 I • WGK 3

⚠ **Danger** H300+H330-H400-H319

7323.1	50 mg	glass	65,50 €

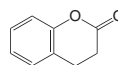
Diholmium trioxide

► Holmium(III) oxide see p. 1880

Dihydrocholesterol

► 5- α -Cholestan-3 β -ol see p. 1732

Dihydrocoumarin



Dihydrocoumarin

ROTICHRON® GC

Reference substance for GC

$C_9H_8O_2$
 M 148,16 g/mol
 D 1,19 • bp 272 °C
 mp 19 °C • flp >100 °C
 Storage temp.: +4 °C
 [119-84-6] • EC No. 204-354-9
 WGK 1

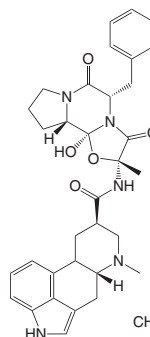
⚠ **Warning** H302-H317

Type analysis:

Purity (GC):≥97 %

5089.1	1 g	plastic	75,15 €

Dihydroergotamine methane sulphate



Dihydroergotamine methane sulphate

≥98 %, for biochemistry

$C_{33}H_{37}N_5O_5 \cdot CH_3SO_3H$
 M 679,8 g/mol
 mp 232 °C
 [6190-39-2] • EC No. 228-235-6
 WGK 1

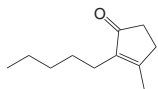
⚠ **Warning** H312+H332

Type analysis:

Appearance: cryst. powder
 Assay (dry substance): 98,0-101,0 %
 pH value (0,1 % in H_2O): 4,5-5,4
 Specific rotation $[\alpha]_D^{20}$ (1 % in pyridine):-47° to -42°
 Related substances: complies
 Loss on drying (5 h, 100-105 °C):≤4,0 %

6948.1	100 mg	glass	22,05 €

Dihydrojasmone



Dihydrojasmone

ROTICHROM® GC

Reference substance for GC

3-Methyl-2-pentyl-2-cyclopentenone

C₁₁H₁₈O

M 166,25 g/mol

bp 230 °C

Storage temp.: +4 °C

[1128-08-1] • EC No. 214-434-5

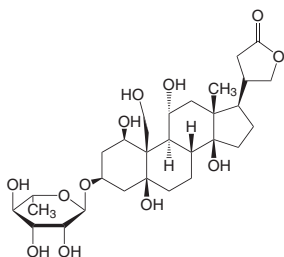
WGK 2

Type analysis:

Purity (GC)..... ≥97 %

8735.1	1 g	plastic	75,15 €

Dihydroouabain



Dihydroouabain

ROTICHROM® ~CHR

C₂₉H₄₆O₁₂

M 586,67 g/mol

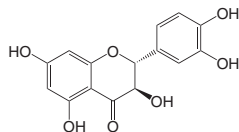
[1183-35-3] • EC No. 214-663-0

UN No. 2811 • ADR 6.1 II

Danger H300+H330-H373

7197.1	50 mg	glass	138,70 €

(+)-Dihydroquercetin



(+)-Taxifolin, Distylin

C₁₅H₁₂O₇

M 304,25 g/mol

mp 228-230 °C

[480-18-2] • EC No. 207-543-4 • WGK 1

(+)-Dihydroquercetin

ROTI®STAR Primary Standard

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥90,0 %

Residual solvents (GC)..... ≤7,0 %

Water (KF)..... ≤7,0 %

Assay (qNMR)..... ≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE55.1	10 mg	glass	783,70 €

(+)-Dihydroquercetin

ROTICHROM® Working Standard

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥85,0 %

Identity..... complies

Traceable to a primary reference standard. With proof

of identity and batch specific certificate of analysis.

NC55.1	50 mg	glass	357,45 €

(+)-Dihydroquercetin

with analytical records

From *Pseudozuga menziesii*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... >99 %

Analytical records: HPLC, TLC, ¹H- NMR, ¹³C- NMR,

UV, IR, MS, melting point.

T893.1	20 mg	glass	338,65 €

(+)-Dihydroquercetin

ROTICHROM® HPLC

Reference substance for HPLC.

From *Pseudozuga menziesii*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... >99 %

4464.1	20 mg	glass	235,45 €

4464.2	50 mg	glass	446,15 €

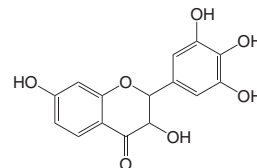
(+)-Dihydroquercetin

ROTICHROM® ~CHR

Storage temp.: +4 °C

5797.2	100 mg	plastic	198,90 €

Dihydrorobinetin



Dihydrorobinetin

ROTICHROM® ~CHR

C₁₅H₁₂O₇

M 304,26 g/mol

mp ~225 °C

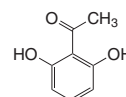
[4382-33-6] • EC No. 224-486-0

UN No. 2811 • ADR 6.1 III

Warning H302

6960.1	100 mg	glass	60,75 €

2,6-Dihydroxyacetophenone



2,6-Dihydroxyacetophenone

≥98 %

2-Acetylresorcinol, 2-Acetyl-1,3-dihydroxy-

benzene

C₈H₈O₃

M 152,15 g/mol

mp 155-159 °C

Solubility: 10 g/l (H₂O, 20 °C)

[699-83-2] • EC No. 211-833-6

WGK 2

Warning H302+H312+H332

Type analysis:

Assay (GC)..... ≥98,0 %

Solution (1 % in ethanol)..... yellowish, clear

Melting point..... 155-159 °C

Sulphated ash..... ≤0,5 %

5426.1	5 g	plastic	17,75 €

5426.2	10 g	plastic	27,85 €

1,2-Dihydroxyanthraquinone

▶ Alizarin (C.I. 58000) see p. 1622

2,2'-Dihydroxy-1,1'-azo-naphthalene-3',4,6'-trisulfonic acid disodium salt

▶ Hydroxy naphthol blue disodium salt
see p. 1892

2,3-Dihydroxybenzaldehyde



2,3-Dihydroxybenzaldehyde

≥98 %
C₇H₆O₃
M 138,12 g/mol
bp 235 °C
mp 104-106 °C
[24677-78-9] • EC No. 246-398-1

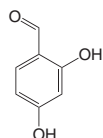
⚠ **Warning** H315-H319-H335

Type analysis:

Assay ≥98,0 %

7274.1	1 g	glass	14,55 €
7274.2	5 g	glass	26,80 €
7274.3	25 g	glass	85,90 €

2,4-Dihydroxy benzaldehyde



2,4-Dihydroxy benzaldehyde

≥98 %, for synthesis
β-Resorcylaldehyde
C₇H₆O₃
M 138,12 g/mol
mp 135-140 °C
[95-01-2] • EC No. 202-383-1
WGK 1

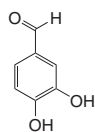
⚠ **Warning** H302-H315-H319-H335

Type analysis:

Appearance off-white to light red powder
Assay (HPLC) ≥98,0 %

4039.1	25 g	glass	34,30 €
4039.2	100 g	glass	102,70 €
4039.3	250 g	glass	213,95 €

3,4-Dihydroxybenzaldehyde



3,4-Dihydroxybenzaldehyde

≥98 %
Protocatechualdehyde, 4-Formyl-1,2-dihydroxybenzene
C₇H₆O₃
M 138,12 g/mol
mp 153-155 °C
Solubility: 6,3 g/l (H₂O, 25 °C)
Storage temp.: +4 °C
[139-85-5] • EC No. 205-377-7

⚠ **Warning** H319-H335

Type analysis:

Assay (titr.) ≥98,0 %
Loss on drying ≤1,0 %

5424.1	5 g	plastic	12,80 €
5424.2	25 g	plastic	34,95 €
5424.3	100 g	plastic	96,25 €

1,2-Dihydroxybenzene

► Pyrocatechol see p. 2073

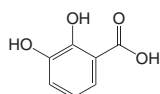
1,3-Dihydroxybenzene

► Resorcinol see p. 2082

1,4-Dihydroxybenzene

► Hydroquinone see p. 1889

2,3-Dihydroxybenzoic acid



2,3-Dihydroxybenzoic acid

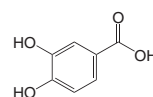
≥98,5 %
C₇H₆O₄
M 154,12 g/mol
mp 206 °C
Solubility: 20 g/l (H₂O, 20 °C)
[303-38-8] • EC No. 206-139-5
⚠ **Warning** H315-H319-H335

Type analysis:

Assay ≥98,5 %

6057.1	5 g	plastic	104,20 €

3,4-Dihydroxybenzoic acid



Protocatechuic acid
C₇H₆O₄
M 154,12 g/mol
mp ~200 °C
[99-50-3] • EC No. 202-760-0
WGK 1
⚠ **Warning** H315-H319-H335

3,4-Dihydroxybenzoic acid

≥97 %

Type analysis:

Appearance light-brown, fine crystals
Assay (titr.) ≥97 %

8274.1	10 g	glass	41,40 €

3,4-Dihydroxybenzoic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %
Residual solvents (GC) ≤3,0 %
Water (KF) ≤7,0 %
Assay (qNMR) ≥90,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE52.1	50 mg	glass	525,70 €

3,4-Dihydroxybenzoic acid

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC) ≥90,0 %
Identity complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC52.1	100 mg	glass	99,90 €

3α,7α-Dihydroxy-5β-cholanic acid

► Chenodeoxycholic acid see p. 1728

3,4-Dihydroxycinnamic acid

► Caffeic acid see p. 1703

6,7-Dihydroxycoumarin

► Esculetin see p. 1808

7,8-Dihydroxycoumarin

► Daphnetin see p. 1758

6,7-Dihydroxycoumarin-6-glycoside

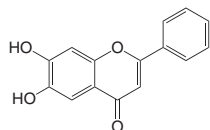
► Esculin sesquihydrate see p. 1808

2,2'-Dihydroxydiethyl amine

▶ Diethanolamine see p. 1772

5,7-Dihydroxyflavone

▶ Chrysin see p. 1735

6,7-Dihydroxyflavone**6,7-Dihydroxyflavone**

ROTICHRON® ~CHR

C₁₅H₁₀O₄

M 254,22 g/mol

[38183-04-9]

⚠ Warning H302

8066.1	10 mg	glass	310,70 €

1,7-Dihydroxyginkgolide A

▶ Ginkgolide C see p. 1850

1,7-Dihydroxyheptane

▶ 1,7-Heptanediol see p. 1872

2,2-Dihydroxy-1,3-indanedione

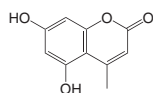
▶ Ninhydrin see p. 1987

5,7-Dihydroxy-4'-methoxyflavone

▶ Acacetin see p. 1596

1,8-Dihydroxy-3-methoxy-6-methylantraquinone

▶ Physcion see p. 2041

5,7-Dihydroxy-4-methylcoumarin**5,7-Dihydroxy-4-methylcoumarin**

pure

C₁₀H₈O₄

M 192,17 g/mol

mp ~295 °C

[2107-76-8] • EC No. 218-289-9

⚠ Warning H315-H319-H335

Type analysis:

Melting range.....294-298 °C
UV max. in methanol (nm).....251, 257, 322

6063.1	100 mg	glass	138,70 €

4,5-Dihydroxy-2,7-naphthalene disulphonic acid sodium salt

▶ Chromotropic acid disodium salt dihydrate see p. 1735

3,4-Dihydroxyphenylethanol

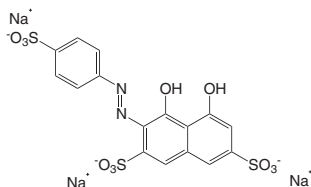
▶ Hydroxytyrosol see p. 1893

12,18-Dihydroxysenecionan-11,16-dion

▶ Retrorsin see p. 2083

12,18-Dihydroxysenecionan-11,16-dione-4-oxide

▶ Retrorsine-N-oxide see p. 2083

1,8-Dihydroxy-2-(4-sulfophenylazo)-naphthalene-3,6-disulfonic acid trisodium salt**1,8-Dihydroxy-2-(4-sulfophenylazo)-naphthalene-3,6-disulfonic acid trisodium salt**

p.a., ACS

Reagent for fluoride

SPADNS

C₁₆H₉N₂Na₃O₁₁S₃

M 570,42 g/mol

Solubility: 220 g/l (H₂O, 22 °C)

[23647-14-5] • EC No. 245-803-9

WGK 1

Guarantee analysis:

Assay.....≥80,0 %
Appearance of solution.....complies
Loss on drying.....≤10 %
Suitability as reagent for fluoride.....complies

2605.1	10 g	glass	23,90 €

2605.2	25 g	glass	41,85 €

2,5-Dihydroxytoluene

▶ Toluhydroquinone see p. 2215

3,5-Dihydroxy-1,2,4-triazine

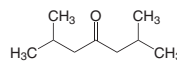
▶ 6-Azaauracil see p. 1660

3',5-Dihydroxy-4',6'-trimethoxyflavone

▶ Eupatorin see p. 1821

Diiodine pentoxide

▶ Iodine(V) oxide see p. 1902

Diisobutyl ketone**Diisobutyl ketone**

≥94 %, pure

2,6-Dimethyl-4-heptanone, DIBK

C₉H₁₈O

M 142,24 g/mol

D 0,81 • bp 169 °C

mp -46 °C • flp 49 °C

Solubility: 0,5 g/l (20 °C, H₂O)

[108-83-8] • EC No. 203-620-1

UN No. 1157 • ADR 3 III • WGK 1

⚠ ⚠ Warning H226-H335

Type analysis:

Assay.....≥94,0 %
Colour (Hazen).....≤20
Density (20 °C).....0,804-0,813

7653.1	100 ml	glass	10,65 €

7653.2	500 ml	glass	18,20 €

7653.3	1 l	glass	32,15 €

Original pack 6 x 1 l 30,54/1 l

7653.4	2,5 l	glass	68,70 €

Original pack 4 x 2,5 l 65,27/2,5 l

Diisopropylamine**Diisopropylamine**

≥99,5 %, for synthesis

C₆H₁₅N

M 101,19 g/mol

D ~0,717 • bp 84 °C

mp -96 °C • flp -17 °C

[108-18-9] • EC No. 203-558-5

UN No. 1158 • ADR 3 (8) II • WGK 2

⚠ ⚠ ⚠ Danger

H225-H314-H302+H332-H412

Type analysis:

Assay (GC).....≥99,5 %
Water.....≤0,1 %

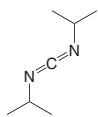
4369.1	100 ml	glass	12,05 €

4369.2	500 ml	glass	23,90 €

4369.3	1 l	glass	37,55 €

Original pack 6 x 1 l 35,67/1 l

N,N'-Diisopropylcarbodiimide (DIC)



N,N'-Diisopropylcarbodiimide (DIC)

≥99 %

Activation agent for carboxylic acids. Coupling reagent for peptide synthesis.

DIC

C₇H₁₄N₂

M 126,2 g/mol • D 0,81 • bp 145-148 °C

[693-13-0] • EC No. 211-743-7

UN No. 2929 • ADR 6.1 (3) I • WGK 3

Danger

H226-H330-H318-H334-H317

Type analysis:

Appearance..... clear liquid
Assay (GC)..... ≥99 %
Refractive index (20 °C)..... 1,431-1,435

6981.1	5 ml	glass	18,20 €

6981.2	25 ml	glass	49,35 €

6981.3	100 ml	glass	138,70 €

6981.4	500 ml	glass	482,70 €

Diisopropyl ether



Isopropyl ether, IPE

C₆H₁₄O

M 102,18 g/mol • D 0,72 • bp 67-70 °C

mp -86 °C • flp -28 °C

Solubility: 12 g/l (H₂O, 20 °C)

[108-20-3] • EC No. 203-560-6

UN No. 1159 • ADR 3 II • WGK 1

Danger H225-H336-EUH066-EUH019

Diisopropyl ether

ROTIPURAN® ≥99 %, p.a., stab.

Guarantee analysis:

Assay (GC)..... ≥99,0 %
Density (d 20 °C/4 °C)..... 0,723-0,726
Water (KF)..... ≤0,1 %
Peroxide (H₂O₂, at the time of analysis)..... ≤0,001 %
Evaporation residue..... ≤0,001 %
Lead (Pb)..... ≤0,00001 %
Cadmium (Cd)..... ≤0,000005 %
Calcium (Ca)..... ≤0,00005 %
Chromium (Cr)..... ≤0,000002 %
Iron (Fe)..... ≤0,00001 %
Cobalt (Co)..... ≤0,000002 %
Copper (Cu)..... ≤0,000002 %
Magnesium (Mg)..... ≤0,00001 %
Manganese (Mn)..... ≤0,000002 %
Nickel (Ni)..... ≤0,000002 %
Zinc (Zn)..... ≤0,00001 %
Stabilized with 50 ppm BHT

T919.1	1 l	glass	34,95 €

Original pack 6 x 1 l	33,20/1 l

T919.2	2,5 l	glass	71,95 €

Original pack 4 x 2,5 l	68,35/2,5 l

T919.3	10 l	tinplate	235,45 €

Diisopropyl ether

≥98 %, for synthesis, stab.

Type analysis:

Assay (GC)..... ≥98,0 %
Density (20 °C)..... 0,724-0,726
Refractive index (20 °C)..... 1,3670-1,3690
Stabilized with 10 ppm Ionol

T899.1	1 l	glass	19,25 €

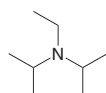
Original pack 6 x 1 l	18,29/1 l

T899.2	2,5 l	glass	33,25 €

Original pack 4 x 2,5 l	31,59/2,5 l

T899.3	10 l	tinplate	100,95 €

N,N-Diisopropylethylamine (DIPEA)



DIPEA, Hunig's base, N-Ethyldiisopropylamine

C₈H₁₉N

M 129,3 g/mol

D 0,742 • bp 125 °C

mp -46 °C • flp 9,5 °C

Solubility: 3,9 g/l (H₂O, 20 °C)

[7087-68-5] • EC No. 230-392-0

UN No. 1992 • ADR 3 (6.1) II • WGK 2

Danger

H225-H331-H318-H302-H315-H335

N,N-Diisopropylethylamine (DIPEA)

≥99,5 %, for (peptide) synthesis

Type analysis:

Appearance..... colourless to yellowish, clear liquid
Assay (GC)..... ≥99,5 %
Water..... ≤0,2 %

2474.1	100 ml	glass	21,40 €

2474.2	250 ml	glass	38,60 €

2474.3	1 l	glass	131,15 €

Original pack 6 x 1 l	124,59/1 l

2474.4	2,5 l	glass	261,25 €

Original pack 4 x 2,5 l	248,19/2,5 l

N,N-Diisopropylethylamine (DIPEA)

≥99 %, for synthesis

Type analysis:

Assay..... ≥99,0 %
Water..... ≤0,3 %
Colour (APHA)..... ≤50

4105.1	100 ml	glass	14,95 €

4105.2	250 ml	glass	24,20 €

4105.3	1 l	glass	68,70 €

Original pack 6 x 1 l	65,27/1 l

4105.4	2,5 l	glass	141,40 €

Original pack 4 x 2,5 l	134,33/2,5 l

2,5-Diketopiperazine

► Glycine anhydride see p. 1861

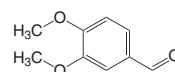
Dilanthanum trioxide

► Lanthanum(III) oxide see p. 1923

Dimercury dichloride

► Mercury(II) chloride see p. 1956

3,4-Dimethoxybenzaldehyde



3,4-Dimethoxybenzaldehyde

≥99 %, for synthesis

Veratric aldehyde

C₉H₁₀O₃

M 166,18 g/mol

bp 281 °C

mp 41-44 °C

Solubility: 6,3 g/l (H₂O, 25 °C)

[120-14-9] • EC No. 204-373-2

WGK 1

Warning H302-H315-H319-H335

Type analysis:

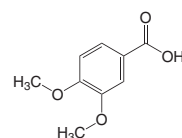
Assay (GC)..... ≥99 %
Melting point..... 42-45 °C
Water..... ≤0,5 %
Heavy metals..... ≤0,001 %

9651.1	100 g	plastic	42,90 €

9651.2	500 g	plastic	181,70 €

Original pack 6 x 500 g	172,62/500 g

3,4-Dimethoxybenzoic acid



3,4-Dimethoxybenzoic acid

≥99 %, for synthesis

Veratric acid

C₉H₁₀O₄

M 182,18 g/mol

mp 179-182 °C

[93-07-2] • EC No. 202-215-7

WGK 3

Type analysis:

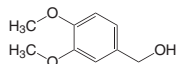
Appearance..... white to pale yellow cryst. powder
Assay (titr.)..... 99,0-101,0 %

4230.1	100 g	plastic	39,70 €

4230.2	250 g	plastic	85,90 €

4230.3	1 kg	plastic	321,45 €

Original pack 6 x 1 kg	305,38/1 kg

3,4-Dimethoxybenzyl alcohol**3,4-Dimethoxybenzyl alcohol**

≥95 %, for synthesis

Veratryl alcohol

C₉H₁₂O₃

M 168,19 g/mol

mp 19 °C • flp 113 °C

[93-03-8] • EC No. 202-212-0

⚠ Warning H302

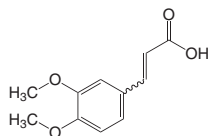
Type analysis:

Appearance..... light yellow-brownish, clear, viscous liquid
 Assay (GC)..... ≥95 %
 Refractive index n_D²⁰..... 1,549-1,555

6170.1	50 ml	glass	155,90 €

3,3'-(3,3'-Dimethoxy-[1,1'-biphenyl]-4,4'-diyl)-bis(2,5-diphenyl-2H-tetrazolium) dichloride

▶ Tetrazolium blue chloride see p. 2205

3,4-Dimethoxy cinnamic acid**3,4-Dimethoxy cinnamic acid**

ROTICHROM® CHR

Dimethyl caffeic acid

C₁₁H₁₂O₄

M 208,21 g/mol

mp 185-188 °C

[2316-26-9] • EC No. 219-025-5

⚠ Warning H315-H319-H335

9918.1	5 g	glass	21,20 €

6,7-Dimethoxycoumarin

▶ Scoparone see p. 2122

1,2-Dimethoxyethane**1,2-Dimethoxyethane**

>99 %, for synthesis

Ethylene glycol dimethyl ether, Monoglyme

C₄H₁₀O₂

M 90,12 g/mol

D 0,86 • bp 84-86 °C

mp -69 °C • flp -6 °C

[110-71-4] • EC No. 203-794-9

UN No. 2252 • ADR 3 II • WGK 1

⚠ ⚠ ⚠ Danger

H225-H360FD-H332-EUH019

Type analysis:

Assay (GC)..... >99 %
 Water (KF)..... <0,2 %
 Density (d 20 °C/4 °C)..... 0,866-0,868

5498.1	500 ml	glass	60,75 €

3,5-Dimethoxy-4-hydrocinnamic acid

▶ Sinapic acid see p. 2138

3,5-Dimethoxy-4-hydroxyacetophenone

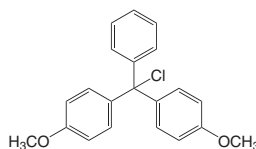
▶ Acetosyringone see p. 1608

4-(2',4'-Dimethoxyphenyl-Fmoc-aminomethyl)phenoxy resin

▶ Rink amide resin see p. 2086

Dimethoxypsoralen

▶ Isopimpinellin see p. 1912

4,4'-Dimethoxytrityl chloride**4,4'-Dimethoxytrityl chloride**

≥98 %, for synthesis

Protective group reagent

4,4'-Dimethoxytriphenylmethyl chloride,

Chloro-4,4'-dimethoxytriphenylmethane,

DMT-Cl

C₂₁H₁₉ClO₂

M 338,83 g/mol

[40615-36-9] • EC No. 255-002-6

WGK 1

Type analysis:

Appearance..... light pink coloured powder
 Assay (HPLC)..... ≥98,0 %
 Loss on drying..... ≤0,5 %
 Melting range..... 120,0-125,0 °C

9671.1	5 g	glass	21,40 €

9671.2	25 g	glass	64,40 €

9671.3	50 g	glass	106,45 €

9671.4	100 g	glass	170,95 €

N,N-Dimethylacetamide

DMA, Acetic acid dimethylamide

C₄H₉NO

M 87,12 g/mol

D ~0,94 • bp 165 °C

mp -20 °C • flp 66 °C

[127-19-5] • EC No. 204-826-4

WGK 1

⚠ ⚠ Danger H360D-H312+H332-H319

N,N-Dimethylacetamide

ROTISOLV® ≥99,99 %, Headspace Grade

For determination of solvent residues (O.V.I.)

Guarantee analysis:

Assay (GC)..... ≥99,99 %
 Colour (APHA)..... ≤5
 Water (KF)..... ≤0,03 %
 Free acid (as CH₃COOH)..... ≤0,005 %
 Refractive index (20 °C)..... 1,437-1,439
 Non volatile matter..... ≤0,001 %
 UV-Cutoff..... 190-268 nm
 Transmission:
 400 nm..... ≥99 %
 350 nm..... ≥98 %
 300 nm..... ≥85 %
 275 nm..... ≥55 %
 268 nm..... ≥10 %
 Headspace suitability test for O.V.I. complies

HN45.1	1 l	glass	224,70 €

Original pack 6 x 1 l	213,47/1 l

N,N-Dimethylacetamide

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99,0 %
 Water..... ≤0,05 %
 Colour (APHA)..... ≤10
 Acid content (as CH₃COOH)..... ≤0,008 %

3617.1	250 ml	glass	11,50 €

3617.2	1 l	glass	33,90 €

Original pack 6 x 1 l	32,21/1 l

3617.3	2,5 l	glass	45,70 €

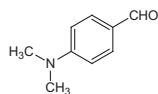
Original pack 4 x 2,5 l	43,42/2,5 l

3617.4	10 l	plastic	111,30 €

3617.5	25 l	plastic	231,15 €

4-(Dimethylamino)-azo-benzene-4'-sulphonic acid sodium salt

▶ Methyl orange (C.I. 13025) see p. 1968

4-(Dimethylamino)-benzaldehyde**4-(Dimethylamino)-benzaldehyde**

≥99 %, p.a.

Reagent for the detection of nitrogen containing compounds.

p-Formyl dimethylamine, Ehrlich's reagent

C₉H₁₁NO

D ~1,03 • bp 176-177 °C (23 hPa)

mp 75 °C • flp >100 °C

Solubility: ~0,3 g/l (H₂O, 20 °C)

[100-10-7] • EC No. 202-819-0

WGK 1

Guarantee analysis:

Assay (GC).....	≥99,0 %
Iron (Fe).....	≤0,01 %
Zinc (Zn).....	≤0,005 %
Calcium (Ca).....	≤0,005 %
Cadmium (Cd).....	≤0,0005 %
Cobalt (Co).....	≤0,0005 %
Chromium (Cr).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Potassium (K).....	≤0,005 %
Manganese (Mn).....	≤0,0005 %
Sodium (Na).....	≤0,05 %
Nickel (Ni).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Zinc (Zn).....	≤0,005 %
Melting point.....	73-75 °C
Ash content (as SO ₄).....	≤0,1 %

X867.1	25 g	plastic	40,75 €

X867.2	100 g	plastic	101,80 €

For further information, please see page 1554

4-(Dimethylamino)-benzaldehyde spray solution**4-(Dimethylamino)-benzaldehyde spray solution****for TLC**

Ready-to-use spray solution for detection of terpenes, sugars and steroids.

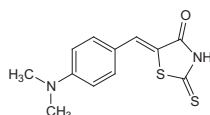
0,5 g 4-(Dimethylamino)-benzaldehyde dissolved in 100 ml 2-propanol.

UN No. 1219 • ADR 3 II • WGK 2

⚠ ⚠ **Danger** H225-H319-H336**Type analysis:**

TLC-application.....complies

CP38.1	100 ml	glass	35,00 €

5-(4-Dimethylamino-benzylidene)rhodanine**5-(4-Dimethylamino-benzylidene)rhodanine**

≥98,5 %, p.a.

Analytical reagent for silver.

C₁₂H₁₂N₂OS₂

M 264,37 g/mol

mp 275-280 °C (dec.)

[536-17-4] • EC No. 208-625-2

WGK 3

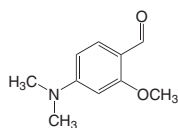
Guarantee analysis:

Assay.....	≥98,5 %
Solubility (0,03 % in acetone).....	clearly soluble
Suitability for determination of silver.....	complies

KK23.1	5 g	glass	23,15 €

KK23.2	10 g	glass	36,45 €

KK23.3	50 g	glass	142,90 €

4-Dimethylamino-2-methoxybenzaldehyde**4-Dimethylamino-2-methoxybenzaldehyde**

≥98 %, for biochemistry

C₁₀H₁₃NO₂

M 179,22 g/mol

mp 59-61 °C

Storage temp.: +4 °C

[84562-48-1]

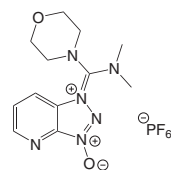
WGK 3

⚠ **Warning** H315-H319-H335**Type analysis:**

Appearance.....	white to light yellow cryst. powder
Assay (GC).....	≥98,0 %
Appearance of solution (1 % in Acetone).....	colourless to almost colourless

8412.1	1 g	glass	38,60 €

8412.2	5 g	glass	160,20 €

1-[(Dimethylamino)-(morpholino)methylene]-1H-[1,2,3]triazolo-[4,5-b]pyridine-1-ium 3-oxide hexafluorophosphate (HDMA)**1-[(Dimethylamino)-(morpholino)methylene]-1H-[1,2,3]triazolo-[4,5-b]pyridine-1-ium 3-oxide hexafluorophosphate (HDMA)**

≥98 %

Coupling reagent for peptide synthesis

HDMA

C₁₂H₁₇F₆N₆O₂P

M 422,3 g/mol • mp 185-195 °C

Storage temp.: +4 °C

[958029-37-3] • WGK 3

⚠ **Warning**

H302+H312+H332-H315-H319-H335

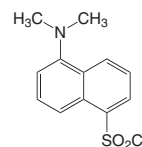
Type analysis:

Appearance.....	white powder
Assay (HPLC).....	≥98 %
Loss on drying.....	≤0,5 %

6888.1	5 g	glass	38,60 €

6888.2	25 g	glass	124,60 €

6888.3	100 g	glass	428,95 €

5-(Dimethylamino)-1-naphthalenesulphonyl chloride**5-(Dimethylamino)-1-naphthalenesulphonyl chloride**

≥98 %, p.a.

Dansyl chloride, DIS, DNSCI

C₁₂H₁₂ClNO₂S

M 269,75 g/mol • mp 68-73 °C

Storage temp.: +4 °C

[605-65-2] • EC No. 210-092-6

UN No. 3261 • ADR 8 II • WGK 3

⚠ **Danger** H314**Type analysis:**

Assay (HPLC).....	≥98,0 %
Melting point.....	68-73 °C

3624.1	1 g	glass	65,40 €

2-[(4-Dimethylamino)-phenylazo]-benzoic acid

► Methyl red (C.I. 13020) see p. 1970

2-[(4-Dimethylamino)-phenylazo]-benzoic acid hydrochloride

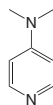
► Methyl red hydrochloride (C.I. 13020) see p. 1970

2-[(4-Dimethylamino)-phenylazo]-benzoic acid sodium salt

► Methyl red sodium salt (C.I. 13020) see p. 1970

N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride

► 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride see p. 1814

4-(Dimethylamino)pyridine (DMAP)**4-(Dimethylamino)pyridine (DMAP)**

≥99 %

Nucleophilic catalyst. Activation agent for carboxylic acids.

DMAP

C₇H₁₀N₂

M 122,17 g/mol

mp 108-112 °C • flp 124 °C

Solubility: 60 g/l (H₂O, 20 °C)

[1122-58-3] • EC No. 214-353-5

UN No. 2811 • ADR 6.1 I • WGK 3

⚠ Danger H301-H310-H315-H319

Type analysis:

Appearance.....white to off-white powder
 Assay (GC).....≥99 %
 Identity.....complies
 Water (KF).....≤0,1 %
 Solution (10 % in methanol)....clear, colorless solution
 Lead (Pb).....≤0,00001 %
 Iron (Fe).....≤0,00001 %
 Magnesium (Mg).....≤0,00001 %
 Zinc (Zn).....≤0,00001 %

6988.1	5 g	glass	12,05 €
6988.2	25 g	glass	25,30 €
6988.3	100 g	glass	76,25 €
6988.4	500 g	glass	267,70 €
Original pack 6 x 500 g			254,32/500 g

Dimethyl benzene

► Xylene (isomers) see p. 2245

1,2-Dimethyl benzene

► o-Xylene see p. 2246

1,3-Dimethyl benzene

► m-Xylene see p. 2246

1,4-Dimethyl benzene

► p-Xylene see p. 2246

N,N'-Dimethyl-9,9'-biacridinium dinitrate

► Lucigenin see p. 1938

Dimethyl caffeic acid

► 3,4-Dimethoxy cinnamic acid see p. 1781

Dimethyl carbinol

► 2-Propanol see p. 2067

Dimethyl carbonate**Dimethyl carbonate**

≥99,8 %

Carbonic acid dimethyl ester, Methyl carbonate, DMC

C₃H₆O₃

M 90,08 g/mol

D 1,07 • bp 90 °C

mp 0,5-4,7 °C • flp 16,7 °C

Solubility: 139 g/l (H₂O, 20 °C)

[616-38-6] • EC No. 210-478-4

UN No. 1161 • ADR 3 II • WGK 1

⚠ Danger H225

Type analysis:

Assay (GC).....≥99,8 %
 Water.....≤0,1 %
 Methanol (GC).....≤0,1 %
 Free acid (as CH₃COOH).....≤0,015 %

2625.1	100 ml	glass	11,95 €
2625.2	500 ml	glass	19,25 €
2625.3	1 l	glass	25,50 €
Original pack 6 x 1 l			24,23/1 l
2625.4	2,5 l	glass	43,55 €
Original pack 4 x 2,5 l			41,37/2,5 l

2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline-disulphonic acid disodium salt

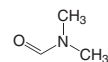
► Bathocuproine sulphonate disodium salt hydrate see p. 1667

1,4-Dimethyl-7-ethyl-azulene

► Chamazulene see p. 1726

N,N'-Dimethylethylene urea

► 1,3-Dimethyl-2-imidazolidinone see p. 1785

N,N-Dimethylformamide (DMF)

DMF

C₃H₇NO

M 73,10 g/mol

D 0,95 • bp ~153 °C

mp -61 °C • flp 58 °C

[68-12-2] • EC No. 200-679-5

UN No. 2265 • ADR 3 III • WGK 1

⚠ ⚠ ⚠ Danger

H226-H360D-H312+H332-H319

N,N-Dimethylformamide (DMF)**ROTISOLV® ≥99,99 %, Headspace Grade**

For determination of solvent residues (O.V.I.)

Guarantee analysis:

Assay (GC).....≥99,99 %
 Colour (APHA).....≤5
 Water (KF).....≤0,03 %
 Free acid (as CH₃COOH).....≤0,003 %
 Free alkali (as NH₃).....≤0,002 %
 Refractive index (20 °C).....1,430-1,440
 Non volatile matter.....≤0,001 %
 UV-Cutoff.....190-268 nm
 Transmission:
 320 nm.....≥97 %
 300 nm.....≥90 %
 275 nm.....≥60 %
 270 nm.....≥30 %
 Headspace suitability test for O.V.I.....complies

HN46.1	1 l	glass	209,55 €
Original pack 6 x 1 l			199,07/1 l

N,N-Dimethylformamide (DMF)**ROTISOLV® ≥99,9 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....≥99,9 %
 Water (KF).....≤0,02 %
 Colour (Hazen).....≤10
 Acidity.....≤0,0005 meq/g
 Evaporation residue.....≤0,0005 %
 Fluorescence (as quinine):
 365 nm.....≤1,0 ppb
 Transmission:
 330 nm.....≥98 %
 300 nm.....≥90 %
 290 nm.....≥80 %
 275 nm.....≥50 %
 270 nm.....≥20 %

CP79.1	2,5 l	glass	85,90 €
Original pack 4 x 2,5 l			81,61/2,5 l

N,N-Dimethylformamide (DMF)

ROTIPURAN® ≥99,8 %, p.a., ACS, ISO

Guarantee analysis:

Assay (GC).....	≥99,8 %
Density (d 20 °C/4 °C).....	0,949-0,952
Colour (APHA).....	≤15
Water.....	≤0,1 %
Acidity.....	≤0,0005 meq/g
Alkalinity.....	≤0,0005 meq/g
Methanol (GC).....	≤0,05 %
Diethylamine (GC).....	≤0,05 %
Evaporation residue.....	≤0,005 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %

T921.3	250 ml	glass	17,10 €

T921.1	1 l	glass	33,00 €

Original pack 6 x 1 l	31,35/1 l

T921.2	2,5 l	glass	59,70 €

Original pack 4 x 2,5 l	56,72/2,5 l

N,N-Dimethylformamide (DMF)

≥99,5 %, for synthesis

Type analysis:

Assay (GC).....	≥99,5 %
Water (KF).....	≤0,05 %
Colour (Hazen).....	≤10
Refractive index n _D ²⁰	1,427-1,431

6251.1	1 l	glass	24,55 €

Original pack 6 x 1 l	23,32/1 l

6251.2	2,5 l	glass	45,70 €

Original pack 4 x 2,5 l	43,42/2,5 l

6251.3	2,5 l	plastic	41,40 €

Original pack 4 x 2,5 l	39,33/2,5 l

6251.5	10 l	plastic	101,60 €

6251.4	25 l	plastic	233,85 €

N,N-Dimethylformamide (DMF)

≥99,8 %, for peptide synthesis

Type analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,01 %
Free amines.....	≤0,0003 %
Free acid (as CH ₃ COOH).....	≤0,001 %

A529.3	500 ml	glass	35,40 €

A529.1	2,5 l	glass	94,50 €

Original pack 4 x 2,5 l	89,78/2,5 l

A529.2	25 l	plastic	284,90 €

N,N-Dimethylformamide D7

N,N-Dimethylformamide D7

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

Heptadeuterodimethylformamide

C₃D₇NO

M 80,17 g/mol

D 1,05 • bp 152 °C

mp -60 °C • flp 58 °C

[4472-41-7] • EC No. 224-745-8

UN No. 2265 • ADR 3 III • WGK 1

⚠ ⚠ ⚠ **Danger** H226-H360D-H312+H332-H319

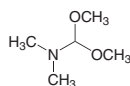
Guarantee analysis:

Deuterising degree.....	≥99,5 %
Water (KF, H ₂ O+D ₂ O).....	≤0,05 %

CP92.1	5 ml	glass	175,15 €

For further information, please see page 1461

N,N-Dimethylformamide dimethyl acetal



N,N-Dimethylformamide dimethyl acetal

≥98 %

Derivatization reagent for GC, alkylation agent

DMF-DMA

C₅H₁₃NO₂

M 119,16 g/mol

D 0,897 • bp 104-110 °C

Storage temp.: +4 °C

[4637-24-5] • EC No. 225-063-3

UN No. 3271 • ADR 3 II • WGK 1

⚠ ⚠ **Danger** H225-H332-H315-H319

Type analysis:

Appearance.....	clear liquid
Assay.....	≥98 %

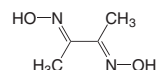
6870.1	5 ml	glass	22,40 €

6870.2	25 ml	glass	33,25 €

6870.3	100 ml	glass	110,20 €

6870.4	500 ml	glass	407,45 €

Dimethylglyoxim



Dimethylglyoxim

≥99 %, p.a., ACS

Reagent for nickel

C₄H₈N₂O₂

M 116,12 g/mol

mp 239-242 °C (dec.)

Solubility: 0,6 g/l (H₂O, 20 °C)

[95-45-4] • EC No. 202-420-1

UN No. 1325 • ADR 4.1. III • WGK 2

⚠ **Warning** H228

Guarantee analysis:

Assay (dry substance).....	≥99,0 %
Insoluble in alcohol.....	≤0,05 %
Melting point.....	239-242 °C
Ash content.....	≤0,05 %
Suitability for nickel determination.....	complies

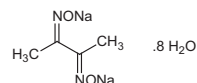
2677.1	50 g	plastic	38,40 €

2677.2	100 g	plastic	60,10 €

2677.3	500 g	plastic	228,45 €

Original pack 6 x 500 g	217,03/500 g

Dimethylglyoxime disodium salt octahydrate



Dimethylglyoxime disodium salt octahydrate

≥97,5 %, p.a.

Reagent for nickel.

2,3-Butanedionedioxime disodium salt

C₄H₆N₂Na₂O₂ · 8 H₂O

M 304,21 g/mol

[75006-64-3] • EC No. 262-523-2

WGK 3

Guarantee analysis:

Assay.....	≥97,0 %
Water (KF).....	44,0-49,0 %

KK24.1	25 g	glass	34,30 €

KK24.2	50 g	glass	57,55 €

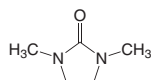
2,6-Dimethyl-4-heptanone

► Diisobutyl ketone see p. 1779

3-N-(α,α-Dimethyl-hydroxy-ethyl)-amino-2-hydroxy-propane sulphononic acid

► AMPSO see p. 1645

► AMPSO sodium salt see p. 1645

1,3-Dimethyl-2-imidazolidinone**1,3-Dimethyl-2-imidazolidinone****ROTISOLV® ≥99,5 %, Headspace Grade**

For determination of solvent residues (O.V.I.)

DMEU, N,N'-Dimethylethylene urea, DMI

C₅H₁₀N₂O

M 114,15 g/mol

D 1,06 • bp 104 °C (20 hPa)

mp 8 °C • flp 114 °C

[80-73-9] • EC No. 201-304-8

UN No. 2810 • ADR 6.1 III • WGK 1

Danger H311-H302-H319**Guarantee analysis:**

Assay (GC).....	≥99,5 %
Water (KF).....	≤0,04 %
Refractive index (20 °C).....	1,470-1,473
UV-Cutoff.....	190-270 nm
Transmission:	
>350 nm.....	≥90 %
325 nm.....	≥80 %
300 nm.....	≥60 %
275 nm.....	≥30 %
Headspace suitability test for O.V.I.....	complies

HN48.1	500 ml	glass	843,90 €

Dimethyl ketone

▶ Acetone see p. 1604

3,7-Dimethyl-2,6-octadien-1-ol

▶ Geraniol see p. 1848

2,9-Dimethyl-1,10-phenanthroline

▶ Neocuproine hemihydrate see p. 1983

2',2''-Dimethylphenolsulfon-phthalein

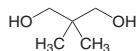
▶ m-Cresol purple see p. 1749

Dimethylphthalate

▶ Phthalic acid dimethyl ester see p. 2041

1,3-Dimethylpropane

▶ n-Pentane see p. 2025

2,2-Dimethyl-1,3-propanediol**2,2-Dimethyl-1,3-propanediol****≥99 %, for synthesis**

Neopentyl glycol

C₅H₁₂O₂

M 104,14 g/mol

bp ~209 °C

mp ~127 °C • flp 103 °C

Solubility: 830 g/l (H₂O, 20 °C)

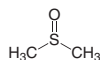
[126-30-7] • EC No. 204-781-0

WGK 1

Danger H318**Type analysis:**

Assay (dry substance).....	≥99,0 %
Colour (APHA).....	≤10
Acidity (as CH ₃ COOH).....	≤0,01 %
Aldehyde.....	≤0,05 %
Water.....	≤0,5 %

7349.1	100 g	plastic	12,05 €
7349.2	500 g	plastic	22,40 €
Original pack 6 x 500 g			21,28/500 g
7349.3	1 kg	plastic	34,30 €
Original pack 6 x 1 kg			32,59/1 kg
7349.4	2,5 kg	plastic	73,00 €

Dimethyl sulfoxide

DMSO

C₂H₆S

M 78,13 g/mol

D 1,1 • bp 189 °C

mp 18,5 °C • flp 87 °C

Solubility: 1000 g/l (H₂O, 20 °C)

[67-68-5] • EC No. 200-664-3

WGK 1

Dimethyl sulfoxide**ROTISOLV® ≥99,99 %, Headspace Grade**

For determination of solvent residues (O.V.I.)

Guarantee analysis:

Assay (GC).....	≥99,99 %
Colour (APHA).....	≤5
Water (KF).....	≤0,03 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Free alkali (as NH ₃).....	≤0,0005 %
Refractive index (20 °C).....	1,477-1,480
Non volatile matter.....	≤0,001 %
Melting point.....	≥18 °C
UV-Cutoff.....	190-265 nm
Transmission:	
400 nm.....	≥98 %
350 nm.....	≥95 %
300 nm.....	≥85 %
275 nm.....	≥60 %
268 nm.....	≥30 %
Headspace suitability test for O.V.I.....	complies

HN47.1	1 l	glass	217,70 €
Original pack 6 x 1 l			206,82/1 l

Dimethyl sulfoxide**ROTIDRY®Sept ≥99,8 % (≤100 ppm H₂O)**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC).....	≥99,8 %
Colour (APHA).....	≤10
Water (KF).....	≤0,01 %
Acidity (as CH ₃ COOH).....	≤0,002 %
Evaporation residue.....	≤0,001 %

5179.1	250 ml	glass	56,90 €

Dimethyl sulfoxide**ROTIPURAN® ≥99,8 %, p.a.****Guarantee analysis:**

Assay (GC).....	≥99,8 %
Colour (Hazen).....	≤10
Water.....	≤0,05 %
Chloride (Cl).....	≤0,0001 %
Aluminium (Al).....	≤0,000001 %
Lead (Pb).....	≤0,000001 %
Calcium (Ca).....	≤0,000001 %
Iron (Fe).....	≤0,000001 %
Potassium (K).....	≤0,000001 %
Copper (Cu).....	≤0,000001 %
Sodium (Na).....	≤0,000001 %
Magnesium (Mg).....	≤0,000001 %
Manganese (Mn).....	≤0,000001 %
Zinc (Zn).....	≤0,000001 %

4720.4	100 ml	glass	15,30 €

4720.2	500 ml	glass	27,10 €

4720.1	1 l	glass	45,70 €

Original pack 6 x 1 l			43,42/1 l

4720.3	2,5 l	glass	94,10 €

Original pack 4 x 2,5 l			89,40/2,5 l

Dimethyl sulfoxide**≥99,5 %, for synthesis****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Colour (APHA).....	≤10
Water.....	≤0,1 %
Melting point.....	≥18,2 °C
Acid value.....	≤0,04 mg KOH/g

7029.1	1 l	glass	30,65 €

Original pack 6 x 1 l			29,12/1 l

7029.2	2,5 l	glass	61,85 €

Original pack 4 x 2,5 l			58,76/2,5 l

7029.3	10 l	plastic	190,85 €

Dimethyl sulfoxide**≥99,5 %, BioScience-Grade, for molecular biology**

Recommended for PCR, sequencing, hybridisation and cell culture.

Guarantee analysis:

Assay (GC).....	≥99,5 %
Colour (APHA).....	≤10
Water content.....	≤0,1 %
Chloride (Cl).....	≤0,00005 %
Arsenic (As).....	≤0,000001 %
Cadmium (Cd).....	≤0,000001 %
Potassium (K).....	≤0,000001 %
Lithium (Li).....	≤0,000001 %
Magnesium (Mg).....	≤0,000001 %
Sodium (Na).....	≤0,000005 %

A994.1	100 ml	glass	21,00 €

A994.2	250 ml	glass	32,15 €

For further information, please see page 1198

Dimethyl sulphoxide D6

Methyl sulphoxide deuterated, DMSO deuterated

C_2D_6OS

M 84,18 g/mol

D 1,19 • bp 190 °C

mp 20,2 °C • flp 88 °C

[2206-27-1] • EC No. 218-617-0

WGK 1

Dimethyl sulphoxide D6

99,9 Atom%D

For nuclear magnetic resonance spectroscopy.

**Type analysis:**

Deuterising degree. ≥99,9 %
Water (KF, H_2O+D_2O). ≤0,025 %

7915.1	10 ml	glass	40,75 €
7915.2	10 ml	septum bottle	41,85 €
7915.3	10 x 0,75 ml	glass ampoule	44,00 €

Dimethyl sulphoxide D6

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,8 %
Water (KF, H_2O+D_2O). ≤0,03 %

AE56.1	10 ml	glass	32,15 €
AE56.4	10 ml	septum bottle	33,25 €
AE56.2	50 ml	glass	125,70 €
AE56.5	100 ml	glass	222,45 €
AE56.3	10 x 0,75 ml	glass ampoule	35,40 €

Dimethyl sulphoxide D6 with TMS (0,03 vol.%)

Deuterated DMSO with TMS

C_2D_6OS

M 84,18 g/mol

D 1,19 • bp 190 °C

mp 20,2 °C • flp 88 °C

[2206-27-1] • EC No. 218-617-0

WGK 1

Dimethyl sulphoxide D6 with TMS (0,03 vol.%)

99,9 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree. ≥99,9 %
Water (KF, H_2O+D_2O). ≤0,025 %
Trimethylsilane (TMS). 0,03 %

7916.1	10 x 0,75 ml	glass ampoule	40,75 €

Dimethyl sulphoxide D6 with TMS (0,03 vol.%)

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,8 %
Water (KF, H_2O+D_2O). ≤0,04 %
Tetramethylsilane (TMS). 0,03 %

AE60.1	10 ml	glass	34,30 €
AE60.2	50 ml	glass	127,95 €

For further information, please see page 1462

3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide

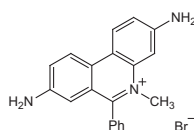
► Thiazolyl blue see p. 2206

Dimethylthionin

► Azure A (C.I. 52005) see p. 1664

3,7-Dimethylxanthine

► Theobromine see p. 2206

Dimidium bromide**Dimidium bromide**

≥95 %, for biochemistry

For fluorescence detection of nucleic acids; for titration of anion surfactants acc. to Epon as indicator.

3,8-Diamino-5-methyl-6-phenyl-phenanthridium bromide

$C_{20}H_{18}BrN_3$

M 380,30 g/mol

[518-67-2] • EC No. 208-256-7

WGK 3

⚠ Warning H315-H319-H335

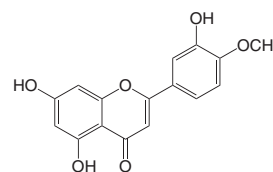
Type analysis:

Assay (arg.). ≥95 %
Loss on drying (105 °C). ≤5 %

2217.1	500 mg	glass	85,90 €

2,4-Dinitro-1-naphthol sodium salt

► Martius yellow (C.I. 10315) see p. 1951

Diosmetin**Diosmetin**

ROTICHROM® HPLC

Reference substance for HPLC

$C_{16}H_{12}O_6$

M 300,29 g/mol

Storage temp.: +4 °C

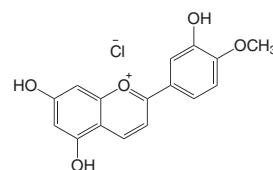
[520-34-3] • EC No. 208-291-8

⚠ Warning H302

Type analysis:

Purity (HPLC). ≥99 %

7446.1	10 mg	glass	188,15 €

Diosmetinidin chloride**Diosmetinidin chloride**

ROTICHROM® HPLC

Reference substance for HPLC

$C_{16}H_{13}O_5Cl$

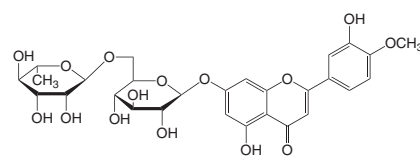
M 320,71 g/mol

Storage temp.: +4 °C

Type analysis:

Purity (HPLC). ≥97 %

9326.1	10 mg	glass	284,90 €

Diosmin

$C_{28}H_{32}O_{15}$

M 608,55 g/mol • mp 275-277 °C

Storage temp.: +4 °C

[520-27-4] • EC No. 208-289-7

Diosmin

≥95 %

Type analysis:

Appearance. yellow to grey powder
Assay (HPLC). ≥95 %
Sulphated ash. ≤0,2 %
Water. ≤6,0 %

6736.1	5 g	glass	40,75 €
6736.2	25 g	glass	82,70 €
6736.3	100 g	glass	246,20 €

Diosmin

ROTICHROM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

7447.1	10 mg	glass	209,65 €

1,4-Dioxane

1,4-Diethylene dioxide

C₄H₈O₂

M 88,11 g/mol • D ~1,03 • bp 101,5 °C

mp 12 °C • flp 12 °C

[123-91-1] • EC No. 204-661-8

UN No. 1165 • ADR 3 II • WGK 2

Danger

H225-H351-H319-H335-EUH019-EUH066

1,4-Dioxane

ROTISOLV® HPLC, not stabilized

Guarantee analysis:

Assay (GC)..... ≥99,8 %

Colour (Hazen)..... ≤10

Water (KF)..... ≤0,02 %

Free acid (as CH₃COOH)..... ≤0,002 %

Non volatile matter..... ≤0,0005 %

Transmission:

300 nm..... ≥98 %

280 nm..... ≥90 %

240 nm..... ≥40 %

220 nm..... ≥20 %

Filtered through 0,2 µm membrane and filled under protective gas.

Note: Possible storage time is limited!

X949.1	1 l	glass	57,55 €

Original pack 6 x 1 l 54,67/1 l

X949.2	2,5 l	glass	131,70 €

Original pack 4 x 2,5 l 125,12/2,5 l

For further information, please see page 1515

1,4-Dioxane

ROTIPURAN® ≥99,5 %, p.a., ACS, ISO

Guarantee analysis:

Assay (GC)..... ≥99,5 %

Colour (Hazen)..... ≤10

Water..... ≤0,05 %

Acidity..... ≤0,0016 meq/g

Evaporation residue..... ≤0,005 %

Density (d 20 °C/4 °C)..... 1,032-1,034

Melting point..... ≥11 °C

Aluminium (Al)..... ≤0,00005 %

Barium (Ba)..... ≤0,00001 %

Lead (Pb)..... ≤0,00001 %

Boron (B)..... ≤0,000002 %

Cadmium (Cd)..... ≤0,000005 %

Calcium (Ca)..... ≤0,00005 %

Chromium (Cr)..... ≤0,000002 %

Cobalt (Co)..... ≤0,000002 %

Iron (Fe)..... ≤0,00001 %

Copper (Cu)..... ≤0,000002 %

Magnesium (Mg)..... ≤0,00001 %

Manganese (Mn)..... ≤0,000002 %

Nickel (Ni)..... ≤0,000002 %

Zinc (Zn)..... ≤0,00001 %

Tin (Sn)..... ≤0,00001 %

Acetaldehyde..... ≤0,005 %

Peroxides (as H₂O₂)..... ≤0,005 %

Carbonyl compounds (as CO)..... ≤0,01 %

Stabilized with approx. 25 ppm 2,6-di-tert-butyl-4-methylphenol (BHT)

4626.4	100 ml	glass	11,75 €

4626.3	500 ml	glass	32,80 €

4626.1	1 l	glass	56,90 €

Original pack 6 x 1 l 54,06/1 l

4626.2	2,5 l	glass	118,80 €

Original pack 4 x 2,5 l 112,86/2,5 l

4626.6	25 l	tinplate	923,45 €

1,4-Dioxane

≥99,5 %, extra pure

Type analysis:

Assay (GC)..... ≥99,5 %

Peroxides..... ≤0,001 %

Water..... ≤0,1 %

Colour (APHA)..... ≤10

Stabilized with approx. 5 ppm BHT

4229.1	500 ml	glass	21,40 €

4229.2	1 l	glass	30,00 €

Original pack 6 x 1 l 28,50/1 l

4229.3	2,5 l	glass	61,85 €

Original pack 4 x 2,5 l 58,76/2,5 l

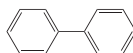
4229.4	25 l	tinplate	456,90 €

**2,5-Dioxopyrrolidin-1-yl
17-oxo-4,7,10,13-tetraoxa-
16-azahenicos-1-yn-21-oate**

► NHS-PEG5-Alkyne see p. 2022

DIPEA► N,N-Diisopropylethylamine (DIPEA)
see p. 1780**Dipentene**

► Limonene see p. 1931

Diphenyl**Diphenyl**

ROTICHROM® GC

Reference substance for GC

Biphenyl

C₁₂H₁₀

M 154,21 g/mol

D ~0,992 • bp 255 °C

mp 69-72 °C

Storage temp.: +4 °C

[92-52-4] • EC No. 202-163-5

UN No. 3077 • ADR 9 III • WGK 2

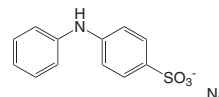
Warning

H400-H410-H315-H319-H335

Type analysis:

Purity (GC)..... ≥96 %

9309.1	1 g	plastic	75,15 €

**Diphenylamine-4-sulphonic
acid sodium salt****Diphenylamine-4-sulphonic
acid sodium salt**

p.a., ACS

Redox indicator

Sodiumdiphenylaminesulphonate

C₁₂H₁₀NNaO₃S

M 271,27 g/mol

mp 200 °C

Solubility: 820 g/l (H₂O, 20 °C)

[6152-67-6] • EC No. 228-165-6

WGK 1

Guarantee analysis:

Appearance of solution..... clear, colourless

Suitability as indicator..... complies

2602.3	1 g	glass	16,05 €

2602.1	10 g	glass	69,80 €

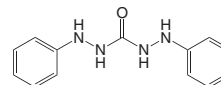
2602.2	25 g	glass	127,95 €

**Diphenylamine-4-sulphonic
acid barium salt**

► Barium diphenylamine sulfonate see p. 1666

**Diphenylboric acid
β-aminoethyl ester complex**

► Natural product reagent A see p. 1982

1,5-Diphenylcarbazine**1,5-Diphenylcarbazine**

≥97 %, p.a., ACS

Redox indicator

1,5-Diphenylcarbonyldiazide

C₁₃H₁₄N₄O

M 242,28 g/mol

mp 173-176 °C

[140-22-7] • EC No. 205-403-7

WGK 1

Guarantee analysis:

Assay (HPLC)..... ≥97,0 %

Solubility (ACS)..... complies

Melting point..... 173-176 °C

Loss on drying..... ≤1,0 %

Ash content..... ≤0,05 %

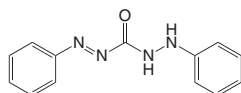
Suitability for chromat..... complies

2696.1	10 g	plastic	21,75 €

2696.2	25 g	plastic	35,40 €

2696.3	100 g	plastic	103,10 €

Diphenylcarbazone



Diphenylcarbazone

p.a.

Metal indicator

C₁₃H₁₂N₄O

M 240,26 g/mol

mp 156-159 °C (dec.)

[538-62-5] • EC No. 208-698-0

WGK 1

Guarantee analysis:

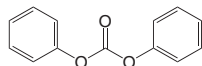
Appearance..... dark orange cryst. powder
Melting point..... 156-159 °C
Solubility in acetone..... complies
Ash content..... ≤0,1 %
Suitability as redox indicator..... complies

2678.1	10 g	glass	55,80 €
2678.2	25 g	glass	109,15 €
2678.3	50 g	glass	190,85 €

1,5-Diphenylcarbohydrazide

► 1,5-Diphenylcarbazide see p. 1787

Diphenyl carbonate



Diphenyl carbonate

≥99 %

Carbonic acid diphenyl ester, Phenyl carbonate, DPC

C₁₃H₁₀O₃

M 214,22 g/mol

D 1,3 • bp 301 °C

mp 77,5-79 °C • flp 168 °C

Solubility: 12 mg/l (H₂O, 20 °C)

[102-09-0] • EC No. 203-005-8

WGK 1

⚠ Warning H302

Type analysis:

Assay (GC)..... ≥99,0 %
pH value..... 6,8-7,2
Water..... ≤0,1 %
Melting point..... 77,5-79,5 °C

2626.1	100 g	plastic	11,95 €
2626.2	500 g	plastic	23,15 €
Original pack 6 x 500 g			21,99/500 g
2626.3	1 kg	plastic	42,50 €
Original pack 6 x 1 kg			40,38/1 kg

trans-1,2-Diphenylethylene

► trans-Stilbene see p. 2184

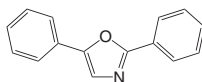
Diphenyl ketone

► Benzophenone see p. 1671

Diphenylmethanone

► Benzophenone see p. 1671

2,5-Diphenyloxazole



2,5-Diphenyloxazole

~99 %, for scintillation

PPO

C₁₅H₁₁NO

M 221,26 g/mol

bp 360 °C

mp 69-72 °C

[92-71-7] • EC No. 202-181-3

Type analysis:

Appearance..... white, cryst. powder
Assay..... ~99 %
Suitable for scintillation.

3689.1	25 g	plastic	26,80 €
3689.2	100 g	plastic	68,70 €
3689.3	500 g	plastic	289,20 €
Original pack 6 x 500 g			274,74/500 g

4,7-Diphenyl-1,10-phenanthroline

► Bathophenanthroline see p. 1667

1,3-Diphenyl-1-propen-3-one

► Benzylidene acetophenone see p. 1673

1,5-Diphenylthiocarbazon

► Dithizone see p. 1790

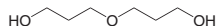
Diphosphorous pentoxide

► Phosphorus pentoxide see p. 2040

Dipotassium hydrogen phosphate

► di-Potassium hydrogen phosphate see p. 2056

Dipropylene glycol



Dipropylene glycol

≥99 %, pure

Bis(hydroxypropyl) ether

C₆H₁₄O₃

M 134,17 g/mol

D 1,03 • bp 228 °C

mp -40 °C • flp 138 °C

[25265-71-8] • EC No. 246-770-3

WGK 1

Type analysis:

Assay (GC)..... ≥99,0 %
Colour (Hazen)..... ≤15

8656.1	1 l	plastic	32,15 €
Original pack 6 x 1 l			30,54/1 l
8656.2	2,5 l	plastic	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l

Dipropylene glycol monomethyl ether



Dipropylene glycol monomethyl ether

≥98 %, pure

(2-Methoxymethylethoxy)propanol, DPGME

C₇H₁₆O₃

M 148,2 g/mol

D ~0,95 • bp 189 °C

mp -83 °C • flp 75 °C

[34590-94-8] • EC No. 252-104-2

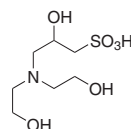
WGK 1

Type analysis:

Assay (isomers, GC)..... ≥98,0 %
Colour (Hazen)..... ≤15
Density (20 °C)..... 0,943-0,962

7656.1	1 l	glass	34,30 €
Original pack 6 x 1 l			32,59/1 l
7656.2	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l

DIPSO



DIPSO

PUFFERAN® ≥98 %

3-N-Bis(hydroxyethyl)-amino-2-hydroxypropane sulphonic acid

C₇H₁₇NO₆S

M 243,29 g/mol

mp 189-191 °C

[68399-80-4] • EC No. 269-992-2

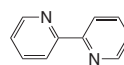
Type analysis:

Assay (titr.)..... ≥98 %
Water (KF)..... ≤2,0 %
pH value (1 % solution)..... 4,5-5,1
UV-absorption (0,1 M in H₂O):
280 nm..... ≤0,03
260 nm..... ≤0,04

7151.1	25 g	plastic	65,50 €

For further information, please see page 1214

2,2'-Dipyridyl



2,2'-Dipyridyl

≥95 %, for biochemistry

Redox indicator

α,α'-Dipyridyl, 2,2'-Bipyridine

C₁₀H₈N₂

M 156,19 g/mol

bp 272 °C

mp 70-72 °C • flp 121 °C

Solubility: 5,5 g/l (H₂O, 22 °C)

[366-18-7] • EC No. 206-674-4

UN No. 2811 • ADR 6.1 III • WGK 3

⚠ Danger H301+H311

Type analysis:

Appearance: white to brownish, cryst. powder
 Assay (titr.): ≥ 95 %
 Solution (5 % in ethanol): colourless
 Water (KF): $\leq 1,0$ %

4153.1	5 g	glass	13,65 €
4153.2	25 g	glass	36,05 €

 α, α' -Dipyridyl

► 2,2'-Dipyridyl see p. 1788

Direct blue 53

► Evan's blue (C.I. 23860) see p. 1822

Direct red 28

► Congo Red (C.I. 22120) see p. 1744

DIS

► 5-(Dimethylamino)-1-naphthalenesulphonyl chloride see p. 1782

Disodium-3,3'[[1,1-biphenyl]-4,4'-diyl(bis(azo))]bis-(4-aminonaphthalen-1-sulfonate)

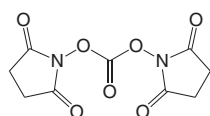
► Congo Red (C.I. 22120) see p. 1744

Disodiumpentacyano-nitrosylferrate(III) dihydrate

► Sodium nitroprusside dihydrate see p. 2155

Distylin

► (+)-Dihydroquercetin see p. 1777

N,N'-Disuccinimidyl carbonate (DSC)**N,N'-Disuccinimidyl carbonate (DSC)**

≥ 99 %

Coupling reagent for peptide synthesis

DSC, di-(N-Succinimidyl) carbonate

$C_9H_8N_2O_7$

M 256,17 g/mol

mp 190 °C

Storage temp.: +4 °C

[74124-79-1] • EC No. 277-730-3

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC): $\geq 99,0$ %
 Loss on drying: $\leq 0,5$ %

2110.1	5 g	glass	21,40 €
2110.2	25 g	glass	55,80 €
2110.3	100 g	glass	153,20 €

3,3'-Dithio-bis-(2-amino-propionic acid)

► L-Cystine see p. 1757

1,4-Dithioerythritol**1,4-Dithioerythritol**

≥ 99 %, p.a.

For biochemistry and molecular biology.

DTE, Cleland's reagent

$C_4H_{10}O_2S_2$

M 154,2 g/mol

mp 82-86 °C • flp <110 °C

[6892-68-8] • EC No. 229-998-8

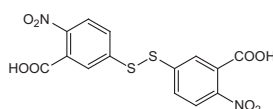
WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Assay (iodom.): $\geq 99,0$ %
 Solution (10 % in H_2O): clear, colourless
 Melting point: 84 ± 2 °C
 Reagent for stabilizing monothioles and for quantitative reduction of disulphide compounds to thiole compounds. DTE is an isomer of DTT and is as such used for reducing disulphide bridge-bonds and for stabilizing thiol groups in enzymes and other proteins.

8814.1	5 g	glass	57,95 €
8814.3	10 g	glass	97,75 €
8814.2	25 g	glass	230,60 €

5,5'-Dithio-bis-(2-nitrobenzoic acid)**5,5'-Dithio-bis-(2-nitrobenzoic acid)**

≥ 98 %, p.a.

for determination of thiol groups

DTNB, Ellman's reagent

$C_{14}H_8N_2O_8S_2$

M 396,36 g/mol

mp 240-244 °C

Storage temp.: +4 °C

[69-78-3] • EC No. 200-714-4

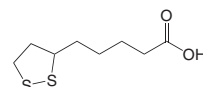
WGK 1

⚠ Warning H315-H319-H335

Guarantee analysis:

Appearance: white to yellow cryst. powder
 Assay: $\geq 98,0$ %
 Water (KF): $\leq 1,0$ %

6334.1	1 g	glass	18,20 €
6334.2	5 g	glass	51,10 €
6334.3	25 g	glass	183,85 €

DL-6,8-Dithiooctanoic acid**DL-6,8-Dithiooctanoic acid**

≥ 98 %

α -Lipoic acid, DL-6,8-Thioctic acid

$C_8H_{14}O_2S_2$

M 206,33 g/mol

mp 60-62 °C

Storage temp.: +4 °C

[1077-28-7] • EC No. 214-071-2

WGK 2

⚠ Warning H302

Type analysis:

Appearance: light yellow powder
 Assay (HPLC): ≥ 98 %
 Loss on drying: $\leq 0,1$ %
 Ash content: $\leq 0,1$ %
 Melting point: 60-62 °C

6229.1	5 g	glass	107,40 €

1,4-Dithiothreitol**1,4-Dithiothreitol**

≥ 99 %, p.a.

For biochemistry and molecular biology.

DTT, Cleland's reagent, DL-threo-2,3-Dihydroxy-1,4-dithiobutane

$C_4H_{10}O_2S_2$

M 154,2 g/mol

mp 40-45 °C

Solubility: 1500 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[3483-12-3] • EC No. 222-468-7

WGK 2

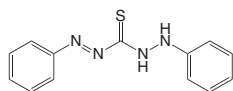
⚠ Warning H302-H315-H319-H335

Guarantee analysis:

Appearance: white to light grey, cryst. powder
 Assay (iodom.): ≥ 99 %
 pH value (0,1 M, H_2O): 4,0-6,5
 Solution (10 % in H_2O): clear, colourless
 Oxidized part: $\leq 0,2$ %
 Melting point: 38-44 °C
 Heavy metals (as Pb): $\leq 0,0001$ %
 UV-absorption (0,1 M in H_2O):
 260 nm: $\leq 0,4$
 280 nm: $\leq 0,2$

6908.1	5 g	plastic	53,65 €
6908.3	10 g	plastic	80,55 €
6908.2	25 g	plastic	190,85 €
6908.4	100 g	plastic	567,10 €

Dithizone



Dithizone

≥98 %, p.a., ACS

Metal indicator

1,5-Diphenylthiocarbonylhydrazide

 $C_{13}H_{12}N_4S$

M 256,32 g/mol

mp 168 °C (dec.)

[60-10-6] • EC No. 200-454-1

WGK 1

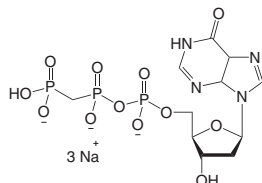
⚠ Warning H315-H319

Guarantee analysis:

Assay	≥98,0 %
Ash content	≤0,2 %
Heavy metals (as Pb)	≤0,002 %
Ratio of absorbance (A 605 nm/450 nm)	≥1,55

2697.1	5 g	glass	30,00 €
2697.2	25 g	glass	96,25 €
2697.3	50 g	glass	153,65 €

dITP solution



dITP

≥99 %, 100 mM solution

2'-Deoxyinosine-5'-triphosphate

 $C_{10}H_{12}N_4O_{13}P_3$

M 489,14 g/mol

Storage temp.: -20 °C • Transport temp.: cooled

P732.1	25 µmol (250 µl)	plastic	31,10 €

For further information, please see page 1207

Dyterbium trioxide

▶ Ytterbium(III) oxide see p. 2250

DMAP

▶ 4-(Dimethylamino)pyridine (DMAP) see p. 1783

DMC

▶ Dimethyl carbonate see p. 1783

DMEM : F12 cell culture medium

▶ Roti®-CELL DMEM : F12 see p. 2089

DMEM cell culture medium

- ▶ Roti®-CELL DMEM Low Glucose see p. 2090
- ▶ Roti®-CELL DMEM High Glucose see p. 2090

DMEU

▶ 1,3-Dimethyl-2-imidazolidinone see p. 1785

DMF

▶ N,N-Dimethylformamide (DMF) see p. 1783

DMFA

▶ N,N-Dimethylformamide (DMF) see p. 1783

DMF-DMA

▶ N,N-Dimethylformamide dimethyl acetal see p. 1784

DMI

▶ 1,3-Dimethyl-2-imidazolidinone see p. 1785

DMP

▶ Phthalic acid dimethyl ester see p. 2041

DMSO

▶ Dimethyl sulphoxide see p. 1785

DMSO/t-Butanol Solvent

DMSO/t-Butanol Solvent

ROTI®click Grade

for Click Chemistry

UN No. 1120 • ADR 3.III • WGK 1

⚠ ⚠ Warning H226-H319-H335

Formulation:

DMSO:t-Butanol (v/v) 3:1

7815.1	1 ml	plastic	11,00 €
7815.2	10 x 1 ml	plastic	60,10 €

DMSO deuterated

▶ Dimethyl sulphoxide D6 see p. 1786

DMSO deuterated with TMS

▶ Dimethyl sulphoxide D6 with TMS (0,03 vol.%) see p. 1786

DMT-Cl

▶ 4,4'-Dimethoxytrityl chloride see p. 1781

DMT removal DCE

DMT removal DCE

for DNA-synthesis with PolyGen® Synthesizer

3 % Trichloro acetic acid in 1,2-dichloroethane D 1,26

UN No. 1992 • ADR 3 (6.1) II • WGK 3

⚠ ⚠ ⚠ ⚠ ⚠ ⚠ Danger

H225-H350-H318-H302-H315-H335-H411

K060.1	450 ml	glass	34,95 €

K060.2	2,5 l	glass	110,20 €

Original pack 4 x 2,5 l 104,69/2,5 l

For further information, please see page 1430

DMT removal reagent

DMT removal reagent

for DNA synthesis with ABI™ Synthesizer

3 % Trichloro acetic acid in dichloromethane D 1,324

UN No. 2927 • ADR 6.1 (8) II • WGK 2

⚠ ⚠ ⚠ ⚠ ⚠ ⚠ Danger

H318-H351-H335-H315-H411

2257.1	450 ml	glass	34,95 €

2257.2	2,5 l	glass	110,20 €

Original pack 4 x 2,5 l 104,69/2,5 l

For further information, please see page 1430

DNA AWAY®

DNA AWAY®

ready-to-use solution for removal of DNA-contaminations

UN No. 1824 • ADR 8 III

⚠ ⚠ Warning H315-H319

X996.1	250 ml	plastic	38,30 €

X996.2	4 l	plastic	204,25 €

For further information, please see page 1202

DNA from salmon sperm

▶ Salmon Sperm DNA sodium salt see p. 2118

DNA-Isolation kits

▶ Roti®-Prep Plasmid MINI see p. 2110

DNA-Marker, not prestained

Storage temp.: -20 °C
Transport temp.: room temp.
WGK 3

20 bp-DNA-Ladder

DNA marker ready-to-use

Size range: 20-200 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (mini gels)

2805.1	500 µl (50 µg)	plastic	110,20 €

For further information, please see page 1134

50 bp-DNA-Ladder

DNA marker ready-to-use

Size range: 50-500 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (mini gels)

2810.1	500 µl (50 µg)	plastic	90,20 €

For further information, please see page 1134

100 bp-DNA-Ladder *equimolar*

DNA ladder + gel loading buffer

Size range: 100-1000 bp
Number of fragments: 11
Number of lanes per 100 µg: approx. 200 (mini gels)

T834.1	50 µg + gel loading buffer	plastic	68,30 €

T834.2	4 x 50 µg + gel loading buffer	plastic	263,40 €

For further information, please see page 1135

100 bp-DNA-Ladder *equalized*

DNA ladder + gel loading buffer

Size range: 100-1000 bp
Number of fragments: 11
Number of lanes per 100 µg: approx. 500 (mini gels)

T833.1	20 µg + gel loading buffer	plastic	67,20 €

T833.2	4 x 20 µg + gel loading buffer	plastic	261,25 €

For further information, please see page 1135

100 bp-DNA-Ladder *extended*

DNA ladder + gel loading buffer

Size range: 100-5000 bp
Number of fragments: 17
Number of lanes per 100 µg: approx. 160 (mini gels)

T835.1	50 µg + gel loading buffer	plastic	68,70 €

T835.2	4 x 50 µg + gel loading buffer	plastic	263,40 €

For further information, please see page 1135

200 bp-DNA-Ladder

DNA marker ready-to-use

Size range: 200-2000 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8272.1	500 µl (50 µg)	plastic	80,55 €

For further information, please see page 1135

250 bp-DNA-Ladder

DNA ladder + gel loading buffer

Size range: 250-8000 bp
Number of fragments: 16
Number of lanes per 100 µg: approx. 200 (mini gels)

T918.1	50 µg + gel loading buffer	plastic	74,10 €

For further information, please see page 1136

500 bp-DNA-Ladder

DNA marker ready-to-use

Size range: 500-5000 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8273.1	500 µl (50 µg)	plastic	64,40 €

For further information, please see page 1136

1 kbp DNA-Ladder

DNA ladder + gel loading buffer

Size range: 500-10000 bp
Number of fragments: 11
Number of lanes per 100 µg: approx. 200 (mini gels)

Y014.1	50 µg + gel loading buffer	plastic	32,15 €

Y014.2	4 x 50 µg + gel loading buffer	plastic	111,30 €

For further information, please see page 1136

DNA-Ladder combi

DNA marker + gel loading buffer

Size range: 100-10000 bp
Number of fragments 20
Number of lanes per 40 µg + 100 µg: approx. 200 (mini gels)

CL22.1	20 µg + 50 µg + gel loading buffer,	plastic	98,80 €

For further information, please see page 1136

DNA-Marker ccc-plasmid

DNA marker + gel loading buffer

Size range: 3000-12000 bp
Number of fragments: 3
Number of lanes per 100 µg: approx. 1000 (mini gels)
A "covalently closed circle" DNA-marker for rapid determination of plasmid size and estimation of plasmid concentration following DNA-preparation.

0149.1	10 µg + gel loading buffer	plastic	56,45 €

For further information, please see page 1137

DNA-Marker short-run 1

DNA marker + gel loading buffer

Size range: 500-2500 bp
Number of fragments: 5
Number of lanes per 100 µg: approx. 400 (mini gels)
The perfect DNA-marker for very short gel running distances and high-through-put approaches.

0146.1	50 µg + gel loading buffer	plastic	65,05 €

For further information, please see page 1137

DNA-Marker short-run *extended*

DNA marker + gel loading buffer

Size range: 100-6000 bp
Number of fragments: 9
Number of lanes per 100 µg: approx. 300 (mini gels)

CL05.1	50 µg + gel loading buffer	plastic	77,30 €

For further information, please see page 1137

Lambda Hind III / phiX Hae III Marker

DNA marker + gel loading buffer

Size range: 72-23130 bp
Number of fragments: 17
Number of lanes per 100 µg: approx. 200 (mini gels)

CP49.1	50 µg + gel loading buffer	plastic	126,35 €

For further information, please see page 1131

Lambda Hind III Marker

DNA marker + gel loading buffer

Size range: 125-23130 bp
Number of fragments: 8
Number of lanes per 100 µg: approx. 200 (mini gels)

X910.1	100 µg + gel loading buffer	plastic	53,25 €

For further information, please see page 1131

pBR328 Mix I

DNA marker + gel loading buffer

Size range: 154-2176 bp
Number of fragments: 11
Number of lanes per 100 µg: approx. 200 (mini gels)

T146.1	50 µg + gel loading buffer	plastic	67,65 €

For further information, please see page 1131

pBR328-Marker ready-to-use

DNA marker ready-to-use

Size range: 154-2176 bp
Number of fragments: 11
Number of lanes per ml: approx. 200 (mini gels)

X902.1	500 µl (50 µg)	plastic	57,55 €

X902.2	4 x 500 µl (4 x 50 µg)	plastic	213,95 €

For further information, please see page 1131

PCR-Marker DNAscore

DNA marker + gel loading buffer
Size range: 500-1500 bp
Number of fragments: 7
Reinforced bands: 500 bp, 1000 bp, 1500 bp
Band for DNA quantitation: 1000 bp
Number of lanes per 100 µg:
approx. 200 (mini gels)

T917.1	50 µg + gel loading buffer	plastic	74,75 €

For further information, please see page 1137

D pUC19-Marker ready-to-use

DNA marker ready-to-use
Size range: 26-501 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (mini gels)

X901.1	500 µl (50 µg)	plastic	54,75 €
X901.2	4 x 500 µl (4 x 50 µg)	plastic	190,85 €

For further information, please see page 1130

pUC19/Msp I

DNA marker + gel loading buffer
Size range: 26-501 bp
Number of fragments: 10
Number of lanes per 100 µg:
approx. 200 (mini gels)

T149.1	50 µg + gel loading buffer	plastic	68,30 €
T149.2	4 x 50 µg + gel loading buffer	plastic	213,95 €

For further information, please see page 1130

DNA-Marker, prestained

20 bp-DNA-Fluoro-Ladder

DNA-Marker ready-to-use, prestained with DNA fluorescent dye
Size range: 20-200 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8262.1	500 µl (50 µg)	plastic	124,20 €

For further information, please see page 1132

50 bp-DNA-Fluoro-Ladder

DNA-Marker ready-to-use, prestained with DNA fluorescent dye
Size range: 50-500 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8263.1	500 µl (50 µg)	plastic	109,15 €

For further information, please see page 1132

100 bp-DNA-Fluoro-Ladder

DNA-Marker ready-to-use, prestained with DNA fluorescent dye
Size range: 100-1000 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8264.1	500 µl (50 µg)	plastic	99,45 €

For further information, please see page 1133

200 bp-DNA-Fluoro-Ladder

DNA-Marker ready-to-use, prestained with DNA fluorescent dye
Size range: 200-2000 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8265.1	500 µl (50 µg)	plastic	88,70 €

For further information, please see page 1133

500 bp-DNA-Fluoro-Ladder

DNA-Marker ready-to-use, prestained with DNA fluorescent dye
Size range: 500-5000 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8266.1	500 µl (50 µg)	plastic	77,30 €

For further information, please see page 1133

1 kbp-DNA-Fluoro-Ladder

DNA-Marker ready-to-use, prestained with DNA fluorescent dye
Size range: 1000-10000 bp
Number of fragments: 10
Number of lanes per ml: approx. 200 (Minigel)

8267.1	500 µl (50 µg)	plastic	67,65 €

For further information, please see page 1133

DNA-quantifying marker

Storage temp.: -20 °C
Transport temp.: room temp.

DNA-quantifying marker QSK 200

for DNA-quantitation

L508.1	40 µg	plastic	184,90 €

For further information, please see page 1194

DNA-quantifying marker QSK 500

for DNA-quantitation

L507.1	40 µg	plastic	184,90 €

For further information, please see page 1194

DNA-quantifying marker QSK 1000

for DNA-quantitation

L506.1	40 µg	plastic	184,90 €

For further information, please see page 1194

DNase Test Agar

DNase Test Agar

for microbiology

For detection of DNase activity for identification of pathogenous bacteria.

Application: Use 42 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Casein peptone.....	15 g/l
Soy peptone.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Deoxyribonucleic acid.....	2 g/l
Agar.....	15 g/l
pH value.....	7,3 ±0,2

8295.1	500 g	plastic	231,15 €

Original pack 6 x 500 g 219,59/500 g

For further information, please see page 1323

DNA-Synthesis Reagents

Art. No.	Description	Page
2253	Activation reagent	1614
K921	Adenosine-BCE-phosphoramidite	1615
2318	Adenosine-CPG-Support	1615
2255	Capping reagent I	1711
2256	Capping reagent II	1711
K922	Cytidine-BCE-phosphoramidite	1757
2319	Cytidine-CPG-Support	1757
K060	DMT removal DCE	1790
2257	DMT removal reagent	1790
A133	Fast Oxidation reagent	1823
K923	Guanosine-BCE-phosphoramidite	1865
2320	Guanosine-CPG-Support	1865
2254	Oxidation reagent	1430
K924	Thymidine-BCE-phosphoramidite	1429
2321	Thymidine-CPG-Support	1429

DNSCI

► 5-(Dimethylamino)-1-naphthalenesulphonyl chloride see p. 1782

dNTP-Set 1

Deoxynucleoside triphosphate set

Storage temp.: -20 °C

Transport temp.: cooled

[3624-46-2]

dNTP-Set 1

≥99 %, dATP, dTTP, dGTP, dCTP

dNTP-Set 1, composed of the nucleotide-single solutions:

dATP, dTTP, dGTP, dCTP.

Concentration: 100 mM per dNTP.

K039.1	4 x 25 µmol (250 µl), 100 mM	91,95 €

K039.2	5 x 4 x 25 µmol (250 µl), 100 mM	385,95 €

For further information, please see page 1206

dNTP-Set 1 (pH 7)

≥99 %, dATP, dTTP, dGTP, dCTP

dNTP-Set 1 (pH 7), composed of the nucleotide-single solutions:

dATP, dTTP, dGTP, dCTP.

Concentration: 100 mM per dNTP, pH 7.0 ±0.1

0178.1	4 x 25 µmol (250 µl), 100 mM	91,95 €
0178.2	5 x 4 x 25 µmol (250 µl), 100 mM	385,95 €

For further information, please see page 1206

dNTP-Set 2**dNTP-Set 2**

≥99 %, dATP, dUTP, dGTP, dCTP

dNTP-Set 2, composed of the nucleotide-single solutions:

dATP, dUTP, dGTP, dCTP.

Concentration: 100 mM per dNTP.

Deoxynucleoside triphosphate set

Storage temp.: -20 °C

Transport temp.: cooled

L540.1	4 x 25 µmol (250 µl), 100 mM	92,35 €
L540.2	5 x 4 x 25 µmol (250 µl), 100 mM	385,95 €

For further information, please see page 1206

dNTP-Set 3**dNTP-Set 3**

≥98 %, dATP, dTTP, dITP, dCTP

dNTP-Set 3, composed of the nucleotide-single solutions:

dATP, dTTP, dITP, dCTP.

Concentration: 100 mM per dNTP.

Deoxynucleoside triphosphate set

Storage temp.: -20 °C

Transport temp.: cooled

P731.1	4 x 25 µmol (250 µl), 100 mM	91,95 €
P731.2	5 x 4 x 25 µmol (250 µl), 100 mM	385,95 €

For further information, please see page 1206

DOC

► Deoxycholic acid sodium salt see p. 1763

1-Docosanoic acid

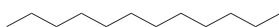
► Behenic acid see p. 1668

cis-13-Docosenoic acid

► Erucic acid see p. 1807

Dodecanal

► Dodecyl aldehyde see p. 1793

n-DodecaneC₁₂H₂₆

M 170,34 g/mol

D 0,75 • bp 213-216 °C

mp -10 °C • flp 84 °C

[112-40-3] • EC No. 203-967-9

WGK 1

Danger H304-EUH066

n-Dodecane

≥95 %, for synthesis

Type analysis:

Appearance..... clear colourless liquid

Assay..... ≥95,0 %

Density (15 °C)..... 0,750-0,756

Aromatic compounds..... ≤0,1 %

Refractive index n_D²⁰..... 1,418-1,425

8786.1	100 ml	glass	17,10 €

8786.2	500 ml	glass	53,65 €

8786.3	1 l	glass	96,65 €

Original pack 6 x 1 l 91,82/1 l

n-Dodecane

ROTICHRON® GC

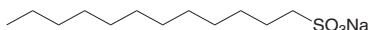
Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥98,5 %

9029.1	1 g	plastic	75,15 €

Dodecane-1-sulphonic acid sodium salt**Dodecane-1-sulphonic acid sodium salt**

≥99 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-dodecane sulphonate

C₁₂H₂₅NaO₃S

M 272,37 g/mol

[2386-53-0] • EC No. 219-200-6

WGK 2

Guarantee analysis:

Assay (acidim.)..... ≥99,0 %

Water..... ≤2 %

A 210 nm (5 % in water)..... ≤0,05 AU

A 220 nm (5 % in water)..... ≤0,03 AU

A 230 nm (5 % in water)..... ≤0,02 AU

KK52.1	10 g	glass	50,45 €

KK52.2	25 g	glass	99,90 €

KK52.3	100 g	glass	332,20 €

Dodecanoic acid ethyl ester

► Lauric acid ethyl ester see p. 1924

Dodecanoic acid methyl ester

► Lauric acid methyl ester see p. 1924

2-Dodecenylsuccinic acid anhydride

► Glycidether Hardener DBA see p. 1860

Dodecyl aldehyde**Dodecyl aldehyde**

≥98 %, for synthesis

Dodecanal, Lauraldehyde

C₁₂H₂₄O

M 184,32 g/mol

D 0,83 • bp 257 °C

mp 11-13 °C • flp 114 °C

[112-54-9] • EC No. 203-983-6

UN No. 3082 • ADR 9 III • WGK 2

Warning H315-H411

Type analysis:

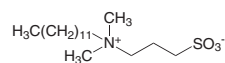
Assay (GC)..... ≥98,0 %

Density (d 20 °C/4 °C)..... 0,830-0,840

3754.1	50 ml	glass	44,65 €

n-Dodecyl-β-D-Glc

► n-Dodecyl-β-D-glucopyranoside see p. 1794

N-Dodecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate**N-Dodecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate**

≥98 %, for biochemistry

Zwitterionic detergent

Sulfobetaine-12, SB-12

C₁₇H₃₇NO₃S

M 335,5 g/mol

[14933-08-5]

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (HPLC)..... ≥98,0 %

Loss on drying..... ≤2,0 %

Ash..... ≤0,1 %

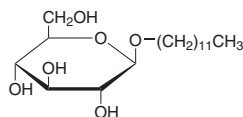
1821.1	5 g	glass	20,35 €

1821.2	25 g	glass	50,00 €

1821.3	100 g	glass	169,35 €

For further information, please see page 1220

n-Dodecyl-β-D-glucopyranoside



n-Dodecyl-β-D-glucopyranoside

for biochemistry

Non-ionic detergent
n-Dodecyl-β-D-Glc
C₁₈H₃₆O₆
M 348,48 g/mol
Storage temp.: +4 °C
[59122-55-3] • EC No. 261-614-4
WGK 1

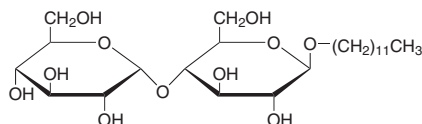
⚠ Warning H315-H319-H335

Type analysis:

Solution (1 % in methanol): colourless, clear
Water (KF): ≤2 %
Specific rotation [α]_D²⁰ (c=1 in methanol, after 24 h): -25° ±2°

4129.1	500 mg	glass	240,80 €

Dodecyl-β-D-maltoside



Dodecyl-β-D-maltoside

≥99 %, for biochemistry

Non-ionic detergent
DDM, Lauryl-β-D-maltoside
C₂₄H₄₆O₁₁
M 510,63 g/mol
Storage temp.: -20 °C
Transport temp.: room temp.
[69227-93-6]

Type analysis:

Assay (HPLC): ≥99 %
α-Anomer (NMR): ≤2 %
Dodecanol (HPLC): ≤0,005 %
Conductance (10 % H₂O): ≤100 μS
pH value (1 % in H₂O): 5-8
Solubility (10 % in H₂O): clear, colourless
Water (KF): ≤1,0 %
UV-absorption (1 % in H₂O):
225 nm: ≤0,1
260 nm: ≤0,06
280 nm: ≤0,04
340 nm: ≤0,02

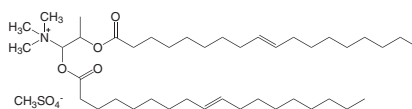
CN26.1	500 mg	glass	38,20 €
CN26.2	1 g	glass	61,85 €
CN26.3	2,5 g	glass	133,85 €
CN26.4	10 g	glass	443,45 €

For further information, please see page 1217

Dodecylsulphate sodium salt

► SDS see p. 2122

DOTAP



DOTAP

for transfection, CELLPURE®

Approx. 200 assays per ml in 24wells.
C₄₃H₈₃NO₈S
M 774,21 g/mol
Storage temp.: +4 °C
WGK 3

L787.1	0,5 ml	plastic	71,95 €
L787.2	1 ml	plastic	117,20 €
L787.3	5 x 1 ml	plastic	418,20 €

For further information, please see page 1278

Double Sugar Iron Agar, KIA

► Kligler Iron Agar see p. 1918

Dowex® Anion exchanger

Dowex® 1 X 2

50-100 mesh, Cl⁻-form

highly basic anion exchanger

Type analysis:

Appearance: white to cream-coloured grain
Particle size (mesh): 50-100
Loss on drying (3 h, 105 °C): ~65-75 %
Capacity (eq/l): ~0,7
Counter ion: Cl⁻
Ion exchanger on the basis of a microporous styrene DVB-copolymerisate. Active group: Quaternary ammonium compound type I.

0302.1	100 g	plastic	110,20 €
0302.2	1 kg	plastic	848,20 €

Original pack 6 x 1 kg 805,79/1 kg

For further information, please see page 1588

Dowex® 1 X 2

100-200 mesh, Cl⁻-form

highly basic anion exchanger

Type analysis:

Appearance: light yellow grain
Particle size (mesh): 100-200
Loss on drying (110 °C): ~70-80 %
Capacity (eq/l): ≥0,6
Counter ion: Cl⁻
Ion exchanger on the basis of a microporous styrene DVB-copolymerisate. Active group: Quaternary ammonium compound type I.

0303.1	100 g	plastic	110,20 €
0303.2	1 kg	plastic	848,20 €

Original pack 6 x 1 kg 805,79/1 kg

For further information, please see page 1588

Dowex® 1 X 2

200-400 mesh, Cl⁻-form

highly basic anion exchanger

Type analysis:

Appearance: white to cream-coloured grain
Particle size (mesh): 200-400
Loss on drying (3 h, 105 °C): ~70 %
Capacity (val/l): ~0,6
Counter ion: Cl⁻
Ion exchanger on the basis of a microporous styrene DVB-copolymerisate. Active group: Quaternary ammonium compound type I.

0304.1	100 g	plastic	130,10 €

For further information, please see page 1588

Dowex® 1 X 8

20-50 mesh, Cl⁻-form

highly basic anion exchanger

Type analysis:

Appearance: cream-coloured grain
Particle size (mesh): 20-50
Loss on drying (3 h, 105 °C): ~45 %
Capacity (val/l): ~1,2
Counter ion: Cl⁻
Ion exchanger on the basis of a microporous styrene DVB-copolymerisate. Active group: Quaternary ammonium compound type I.

0309.1	250 g	plastic	214,50 €

0309.2	1 kg	plastic	719,20 €

Original pack 6 x 1 kg 683,24/1 kg

For further information, please see page 1588

Dowex® 1 X 8

50-100 mesh, Cl⁻-form

highly basic anion exchanger

Type analysis:

Appearance: cream-coloured grain
Particle size (mesh): 50-100
Loss on drying (3 h, 105 °C): ~40-50 %
Capacity (val/l): ~1,2
Counter ion: Cl⁻
Ion exchanger on the basis of a microporous styrene DVB-copolymerisate. Active group: Quaternary ammonium compound type I.

0310.1	250 g	plastic	306,40 €

0310.2	1 kg	plastic	962,15 €

Original pack 6 x 1 kg 914,04/1 kg

For further information, please see page 1588

Dowex® 1 X 8

100-200 mesh, Cl⁻-form

highly basic anion exchanger

Type analysis:

Appearance: cream-coloured grain
Particle size (mesh): 100-200
Loss on drying (3 h, 105 °C): ~39-45 %
Capacity (val/l): ≥1,2
Counter ion: Cl⁻
Ion exchanger on the basis of a microporous styrene DVB-copolymerisate. Active group: Quaternary ammonium compound type I.

0311.1	100 g	plastic	113,45 €

0311.2	1 kg	plastic	962,15 €

Original pack 6 x 1 kg 914,04/1 kg

For further information, please see page 1588

Dowex® 1 X 8**200-400 mesh, Cl⁻-form**

highly basic anion exchanger

Type analysis:

Appearance..... cream-coloured grain
 Particle size (mesh)..... 200-400
 Loss on drying (3 h, 105 °C)..... 40-55 %
 Capacity (eq/l)..... ≥1,2
 Counter ion..... Cl⁻
 Ion exchanger on the basis of a microporous styrene
 DVB-copolymerisate. Active group: Quaternary
 ammonium compound type I.

0312.1	100 g	plastic	137,10 €

0312.2	1 kg	plastic	1052,45 €

Original pack 6 x 1 kg 999,83/1 kg

For further information, please see page 1588

Dowex® Cation exchanger

WGK 1

 **Warning H319****Dowex® 50 W X 2****100-200 mesh, H⁺-form**

highly acidic cation exchanger

Type analysis:

Appearance..... greyish beige grain
 Particle size (mesh)..... 100-200
 Loss on drying (3 h, 105 °C)..... 74-82 %
 Capacity (val/l)..... ≥1,7
 Counter ion..... H⁺
 Matrix: Polystyrene - DVB; Active group: sulphonate

0334.1	100 g	plastic	126,35 €

For further information, please see page 1588

Dowex® 50 W X 2**200-400 mesh, H⁺-form**

highly acidic cation exchanger

Type analysis:

Appearance..... beige grain
 Particle size (mesh)..... 200-400
 Loss on drying (3 h, 105 °C)..... ~74-82 %
 Capacity (eq/l)..... ~0,6
 Counter ion..... H⁺
 Matrix: Polystyrene - DVB; Active group: sulphonate

N099.1	100 g	plastic	96,65 €

N099.2	1 kg	plastic	811,65 €

Original pack 6 x 1 kg 771,07/1 kg

For further information, please see page 1588

Dowex® 50 W X 8**50-100 mesh, H⁺-form**

highly acidic cation exchanger

Type analysis:

Appearance..... beige grain
 Particle size (mesh)..... 50-100
 Loss on drying (3 h, 105 °C)..... 50-60 %
 Capacity (eq/l)..... ≥1,7 %
 Counter ion..... H⁺
 Matrix: Polystyrene - DVB; Active group: sulphonate

0344.1	250 g	plastic	274,15 €

For further information, please see page 1588

Dowex® 50 W X 8**100-200 mesh, H⁺-form**

highly acidic cation exchanger

Type analysis:

Appearance..... beige-green grain
 Particle size (mesh)..... 100-200
 Loss on drying (3 h, 105 °C)..... 50-58 %
 Capacity (eq/l)..... ≥1,7
 Counter ion..... H⁺
 Matrix: Polystyrene - DVB; Active group: sulphonate

0345.1	100 g	plastic	95,70 €

For further information, please see page 1588

Dowex® 50 W X 8**200-400 mesh, H⁺-form**

highly acidic cation exchanger

Type analysis:

Appearance..... light brown grain
 Particle size (mesh)..... 200-400
 Loss on drying (3 h, 105 °C)..... 50-58 %
 Capacity (eq/l)..... ≥1,7
 Counter ion..... H⁺
 Matrix: Polystyrene - DVB; Active group: sulphonate

0346.1	100 g	plastic	112,90 €

For further information, please see page 1588

DPC

► Diphenyl carbonate see p. 1788

DPGME► Dipropylene glycol monomethyl ether
see p. 1788**DPN**

► NAD see p. 1979

DPNH₂-Na₂

► NADH disodium salt see p. 1979

**Dragendorff-Munier
spray solution****Dragendorff-Munier
spray solution**

for TLC

Ready-to-use spray solution for detection of
nitrogen compounds and alkaloids.1 % basic Bismuth nitrate, 16,5 % tartaric acid,
20 % potassium iodide dissolved in water.

WGK 1

 **Warning H319****Type analysis:**

TLC-application..... complies

CP33.1	100 ml	glass	35,00 €

DRBC Agar► Dichlorane Bengal Red Agar
(with chloroamphenicol) see p. 1769**DRCM**► Differential Reinforced Clostridial Medium
see p. 1775**Dried Solvents ROTIDRY® Sept**

Art. No.	Description	Page
5175	Acetonitrile	1606
5176	Dichloromethane	1771
5177	Diethyl ether	1775
5179	Dimethyl sulphoxide	1785
5180	n-Hexane	1876
5181	Methanol	1961
5182	Tetrahydrofuran	2203
5191	Toluene	2214

Dried Solvents ROTIDRY®

Art. No.	Description	Page
4424	Acetic acid ethyl ester	1601
AE00	Acetonitrile	1606
AE03	Dichloromethane	1771
AE05	n-Hexane	1876
AE01	Methanol	1961
AE07	Tetrahydrofuran	2203
AE06	Toluene	2214
4423	Trichloromethane/Chloroform	2218

Drying Agents

Art. No.	Description	Page
5280	Aluminium granulate	1626
5285	Aluminium powder	1626
2729	Calcium	1704
CN93	Calcium chloride	1706
CN92	Calcium chloride	1706
A119	Calcium chloride	1706
CN88	Calcium oxide	1708
P023	Copper(II) sulphate	1747
N077	Desiccant sachet Silica gel orange	1764
N078	Desiccant sachet Silica gel orange	1764
N079	Desiccant sachet Silica gel orange	1764
AE61	Magnesium Filings	1943
CP20	Magnesium Powder	1942
4468	Magnesium Ribbon	1942
8280	Magnesium oxide	1945
0261	Magnesium sulphate hydrate	1945
N893	Molecular sieve 3 Å	1973
8487	Molecular sieve 3 Å	1973
P729	Molecular sieve 3 Å	1973
8471	Molecular sieve 4 Å	1973
8475	Molecular sieve 5 Å	1973
8483	Molecular sieve 10 Å	1973
9076	Phosphorus pentoxide	2040
P743	Potassium carbonate	2052
6751	Potassium hydroxide	2057
2440	Silica gel blue	2130
CN70	Silica gel industry grade	2130
P077	Silica gel orange	2130
8109	Silica gel water resistant	2131
9376	Silica gel white	2131
T858	Silica gel white	2131
4469	Sodium	2140
6771	Sodium hydroxide	2150
8560	Sodium sulphate	2157

Drying agent water resistant

► Silica gel water resistant see p. 2131

Drying pearls blue

► Silica gel blue see p. 2130

Drying pearls orange

- ▶ Silica gel orange see p. 2130

Drying pearls white

- ▶ Silica gel white see p. 2131

Drying pearls WS

- ▶ Silica gel water resistant see p. 2131

DSC

- ▶ N,N'-Disuccinimidyl carbonate (DSC) see p. 1789

E DTE

- ▶ 1,4-Dithioerythritol see p. 1789

DTNB

- ▶ 5,5'-Dithio-bis-(2-nitrobenzoic acid) see p. 1789

DTPA

- ▶ Diethylene triamine pentaacetic acid see p. 1774

DTT

- ▶ 1,4-Dithiothreitol see p. 1789

dTTP

dTTP

≥95 %, lyophilised
5'-Deoxythymidine-5'-triphosphate tri-sodium salt
 $C_{10}H_{14}N_2O_{14}P_3Na_3 \cdot 3 H_2O$
M 602,15 g/mol
Storage temp.: -20 °C
Transport temp.: cooled
[27821-54-1] • EC No. 248-679-4

K051.1	10 mg	plastic	21,40 €
K051.2	100 mg	plastic	132,80 €

For further information, please see page 1209

dTTP solution

dTTP

≥99 %, 100 mM solution
2'-Deoxythymidine-5'-triphosphate
 $C_{10}H_{14}N_2O_{14}P_3$
M 479,14 g/mol
Storage temp.: -20 °C
Transport temp.: cooled
[3624-46-2] • EC No. 248-679-4

K036.1	25 µmol (250 µl)	plastic	31,10 €

For further information, please see page 1207

Dulbecco's balanced salt solution

- ▶ Roti®-CELL DPBS see p. 2090

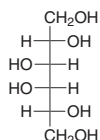
Dulbecco's Modified Eagle Medium

- ▶ Roti®-CELL DMEM Low Glucose see p. 2090

Dulbecco's Modified Eagle Medium + Ham's F12 medium (1:1)

- ▶ Roti®-CELL DMEM : F12 see p. 2089

Dulcitol



Dulcitol

≥99 %, for biochemistry
Galactitol, Melampyrit, Dulcitol
 $C_6H_{14}O_6$
M 182,17 g/mol
D 1,47 • bp 275-280 °C
mp 185-190 °C
[608-66-2] • EC No. 210-165-2

Type analysis:

Appearance.....white, fine powder
Assay (HPLC).....≥99,0 %
Water (KF).....≤1,0 %
Melting point.....186-192 °C

4944.2	10 g	plastic	16,70 €
4944.1	50 g	plastic	53,65 €

dUTP solution

dUTP

≥99 %, 100 mM solution
2'-Deoxyuridine-5'-triphosphate
 $C_9H_{12}N_2O_{14}P_3$
M 465,12 g/mol
Storage temp.: -20 °C
Transport temp.: cooled

L539.1	25 µmol (250 µl)	plastic	31,10 €

For further information, please see page 1207

Dyes

- ▶ Indicators and Dyes see p. 1897

Dyes for vital staining

- ▶ Chapter histology see p. 1397

Dying pearls water resistant

- ▶ Silica gel water resistant see p. 2131

Dysprosium Standards

- ▶ Dysprosium ICP Standard Solution see p. 2170
- ▶ Dysprosium ICP Standard Solution see p. 2175

Dysprosium(III) oxide

Dysprosium(III) oxide

ROTI®REMETIC 99,9 %
Didysprosium trioxide, Dysprosia
 Dy_2O_3
M 373,00 g/mol
bp 3900 °C
mp 2310 °C
Solubility: insoluble (H_2O , 20 °C)
[1308-87-8] • EC No. 215-164-0
WGK 3

Type analysis:

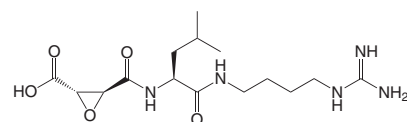
Assay (TREO).....99,9 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7145.1	5 g	plastic	22,40 €
7145.2	25 g	plastic	67,20 €

E-64



E-64

≥99 %, for biochemistry
Inhibitor of cysteine proteases
N-[N-(L-3-trans-Carboxyoxirane-2-carbonyl)-leucyl]-agmatine, N-(trans-Epoxy succinyl)-L-leucine-4-guanidinobutylamide
 $C_{15}H_{27}N_5O_5 \cdot 0,5 H_2O$
M 357,41 g/mol
mp 182 °C
Storage temp.: -20 °C
Transport temp.: room temp.
[66701-25-5]
WGK 3

Type analysis:

Appearance.....white powder
Assay (HPLC).....≥99,0 %
Spec. rotation $[\alpha]_D^{20}$ (in 0,1 N HCl).....+21° to +26°

2935.1	5 mg	plastic	82,70 €
2935.2	25 mg	plastic	295,65 €

For further information, please see page 1229

Eagle's MEM

- ▶ Roti®-CELL Eagle's MEM / Hanks' see p. 2091
- ▶ Roti®-CELL Eagle's MEM-Alpha see p. 2091
- ▶ Roti®-CELL Eagle's MEM / Earle's see p. 2091

EAK

- ▶ 3-Octanone see p. 1999

EC Blue 10

EC Blue 10

NISSUI for water analysis

For qualitative and quantitative detection of Coliforms and *E. coli* in particular in water.

Add 10 ml sample water.

WGK 1

Guarantee analysis:

Appearance of the powder..... light to dark yellow
Solubility in 10 ml water..... complies
pH value..... 6,9-7,3
Sterility..... complies

7754.1 150 pieces plastic 514,95 €

For further information, please see page 1298

EC Blue 100

EC Blue 100

NISSUI for water analysis

For qualitative and quantitative detection of Coliforms and *E. coli* in particular in water.

Add 100 ml sample water.

WGK 1

Guarantee analysis:

Appearance of the powder..... light to dark yellow
Solubility in 100 ml water..... complies
pH value..... 6,9-7,3
Sterility..... complies

0209.1 80 pieces plastic 579,45 €

For further information, please see page 1298

EC Blue 100P

EC Blue 100P

NISSUI for water analysis

For qualitative and quantitative analysis of coliforms and specifically *E. coli* in water.

Dissolve a single-dose sachet of analysis reagent in 100 ml of test water.

WGK 1

Guarantee analysis:

Appearance of the powder..... light to dark yellow
Solubility in 100 ml water..... complies
pH value..... 6,9-7,3
Sterility..... complies

0202.1 100 pieces plastic 407,45 €

For further information, please see page 1298

EC Blue Comparator

EC Blue Comparator

NISSUI for water analysis

1 bottle of *E. coli* positive control for EC Blue system, colour intensity "1 cfu".

Storage temp.: +4 °C

WGK 1

Guarantee analysis:

Appearance of solution..... clear, light green-blue
Absorption (610 nm)..... complies
pH value..... 7,2-7,6

0349.2 10 ml plastic 130,65 €

0349.1 100 ml plastic 150,40 €

For further information, please see page 1299

EC Broth

EC Broth

ISO 7251, for microbiology

For detection and enumeration of coliform bacteria in water.

Application: Use 37,4 g for 1 l broth.

E. coli Bouillon

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

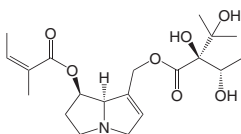
Tryptose..... 20 g/l
Lactose..... 5 g/l
Sodium chloride (NaCl)..... 5 g/l
Dipotassium phosphate..... 4 g/l
Potassium phosphate..... 1,5 g/l
Bile salts No. 3..... 1,9 g/l
pH value..... 6,9 ± 0,2

8310.1 500 g plastic 100,55 €

Original pack 6 x 500 g 95,52/500 g

For further information, please see page 1323

Echimidine



NEW

Echimidine

ROTICHROM® HPLC

Reference substance for HPLC.
From *Echium plantagineum*.

7-O-Angelyl-9-O-echimidinylretronecine

$C_{20}H_{31}NO_7$

M 397,46 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[520-68-3]

UN No. 1544 • ADR 6.1 III • WGK 3

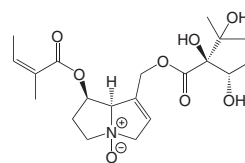
Danger H301+H311+H331-H373

Type analysis:

Purity (HPLC)..... ≥95 %

7992.1 5 mg glass 342,95 €

Echimidine N-oxide



NEW

Echimidine N-oxide

ROTICHROM® HPLC

Reference substance for HPLC.
From *Echium plantagineum*.

7-O-Angelyl-9-O-echimidinylretronecine
N-oxide

$C_{20}H_{31}NO_8$

M 413,46 g/mol

mp 164-165 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[41093-89-4]

UN No. 1544 • ADR 6.1 III • WGK 3

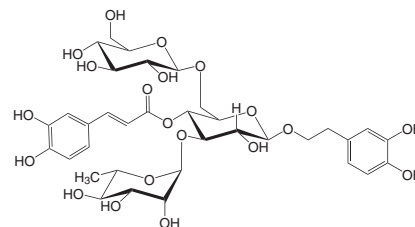
Danger H301+H311+H331-H373

Type analysis:

Purity (HPLC)..... ≥95 %

8011.1 5 mg glass 342,95 €

Echinacoside



$C_{35}H_{46}O_{20}$

M 786,70 g/mol

[82854-37-3]

WGK 3

Echinacoside

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %
Residual solvents (GC)..... ≤1,0 %
Water (KF)..... ≤17,0 %
Assay (qNMR)..... ≥80,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE40.1 10 mg glass 478,40 €

Echinacoside

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC)..... ≥80,0 %
Identity..... complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC40.1 25 mg glass 310,70 €

Echinacoside**ROTICHROM® HPLC**

Reference substance for HPLC

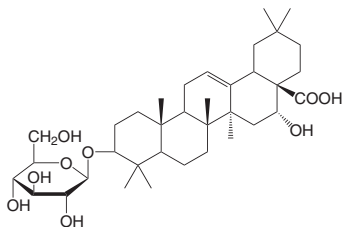
From *Echinacea pallida*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>98 %

1135.1	10 mg	glass	364,45 €

Echinocystic acid 3-glucoside**Echinocystic acid 3-glucoside****ROTICHROM® HPLC**

Reference substance for HPLC

 $C_{36}H_{58}O_9$

M 634 g/mol

Storage temp.: +4 °C

[78285-90-2]

Type analysis:

Purity (HPLC).....≥92 %

6995.1	25 mg	glass	987,95 €

E. coli Bouillon

► EC Broth see p. 1797

EDAC Hydrochloride

► 1-Ethyl-3-(3-dimethylaminopropyl)-carbodiimide hydrochloride see p. 1814

EDC-HCl

► 1-Ethyl-3-(3-dimethylaminopropyl)-carbodiimide hydrochloride see p. 1814

EDTA

► Ethylenediamine tetraacetic acid see p. 1814

EDTAs

Art. No.	Description	Page
8040	Ethylenediamine tetraacetic acid	1814
CN06	Ethylenediamine tetraacetic acid	1814
6506	Ethylenediamine tetraacetic acid calcium disodium salt dihydrate	1814
6499	Ethylenediamine tetraacetic acid copper disodium salt dihydrate	1815
3053	Ethylenediamine tetraacetic acid dipotassium salt dihydrate	1815
1408	Ethylenediamine tetraacetic acid dipotassium salt dihydrate	1815
8043	Ethylenediamine tetraacetic acid disodium salt dihydrate	1815
X986	Ethylenediamine tetraacetic acid disodium salt dihydrate	1815
6498	Ethylenediamine tetraacetic acid iron(III) sodium salt trihydrate	1815
6508	Ethylenediamine tetraacetic acid magnesium disodium salt dihydrate	1816
6510	Ethylenediamine tetraacetic acid manganese disodium salt dihydrate	1816
3619	Ethylenediamine tetraacetic acid tetra-sodium salt hydrate	1816
1410	Ethylenediamine tetraacetic acid tetrasodium salt dihydrate	1816
CP87	Ethylenediamine tetraacetic acid tetra-sodium salt tetrahydrate	1816
1409	Ethylenediamine tetraacetic acid tripotassium salt dihydrate	1817
6518	Ethylenediamine tetraacetic acid zinc disodium salt dihydrate	1817

EDTA calcium disodium salt dihydrate

► Ethylenediamine tetraacetic acid calcium disodium salt dihydrate see p. 1814

EDTA copper disodium salt dihydrate

► Ethylenediamine tetraacetic acid copper disodium salt dihydrate see p. 1815

EDTA dipotassium salt dihydrate

► Ethylenediamine tetraacetic acid dipotassium salt dihydrate see p. 1815

EDTA disodium salt dihydrate

► Ethylenediamine tetraacetic acid disodium salt dihydrate see p. 1815

EDTA disodium salt solution (0,01 N)**EDTA disodium salt solution****0,01 mol/l - 0,01 N volumetric standard solution**

For metal titration.

Titration complex III-solution

[6381-92-6] • EC No. 205-358-3

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C). 0,01 mol/l ±0,2 %

Titer.....0,998-1,002

CN34.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			
CN34.2	5 l	ROTI®CUBE	66,55 €
Original pack 2 x 5 l			
CN34.3	10 l	ROTI®CUBE	121,40 €

For further information, please see page 1546

EDTA disodium salt solution (0,01 N)**EDTA disodium salt solution****ROTI®VOLUM 0,01 mol/l - 0,01 N**

Ampoule for preparation of 1000 ml volumetric solution.

Titration complex III-solution

 $C_{10}H_{14}N_2Na_2O_8 \cdot 2 H_2O$

M 372,24 g/mol

[6381-92-6] • EC No. 205-358-3

WGK 2

Type analysis:

Amount-of-substance conc. (20 °C).....

.....0,01 mol/l ±0,2 %

CN52.1	1 piece	plastic ampoule	24,95 €

For further information, please see page 1547

EDTA disodium salt solution (0,05 N)**EDTA disodium salt solution****0,05 mol/l - 0,05 N volumetric standard solution**

For metal titration.

Titration complex III-solution

[6381-92-6] • EC No. 205-358-3

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C).....

.....0,05 mol/l ±0,2 %

Titer.....0,998-1,002

KK75.1	1 l	plastic	20,35 €
Original pack 6 x 1 l			
KK75.2	5 l	plastic	60,75 €
Original pack 2 x 5 l			
KK75.3	5 l	ROTI®CUBE	64,00 €
Original pack 2 x 5 l			
			60,80/5 l

EDTA disodium salt solution (0,1 N)

EDTA disodium salt solution

0,1 mol/l - 0,1 N volumetric standard solution

For metal titration.

Titration complex III-solution

[6381-92-6] • EC No. 205-358-3

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

Titer 0,998-1,002

K714.1	1 l	plastic	20,35 €
Original pack 6 x 1 l			19,33/1 l
K714.2	5 l	plastic	60,75 €
Original pack 2 x 5 l			57,71/5 l
K714.3	5 l	ROTI®CUBE	66,55 €
Original pack 2 x 5 l			63,22/5 l
K714.4	10 l	ROTI®CUBE	121,40 €

For further information, please see page 1546

EDTA disodium salt solution (0,1 N)

EDTA disodium salt solution

0,1 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.

Titration complex III-solution

WGK 1

Type analysis:

Amount-of-substance conc.....0,1 mol/l ±0,1 %

6764.1	1 l	plastic	23,15 €
Original pack 6 x 1 l			21,99/1 l

EDTA disodium salt solution (0,1 N)

EDTA disodium salt solution

ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

Titration complex III-solution

$C_{10}H_{14}N_2Na_2O_8 \cdot 2 H_2O$

M 372,24 g/mol

[6381-92-6] • EC No. 205-358-3

WGK 2

 **Warning H373**

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

CN51.1	1 piece	plastic ampoule	23,15 €

For further information, please see page 1547

EDTA disodium salt solution (0,2 N)

EDTA disodium salt solution

0,2 mol/l - 0,2 N volumetric standard solution

Titration complex III-solution

[6381-92-6] • EC No. 205-358-3

WGK 2

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,2 mol/l ±0,2 %

Titer 0,998-1,002

8084.1	1 l	plastic	21,40 €
Original pack 6 x 1 l			20,33/1 l
8084.2	5 l	ROTI®CUBE	64,40 €
Original pack 2 x 5 l			61,18/5 l

EDTA disodium salt solution A (0,1 N)

EDTA disodium salt solution A

0,1 mol/l - 0,1 N volumetric standard solution

For determination of water hardness.

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,1 mol/l ±0,2 %

Titer 0,998-1,002

T136.1	1 l	plastic	27,45 €
Original pack 6 x 1 l			26,08/1 l

For further information, please see page 1546

EDTA disodium salt solution B (0,01783 N)

EDTA disodium salt solution B

0,01783 mol/l - 0,01783 N volumetric standard solution

For determination of water hardness.

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C) 0,01783 mol/l ±0,2 %

Titer 0,998-1,002

T137.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l
T137.2	5 l	ROTI®CUBE	66,55 €
Original pack 2 x 5 l			63,22/5 l
T137.3	10 l	ROTI®CUBE	121,40 €

For further information, please see page 1546

EDTA iron(III) sodium salt trihydrate

► Ethylenediamine tetraacetic acid iron(III) sodium salt trihydrate see p. 1815

EDTA magnesium disodium salt dihydrate

► Ethylenediamine tetraacetic acid magnesium disodium salt dihydrate see p. 1816

EDTA manganese disodium salt dihydrate

► Ethylenediamine tetraacetic acid manganese disodium salt dihydrate see p. 1816

EDTA solution in DPBS

► Roti®-CELL DPBS/EDTA see p. 2091

EDTA solution in PBS

► Roti®-CELL PBS/EDTA see p. 2093

EDTA tetrasodium salt dihydrate

► Ethylenediamine tetraacetic acid tetrasodium salt dihydrate see p. 1816

EDTA tripotassium salt dihydrate

► Ethylenediamine tetraacetic acid tripotassium salt dihydrate see p. 1817

EDTA zinc disodium salt dihydrate

► Ethylenediamine tetraacetic acid zinc disodium salt dihydrate see p. 1817

EdU

► 5-Ethynyl-2'-deoxyuridine (EdU) see p. 1812

EdU Click-488

EdU Click-488

ROTI®kit for Imaging

For fast and simple detection of cell proliferation through fluorescence microscopy.

For 100-500 Assays.

Storage temp.: see below, -20 °C/+4 °C

Transport temp.: cooled

UN No. 3077 • ADR 9 III • WGK 2

 **Warning H315-H319-H400-H410**

Components:

EdU.....5 mg
6-FAM-Azide (10 mM in DMSO) 130 µl
Buffer Additive 4 x 200 mg
DMSO 2 x 2 ml
Catalyst Solution 2 x 2 ml
Reaction Buffer 4 x 2 ml
Store at -20 °C (EdU, 6-FAM-Azide, Buffer Additive);
+4 °C (DMSO, Catalyst Solution, Reaction Buffer)

7773.1	1 kit	cardboard	335,40 €

EdU Click-555

EdU Click-555

ROTI®kit for Imaging

For fast and simple detection of cell proliferation through fluorescence microscopy.

For 100-500 Assays.

Storage temp.: see below, -20 °C/+4 °C

Transport temp.: cooled

UN No. 3077 • ADR 9 III • WGK 2

⚠️ ⚠️ **Warning** H315-H319-H400-H410

Components:

EdU..... 5 mg
5-TAMRA-PEG3-Azide (10 mM in DMSO)..... 130 µl
Buffer Additive..... 4 x 200 mg
DMSO..... 2 x 2 ml
Catalyst Solution..... 2 x 2 ml
Reaction Buffer..... 4 x 2 ml
Store at -20 °C (EdU, 5-TAMRA-PEG3-Azide, Buffer Additive); +4 °C (DMSO, Catalyst Solution, Reaction Buffer)

7775.1	1 kit	cardboard	335,40 €

EdU Click-594

EdU Click-594

ROTI®kit for Imaging

For fast and simple detection of cell proliferation through fluorescence microscopy.

For 100-500 Assays.

Storage temp.: see below, -20 °C/+4 °C

Transport temp.: cooled

UN No. 3077 • ADR 9 III • WGK 2

⚠️ ⚠️ **Warning** H315-H319-H400-H410

Components:

EdU..... 5 mg
5/6-Sulforhodamine-101-PEG3-Azide (10 mM in DMSO)..... 130 µl
Buffer Additive..... 4 x 200 mg
DMSO..... 2 x 2 ml
Catalyst Solution..... 2 x 2 ml
Reaction Buffer..... 4 x 2 ml
Store at -20 °C (EdU, 5/6-Sulforhodamine-101-PEG3-Azide, Buffer Additive); +4 °C (DMSO, Catalyst Solution, Reaction Buffer)

7776.1	1 kit	cardboard	331,10 €

EdU Click-647

EdU Click-647

ROTI®kit for Imaging

For fast and simple detection of cell proliferation through fluorescence microscopy.

For 100-500 assays.

Storage temp.: see below, -20 °C/+4 °C

Transport temp.: cooled

UN No. 3077 • ADR 9 III • WGK 2

⚠️ ⚠️ **Warning** H315-H319-H400-H410

Components:

EdU..... 5 mg
Eternon Red (10 mM in DMSO)..... 130 µl
Buffer Additive..... 4 x 200 mg
DMSO..... 2 x 2 ml
Catalyst Solution..... 2 x 2 ml
Reaction Buffer..... 4 x 2 ml
Store at -20 °C (EdU, Eternon Red, Buffer Additive); +4 °C (DMSO, Catalyst Solution, Reaction Buffer)

7777.1	1 kit	cardboard	331,10 €

EdU Click FC-488

EdU Click FC-488

ROTI®kit for Flow Cytometry

Kit for detection of cell proliferation through Flow Cytometry.

For 50 assays.

Storage temp.: +4 °C

Transport temp.: cooled

UN No. 3077 • ADR 9 III • WGK 2

⚠️ H411-EUH208

Components:

EdU..... 10 mg
6-FAM-Azide (10 mM in DMSO)..... 130 µl
DMSO..... 5 ml
Fixative Solution..... 5 ml
Saponin Reagent..... 50 ml
Catalyst Solution..... 2 ml
Buffer Additive..... 400 mg

7779.1	1 kit	cardboard	342,40 €

EdU Click FC-555

EdU Click FC-555

ROTI®kit for Flow Cytometry

Kit for detection of cell proliferation through Flow Cytometry.

For 50 assays.

Storage temp.: +4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠️ H411-EUH208

Components:

EdU..... 10 mg
5-TAMRA-PEG3-Azide (10 mM in DMSO)..... 130 µl
DMSO..... 5 ml
Fixative Solution..... 5 ml
Saponin Reagent..... 50 ml
Catalyst Solution..... 2 ml
Buffer Additive..... 400 mg

7780.1	1 kit	cardboard	342,40 €

EdU Click FC-594

EdU Click FC-594

ROTI®kit for Flow Cytometry

Kit for detection of cell proliferation through Flow Cytometry.

For 50 assays.

Storage temp.: +4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠️ H411-EUH208

Components:

EdU..... 10 mg
5/6-Sulforhodamine-101-PEG3-Azide (10 mM in DMSO)..... 130 µl
DMSO..... 5 ml
Fixative Solution..... 5 ml
Saponin Reagent..... 50 ml
Catalyst Solution..... 2 ml
Buffer Additive..... 400 mg

7781.1	1 kit	cardboard	342,40 €

EdU Click FC-647

EdU Click FC-647

ROTI®kit for Flow Cytometry

Kit for detection of cell proliferation through Flow Cytometry.

For 50 assays.

Storage temp.: +4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠️ H411-EUH208

Components:

EdU..... 10 mg
Eternon Red (10 mM in DMSO)..... 130 µl
DMSO..... 5 ml
Fixative Solution..... 5 ml
Saponin Reagent..... 50 ml
Catalyst Solution..... 2 ml
Buffer Additive..... 400 mg

7783.1	1 kit	cardboard	342,40 €

EdU Click HTS 2-488

EdU Click HTS 2-488

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 200 reactions or 2x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠️ ⚠️ **Warning** H315-H319-H411-EUH031

Components:

20x EdU..... 2 ml
6-FAM-Azide (10 mM in DMSO)..... 130 µl
Reaction Buffer..... 10 ml
Catalyst Solution..... 1 ml
Buffer Additive..... 200 mg
Rinse Buffer..... 6 ml
Store at +4 °C (20x EdU, 6-FAM-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7786.1	1 kit	cardboard	192,45 €

EdU Click HTS 2-555

EdU Click HTS 2-555

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 200 reactions or 2x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠️ ⚠️ **Warning** H315-H319-H411-EUH031

Components:

20x EdU..... 2 ml
5-TAMRA-PEG3-Azide (10 mM in DMSO)..... 130 µl
Reaction Buffer..... 20 ml
Catalyst Solution..... 1 ml
Buffer Additive..... 200 mg
Rinse Buffer..... 6 ml
Store at +4 °C (20x EdU, 5-TAMRA-PEG3-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7789.1	1 kit	cardboard	190,85 €

EdU Click HTS 2-594

EdU Click HTS 2-594

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 200 reactions or 2x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 2 ml
5/6-Sulforhodamine-101-PEG3-Azide (10 mM in DMSO) 130 µl
Reaction Buffer 20 ml
Catalyst Solution 1 ml
Buffer Additive 200 mg
Rinse Buffer 6 ml
Store at +4 °C (20x EdU, 5/6-Sulforhodamine-101-PEG3-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7793.1 1 kit cardboard 190,85 €

EdU Click HTS 2-647

EdU Click HTS 2-647

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 200 reactions or 2x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 2 ml
Eternon Red (10 mM in DMSO) 130 µl
Reaction Buffer 20 ml
Catalyst Solution 1 ml
Buffer Additive 200 mg
Rinse Buffer 6 ml
Store at +4 °C (20x EdU, Eternon Red, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7796.1 1 kit cardboard 190,85 €

EdU Click HTS 4-488

EdU Click HTS 4-488

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 400 reactions or 4x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 4 ml
6-FAM-Azide (10 mM in DMSO) 2 x 130 µl
Reaction Buffer 40 ml
Catalyst Solution 1 ml
Buffer Additive 400 mg
Rinse Buffer 2 x 6 ml
Store at +4 °C (20x EdU, 6-FAM-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7787.1 1 kit cardboard 297,25 €

EdU Click HTS 4-555

EdU Click HTS 4-555

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 400 reactions or 4x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 4 ml
5-TAMRA-PEG3-Azide (10 mM in DMSO) 2 x 130 µl
Reaction Buffer 40 ml
Catalyst Solution 1 ml
Buffer Additive 400 mg
Rinse Buffer 2 x 6 ml
Store at +4 °C (20x EdU, 5-TAMRA-PEG3-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7791.1 1 kit cardboard 297,25 €

EdU Click HTS 4-594

EdU Click HTS 4-594

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 400 reactions or 4x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 4 ml
5/6-Sulforhodamine-101-PEG3-Azide (10 mM in DMSO) 2 x 130 µl
Reaction Buffer 40 ml
Catalyst Solution 1 ml
Buffer Additive 400 mg
Rinse Buffer 2 x 6 ml
Store at +4 °C (20x EdU, 5/6-Sulforhodamine-101-PEG3-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7794.1 1 kit cardboard 297,25 €

EdU Click HTS 4-647

EdU Click HTS 4-647

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 400 reactions or 4x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 4 ml
Eternon Red (10 mM in DMSO) 2 x 130 µl
Reaction Buffer 40 ml
Catalyst Solution 1 ml
Buffer Additive 400 mg
Rinse Buffer 2 x 6 ml
Store at +4 °C (20x EdU, Eternon Red, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7797.1 1 kit cardboard 297,25 €

EdU Click HTS 20-488

EdU Click HTS 20-488

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 2000 reactions or 20x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 3

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 20 ml
6-FAM-Azide (10 mM in DMSO) 9 x 130 µl
Reaction Buffer 4 x 50 ml
Catalyst Solution 5 ml
Buffer Additive 2 x 1 g
Rinse Buffer 58 ml
Store at -20 °C (EdU, 6-FAM-Azide, Buffer Additive); +4 °C (DMSO, Catalyst Solution, Reaction Buffer)

7788.1 1 kit cardboard 972,90 €

EdU Click HTS 20-555

EdU Click HTS 20-555

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 2000 reactions or 20x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 20 ml
5-TAMRA-PEG3-Azide (10 mM in DMSO) 9 x 130 µl
Reaction Buffer 4 x 50 ml
Catalyst Solution 5 ml
Buffer Additive 2 x 1 g
Rinse Buffer 58 ml
Store at +4 °C (20x EdU, 5-TAMRA-PEG3-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7792.1 1 kit cardboard 972,90 €

EdU Click HTS 20-594

EdU Click HTS 20-594

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 2000 reactions or 20x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ Warning H315-H319-H411-EUH031

Components:

20x EdU 20 ml
5/6-Sulforhodamine-101-PEG3-Azide (10 mM in DMSO) 9 x 130 µl
Reaction Buffer 4 x 50 ml
Catalyst Solution 5 ml
Buffer Additive 2 x 1 g
Rinse Buffer 58 ml
Store at +4 °C (20x EdU, 5/6-Sulforhodamine-101-PEG3-Azide, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7795.1 1 kit cardboard 972,90 €

EdU Click HTS 20-647

EdU Click HTS 20-647

ROTI®kit for High Throughput Screening

For fast and specific detection of cell proliferation in High Throughput Screening.

For 2000 reactions or 20x96 well plates.

Storage temp.: see below, room temp./+4 °C

Transport temp.: cooled

UN No. 3082 • ADR 9 III • WGK 2

⚠ ⚠ ⚠ **Danger** H315-H319-H411-EUH031

Components:

20x EdU..... 20 ml
 Eterneon Red (10 mM in DMSO)..... 9 x 130 µl
 Reaction Buffer..... 4 x 50 ml
 Catalyst Solution..... 5 ml
 Buffer Additive..... 2 x 1 g
 Rinse Buffer..... 58 ml
 Store at +4 °C (20x EdU, Eterneon Red, Catalyst Solution); room temp. (Reaction Buffer, Buffer Additive, Rinse Buffer)

7798.1	1 kit	cardboard	972,90 €

EdUTP

► 5-Ethynyl-dUTP see p. 1820

EGBEA

► 2-Butoxyethyl acetate see p. 1698

Egg Yolk Emulsion

Egg Yolk Emulsion

sterile, stabilised, for microbiology

Media supplement for preparation of egg yolk agar for detection of microbial lecithinase activity.

100 ml Egg Yolk Emulsion is sufficient for 2 l agar medium.

Storage temp.: +4 °C

Type analysis:

Colour..... yellow
 Egg yolk..... 30 %
 Sterile saline sol..... 70 %
 Sodium azide..... 0,025 %

2977.1	100 ml	glass	41,40 €

For further information, please see page 1344

Egg Yolk Tellurite Emulsion

Egg Yolk Tellurite Emulsion

sterile, stabilised, for microbiology

Media supplement for preparation of egg yolk tellurite agar, for detection of *Staphylococcus aureus*.

100 ml Egg Yolk Tellurite Emulsion is sufficient for 2 l agar medium.

Storage temp.: +4 °C

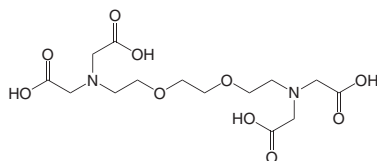
Type analysis:

Colour..... yellow
 Egg yolk..... 30 %
 Potassium tellurite..... 1 %
 Sterile saline sol..... 70 %
 Sodium azide..... 0,025 %

2978.1	100 ml	glass	44,65 €

For further information, please see page 1344

EGTA



EGTA

≥99 %, p.a.

For molecular biology and biochemistry.

Ethylene glycol bis(β-aminoethyl)-ether)

N,N,N',N' tetraacetic acid

C₁₄H₂₄N₂O₁₀

M 380,35 g/mol

mp ~240 °C

[67-42-5] • EC No. 200-651-2

WGK 1

Type analysis:

Appearance..... white powder
 Assay (titr.)..... ≥99,0 %
 pH value (saturated sol.)..... 2,6-3,0
 Water (KF)..... ≤1,0 %
 Iron (Fe)..... ≤0,001 %
 Sulphated ash..... ≤0,1 %

3054.1	10 g	plastic	32,15 €

3054.2	50 g	plastic	124,20 €

3054.3	100 g	plastic	216,65 €

For further information, please see page 1229

Ehrlich's acid Hematoxylin solution

► Hematoxylin solution acid acc. to Ehrlich see p. 1869

Ehrlich's Reagent

► 4-(Dimethylamino)-benzaldehyde see p. 1782

n-Eicosanoic acid

► Arachidic acid see p. 1653

Elastica van Gieson staining kit

Elastica van Gieson staining kit

NEW

for microscopy

Staining kit for visualising connective tissue with elastic fibres, incl. instructions for use.

Storage temp.: +20 °C

UN No. 1219 • ADR 3 II • WGK 1

⚠ ⚠ ⚠ ⚠ **Danger** H224-H302-H312-H332-H318-H336-H370-EUH001

Formulation:

Hematoxylin solution A acc. to Weigert (Art. No. X906)..... 500 ml
 Hematoxylin solution B acc. to Weigert (Art. No. X907)..... 500 ml
 Van Gieson's Solution (Art.-No. 3925)..... 500 ml
 Resorcinol-Fuchsine-solution acc. to Weigert (Art. No. X877)..... 500 ml

8275.1	1 kit	glass	119,90 €

For further information, please see page 1391

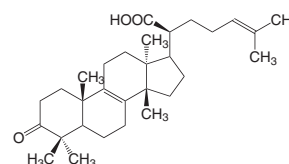
Elatericin B

► Cucurbitacin I see p. 1751

α-Elaterin

► Cucurbitacin E see p. 1751

β-Elemonic acid



β-Elemonic acid

ROTICHROM® HPLC

Reference substance for HPLC.

From *Boswellia serrata*.

C₃₀H₄₆O₃

M 454,70 g/mol

mp 216-220 °C

Storage temp.: +4 °C

[28282-25-9]

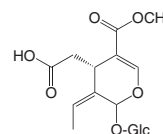
WGK 1

Type analysis:

Purity (HPLC)..... ≥98 %

6491.1	10 mg	glass	446,15 €

Elenolic acid glucoside



Elenolic acid glucoside

ROTICHROM® HPLC

Reference substance for HPLC

From *Olea europaea*.

Oleoside-11-methylester

C₁₇H₂₄O₁₁

M 404,38 g/mol

Storage temp.: +4 °C

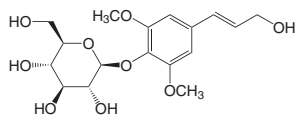
[60539-23-3]

Type analysis:

Purity (HPLC)..... >98 %

1136.1	20 mg	glass	284,90 €

Eleutheroside B



Eleutheroside B

ROTICHRON® HPLC

Reference substance for HPLC
From *Syringa vulgaris*.

Syringin, Syringoside

$C_{17}H_{24}O_9$

M 372,36 g/mol

Storage temp.: +4 °C

[118-34-3]

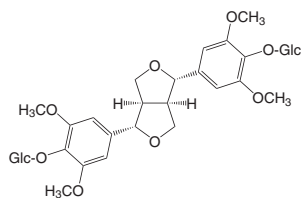
⚠ Warning H302

Type analysis:

Purity (HPLC).....>99 %

1137.1	5 mg	glass	228,45 €

Eleutheroside E



Eleutheroside E

ROTICHRON® HPLC

Reference substance for HPLC
From *Eleutherococcus*.

Syringaresinol-4',4'-O-bis-β-D-glucoside

$C_{34}H_{46}O_{18}$

M 742,71 g/mol

Storage temp.: +4 °C

[39432-56-9]

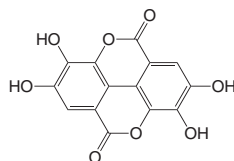
⚠ Warning H302

Type analysis:

Purity (HPLC).....>96 %

1138.1	5 mg	glass	228,45 €

Ellagic acid



Ellagic acid

≥97 %, for biochemistry

$C_{14}H_6O_8$

M 302,20 g/mol

mp >350 °C

[476-66-4] • EC No. 207-508-3

⚠ Warning H315-H319-H335

Type analysis:

Assay (GC).....≥97 %

Water (KF).....≤12 %

7263.1	5 g	glass	77,30 €

Ellman's reagent

► 5,5'-Dithio-bis-(2-nitrobenzoic acid)
see p. 1789

Embedding- / Inclusion Media

Art. No.	Description	Page
9180	Alginate acid sodium salt	1622
8016	Canada balsam	1711
7356	Euparal	1821
A145	Euparal essence	1821
4582	Gelatine	1845
3783	Glycerol	1859
8619	Glycidether 100	1860
9279	Granopent® "P"	1863
6474	Kaiser's glycerol gelatine phenol-free	1916
4233	Methacrylic acid methyl ester	1959
0713	Mowiol®4-88	1976
CN48	Paraffin 50-52 °C	2020
CN49	Paraffin 52-54 °C	2020
X880	Paraplast®	2021
X881	Paraplast PLUS®	2021
X882	Paraplast X-TRA®	2021
6471	Phytohistol® plus	2041
0152	Polyethylene glycol 1500	2046
6638	Roti®-Histokitt	2099
T160	Roti®-Histokitt II	2099
HP68	Roti®-Mount	2105
2848	Roti®-Mount Aqua	2105
HP19	Roti®-Mount FluorCare	2105
HP20	Roti®-Mount FluorCare DAPI	2106
HP21	Roti®-Mount FluorCare PI	2106
6642	Roti®-Plast	2109
6643	Roti®-Plast with DMSO	2109
T200	Solidofix®-Cryo spray	2161

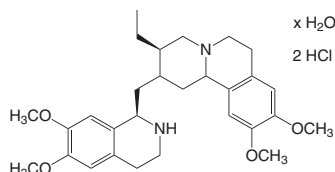
EMEM cell culture medium

► Roti®-CELL Eagle's MEM / Hanks'
see p. 2091

► Roti®-CELL Eagle's MEM-Alpha
see p. 2091

► Roti®-CELL Eagle's MEM / Earle's
see p. 2091

Emetine dihydrochloride



Emetine dihydrochloride

≥99 %, for biochemistry

$C_{29}H_{40}N_2O_4 \cdot 2 HCl \cdot x H_2O$

M 553,58 + x H₂O g/mol

mp 240-250 °C

Storage temp.: +4 °C

[316-42-7] • EC No. 206-259-8

UN No. 1544 • ADR 6.1 I • WGK 3

⚠ Danger H300-H315-H319-H335

Type analysis:

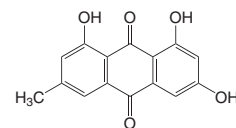
Appearance.....light beige powder

Assay (acidim., dry substance).....≥99 %

Water (KF).....≤19,0 %

4116.1	1 g	glass	144,60 €

Emodin



$C_{15}H_{10}O_5$

M 270,23 g/mol

mp ~255 °C (dec.)

Storage temp.: +4 °C

[518-82-1] • EC No. 208-258-8

WGK 2

⚠ Warning H315-H319-H335

Emodin

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥99 %

7451.1	10 mg	plastic	149,45 €

Emodin

ROTICHRON® ~CHR

7272.1	100 mg	glass	27,45 €

7272.2	500 mg	glass	95,15 €

Emodinrhamnoside

► Frangulin A see p. 1841

Empetrin

► Delphinidin 3-galactoside chloride
see p. 1761

Endo Agar (Base)

Endo Agar (Base)

for microbiology

For isolation of enteric gram-negative bacteria,
especially coliforms, from water, dairy products
and foods.

Application: Use 36 g for 1 l agar, add 5 ml basic
fuchsin solution.

Storage temp.: +20 °C

WGK 1

Formulation:

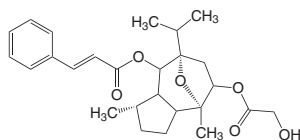
Peptone.....	10 g/l
Lactose.....	10 g/l
di-Potassium phosphate.....	3,5 g/l
Sodium sulphite.....	2,5 g/l
Agar.....	10 g/l
pH value.....	7,5 ±0,2

X920.1	500 g	plastic	73,65 €

Original pack 6 x 500 g	69,97/500 g

For further information, please see page 1324

Englerin A



Englerin A

ROTICHRON® HPLC

Reference substance for HPLC.
From *Phyllanthus engleri*.

$C_{26}H_{34}O_6$

M 442,56 g/mol

Storage temp.: +4 °C

[1094250-15-3]

WGK 1

Type analysis:

Purity (HPLC)..... ≥96,0 %

6492.1	10 mg	glass	403,15 €

Enoxolone

► 18-β-Glycyrrhetic acid see p. 1862

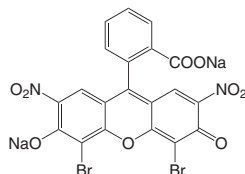
Enterobacter sakazakii
Chromogenic Agar

► Cronobacter chromogenic Agar
see p. 1750

Enzymes

Art. No.	Description	Page
6024	Alkaline phosphatase	1623
8717	β-Amylase	1645
5950	Bromelain	1688
6025	Catalase	1720
0238	Chymotrypsin	1736
6028	Glucose oxidase	1855
7512	β-Glucosidase	1855
6052	Glutamate dehydrogenase	1856
9978	Hyaluronidase	1881
9980	Hyaluronidase	1881
6060	Lactate dehydrogenase	1919
CN73	Lipoxygenase	1933
8259	Lysozyme	1942
6062	Malate dehydrogenase	1946
8933	Papain	2019
KK38	Pepsin	2027
0230	Pepsin	2027
6055	Peroxidase	2029
7528	Proteinase K	2070
8178	Rennin	2082
7164	Ribonuclease	2085
7156	Ribonuclease A	2085
2193	Trypsin	2226
5455	Trypsin	2226
6065	Urease	2232
7537	Urease	2233

Eosin B (C.I. 45400)



Eosin B (C.I. 45400)

for microscopy

Eosin scarlet, Eosin bluish, 4',5'-Dibromo-2',7'-dinitrofluoresceine disodium salt.

$C_{20}H_6Br_2N_2Na_2O_9$

M 624,09 g/mol

Solubility: 300 g/l (H_2O , 25 °C)

[548-24-3] • EC No. 208-943-1

WGK 2

Type analysis:

Appearance..... dark red powder
Solubility..... soluble in alcohol and water
Maximum absorption..... 510-530 nm

0306.1	10 g	glass	15,80 €

0306.2	25 g	glass	25,30 €

0306.3	50 g	glass	39,70 €

For further information, please see page 1405

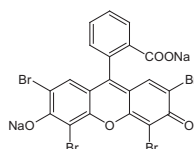
Eosin bluish

► Eosin B (C.I. 45400) see p. 1804

Eosin scarlet

► Eosin B (C.I. 45400) see p. 1804

Eosin Y (C.I. 45380)



Eosin Y (C.I. 45380)

for microscopy

Eosin yellowish

$C_{20}H_6Br_4Na_2O_5$

M 691,86 g/mol

mp 295-296 °C

Solubility: 300 g/l (H_2O , 20 °C)

[17372-87-1] • EC No. 241-409-6

WGK 2

⚠ Warning H319

Type analysis:

Maximum absorption..... 510-520 nm
Solubility..... in alcohol and water

7089.1	50 g	glass	30,00 €

7089.2	100 g	glass	51,50 €

7089.3	500 g	glass	162,90 €

Original pack 6 x 500 g 154,76/500 g

For further information, please see page 1405

Eosin Y solution 0,5 % in water

Eosin Y solution 0,5 % in water
for microscopy

For visualising cell structures during standard staining methods (H&E staining).

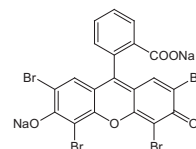
[17372-87-1] • EC No. 241-409-6

X883.1	500 ml	glass	18,85 €

X883.2	1 l	glass	27,10 €

Original pack 6 x 1 l 25,75/1 l

For further information, please see page 1391

Eosin Y solution
1 % in methanolEosin Y solution
1 % in methanol

for microscopy

For visualising cell structures during standard staining methods (H&E staining).

UN No. 1230 • ADR 3 (6.1) II • WGK 1

⚠ ⚠ ⚠ Danger

H225-H301+H311+H331-H370

3139.1	500 ml	glass	24,20 €

3139.2	1 l	glass	37,10 €

Original pack 6 x 1 l 35,25/1 l

For further information, please see page 1391

Eosin Y solution 1 % in water

Eosin Y solution 1 % in water

for microscopy

For visualising cell structures during standard staining methods (H&E staining).

3137.1	500 ml	glass	21,00 €

3137.2	1 l	glass	30,00 €

Original pack 6 x 1 l 28,50/1 l

For further information, please see page 1391

Eosin methylene blue solution
acc. to Wright

► Wright's eosin methylene blue solution
see p. 2243

► May-Gruenwald's solution see p. 1953

Eosin methylene blue

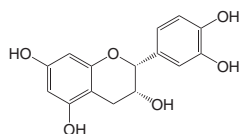
► Wright's stain see p. 2243

Eosin methylene blue acc. to
Leishman

► Leishman stain see p. 1929

Eosine Yellowish

► Eosin Y (C.I. 45380) see p. 1804

(-)-Epicatechin

(-)-Epicatechol

 $C_{15}H_{14}O_6$

M 290,27 g/mol

mp 240-245 °C

[490-46-0] • EC No. 207-710-1

⚠ Warning H315-H319-H335

(-)-Epicatechin

>90 %

Storage temp.: +4 °C

Type analysis:

Appearance..... light beige powder

Assay (HPLC)..... >90 %

[α]_D²⁰ (c=1 in acetone/H₂O 1:1)..... -59° to -53°

7293.1 500 mg glass 90,85 €

(-)-Epicatechin**ROTI®STAR Primary Standard**

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥93,0 %

Residual solvents (GC)..... ≤3,0 %

Water (KF)..... ≤7,0 %

Assay (qNMR)..... ≥90,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE41.1 10 mg glass 478,40 €

(-)-Epicatechin**ROTICHRUM® Working Standard**

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥90,0 %

Identity..... complies

Traceable to a primary reference standard. With proof

of identity and batch specific certificate of analysis.

NC41.1 50 mg glass 223,10 €

(-)-Epicatechin**ROTICHRUM® HPLC**

Reference substance for HPLC

From *Acacia catechu*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... >99 %

1139.1 20 mg glass 192,45 €

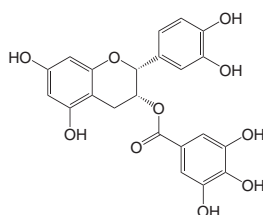
(-)-Epicatechin**ROTICHRUM® TLC**

Reference substance for thin layer

chromatography

Storage temp.: +4 °C

5798.1 50 mg glass 48,30 €

(-)-Epicatechin gallate**(-)-Epicatechin gallate****ROTICHRUM® HPLC**

Reference substance for HPLC

 $C_{22}H_{18}O_{10}$

M 442,36 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1257-08-5]

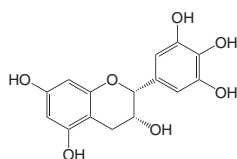
Type analysis:

Purity (HPLC)..... ≥98 %

6358.1 10 mg glass 263,40 €

(-)-Epicatechol

► (-)-Epicatechin see p. 1805

(-)-Epigallocatechin**(-)-Epigallocatechin****ROTICHRUM® HPLC**

Reference substance for HPLC

From *Camellia sinensis*. $C_{15}H_{14}O_7$

M 306,26 g/mol

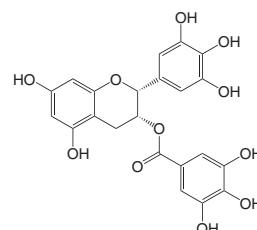
Storage temp.: +4 °C

[970-74-1]

Type analysis:

Purity (HPLC)..... ≥98 %

6359.1 10 mg glass 299,95 €

(-)-Epigallocatechin gallate**(-)-Epigallocatechin gallate****ROTICHRUM® HPLC**

Reference substance for HPLC

 $C_{22}H_{18}O_{11}$

M 458,36 g/mol

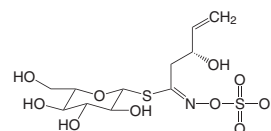
Storage temp.: +4 °C

[989-51-5]

Type analysis:

Purity (HPLC)..... ≥98 %

6361.1 10 mg glass 241,90 €

Epiprogoitrin**Epiprogoitrin****ROTICHRUM® HPLC**

Reference substance for HPLC

From *Crambe abyssinica*

(2S)-2-Hydroxybut-3-enylglucosinolate

 $C_{11}H_{18}KNO_{10}S_2$

M 427,48 g/mol

Storage temp.: +4 °C

[19237-18-4]

WGK 1

Type analysis:

Purity (HPLC)..... ≥97 %

2273.1 10 mg glass 246,20 €

Epon 812

► Glycidether 100 see p. 1860

1,8-Epoxy-p-menthane

► Eucalyptol see p. 1820

N-(trans-epoxysuccinyl)-L-leucine-4-guanidino-butylamide

► E-64 see p. 1796

Erbia

► Erbium(III) oxide see p. 1806

Erbium Standards

► Erbium ICP Standard Solution see p. 2170

► Erbium ICP Standard Solution see p. 2175

Erbium(III) oxide

Erbium(III) oxide**ROTI®REMATIC 99,9 %**

Erbium trioxide, Erbia

 Er_2O_3

M 382,52 g/mol

bp 3920 °C

mp 2344 °C

Solubility: insoluble (H_2O , 20 °C)

[12061-16-4] • EC No. 235-045-7

WGK 3

Type analysis:

Assay (TREO).....99,9 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

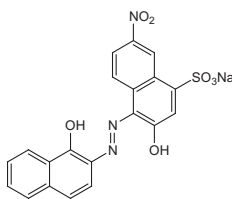
7160.1	5 g	plastic	22,40 €
7160.2	25 g	plastic	78,40 €

Erbium trioxide

► Erbium(III) oxide see p. 1806

Ericolin

► p-Arbutin see p. 1654

**Eriochrome® black T
(C.I. 14645)****Eriochrome® black T
(C.I. 14645)****Indicator 1 % in NaCl**

2-Hydroxy-1-(1-hydroxynaphthyl-2-azo)-6-nitronaphthalene 4-sulphonic acid monosodium salt

 $\text{C}_{20}\text{H}_{12}\text{N}_3\text{NaO}_7\text{S}$

M 461,38 g/mol

Solubility: 50 mg/l (H_2O , 20 °C)

[1787-61-7] • EC No. 217-250-3

WGK 1

EUH210

Type analysis:

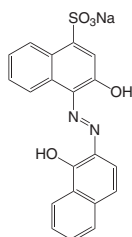
Suitability as indicator.....complies

Trituration of Eriochrome® black T with NaCl p.a.,

1:100 simply add to the solution that has to be titrated;

1-4 mg dye in 100 ml.

K860.2	25 g	plastic	18,20 €
K860.1	50 g	plastic	26,35 €
K860.3	100 g	plastic	49,35 €

**Eriochrome® blue black B
(C.I. 14640)****Eriochrome® blue black B
(C.I. 14640)****for complexometry**

Metal indicator

Mordant Black 3

 $\text{C}_{20}\text{H}_{14}\text{N}_2\text{O}_5\text{S}$

M 416,39 g/mol

[3564-14-5] • EC No. 222-639-6

WGK 2

⚠ Warning H319

Type analysis:

Appearance.....brown to black powder

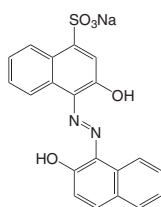
Appearance of solution (0,1 % in H_2O).....

.....opaque, dark purple

Absorption max. 528 nm (H_2O + 1 ml 1 M HCl).

.....complies

7661.1	5 g	glass	13,45 €
7661.2	25 g	glass	22,40 €
7661.3	100 g	glass	44,65 €

**Eriochrome® blue black R
(C.I. 15705)****Eriochrome® blue black R
(C.I. 15705)****for complexometry**

Metal indicator for Al, Fe, Zr, Cu, Ca

Mordant Black 17

 $\text{C}_{20}\text{H}_{13}\text{N}_2\text{O}_5\text{SNa}$

M 416,39 g/mol

Solubility: 20 g/l (H_2O , 20 °C)

[2538-85-4] • EC No. 219-810-2

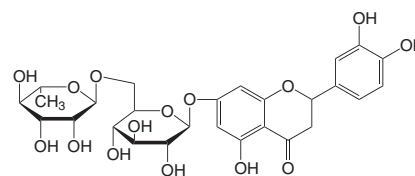
WGK 3

Type analysis:

Appearance.....dark brown to black powder

Solubility (water/ethanol).....complies

7663.1	5 g	glass	13,45 €
7663.2	25 g	glass	22,40 €
7663.3	100 g	glass	44,65 €

Eriocitrin

Eriodictyol-7-rutinoside

Storage temp.: +4 °C

[13463-28-0] • EC No. 236-668-7

WGK 3

Eriocitrin**ROTI®STAR Primary Standard****Type analysis:**

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤1,0 %

Water (KF).....≤10,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, MS, UV.

The certificate includes all results of analytical tests and validations.

NE42.1	10 mg	glass	478,40 €

Eriocitrin**ROTICHRM® Working Standard****Type analysis:**

Assay (HPLC).....≥85,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC42.1	25 mg	glass	240,80 €

Eriocitrin**ROTICHRM® HPLC**

Reference substance for HPLC

 $\text{C}_{27}\text{H}_{32}\text{O}_{15}$

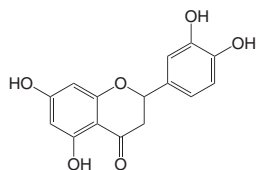
M 596,54 g/mol

Type analysis:

Purity (HPLC).....≥99 %

9327.2	10 mg	glass	256,95 €

Eriodictyol



3',4',5,7-Tetrahydroxyflavanone
 $C_{15}H_{12}O_6$
 M 288,27 g/mol
 mp 262-267 °C
 Storage temp.: +4 °C
 [552-58-9] • EC No. 209-016-4

Eriodictyol

>90 %

Type analysis:

Assay (HPLC).....>90 %

7453.1	500 mg	glass	360,15 €

Eriodictyol

ROTICHROM® HPLC

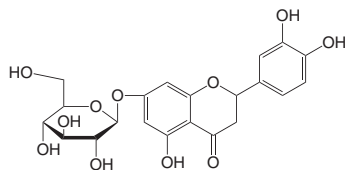
Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥99 %

6990.1	10 mg	glass	170,95 €

Eriodictyol-7-glucoside



Eriodictyol-7-glucoside

ROTICHROM® HPLC

Reference substance for HPLC

$C_{21}H_{22}O_{11}$
 M 450,41 g/mol
 Storage temp.: +4 °C
 [38965-51-4] • EC No. 254-225-6

Type analysis:

Purity (HPLC).....≥99 %

6521.1	10 mg	glass	252,65 €

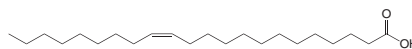
Eriodictyol-7-neohesperidoside

▶ Neoiriocitrin see p. 1983

Eriodictyol-7-rutinoside

▶ Eriocitrin see p. 1806

Erucic acid



cis-13-Docosenoic acid
 $C_{22}H_{42}O_2$
 M 338,55 g/mol
 D 0,86 • bp 358 °C (533 mbar)
 mp 31-33 °C • flp 113 °C
 Storage temp.: +4 °C
 [112-86-7] • EC No. 204-011-3
 WGK 1

⚠ Warning H315-H319-H335

Erucic acid

≥99 %

Type analysis:

Appearance.....white powder
 Assay (GC).....≥99,0 %
 Solubility (5 % in $CHCl_3$).....clear, colourless

7065.2	250 mg	glass	73,00 €

7065.1	1 g	glass	233,85 €

Erucic acid

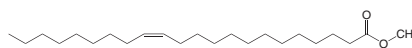
≥90 %

Type analysis:

Assay (C 22:1).....≥90 %
 Acid value (mg KOH/g).....163-168

9932.1	250 g	plastic	25,70 €

Erucic acid methyl ester



Erucic acid methyl ester

≥90 %

cis-13-Docosenoic acid methyl ester
 $C_{23}H_{44}O_2$
 M 352,61 g/mol
 D 0,87
 Storage temp.: +4 °C
 [1120-34-9] • EC No. 214-305-3
 UN No. 3272 • ADR 3 III • WGK 1

⚠ Warning H226

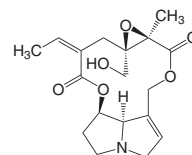
Type analysis:

Assay (GC).....≥90 %
 Specific density (20 °C).....0,8710-0,8750
 Refractive index n_D^{20} 1,4550-1,4580

9431.1	10 ml	glass	60,75 €

9431.2	50 ml	glass	235,45 €

(Z)-Erucifoline



(Z)-Erucifoline

ROTICHROM® HPLC

Reference substance for HPLC
 From *Senecio jacobea*

$C_{18}H_{23}NO_6$
 M 349,38 g/mol
 mp 185-190 °C

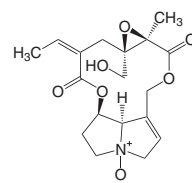
Storage temp.: +4 °C
 [40158-95-0] • WGK 3

Type analysis:

Purity (HPLC).....≥97,0 %

1657.1	5 mg	glass	284,90 €

(Z)-Erucifoline N-oxide



(Z)-Erucifoline N-oxide

ROTICHROM® HPLC

Reference substance for HPLC
 From *Senecio jacobea*

$C_{18}H_{23}NO_7$
 M 356,38 g/mol

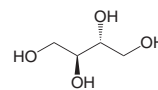
Storage temp.: +4 °C • WGK 3

Type analysis:

Purity (HPLC).....≥97,0 %

1664.1	5 mg	glass	306,40 €

meso-Erythritol



meso-Erythritol

for biochemistry

meso-Erythritol

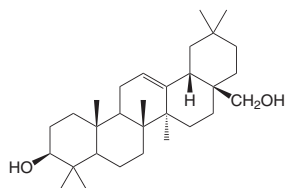
$C_4H_{10}O_4$
 M 122,12 g/mol
 bp 330 °C
 mp 120 °C • flp 117-121 °C
 [149-32-6] • EC No. 205-737-3

Type analysis:

Appearance.....white to almost white powder
 Solution (10 % in H_2O).....clear, colourless
 Water (KF).....≤2,0 %
 Melting point.....117-121 °C
 Ash content.....≤0,1 %

6241.1	25 g	plastic	97,75 €

Erythrodiol



Erythrodiol

ROTICHROM® HPLC

Reference substance for HPLC

$C_{30}H_{50}O_2$

M 442,68 g/mol

mp 229-237 °C

Storage temp.: +4 °C

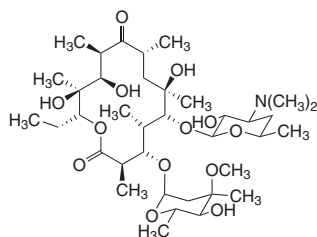
[545-48-2] • EC No. 208-890-4

Type analysis:

Purity (HPLC)..... ≥98 %

7455.1	10 mg	plastic	196,20 €

Erythromycin



Erythromycin

≥93 %, for biochemistry

Macrolide antibiotic

$C_{37}H_{67}NO_{13}$

M 733,95 g/mol

Storage temp.: +4 °C

[114-07-8] • EC No. 204-040-1

WGK 1

Type analysis:

Assay (HPLC)..... ≥93,0 %

Solution (5 % in ethanol 96 %). colourless to light yellowish

Water (KF). ≤6,5 %

Specific rotation $[\alpha]_D^{20}$ (c=2 in ethanol, after 30 min). -78° to -71°

Sulphated ash..... ≤0,2 %

Thiocyanate (SCN). ≤0,3 %

4166.1	5 g	glass	26,80 €

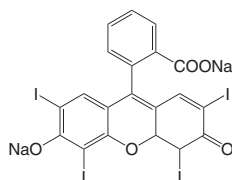
4166.2	10 g	glass	43,75 €

For further information, please see page 1365

Erythrosine Bluish

► Erythrosine B (C.I. 45430) see p. 1808

Erythrosine B (C.I. 45430)



Erythrosine B (C.I. 45430)

for microscopy

Tetraiodine fluorescein disodium salt, Iodine

eosin, Erythrosine bluish, Acid Red 51

$C_{20}H_6I_4Na_2O_5$

M 879,84 g/mol

Solubility: 100 g/l (H_2O , 20 °C)

[16423-68-0] • EC No. 240-474-8

WGK 2

Warning H302

Type analysis:

Maximum absorption..... 520-527 nm

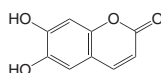
Specific extinction E 1 %/1 cm. >850

Loss on drying (110 °C)..... ≤10 %

0331.1	25 g	plastic	41,85 €

For further information, please see page 1405

Esculetin



Esculetin

≥98 %, for biochemistry

6,7-Dihydroxycoumarin

$C_9H_6O_4$

M 178,14 g/mol

mp ~269 °C (dec.)

[305-01-1] • EC No. 206-161-5

Warning H315-H319-H335

Type analysis:

Assay (titr.)..... ≥98,0 %

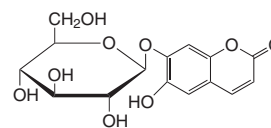
Melting point (dec.)..... 268-274 °C

8690.1	1 g	glass	22,40 €

Esculetin dimethyl ether

► Scoparone see p. 2122

Esculin sesquihydrate



Esculin sesquihydrate

≥97,5 %, DAB, for biochemistry

6,7-Dihydroxycoumarin-6-glycoside

$C_{15}H_{16}O_9 \cdot 1,5 H_2O$

M 367,31 g/mol

mp 193-210 °C

[66778-17-4] • EC No. 208-517-5

WGK 2

Guarantee analysis:

Appearance..... white powder

Assay (HPLC)..... ≥97,5 %

Identity..... complies

pH value (1 % in H_2O)..... 3,8-4,5

Water (KF)..... 6,5-8,0 %

Sulphated ash..... ≤0,1 %

Heavy metals (as Pb)..... ≤0,002 %

Specific rotation $[\alpha]_D^{20}$ (1,5 % dioxane/ H_2O 1:1, dry substance)..... -87° to -84°

Related substances..... complies

8704.1	5 g	glass	19,25 €

Essential Oils

Art. No.	Description	Page
4501	Hypericon oil, extra pure	1895
9404	Hypericon oil, pure	1895
6609	Laurel oil, essential, natural	1924
3314	Laurel oil, artificial	1924
3364	Musk oil, artificial	1978
6587	Oil of angelica roots, hungarian, natural	2000
7036	Oil of anise, natural	2000
3278	Oil of anise, artificial	2000
6507	Oil of balm, natural	2001
7039	Oil of basil, natural	2001
6501	Oil of bergamot, natural	2001
3282	Oil of bergamot, artificial	2001
6105	Oil of cajeput, natural	2001
3357	Oil of camphor, light	2001
7050	Oil of caraway, natural	2001
3307	Oil of caraway, artificial	2001
6593	Oil of cassia, natural, chinese	2001
6594	Oil of cedar leaf, pure	2002
3291	Oil of cedar leaf, artificial	2002
5308	Oil of cedar wood, for microscopy	2002
7040	Oil of celery, Oleum Apii, from seeds	2002
4208	Oil of cembra pine, pure	2002
6504	Oil of chamomile, blue	2002
3354	Oil of chamomile, roman, natural	2002
3305	Oil of chamomile, artificial	2002
A432	Oil of cinnamon, natural	2002
6512	Oil of cinnamon, artificial	2003
6502	Oil of citronella, natural	2003
3292	Oil of citronella, artificial	2003
3355	Oil of clary-sage, natural	2003
8662	Oil of cloves, DAB, natural	2003
7052	Oil of coriander, natural	2003
6608	Oil of cubeb, natural	2003
6596	Oil of cypress, french, natural	2003
6597	Oil of dill herb, natural	2003
3352	Oil of dill seed, extra pure	2004
6602	Oil of estragon, pure	2004

5337	Oil of eucalyptus	2004
3297	Oil of eucalyptus, artificial	2004
3299	Oil of fennel, artificial	2004
3301	Oil of fir needles, artificial	2004
3300	Oil of fir needles, siberian, artificial	2004
7075	Oil of gardensage, natural, Dalmat.	2004
3540	Oil of garlic, natural	2005
7054	Oil of geranium, natural	2005
3304	Oil of geranium, artificial	2005
6718	Oil of grapefruit, natural	2005
7059	Oil of juniper, pure	2005
7057	Oil of juniper wood, natural	2005
6603	Oil of lavandin, french	2005
5443	Oil of lavender	2005
3367	Oil of lavender, artificial	2005
3797	Oil of lemon, italian	2005
5213	Oil of lemon, natural	2006
3346	Oil of lemon, artificial	2006
6625	Oil of lemon, low in terpenes	2006
6606	Oil of lemon-grass, natural purity	2006
6721	Oil of lime, natural	2006
6607	Oil of lovage, pure	2006
3796	Oil of mandarin, italian	2006
6730	Oil of mint, China, raw	2006
6731	Oil of mint, Japan, natural	2006
6732	Oil of mint, rectified twice	2006
3310	Oil of mountain pine, artificial	2007
6610	Oil of niaouli, natural	2007
7064	Oil of nutmeg, volatile	2007
6509	Oil of orange, bitter, italian	2007
3803	Oil of orange, Brazil	2007
6728	Oil of orange, Florida	2007
6611	Oil of orange, sweet, natural	2007
7070	Oil of orange flowers, natural	2007
3323	Oil of orange flowers, artificial	2007
6613	Oil of palmarosa, east indian	2008
7072	Oil of parsley, french	2008
6511	Oil of patchouli, artificial	2008
6616	Oil of pepper, natural	2008
9318	Oil of peppermint, pure	2008
7063	Oil of peppermint italian, pure	2008
3777	Oil of peppermint Kennewick, USA, natural	2008
3329	Oil of peppermint, artificial	2008
6614	Oil of petitgrain, south american	2009
5733	Oil of rose, bulgarian, natural	2009
4092	Oil of rose, artificial	2009
6514	Oil of rosemary, spanish	2009
3764	Oil of rosemary, morrocan	2009
3336	Oil of rosemary, artificial	2009
3275	Oil of rose-wood, nature identical	2009
6620	Oil of sandal-wood, west indian	2009
3341	Oil of sandal-wood, artificial	2009
7073	Oil of Scotch pine needles, natural	2010
3306	Oil of Scotch pine needles, artificial	2010
3295	Oil of silver fir, artificial	2010
6598	Oil of silver fir cones, natural	2010
3353	Oil of silver fir needles, natural	2010
6612	Oil of Spanish marjoram, natural	2008
7079	Oil of spike, natural pure	2010
7081	Oil of tansy, pure	2010
K032	Oil of tea tree, australian, natural	2010
5000	Oil of thyme, natural	2011
6513	Oil of thyme, natural/nature-identical	2011
6588	Oil of valerian, polish	2011
3279	Oil of valerian, artificial	2011
6622	Oil of vetiver, natural	2011
7053	Oil of wintergreen, artificial	2011
6909	Oil of wormwood, natural	2011
6624	Oil of ylang-ylang, Comoren, natural	2012
3343	Oil of ylang-ylang, artificial	2012

Estragole

► Methylchavicol see p. 1966

Ethanal

► Acetaldehyde see p. 1597

Ethanedial

► Glyoxal see p. 1862

1,2-Ethanediamine

► Ethylenediamine see p. 1814

1,2-Ethanediol

► Ethylene glycol see p. 1817

Ethanedioic acid

► Oxalic acid dihydrate see p. 2016

Ethanoic acid

- Acetic acid Ultra-quality see p. 1597
- Acetic acid Supra-quality see p. 1598
- Acetic acid 100 % see p. 1598
- Acetic acid 96 % see p. 1598
- Acetic acid 80 % see p. 1599
- Acetic acid 60 % see p. 1599
- Acetic acid 25 % see p. 1599
- Acetic acid 10 % see p. 1599
- Acetic acid D4 see p. 1599

Ethanol absolut

Ethyl alcohol

C_2H_6O

M 46,07 g/mol

D 0,79 • bp 78 °C

mp -114,5 °C • flp 13 °C

[64-17-5] • EC No. 200-578-6

UN No. 1170 • ADR 3 II • WGK 1

⚠ ⚠ Danger H225-H319

Ethanol

ROTISOLV® HPLC Gradient Grade

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,1 %
Free acid.....	≤0,002 %
Free alkali.....	≤0,0005 %
Non volatile matter.....	≤0,0002 %
Transmission:	
260 nm.....	≥98 %
240 nm.....	≥85 %
225 nm.....	≥60 %
Gradient test:	
UV absorption of the greatest eluted peak	
235 nm.....	≤5 mAU
254 nm.....	≤2 mAU
Filtered through 0,2 µm membrane and filled under protective gas.	
Prices include german tax on alcohol.	

P076.1	1 l	glass	86,55 €
Original pack 6 x 1 l			82,22/1 l
P076.2	2,5 l	glass	177,40 €
Original pack 4 x 2,5 l			168,53/2,5 l

For further information, please see page 1515

Ethanol

ROTIPURAN® ≥99,8 %, p.a.

Guarantee analysis:

Assay.....	≥99,8 %
Identity.....	complies
Water.....	≤0,2 %
Solubility.....	clear, colourless
Density (d 20 °C/20 °C).....	0,790-0,793
Acetaldehyde and acetal.....	≤0,001 %
Acid or alkaline react. substances.....	≤0,003 %
Evaporation residue.....	≤0,0025 %
Benzene.....	≤0,0002 %
Methanol.....	≤0,01 %
Sum of other impurities.....	≤0,03 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %
Tin (Sn).....	≤0,00001 %
Prices include german tax on alcohol.	

9065.1	1 l	glass	76,25 €
Original pack 6 x 1 l			72,44/1 l
9065.3	1 l	plastic	75,15 €
Original pack 6 x 1 l			71,39/1 l
9065.2	2,5 l	glass	153,65 €
Original pack 4 x 2,5 l			145,97/2,5 l
9065.4	2,5 l	plastic	151,50 €
Original pack 4 x 2,5 l			143,93/2,5 l
9065.5	5 l	plastic	274,15 €
Original pack 2 x 5 l			260,44/5 l
9065.6	25 l	tinplate	956,75 €

Ethanol

≥99,5 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (V/V).....	≥99,5 %
Properties.....	complies
Identity.....	complies
Appearance.....	clear, colorless
Acid or alkaline react. substances.....	complies
Density (d 20 °C/20 °C).....	0,790-0,793
Absorption:	
240 nm.....	≤0,4
250-260 nm.....	≤0,3
270-340 nm.....	≤0,1
Volatile impurities:	
Acetaldehyde and acetal.....	≤0,001 %
Benzene.....	≤0,0002 %
Methanol.....	≤0,01 %
Evaporation residue.....	≤0,0025 %
Sum of other impurities.....	≤0,03 %
Disregard limit.....	≤0,0009 %
Prices include german tax on alcohol.	

5054.1	1 l	glass	68,30 €
Original pack 6 x 1 l			64,89/1 l
5054.3	1 l	plastic	67,20 €
Original pack 6 x 1 l			63,84/1 l
5054.2	2,5 l	glass	140,75 €
Original pack 4 x 2,5 l			133,71/2,5 l
5054.4	2,5 l	plastic	139,25 €
Original pack 4 x 2,5 l			132,29/2,5 l
5054.5	5 l	plastic	268,25 €
Original pack 2 x 5 l			254,84/5 l
5054.6	25 l	tinplate	912,70 €

Ethanol denatured

≥99,8 %, with ~1 % MEK

Universal alcoholic solvent for laboratory use and histology.

Type analysis:

Appearance.....clear, colourless liquid
Assay (EtOH).....≥99,8 %
Methyl ethyl ketone (MEK).....~1 %
Water.....≤0,2 %
Aldehyde content (as acetaldehyde).....≤0,003 %
Acid content (as CH₃COOH).....≤0,001 %
Sum of other impurities.....≤0,03 %
Methanol.....≤0,1 %
Evaporation residue.....≤0,003 %
Denatured ethanol with 1 % MEK from Roth is an economical and a relatively safe quality universal solvent which is ideal for many typical laboratory operations: It is excellent for extracting, as a flow and elution agent in chromatography, for dehydrating in histology. Denatured ethanol with 1 % MEK can be mixed with water.

K928.5	1 l	plastic	12,40 €
Original pack 6 x 1 l			11,78/1 l
K928.1	2,5 l	glass	26,80 €
Original pack 4 x 2,5 l			25,46/2,5 l
K928.3	2,5 l	plastic	25,30 €
Original pack 4 x 2,5 l			24,04/2,5 l
K928.4	5 l	plastic	45,05 €
Original pack 2 x 5 l			42,80/5 l
K928.6	10 l	tinplate	77,95 €
K928.2	25 l	tinplate	150,40 €

Ethanol 96 % from controlled organic cultivation

► Bioethanol 96 % see p. 1676

Ethanol 96 %

Ethyl alcohol
C₂H₆O
M 46,07 g/mol
D 0,81 • bp 78 °C
mp -114,5 °C • flp 17 °C
[64-17-5] • EC No. 200-578-6
UN No. 1170 • ADR 3 II • WGK 1
  **Danger** H225-H319

Ethanol 96 %

96 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (V/V).....95,1-96,9 %
Properties.....complies
Identity.....complies
Appearance.....complies
Acid or alkaline react. substances.....complies
Density (d 20 °C/20 °C).....0,805-0,812
Absorption:
240 nm.....≤0,4
250-260 nm.....≤0,3
270-340 nm.....≤0,1
Volatile impurities:
Acetaldehyde and acetal.....≤0,001 %
Benzene.....≤0,0002 %
Methanol.....≤0,01 %
Evaporation residue.....≤0,0025 %
Sum of other impurities.....≤0,03 %
Disregard limit.....≤0,0009 %
Prices include german tax on alcohol.

P075.1	1 l	glass	66,55 €
Original pack 6 x 1 l			63,22/1 l
P075.3	1 l	plastic	65,50 €
Original pack 6 x 1 l			62,23/1 l
P075.2	2,5 l	glass	140,75 €
Original pack 4 x 2,5 l			133,71/2,5 l
P075.4	2,5 l	plastic	138,60 €
Original pack 4 x 2,5 l			131,67/2,5 l
P075.5	5 l	plastic	263,40 €
Original pack 2 x 5 l			250,23/5 l

Ethanol 96 % denatured

≥96 %, with 1 % MEK

Universal alcoholic solvent for laboratory use and histology.

Type analysis:

Assay (V/V).....≥96 %
Methyl ethyl ketone (MEK).....~1 %
Aldehydes (as acetaldehyde).....≤0,03 %
Acid content (as CH₃COOH).....≤0,1 %
Sum of other impurities.....≤0,03 %
Methanol (GC).....≤0,1 %
Evaporation residue.....≤0,003 %

T171.5	1 l	plastic	11,30 €
Original pack 6 x 1 l			10,74/1 l
T171.1	2,5 l	glass	22,50 €
Original pack 4 x 2,5 l			21,38/2,5 l
T171.3	2,5 l	plastic	20,35 €
Original pack 4 x 2,5 l			19,33/2,5 l
T171.4	5 l	plastic	38,60 €
Original pack 2 x 5 l			36,67/5 l
T171.2	25 l	tinplate	114,50 €

Ethanol 80 %

Ethanol 80 % denatured

≥80 %, with approx. 1 % MEK

C₂H₆O
M 46,07 g/mol
D 0,86 • bp 78 °C
flp 22 °C
[64-17-5] • EC No. 200-578-6
UN No. 1170 • ADR 3 II • WGK 1
  **Danger** H225-H319

Type analysis:

Assay (V/V).....≥80 %
Methyl ethyl ketone (MEK).....~1 %
Water.....~20 %
Aldehydes (as acetaldehyde).....≤0,003 %
Acid content (as CH₃COOH).....≤0,001 %
Sum of other impurities.....≤0,03 %
Methanol (GC).....≤0,1 %
Evaporation residue.....≤0,003 %

9474.1	1 l	plastic	11,00 €
Original pack 6 x 1 l			10,45/1 l
9474.2	2,5 l	plastic	19,90 €
Original pack 4 x 2,5 l			18,91/2,5 l
9474.3	5 l	plastic	37,55 €
Original pack 2 x 5 l			35,67/5 l
9474.4	10 l	plastic	64,40 €
9474.5	25 l	plastic	110,20 €

Ethanol 70 %

Ethyl alcohol

C₂H₆O

M 46,07 g/mol

D 0,88 • bp ~78 °C

flp 22 °C

[64-17-5] • EC No. 200-578-6

UN No. 1170 • ADR 3 II • WGK 1

  **Danger** H225-H319

Ethanol 70 %

ROTIPURAN® ≥70 %, p.a.

Guarantee analysis:

Assay (V/V).....≥70 %
Water.....~30 %
Aldehydes (as acetaldehyde).....≤0,001 %
Acid or alkaline react. substances.....≤0,003 %
Methanol (GC).....≤0,01 %
Evaporation residue.....≤0,003 %
Prices include german tax on alcohol.

T868.1	1 l	plastic	51,50 €
Original pack 6 x 1 l			48,93/1 l
T868.2	2,5 l	plastic	114,50 €
Original pack 4 x 2,5 l			108,78/2,5 l
T868.3	5 l	plastic	218,80 €
Original pack 2 x 5 l			207,86/5 l

Ethanol 70 %

DAB

Guarantee analysis:

Appearance.....clear, colourless solution
Assay (V/V).....69,2-70,8 %
Identity.....complies
Relative density (20 °C).....0,885-0,889
Prices include german tax on alcohol.

7301.1	500 ml	glass	31,10 €

Ethanol 70 % denatured

≥70 %, with approx. 1 % MEK

Universal alcoholic solvent for laboratory use and histology.

Type analysis:

Assay (V/V).....≥70 %
Methyl ethyl ketone (MEK).....~1 %
Water.....~30 %
Aldehydes (as acetaldehyde).....≤0,003 %
Acid content (as CH₃COOH).....≤0,001 %
Sum of other impurities.....≤0,03 %
Methanol (GC).....≤0,1 %
Evaporation residue.....≤0,003 %

T913.1	1 l	plastic	10,90 €
Original pack 6 x 1 l			10,36/1 l
T913.2	2,5 l	plastic	19,25 €
Original pack 4 x 2,5 l			18,29/2,5 l
T913.3	5 l	plastic	32,60 €
Original pack 2 x 5 l			30,97/5 l

Ethanol denatured

- Bioethanol 96 % denatured see p. 1676
- Ethanol 96 % denatured see p. 1810
- Ethanol 80 % denatured see p. 1810
- Ethanol 70 % denatured see p. 1810
- Rotisol® see p. 2111

Ethanol D1

Ethanol D1

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

C₂H₅DO

M 47,08 g/mol

D 0,80 • bp 78 °C

mp -130 °C • flp 12 °C

[925-93-9] • EC No. 213-128-9

UN No. 1170 • ADR 3 II • WGK 1

 **Danger** H225-H319

Guarantee analysis:

Deuterising degree. ≥99,5 %
Water (KF, H₂O+D₂O). ≤0,5 %

HN84.1	50 ml	glass	115,60 €

Ethanol D6

Ethanol D6

99 Atom%D

For nuclear magnetic resonance spectroscopy.

Hexadeuteroethanol

C₂D₆O

M 52,11 g/mol

D 0,89 • bp 78 °C

mp -114,5 °C • flp 11 °C

Solubility: ~1000 g/l (H₂O, 20 °C)

[1516-08-1] • EC No. 216-162-2

UN No. 1170 • ADR 3 II • WGK 1

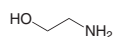
 **Danger** H225-H319

Guarantee analysis:

Deuterising degree. ≥99 %
Water (KF, H₂O+D₂O). ≤1,0 %

CP93.1	5 ml	glass	160,10 €

Ethanolamine



2-Aminoethanol, Colamine, Monoethanolamine

C₂H₇NO

M 61,08 g/mol

D ~1,02 • bp 171 °C

mp 10,5 °C • flp 92-93 °C

[141-43-5] • EC No. 205-483-3

UN No. 2491 • ADR 8 III • WGK 1

 **Danger**

H314-H302+H312+H332-H335

Ethanolamine

ROTIPURAN® ≥99,5 %, p.a.

For biochemistry.

Guarantee analysis:

Assay (GC). ≥99,5 %
Colour (APHA). ≤20
Water. ≤0,3 %
Diethanolamine (GC). ≤0,3 %
Triethanol amine (GC). ≤0,1 %
Calcium (Ca). ≤0,00005 %
Cadmium (Cd). ≤0,000005 %
Cobalt (Co). ≤0,000002 %
Chromium (Cr). ≤0,000002 %
Copper (Cu). ≤0,00001 %
Iron (Fe). ≤0,00005 %

Magnesium (Mg). ≤0,0005 %
Manganese (Mn). ≤0,000005 %
Nickel (Ni). ≤0,00005 %
Lead (Pb). ≤0,00001 %
Zinc (Zn). ≤0,0005 %

0342.1	500 ml	glass	21,00 €

0342.2	1 l	glass	31,10 €

Original pack 6 x 1 l 29,55/1 l

Ethanolamine

≥99 %, for synthesis

Type analysis:

Assay (GC). ≥99 %
Water. ≤0,3 %

4376.1	100 ml	plastic	11,00 €

4376.2	500 ml	plastic	17,95 €

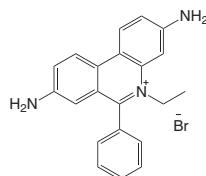
4376.3	1 l	plastic	27,10 €

Original pack 6 x 1 l 25,75/1 l

Ether

► Diethyl ether see p. 1774

Ethidium bromide



Ethidium bromide

≥98 %

For DNA-staining.

Homidium bromide, 3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide

C₂₁H₂₀BrN₃

M 394,33 g/mol

D 1,01

mp 261-264 °C • flp >100 °C

Solubility: 40 g/l (H₂O, 25 °C)

Storage temp.: +20 °C

[1239-45-8] • EC No. 214-984-6

UN No. 2811 • ADR 6.1 I • WGK 2

 **Danger** H330-H341-H302

Type analysis:

Appearance. red, cryst. powder
Assay. ≥98,0 %
Solubility (in H₂O). clear, red
pH value (2 % in H₂O). 4,0-7,0
Loss on drying. ≤10,0 %

7870.1	1 g	glass	21,40 €

7870.2	5 g	glass	83,75 €

For further information, please see page 1144

Ethidiumbromide absorber bags

► Sekuroka® Decon-Bags see p. 2123

Ethidium bromide solution
0,025 % in dropper bottleEthidium bromide solution
0,025 % in dropper bottle

aqueous solution (250 µg/ml)

For staining of DNA or RNA in agarose gels during electrophoresis.

HP47.1	15 ml	plastic	27,85 €

HP47.2	5 x 15 ml	plastic	99,45 €

For further information, please see page 1144

Ethidium bromide solution
0,5 % in dropper bottleEthidium bromide solution
0,5 % in dropper bottle

aqueous solution (5 mg/ml)

For counterstaining of nuclei in histology and cytology.

For staining of DNA/RNA after electrophoresis.

WGK 1

 **Warning** H332

HP46.1	15 ml	plastic	27,85 €

HP46.2	5 x 15 ml	plastic	99,45 €

For further information, please see page 1144 1406 1144 1406

Ethidium bromide solution 1 %

Ethidium bromide solution 1 %

1 % solution in water (10 mg/ml)

Homidium bromide, 3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide

D 1,0 • bp 100 °C

mp 0 °C

[1239-45-8] • EC No. 214-984-6

UN No. 2810 • ADR 6.1 III • WGK 2

 **Warning** H332-H341

2218.1	10 ml	glass	9,90 €

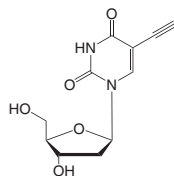
2218.4	15 ml	dropp. bottle	27,85 €

2218.2	30 ml	glass	21,00 €

2218.3	100 ml	glass	51,10 €

For further information, please see page 1144

5-Ethynyl-2'-deoxyuridine (EdU)



5-Ethynyl-2'-deoxyuridine (EdU)

≥99 %

EdU

C₁₁H₁₂N₂O₅

M 252,23 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[61135-33-9]

WGK 3

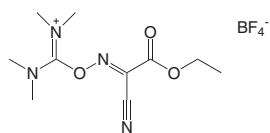
Danger H340-H360

Type analysis:

Appearance: white to off-white solid
Assay (HPLC): ≥99 %

7845.1	5 mg	plastic	25,30 €
7845.2	10 mg	plastic	38,60 €
7845.3	50 mg	plastic	88,70 €
7845.4	100 mg	plastic	144,60 €
7845.5	500 mg	plastic	593,40 €
7845.6	1 g	plastic	929,90 €

O-[(Ethoxycarbonyl)-cyanomethylenamino]-N,N,N',N'-tetramethyluronium tetrafluoroborate (TOTU)



O-[(Ethoxycarbonyl)-cyanomethylenamino]-N,N,N',N'-tetramethyluronium tetrafluoroborate (TOTU)

≥99 %

Coupling reagent for peptide synthesis

TOTU

C₁₀H₁₇BF₄N₄O₃

M 328,08 g/mol

mp 143-146 °C

[136849-72-4]

WGK 1

Warning H302-H315-H319-H335

Type analysis:

Assay (HPLC): ≥99,0 %
Water (KF): ≤0,2 %
Solubility (10 % in ACN): clearly soluble
Solubility (10 % in DMF): clearly soluble

2125.1	5 g	glass	27,85 €
2125.2	25 g	glass	88,05 €
2125.3	100 g	glass	321,45 €

2-Ethoxyethanol



2-Ethoxyethanol

≥99 %, for synthesis

Ethylene glycol monoethyl ether

C₄H₁₀O₂

M 90,12 g/mol

D 0,93 • bp 135 °C

mp -100 °C • flp 40 °C

[110-80-5] • EC No. 203-804-1

UN No. 1171 • ADR 3 III • WGK 2

Danger

H226-H302-H331-H360FD

Type analysis:

Assay: ≥99 %
Density (20 °C): 0,930-0,934
Water: ≤0,2 %

5127.3	1 l	glass	25,30 €
Original pack 6 x 1 l			24,04/1 l
5127.1	2,5 l	glass	50,00 €
Original pack 4 x 2,5 l			47,50/2,5 l
5127.2	10 l	tinplate	146,10 €

2-(2-Ethoxyethoxy)ethanol

► Diethylene glycol monoethyl ether
see p. 1774

3-Ethoxy-4-hydroxy-benzaldehyde

► Ethyl vanillin see p. 1820

N-(4-Ethoxyphenyl)acetamide

► Phenacetin see p. 2033

Ethyl acetate

► Acetic acid ethyl ester see p. 1601

Ethyl acetoacetate

► Acetoacetic acid ethyl ester see p. 1604

Ethyl alcohol

- Ethanol absolut see p. 1809
- Ethanol 96 % see p. 1810
- Ethanol 80 % see p. 1810
- Ethanol 70 % see p. 1810
- Bioethanol 96 % see p. 1676

Ethylamine hydrochloride



Ethylamine hydrochloride

≥98 %, for biochemistry

Ethylammonium chloride

C₂H₇N • HCl

M 81,55 g/mol

mp 110-115 °C

[557-66-4] • EC No. 209-182-8

WGK 1

Warning H315-H319-H335

Type analysis:

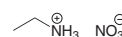
Assay: ≥98,0 %
Appearance: colourless crystals
Melting point: 95-100 °C

9745.2	25 g	plastic	12,80 €
9745.3	100 g	plastic	30,00 €
9745.1	500 g	plastic	100,95 €
Original pack 6 x 500 g			95,90/500 g

Ethyl ammoniumchloride

► Ethylamine hydrochloride see p. 1812

Ethylammonium-nitrate (EAN)



Ethylammonium-nitrate (EAN)

≥97 %

Ionic liquid

EAN

C₂H₅N₂O₃

M 108,10 g/mol

D 1,209

mp 9 °C

[22113-86-6]

WGK 3

Warning H315-H319-H335

Type analysis:

Appearance: yellowish liquid
Assay: ≥97 %
Water (KF): ≤2 %

2035.1	25 g	glass	147,85 €
2035.2	100 g	glass	327,90 €

Lit.: "Ethylammonium nitrate: a protein crystallization reagent" J. A. Garlitz, C. A. Summers, R. A. Flowers II, G. E. O. Borgstahl, *Acta Cryst.* **1999**, D55, 2037-2038.
For further information, please see page 1459

Ethyl amyl carbinol

► 1-Octanol see p. 1999

Ethyl-n-amyl ketone

► 3-Octanone see p. 1999

Ethylbenzene



Ethylbenzene

ROTICHROM® GC

Reference substance for GC

C₈H₁₀

M 106,17 g/mol

D 0,867 • bp 136 °C

mp -95 °C • flp +15 °C

Storage temp.: +4 °C

[100-41-4] • EC No. 202-849-4

UN No. 1175 • ADR 3 II • WGK 1

Danger H225-H332-H373-H304

Type analysis:

Purity (GC).....≥98,5 %

4904.1	1 g	glass	34,30 €

Ethyl benzoate

► Benzoic acid ethyl ester see p. 1670

Ethyl bromide

► Bromoethane see p. 1691

Ethyl caprate

► Capric acid ethyl ester see p. 1712

Ethyl carbonate

► Diethyl carbonate see p. 1773

Ethyl cellulose

[9004-57-3]

WGK 1

Ethyl cellulose

~45 cP, extra pure

Type analysis:

Viscosity.....41,0-49,0 cP

Ethoxyl assay.....48,0-49,5 %

Loss on drying.....≤2,0 %

5023.1	250 g	plastic	38,20 €

5023.3	500 g	plastic	65,50 €

Original pack 6 x 500 g 62,23/500 g

5023.4	1 kg	plastic	117,20 €

Original pack 6 x 1 kg 111,34/1 kg

5023.2	2,5 kg	plastic	271,45 €

Ethyl cellulose

~200 cP, extra pure

Type analysis:

Viscosity.....180-220 cP

Ethoxyl assay.....48,0-49,5 %

Chloride (as NaCl).....≤0,15 %

Loss on drying.....≤2,0 %

9128.1	250 g	plastic	38,20 €

9128.3	500 g	plastic	65,50 €

Original pack 6 x 500 g 62,23/500 g

9128.4	1 kg	plastic	117,20 €

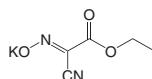
Original pack 6 x 1 kg 111,34/1 kg

9128.2	2,5 kg	plastic	271,45 €

Ethyl cinnamate

► Cinnamic acid ethyl ester see p. 1737

Ethyl cyanoglyxylate-2-oxyme potassium salt (K-Oxyma)



Ethyl cyanoglyxylate-2-oxyme potassium salt (K-Oxyma)

≥99 %

Coupling reagent for peptide synthesis

K-Oxyma

C₅H₅KN₂O₃

M 180,2 g/mol

mp 145-155 °C

Storage temp.: +4 °C

[158014-03-0]

WGK 3

Type analysis:

Appearance.....bright yellow powder

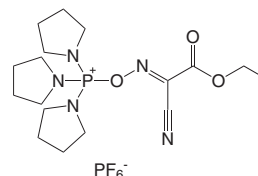
Assay (HPLC).....≥99 %

Water (KF).....≤1,0 %

6891.1	25 g	glass	26,55 €

6891.2	50 g	glass	44,00 €

6891.3	250 g	glass	174,70 €

(Ethylcyano(hydroxyimino)-acetato-O²)tri-1-pyrrolidinyolphosphonium hexafluorophosphate (PyOxim)(Ethylcyano(hydroxyimino)-acetato-O²)tri-1-pyrrolidinyolphosphonium hexafluorophosphate (PyOxim)

≥99 %

Coupling reagent for peptide synthesis

PyOxim

C₁₇H₂₉F₆N₅O₃P₂

M 527,38 g/mol

mp 167-172 °C

Storage temp.: +4 °C

[153433-21-7]

EUH044

Type analysis:

Assay (HPLC).....≥99,0 %

Loss on drying.....≤0,5 %

2120.1	5 g	plastic	25,50 €

2120.2	25 g	plastic	79,45 €

2120.3	100 g	plastic	278,45 €

2120.5	1 kg	glass	1816,75 €

Original pack 6 x 1 kg 1725,91/1 kg

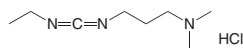
Ethylidiglycol

► Diethylene glycol monoethyl ether see p. 1774

N-Ethylidiisopropylamine

► N,N-Diisopropylethylamine (DIPEA) see p. 1780

1-Ethyl-3-(3-dimethylamino-propyl)carbodiimide hydrochloride (EDC-HCl)



1-Ethyl-3-(3-dimethylamino-propyl)carbodiimide hydrochloride (EDC-HCl)

≥99 %

Coupling reagent for peptide synthesis
EDC-HCl, EDAC hydrochloride,
N-(3-Dimethylaminopropyl)-
N'-ethylcarbodiimide hydrochloride

C₈H₁₇N₃ · HCl

M 191,7 g/mol

mp 110-115 °C

Solubility: soluble (H₂O, 20 °C)

Storage temp.: -20 °C

Transport temp.: room temp.

[25952-53-8] • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.): ≥99,0 %
Water (KF): ≤0,5 %

2156.1	5 g	glass	18,85 €
2156.2	25 g	glass	50,00 €
2156.3	100 g	glass	143,55 €

Ethylenediamine tetraacetic acid disodium salt solution

▶ EDTA disodium salt solution (0,1 N)
see p. 1799

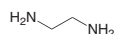
N-Ethyleneamine

▶ Diethylamine see p. 1773

Ethylene chloride

▶ 1,2-Dichloroethane see p. 1770

Ethylenediamine



1,2-Ethanediamine, 1,2-Diaminoethane

C₂H₈N₂

M 60,10 g/mol

D 0,90 • bp 116 °C

mp 11 °C • flp 38 °C

[107-15-3] • EC No. 203-468-6

UN No. 1604 • ADR 8 (3) II • WGK 2

⚠ ⚠ ⚠ ⚠ Danger

H334-H314-H226-H302-H312-H317

Ethylenediamine

ROTIPURAN® ≥99,5 %, p.a., anhydrous

Guarantee analysis:

Appearance: clear, colourless liquid
Assay (GC): ≥99,5 %
Water: ≤0,5 %
Lead (Pb): ≤0,0001 %
Cadmium (Cd): ≤0,0001 %
Calcium (Ca): ≤0,0005 %
Cobalt (Co): ≤0,0001 %

Chromium (Cr): ≤0,0001 %
Iron (Fe): ≤0,0001 %
Potassium (K): ≤0,002 %
Copper (Cu): ≤0,0001 %
Magnesium (Mg): ≤0,0001 %
Manganese (Mn): ≤0,0001 %
Sodium (Na): ≤0,002 %
Nickel (Ni): ≤0,0001 %
Zinc (Zn): ≤0,0001 %
Refractive index n_D²⁰: 1,456-1,458

3049.1	250 ml	glass	48,95 €

Ethylenediamine

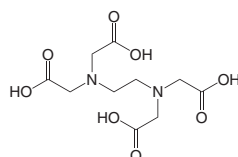
≥99,5 %, for synthesis

Type analysis:

Assay (GC): ≥99,5 %
Water: ≤0,5 %

4218.1	100 ml	glass	12,60 €
4218.2	500 ml	glass	16,05 €
4218.3	1 l	glass	24,65 €
Original pack 6 x 1 l			23,42/1 l
4218.4	2,5 l	glass	48,30 €
Original pack 4 x 2,5 l			45,89/2,5 l
4218.5	10 l	PE/steel	166,55 €

Ethylenediamine tetraacetic acid



EDTA, Ethylenedinitrilo tetraacetic acid,

Titration complex II

C₁₀H₁₆N₂O₈

M 292,25 g/mol

D ~0,86 • mp >220 °C (dec.)

Solubility: ~0,5 g/l (H₂O, 20 °C)

[60-00-4] • EC No. 200-449-4 • WGK 2

⚠ Warning H319

Ethylenediamine tetraacetic acid

≥99 %, p.a., ACS

For molecular biology and biochemistry.

Guarantee analysis:

Assay (compl.): 99,4-100,6 %
Identity: complies
In NH₄OH insoluble matter: ≤0,005 %
Nitrilotriacetic acid: ≤0,1 %
Chloride (Cl): ≤0,005 %
Heavy metals (as Pb): ≤0,001 %
Calcium (Ca): ≤0,001 %
Copper (Cu): ≤0,001 %
Magnesium (Mg): ≤0,0005 %
Nickel (Ni): ≤0,001 %
Lead (Pb): ≤0,001 %
Iron (Fe): ≤0,001 %
Ash content (as SO₄): ≤0,1 %

8040.1	100 g	plastic	14,55 €
8040.3	500 g	plastic	32,80 €
Original pack 6 x 500 g			31,16/500 g
8040.2	1 kg	plastic	48,95 €
Original pack 6 x 1 kg			46,50/1 kg
8040.5	25 kg	plastic	772,95 €

Ethylenediamine tetraacetic acid

≥99 %

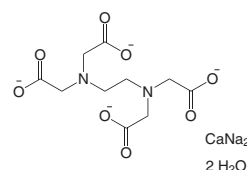
For molecular biology and biochemistry.

Type analysis:

Assay (compl.): ≥99 %
In NH₄OH insoluble matter: ≤0,01 %
Nitrilotriacetic acid: ≤0,5 %
Heavy metals (as Pb): ≤0,01 %
Calcium (Ca): ≤0,05 %
Iron (Fe): ≤0,05 %
Magnesium (Mg): ≤0,005 %
Sulphated ash: ≤0,2 %

CN06.1	250 g	plastic	15,20 €
CN06.2	500 g	plastic	25,50 €
Original pack 6 x 500 g			24,23/500 g
CN06.3	1 kg	plastic	41,40 €
Original pack 6 x 1 kg			39,33/1 kg
CN06.4	5 kg	plastic	166,65 €

Ethylenediamine tetraacetic acid calcium disodium salt dihydrate



Ethylenediamine tetraacetic acid calcium disodium salt dihydrate

≥98 %, Ph.Eur., USP

Ca-Titration complex dihydrate

EDTA calcium disodium salt dihydrate,

Calcium EDTA disodium salt dihydrate

C₁₀H₁₂CaN₂Na₂O₈ · 2 H₂O

M 410,31 g/mol

Solubility: ~500 g/l (H₂O, 20 °C)

[6766-87-6] • EC No. 200-529-9

WGK 2

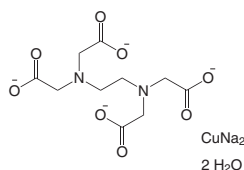
⚠ Danger H318

Guarantee analysis:

Appearance: white to off-white hygroscopic powder
Assay (dry substance): 98,0-102,0 %
Identity: complies
Appearance of solution: complies
Nitrilotriacetic acid: ≤0,1 %
Dinatriumedetat: ≤1,0 %
Chloride (Cl): ≤0,1 %
Iron (Fe): ≤0,008 %
Heavy metals (as Pb): ≤0,002 %
pH value (5 % in water): 6,5-8,0
Water: 5,0-13,0 %

6506.1	250 g	plastic	41,40 €
6506.2	500 g	plastic	75,80 €
Original pack 6 x 500 g			72,01/500 g
6506.3	1 kg	plastic	138,70 €
Original pack 6 x 1 kg			131,77/1 kg

Ethylenediamine tetraacetic acid copper disodium salt dihydrate



Ethylenediamine tetraacetic acid copper disodium salt dihydrate

≥99 %, for synthesis

EDTA copper disodium salt dihydrate, Copper
EDTA disodium salt dihydrate

$C_{10}H_{12}CuN_2Na_2O_8 \cdot 2 H_2O$

M 433,77 g/mol • mp >150 °C (dec.)

Solubility: ~1200 g/l (H₂O, 20 °C)

[61916-40-3] • EC No. 237-864-5 • WGK 2

⚠ Warning H315-H319-H412

Type analysis:

Appearance..... blue cryst. powder
Assay..... ≥99,0 %
Assay (Cu)..... 14,7-15,3 %
pH value (1 %, H₂O)..... 6,0-7,0

6499.1 250 g plastic 38,20 €

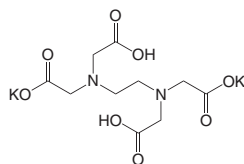
6499.2 500 g plastic 68,30 €

Original pack 6 x 500 g 64,89/500 g

6499.3 1 kg plastic 122,05 €

Original pack 6 x 1 kg 115,95/1 kg

Ethylenediamine tetraacetic acid dipotassium salt dihydrate



EDTA dipotassium salt dihydrate

$C_{10}H_{14}K_2N_2O_8 \cdot 2 H_2O$

M 404,47 g/mol • mp 272 °C

Solubility: ~40 g/l (H₂O, 20 °C)

[25102-12-9] • EC No. 217-895-0 • WGK 2

Ethylenediamine tetraacetic acid dipotassium salt dihydrate

≥99 %, p.a.

Guarantee analysis:

Assay..... ≥99 %
Chloride (Cl)..... ≤0,005 %
Iron (Fe)..... ≤0,001 %
Heavy metals (as Pb)..... ≤0,001 %
pH value (5 % solution 20 °C)..... 4-5

3053.1 100 g plastic 21,40 €

3053.2 250 g plastic 41,40 €

3053.3 500 g plastic 72,25 €

Original pack 6 x 500 g 68,64/500 g

3053.4 1 kg plastic 128,90 €

Original pack 6 x 1 kg 122,46/1 kg

3053.5 5 kg plastic 525,70 €

Ethylenediamine tetraacetic acid dipotassium salt dihydrate

≥99 %, for synthesis

Type analysis:

Appearance..... white powder
Assay (compl., dry substance)..... ≥99 %
Identity (IR)..... complies
pH (5 % in H₂O)..... 4-5
Loss on drying (150 °C, 6 h)..... ≤10 %

1408.1 250 g plastic 23,15 €

1408.2 500 g plastic 40,35 €

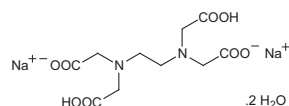
Original pack 6 x 500 g 38,33/500 g

1408.3 1 kg plastic 73,00 €

Original pack 6 x 1 kg 69,35/1 kg

1408.4 5 kg plastic 327,90 €

Ethylenediamine tetraacetic acid disodium salt dihydrate



EDTA disodium salt dihydrate, Titration
complex III

$C_{10}H_{14}N_2Na_2O_8 \cdot 2 H_2O$

M 372,24 g/mol

D 1,019

Solubility: 100 g/l (H₂O, 20 °C)

[6381-92-6] • EC No. 205-358-3

WGK 2

⚠ ⚠ Warning H332-H373

Ethylenediamine tetraacetic acid disodium salt dihydrate

≥99 %, p.a., ACS

For molecular biology and biochemistry.

Guarantee analysis:

Assay (compl.)..... ≥99,0 %
pH value (5 % in H₂O)..... 4,0-5,0
In H₂O insoluble matter..... ≤0,005 %
Chloride (Cl)..... ≤0,01 %
Sulphate (SO₄)..... ≤0,02 %
Lead (Pb)..... ≤0,0005 %
Calcium (Ca)..... ≤0,002 %
Iron (Fe)..... ≤0,0005 %
Copper (Cu)..... ≤0,0001 %
Nickel (Ni)..... ≤0,0005 %
Heavy metals (as Pb)..... ≤0,001 %
Nitrilotriacetic acid..... ≤0,05 %

8043.3 100 g plastic 19,90 €

8043.1 250 g plastic 31,75 €

8043.2 1 kg plastic 93,00 €

Original pack 6 x 1 kg 88,35/1 kg

8043.4 5 kg plastic 342,95 €

8043.5 25 kg plastic 762,20 €

Ethylenediamine tetraacetic acid disodium salt dihydrate

≥99 %, USP

For molecular biology and biochemistry.

Guarantee analysis:

Assay (compl.)..... 99,0-101,0 %
Identity..... complies
pH value (5 % solution)..... 4,6-6,0
Nitrilotriacetic acid..... ≤0,1 %
Heavy metals (as Pb)..... ≤0,005 %
Calcium (Ca)..... complies
Loss on drying (150 °C)..... 8,7-11,4 %

X986.1 250 g plastic 17,75 €

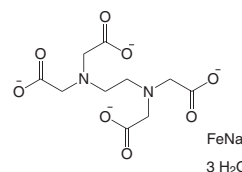
X986.2 1 kg plastic 45,05 €

Original pack 6 x 1 kg 42,80/1 kg

X986.3 5 kg plastic 192,45 €

X986.5 25 kg plastic 751,45 €

Ethylenediamine tetraacetic acid iron(III) sodium salt trihydrate



Ethylenediamine tetraacetic acid iron(III) sodium salt trihydrate

≥98 %, for synthesis

EDTA iron(III) sodium salt trihydrate, Iron(III)

EDTA sodium salt trihydrate

$C_{10}H_{12}FeN_2NaO_8 \cdot 3 H_2O$

M 421,10 g/mol

Solubility: ~90 g/l (H₂O, 20 °C)

[15708-41-5] • EC No. 239-802-2

WGK 2

⚠ ⚠ Warning H315-H319-H335

Type analysis:

Appearance..... brownish yellow cryst. powder
Assay..... ≥98,0 %
Assay (Fe)..... ≥13,0 %
Assay (EDTA-acid)..... ≥68,0 %
pH value (H₂O)..... 4,5-5,5

6498.1 250 g plastic 34,30 €

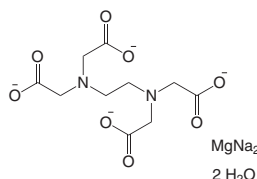
6498.2 500 g plastic 61,20 €

Original pack 6 x 500 g 58,14/500 g

6498.3 1 kg plastic 103,75 €

Original pack 6 x 1 kg 98,56/1 kg

Ethylenediamine tetraacetic acid magnesium disodium salt dihydrate



Ethylenediamine tetraacetic acid magnesium disodium salt dihydrate

≥96 %, for synthesis

EDTA magnesium disodium salt dihydrate,

Magnesium EDTA disodium salt dihydrate

$C_{10}H_{12}MgN_2Na_2O_8 \cdot 2 H_2O$

M 394,54 g/mol

mp >275 °C (dec.)

Solubility: ~900 g/l (H_2O , 20 °C)

[14402-88-1] • EC No. 238-372-3

WGK 2

Danger H318

Type analysis:

Appearance..... pure white powder

Assay..... ≥96,0 %

Assay (Mg)..... 5,8-6,2 %

Assay (MgO)..... ~10 %

Heavy metals (as Pb)..... ≤0,001 %

pH value (1 %, H_2O)..... 6,0-7,0

6508.1 250 g plastic 30,00 €

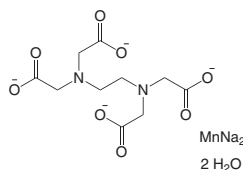
6508.2 500 g plastic 54,30 €

Original pack 6 x 500 g 51,59/500 g

6508.3 1 kg plastic 96,65 €

Original pack 6 x 1 kg 91,82/1 kg

Ethylenediamine tetraacetic acid manganese disodium salt dihydrate



Ethylenediamine tetraacetic acid manganese disodium salt dihydrate

≥93 %, for synthesis

EDTA manganese disodium salt dihydrate,

Manganese EDTA disodium salt dihydrate

$C_{10}H_{12}MnN_2Na_2O_8 \cdot 2 H_2O$

M 425,17 g/mol

Solubility: ~900 g/l (H_2O , 20 °C)

[73637-20-4] • EC No. 239-407-5

WGK 2

Warning H319

Type analysis:

Appearance..... pale pink cryst. powder

Assay..... ≥93,0 %

Assay (Mn)..... 12,2-12,8 %

pH value (1 %, H_2O)..... 6,0-7,0

6510.1 250 g plastic 38,60 €

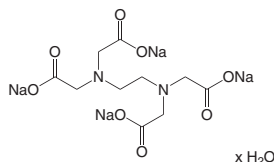
6510.2 500 g plastic 68,70 €

Original pack 6 x 500 g 65,27/500 g

6510.3 1 kg plastic 125,25 €

Original pack 6 x 1 kg 118,99/1 kg

Ethylenediamine tetraacetic acid tetrasodium salt hydrate



Ethylenediamine tetraacetic acid tetrasodium salt hydrate

86-88 %

$C_{10}H_{12}N_2Na_4O_8 \cdot x H_2O$

M 380,17 + x H_2O g/mol

Solubility: 580 g/l (H_2O , 20 °C)

[64-02-8] • EC No. 200-573-9 • WGK 2

Danger H318-H302+H332

Type analysis:

Appearance..... nearly white powder

Assay (titr.)..... 86,0-88,0 %

pH value (1 %, H_2O)..... 10,5-12,5

Bulk density..... 620-760 g/l

Belongs to the group of organic chelating agents which

form water soluble complexes with alkaline earth

metals and with heavy metals and thus reducing the

reactivity of these ions.

3619.2 500 g plastic 20,35 €

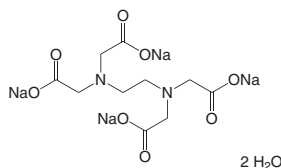
Original pack 6 x 500 g 19,33/500 g

3619.1 1 kg plastic 27,85 €

Original pack 6 x 1 kg 26,46/1 kg

3619.3 5 kg plastic 97,75 €

Ethylenediamine tetraacetic acid tetrasodium salt dihydrate



Ethylenediamine tetraacetic acid tetrasodium salt dihydrate

≥99 %

EDTA tetrasodium salt dihydrate

$C_{10}H_{12}N_2Na_4O_8 \cdot 2 H_2O$

M 416,2 g/mol

mp 400 °C (dec.)

Solubility: ~580 g/l (H_2O , 20 °C)

[10378-23-1] • EC No. 200-573-9 • WGK 2

Danger H302-H318

Type analysis:

Appearance..... white cryst. powder

Assay..... ≥99,0 %

pH value (1 % solution)..... 10,7-11,7

Heavy metals (as Pb)..... ≤0,001 %

Lead (Pb)..... ≤0,001 %

Iron (Fe)..... ≤0,008 %

Mercury (Hg)..... ≤0,0001 %

1410.1 250 g plastic 19,60 €

1410.2 500 g plastic 33,25 €

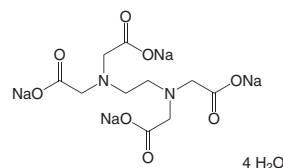
Original pack 6 x 500 g 31,59/500 g

1410.3 1 kg plastic 58,60 €

Original pack 6 x 1 kg 55,67/1 kg

1410.4 5 kg plastic 252,65 €

Ethylenediamine tetraacetic acid tetrasodium salt tetrahydrate



Ethylenediamine tetraacetic acid tetrasodium salt tetrahydrate

≥99 %, p.a.

$C_{10}H_{12}N_2Na_4O_8 \cdot 4 H_2O$

M 452,24 g/mol

mp 400 °C

Solubility: 100 g/l (H_2O , 20 °C)

[13235-36-4] • EC No. 200-573-9

WGK 2

Warning H302-H319-H412

Guarantee analysis:

Assay (compl.)..... ≥99,0 %

pH value (1 % solution)..... 10,0-12,0

In H_2O insoluble matter..... ≤0,005 %

Nitrioltriacetic acid..... ≤0,1 %

Chloride (Cl)..... ≤0,004 %

Sulphate (SO_4)..... ≤0,005 %

Heavy metals (as Pb)..... ≤0,0025 %

Iron (Fe)..... ≤0,0005 %

Lead (Pb)..... ≤0,001 %

Copper (Cu)..... ≤0,0005 %

Sulphated ash..... 62,0-63,5 %

Loss on drying (200 °C)..... 15,0-17,0 %

CP87.1 250 g plastic 17,75 €

CP87.2 500 g plastic 27,45 €

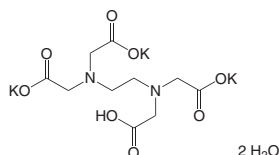
Original pack 6 x 500 g 26,08/500 g

CP87.3 1 kg plastic 45,90 €

Original pack 6 x 1 kg 43,61/1 kg

CP87.4 5 kg plastic 188,15 €

Ethylenediamine tetraacetic acid tripotassium salt dihydrate



Ethylenediamine tetraacetic acid tripotassium salt dihydrate

≥99 %

EDTA tripotassium salt dihydrate

$C_{10}H_{13}K_3N_2O_8 \cdot 2 H_2O$

M 442,56 g/mol

mp 182 °C

Solubility: ~44 g/l (H_2O , 20 °C)

[65501-24-8] • EC No. 241-543-5

WGK 2

⚠ Warning H319

Type analysis:

Appearance.....white, cryst. powder
Assay.....≥99 %
Identity.....complies
pH value (5 % in water).....7,0-9,0
Heavy metals (as Pb).....≤0,0005 %
Iron (Fe).....≤0,0005 %
Calcium (Ca).....≤0,0005 %
Sodium (Na).....≤0,1 %
Chloride (Cl).....≤0,01 %
Water content (KF).....7-9 %

1409.1 100 g plastic 26,55 €

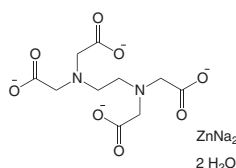
1409.2 250 g plastic 50,45 €

1409.3 1 kg plastic 149,45 €

Original pack 6 x 1 kg 141,98/1 kg

1409.4 5 kg plastic 619,20 €

Ethylenediamine tetraacetic acid zinc disodium salt dihydrate



Ethylenediamine tetraacetic acid zinc disodium salt dihydrate

≥96 %, for synthesis

EDTA zinc disodium salt dihydrate, Zinc EDTA disodium salt dihydrate

$C_{10}H_{12}ZnN_2Na_2O_8 \cdot 2 H_2O$

M 435,64 g/mol

Solubility: ~1000 g/l (H_2O , 20 °C)

[73513-47-0] • EC No. 237-865-0

WGK 2

⚠ Warning H319

Type analysis:

Appearance.....white cryst. powder
Assay.....≥96,0 %
Assay (Zinc).....14,5-15,1 %
pH value (1 %, H_2O).....6,0-7,0

6518.1 250 g plastic 38,60 €

6518.2 500 g plastic 68,30 €

Original pack 6 x 500 g 64,89/500 g

6518.3 1 kg plastic 124,20 €

Original pack 6 x 1 kg 117,99/1 kg

trans-1,2-Ethylenedicarbonic acid

► Fumaric acid see p. 1842

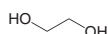
Ethylene dichloride

► 1,2-Dichloroethane see p. 1770

Ethylenedinitrilo tetraacetic acid

► Ethylenediamine tetraacetic acid see p. 1814

Ethylene glycol



1,2-Ethanediol, Monoethylene glycol

$C_2H_6O_2$

M 62,07 g/mol

D 1,11 • bp 197 °C

mp -12,4 °C • flp 111 °C

Solubility: 1000 g/l (H_2O , 20 °C)

[107-21-1] • EC No. 203-473-3

WGK 1

⚠ ⚠ Warning H302-H373

Ethylene glycol

ROTIPURAN® ≥99,5 %, p.a.

Guarantee analysis:

Assay (GC).....≥99,5 %
Colour (APHA).....≤10
Water (KF).....≤0,1 %
Acidity.....≤0,0005 meq/g
Chloride (Cl).....≤0,0005 %
Sulphate (SO_4).....≤0,0005 %
Matter discoloured by H_2SO_4 complies
KMnO₄ reducing substances (as O).....≤0,0003 %
Calcium (Ca).....≤0,00005 %
Cadmium (Cd).....≤0,000005 %
Cobalt (Co).....≤0,000002 %
Copper (Cu).....≤0,000002 %
Chromium (Cr).....≤0,000002 %
Iron (Fe).....≤0,00001 %
Magnesium (Mg).....≤0,00001 %
Manganese (Mn).....≤0,000002 %
Nickel (Ni).....≤0,000002 %
Lead (Pb).....≤0,00001 %
Ash content (as SO_4).....≤0,003 %

6881.1 1 l plastic 38,60 €

Original pack 6 x 1 l 36,67/1 l

6881.2 2,5 l plastic 78,40 €

Original pack 4 x 2,5 l 74,48/2,5 l

6881.3 10 l plastic 227,40 €

Ethylene glycol

≥99 %, for synthesis

Type analysis:

Assay (GC).....≥99 %
Water.....≤0,5 %
Density (20 °C).....1,110-1,116
Refractive index n_D^{20} 1,431-1,433

9516.1 1 l plastic 21,40 €

Original pack 6 x 1 l 20,33/1 l

9516.3 2,5 l plastic 41,40 €

Original pack 4 x 2,5 l 39,33/2,5 l

9516.2 10 l plastic 105,90 €

9516.4 25 l plastic 192,45 €

Ethylene glycol

≥98 %, techn.

Type analysis:

Appearance.....clear, colourless to slightly yellowish liquid
Assay (GC).....≥98 %
Water.....≤1 %

2441.1 1 l plastic 16,70 €

Original pack 6 x 1 l 15,87/1 l

2441.2 2,5 l plastic 25,30 €

Original pack 4 x 2,5 l 24,04/2,5 l

2441.3 10 l plastic 69,35 €

2441.4 25 l plastic 160,20 €

Ethylene glycol bis(β-amino-ethylether) tetraacetic acid

► EGTA see p. 1802

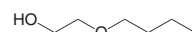
Ethylene glycol dimethyl ether

► 1,2-Dimethoxyethane see p. 1781

Ethylene glycol dimethyl ether

► 1,2-Dimethoxyethane see p. 1781

Ethylene glycol monobutyl ether



Ethylene glycol monobutyl ether

≥99 %, for synthesis

2-Butoxyethanol, Butylglycol

$C_6H_{14}O_2$

M 118,17 g/mol

D ~0,9 • bp ~170 °C

mp -70 °C • flp ~64 °C

[111-76-2] • EC No. 203-905-0

UN No. 2810 • ADR 6.1 III • WGK 1

⚠ Danger H302-H311+H331-H315-H319

Type analysis:

Assay (GC).....≥99,0 %
Density (d 20 °C/4 °C).....0,898-0,907
Water.....≤0,2 %

0341.1 1 l glass 21,75 €

Original pack 6 x 1 l 20,66/1 l

0341.2 2,5 l glass 41,40 €

Original pack 4 x 2,5 l 39,33/2,5 l

Ethylene glycol monobutyl ether acetate

► 2-Butoxyethyl acetate see p. 1698

Ethylene glycol monoethyl ether

► 2-Ethoxyethanol see p. 1812

Ethylene glycol monoisopropyl ether

► 2-Isopropoxyethanol see p. 1912

Ethylene glycol monomethyl ether

► 2-Methoxyethanol see p. 1963

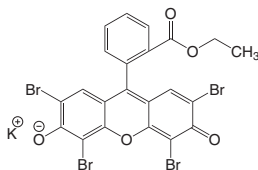
Ethylene glycol monophenyl ether

► 2-Phenoxyethanol see p. 2035

Ethylene tetrachloride

► Tetrachloroethylene see p. 2202

Ethyl eosin (C.I. 45386)



Ethyl eosin (C.I. 45386)

extra pure

2',4',5',7'-Tetrabromoeosin ethyl ester potassium salt, Solvent Red 45

$C_{22}H_{11}Br_4KO_5$
M 714,07 g/mol
[6359-05-3]
WGK 3

Type analysis:

Appearance..... red powder
Appearance of solution (1 g/l in 95 % EtOH).....
.....clear, pink orange

7664.1	5 g	glass	17,75 €
7664.2	25 g	glass	33,25 €
7664.3	100 g	glass	67,20 €

Ethyl ether

► Diethyl ether see p. 1774

Ethyl formate

► Formic acid ethyl ester see p. 1840

Ethyl gallate

► Gallic acid ethyl ester see p. 1844

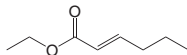
Ethyl green

► Brilliant Green (C.I. 42040) see p. 1687

Ethyl green zinc chloride double salt

► Methyl green (C.I. 42590) see p. 1967

Ethyl-trans-2-hexenoate



Ethyl-trans-2-hexenoate

ROTICHRON® GC

Reference substance for GC

$C_8H_{14}O_2$
M 142,20 g/mol
D 0,901 • bp 182-183 °C
flp 55 °C

Storage temp.: +4 °C

[27829-72-7] • EC No. 248-681-5

UN No. 3272 • ADR 3 III • WGK 1

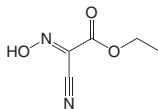
Warning H226

Type analysis:

Purity (GC)..... ≥95 %

3819.1	1 g	glass	75,15 €

Ethyl(hydroxyimino)-cyanoacetate (Oxyma Pure)



Ethyl(hydroxyimino)-cyanoacetate (Oxyma Pure)

≥99,5 %

Coupling reagent for peptide synthesis

Oxyma Pure, Ethyl isonitrosocynoacetate

$C_5H_6N_2O_3$
M 142,11 g/mol
mp 130-132 °C

Storage temp.: +4 °C

[3849-21-6] • EC No. 223-351-3

WGK 1

Warning H302

Type analysis:

Assay (HPLC)..... ≥99,5 %
Water (KF)..... ≤0,2 %

2118.1	25 g	glass	25,50 €
2118.2	100 g	glass	72,90 €

Ethyl isonitrosocynoacetate

► Ethyl(hydroxyimino)-cyanoacetate see p. 1818

Ethyl lactate

► L(-)-Lactic acid ethyl ester see p. 1920

Ethyl laurate

► Lauric acid ethyl ester see p. 1924

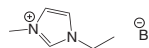
Ethylmercurithiosalicylate sodium salt

► Sodium ethylmercurithiosalicylate see p. 2146

Ethyl methanoate

► Formic acid ethyl ester see p. 1840

1-Ethyl-3-methyl-imidazolium-bromide (EMIM Br)



1-Ethyl-3-methyl-imidazolium-bromide (EMIM Br)

≥99 %

Ionic liquid

EMIM Br

$C_6H_{11}BrN_2$

M 191,07 g/mol

bp ~200 °C (dec.) • mp 91 °C

[65039-08-9] • WGK 3

Warning H315-H319-H335

Type analysis:

Appearance..... white solid
Assay..... ≥99 %
Water (KF)..... ≤0,5 %

2037.1	25 g	glass	166,10 €
2037.2	100 g	glass	278,45 €

Lit.: "1-Alkyl-3-methyl Imidazolium Bromide Ionic Liquids in the Ionothermal Synthesis of Aluminium Phosphate Molecular Sieves" E. R. Parnham, R. E. Morris, *Chem. Mater.* **2006**, 18, 4882-4887.
For further information, please see page 1459

1-Ethyl-3-methyl-imidazolium-dicyanamide (EMIM DCA)



1-Ethyl-3-methyl-imidazolium-dicyanamide (EMIM DCA)

≥98 %

Ionic liquid

EMIM N(CN)₂, EMIM DCA

$C_8H_{11}N_5$

M 177,21 g/mol • D 1,101

mp -21 °C

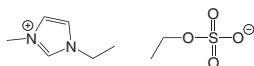
[370865-89-7] • WGK 3

Type analysis:

Appearance..... yellow to orange liquid
Assay..... ≥98 %
Water (KF)..... ≤0,2 %
Halogens..... ≤2 %
Alkali metals..... ≤2 %

2053.1	25 g	glass	263,40 €
2053.2	100 g	glass	585,90 €

Lit.: "A New Ionic Liquid Electrolyte Enhances the Conversion Efficiency of Dye-Sensitized Solar Cells" P. Wang, S. M. Zakeeruddin, J.-E. Moser, M. Grätzel, *J. Phys. Chem. B* **2003**, 107, 13280-13285.
For further information, please see page 1459

1-Ethyl-3-methyl-imidazolium-ethylsulphate (EMIM EtOSO₃)**1-Ethyl-3-methyl-imidazolium-ethylsulphate (EMIM EtOSO₃)**

≥99 %

Ionic liquid

EMIM EtOSO₃C₈H₁₆N₂O₄S

M 236,29 g/mol

D 1,241

[342573-75-5]

WGK 1

Type analysis:

Appearance..... colourless to yellow liquid

Assay..... ≥99 %

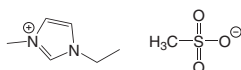
Water (KF)..... ≤0,05 %

2054.1	25 g	glass	83,75 €

2054.2	100 g	glass	187,05 €

Lit.: "Physical Properties of Pure 1-Ethyl-3-methyl-imidazolium Ethylsulfate and Its Binary Mixtures with Ethanol and Water at Several Temperatures" E. Gomez, B. Gonzalez, N. Calvar, E. Tojo, A. Dominguez, *J. Chem. Eng. Data* **2006**, 51, 2096-2102.

For further information, please see page 1459

1-Ethyl-3-methyl-imidazolium-methanesulphonate (EMIM OMs)**1-Ethyl-3-methyl-imidazolium-methanesulphonate (EMIM OMs)**

≥99 %

Ionic liquid

EMIM OMs

C₇H₁₄N₂O₃S

M 206,26 g/mol

D 1,242

[145022-45-3]

WGK 3

Type analysis:

Appearance..... yellow to brownish liquid

Assay..... ≥99 %

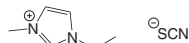
Water (KF)..... ≤0,5 %

2056.1	25 g	glass	203,20 €

2056.2	100 g	glass	478,40 €

Lit.: "Essential oil terpeness by extraction using organic solvents or ionic liquids" A. Arce, A. Marchiaro, O. Rodriguez, A. Soto, *AIChE* **2006**, 52, 2089-2097.

For further information, please see page 1459

1-Ethyl-3-methyl-imidazolium-thiocyanate (EMIM SCN)**1-Ethyl-3-methyl-imidazolium-thiocyanate (EMIM SCN)**

≥98 %

Ionic liquid

EMIM SCN

C₇H₁₁N₃S

M 169,24 g/mol

D 1,119

mp -6 °C

[331717-63-6]

UN No. 2810 • ADR 6.1 III • WGK 3

Warning

H302+H312+H332-H412-EUH032

Type analysis:

Appearance..... yellow to orange liquid

Assay..... ≥98 %

Water (KF)..... ≤0,2 %

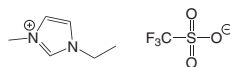
Halogens..... ≤2 %

2059.1	25 g	glass	224,70 €

2059.2	100 g	glass	450,45 €

Lit.: "An efficient organogelator for ionic liquids to prepare stable quasi-solid-state dye-sensitized solar cells" N. Mohmeyer, D. Kuang, P. Wang, H.-W. Schmidt, S. M. Zakeeruddin, M. Grätzel, *J. Mater. Chem.* **2006**, 16, 2978-2983.

For further information, please see page 1459

1-Ethyl-3-methyl-imidazolium-trifluoromethanesulphonate (EMIM OTf)**1-Ethyl-3-methyl-imidazolium-trifluoromethanesulphonate (EMIM OTf)**

≥99 %

Ionic liquid

EMIM OTf

C₇H₁₁F₃N₂O₃S

M 260,23 g/mol

D 1,386

mp -9 °C

[145022-44-2]

WGK 3

Warning H315-H319**Type analysis:**

Appearance..... yellow to brownish liquid

Assay..... ≥99 %

Water (KF)..... ≤0,05 %

2062.1	25 g	glass	203,20 €

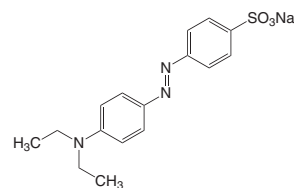
2062.2	100 g	glass	590,20 €

Lit.: "Electropolymerization of pyrrole in 1-ethyl-3-methylimidazolium trifluoromethanesulfonate room temperature ionic liquid" K. Sekiguchi, M. Atobe, T. Fuchigami, *Electrochemistry Communications* **2002**, 4, 881-885.

For further information, please see page 1459

Ethyl methyl ketone

▶ 2-Butanone see p. 1697

Ethyl orange sodium salt**Ethyl orange sodium salt**

p.a.

Indicator pH 3,4-4,8

C₁₆H₁₈N₃NaO₃S

M 355,39 g/mol

[62758-12-7] • WGK 3

Warning H315-H319-H335**Type analysis:**

Appearance..... orange powder

Appearance of solution (0,1 % in H₂O)..... clear, orange

pH-transition range..... 3,4 (rose-red)-4,8 (yellow)

7667.1	5 g	glass	17,75 €

7667.2	25 g	glass	33,25 €

7667.3	100 g	glass	67,20 €

Ethylparaben (Paraben)▶ 4-Hydroxybenzoic acid ethyl ester
see p. 1890**Ethyl pentyl ketone**

▶ 3-Octanone see p. 1999

Ethyl purple 6B

▶ Ethyl violet (C.I. 42600) see p. 1820

N-Ethyl-2-pyrrolidone**N-Ethyl-2-pyrrolidone**

≥98 %, for synthesis

NEP, 1-Ethylpyrrolidin-2-one

C₆H₁₁NO

M 113,2 g/mol

D 0,998 • bp ~212 °C

mp -75 °C • flp 90,5 °C

[2687-91-4] • EC No. 220-250-6 • WGK 1

Danger H318-H360D**Type analysis:**

Assay (GC)..... ≥98,0 %

Water..... ≤0,5 %

Colour (APHA)..... ≤50

CN19.1	500 ml	glass	25,30 €

CN19.2	1 l	glass	37,55 €

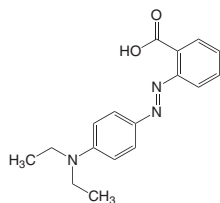
Original pack 6 x 1 l 35,67/1 l

CN19.3	2,5 l	glass	79,45 €

Original pack 4 x 2,5 l 75,48/2,5 l

CN19.4	25 l	tinplate	553,65 €

Ethyl red



Ethyl red

p.a.

Indicator pH 4,5-6,5

$C_{17}H_{19}N_3O_2$

M 297,36 g/mol

mp 135 °C (dec.)

[76058-33-8]

WGK 3

Type analysis:

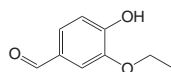
Appearance: dark red to maroon powder

Appearance of solution (0,1 % in H_2O): clear, dark red

pH-transition range: 4,5 (red)-6,5 (yellow)

7677.1	5 g	glass	17,75 €
7677.2	25 g	glass	40,35 €
7677.3	100 g	glass	107,40 €

Ethyl vanillin



Ethyl vanillin

ROTICHRON® GC

Reference substance for GC

3-Ethoxy-4-hydroxybenzaldehyde

$C_9H_{10}O_3$

M 166,18 g/mol

mp ~78 °C • flp 145 °C

Solubility: 2,8 g/l (H_2O , 25 °C)

Storage temp.: +4 °C

[121-32-4] • EC No. 204-464-7

WGK 1

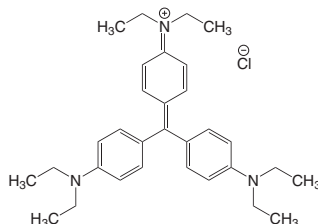
⚠ Warning H302

Type analysis:

Purity (GC): ≥97 %

3913.1	1 g	plastic	75,15 €

Ethyl violet (C.I. 42600)



Ethyl violet (C.I. 42600)

extra pure

Basic Violet 4, Ethyl purple 6B

$C_{31}H_{42}N_3Cl$

M 492,15 g/mol

[2390-59-2] • EC No. 219-231-5

WGK 3

Type analysis:

Appearance: olive green to dark brown cryst. powder

Appearance of solution (0,1 % in H_2O): clear,

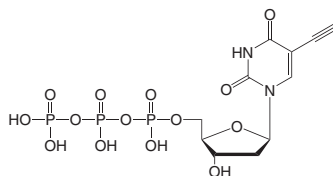
Loss on drying (105 °C): ≤5,0 %

7680.1	5 g	glass	13,45 €
7680.2	25 g	glass	55,80 €
7680.3	100 g	glass	55,80 €

5-Ethynyl-2'-deoxyuridine-5'-triphosphate

► 5-Ethynyl-dUTP see p. 1820

5-Ethynyl-dUTP



5-Ethynyl-dUTP

≥98 %, 100 mM in water

5-Ethynyl-2'-deoxyuridine-5'-triphosphate, EdUTP

$C_{11}H_{15}N_2O_{14}P_3$

M 491,97 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1004955-96-7]

WGK 3

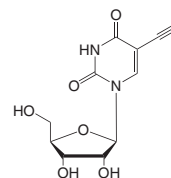
Type analysis:

Appearance: clear solution

Assay (HPLC): ≥98 %

7802.1	0,5 µmol	plastic	83,75 €
7802.2	2,5 µmol	plastic	321,45 €
7802.3	5,0 µmol	plastic	488,60 €

5-Ethynyl uridine



5-Ethynyl uridine

≥97 %

$C_{11}H_{12}N_2O_6$

M 268,22 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[69075-42-9]

WGK 3

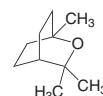
Type analysis:

Appearance: white to grey solid

Assay (HPLC): ≥97 %

7848.1	5 mg	plastic	56,45 €
7848.2	10 mg	plastic	101,60 €

Eucalyptol



1,8-Cineol, 1,8-Epoxy-p-menthane

$C_{10}H_{18}O$

M 154,25 g/mol

D 0,92 • bp 175-179 °C

mp 1-2 °C • flp 49 °C

[470-82-6] • EC No. 207-431-5

UN No. 1993 • ADR 3 III • WGK 2

⚠ Warning H226

Eucalyptol

≥98 %

Type analysis:

Assay (GC): ≥98,0 %

7244.1	25 ml	glass	25,30 €

Eucalyptol

ROTICHRON® GC

Reference substance for GC

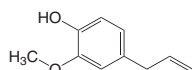
Storage temp.: +4 °C

Type analysis:

Purity (GC): ≥97 %

6938.1	1 g	glass	75,15 €

Eugenol



4-Allyl-2-methoxyphenol

 $C_{10}H_{12}O_2$

M 164,21 g/mol

D 1,06 • bp 255 °C

mp -9 °C • flp >110 °C

Solubility: ~2,5 g/l (H_2O , 25 °C)

[97-53-0] • EC No. 202-589-1

WGK 1

⚠ Warning H302-H315-H317

Eugenol

extra pure

Type analysis:

Appearance: clear, light yellowish liquid

Miscible: ethanol 96 %

Relative density (20 °C): 1,066-1,070

Refractive index (20 °C): 1,5400-1,5420

Optical rotation (20 °C): -0,5° to +0,5°

7292.1	50 ml	glass	16,70 €

Eugenol

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

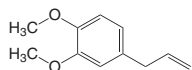
Purity (GC): ≥98,5 %

6941.1	1 g	plastic	75,15 €

Eugenol acetate

► Acetyleneugenol see p. 1610

Eugenol methyl ether



Eugenol methyl ether

ROTICHRON® GC

Reference substance for GC

4-Allyl-1,2-dimethoxybenzene

 $C_{11}H_{14}O_2$

M 178,23 g/mol

D 1,04 • bp 254-255 °C

mp -4 °C

Storage temp.: +4 °C

[93-15-2] • EC No. 202-223-0

WGK 1

⚠ Warning H302-H319

Type analysis:

Purity (GC): ≥95 %

5073.1	1 g	plastic	75,15 €

Euparal

Euparal

for microscopy

Mounting agent

D 0,99 • bp >100 °C

flp 41 °C

UN No. 1993 • ADR 3 III • WGK 1

⚠ ⚠ Warning H226-H315-H319-H335

Type analysis:

Appearance: yellowish solution

Solubility (EtOH): soluble

Refractive index (20 °C): 1,480-1,510

7356.1	100 g	glass	46,15 €

7356.2	5 x 100 g	glass	189,10 €

For further information, please see page 1409

Euparal essence

Euparal essence

for microscopy

Diluent and solvent for Euparal (Art. No. 7356).

D 0,98

flp 41 °C

UN No. 1993 • ADR 3 III • WGK 2

⚠ ⚠ Warning H226-H315-H319-H335

Type analysis:

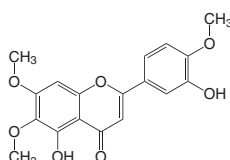
Appearance: yellowish solution

Refractive index (20 °C): 1,450-1,500

A145.1	100 ml	glass	40,35 €

For further information, please see page 1409

Eupatorin



Eupatorin

ROTICHRON® HPLC

Reference substance for HPLC.

From *Orthosiphon stamineus*.

3',5'-Dihydroxy-4',6,7-trimethoxyflavone

 $C_{18}H_{16}O_7$

M 344,32 g/mol

mp 190-195 °C

Storage temp.: +4 °C

[855-96-9]

WGK 1

Type analysis:

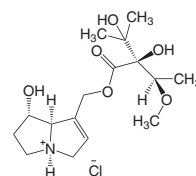
Purity (HPLC): ≥99 %

6493.1	20 mg	glass	260,70 €

Europia

► Europium(III) oxide see p. 1822

Europine hydrochloride



Europine hydrochloride

ROTICHRON® HPLC

Reference substance for HPLC

From *Heliotropium* $C_{16}H_{28}ClNO_6$

M 365,84 g/mol

Storage temp.: +4 °C

WGK 3

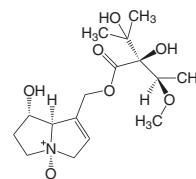
⚠ Warning H302

Type analysis:

Purity (HPLC): ≥97,0 %

1676.1	10 mg	glass	364,45 €

Europine N-oxide



Europine N-oxide

ROTICHRON® HPLC

Reference substance for HPLC

From *Heliotropium* $C_{16}H_{27}NO_7$

M 345,39 g/mol

mp 164-168 °C

Storage temp.: +4 °C

[65582-53-8]

WGK 3

⚠ Warning H302

Type analysis:

Purity (HPLC): ≥97,0 %

1687.1	10 mg	glass	364,45 €

Europium Standards

► Europium ICP Standard Solution
see p. 2171► Europium ICP Standard Solution
see p. 2175

Europium(III) fluoride

Europium(III) fluoride

ROTI®REMETIC 99,99 %

Europium trifluoride

EuF₃

M 208,96 g/mol

bp 2280 °C

mp 1390 °C

Solubility: insoluble (H₂O, 20 °C)

[13765-25-8] • EC No. 237-368-9

WGK 3

⚠ Warning

H302+H312+H332-H315-H319-H335

Type analysis:

Assay (TREO*) 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7134.1	1 g	plastic	67,20 €

Europium(III) oxide

Europium trioxide, Europia

Eu₂O₃

M 351,92 g/mol

D 7,42 • bp 3790 °C

mp 2291 °C

Solubility: insoluble (H₂O, 20 °C)

[1308-96-9] • EC No. 215-165-6

WGK 3

Europium(III) oxide

ROTI®REMETIC 99,995 % (4N5)

Type analysis:

Assay (metals basis) 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5394.1	5 g	plastic	246,20 €

Europium(III) oxide

ROTI®REMETIC 99,999 %

Type analysis:

Assay (TREO*) 99,999 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7127.1	1 g	plastic	44,65 €

7127.2	5 g	plastic	143,55 €

Europium(III) oxide

ROTI®REMETIC 99,99 %

Type analysis:

Assay (TREO*) 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7187.1	5 g	plastic	111,30 €

7187.2	10 g	plastic	198,90 €

7187.3	50 g	plastic	665,45 €

Europium trifluoride

► Europium(III) fluoride see p. 1822

Europium trioxide

► Europium(III) oxide see p. 1822

Eva Green® Fluorescent Dye

Eva Green® Fluorescent Dye

for electrophoresis,
100x concentrated

NEW

For fluorescent staining of nucleic acids in agarose- and polyacrylamide gels.

500 µl is sufficient for running and staining of approx. 500 lanes.

Storage temp.: -20 °C

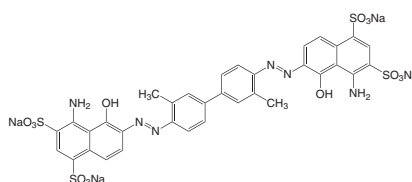
Transport temp.: room temp.

WGK 3

8905.1	500 µl	plastic	80,55 €

For further information, please see page 1143

Evan's blue (C.I. 23860)



Evan's blue (C.I. 23860)

for microscopy

Direct Blue 53

C₃₄H₂₄N₆Na₄O₁₄S₄

M 960,82 g/mol

[314-13-6] • EC No. 206-242-5 • WGK 3

⚠ Danger H350-H361d

Type analysis:

Appearance black to purple cryst. powder

Appearance of solution (0,1 % in H₂O) clear, blue

Loss on drying (110 °C) ≤10 %

7684.1	5 g	glass	24,65 €

7684.2	25 g	glass	51,10 €

7684.3	100 g	glass	166,65 €

For further information, please see page 1398

FAD disodium salt

► Flavine-adenine-dinucleotide disodium salt see p. 1828

6-FAM-Azide

► 6-Carboxyfluorescein Azide (6-FAM-Azide) see p. 1715

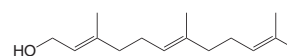
FAME

► Fatty acid mixtures see p. 1823

6-FAM-PEG3-Azide

► 6-Carboxyfluorescein-PEG3-Azide (6-FAM-PEG3-Azide) see p. 1716

Farnesol



Farnesol

ROTICHROM® GC

Reference substance for GC.

Mixture of isomers.

C₁₅H₂₆O

M 222,37 g/mol

D ~0,888

flp 96 °C

Storage temp.: +4 °C

[4602-84-0] • EC No. 225-004-1

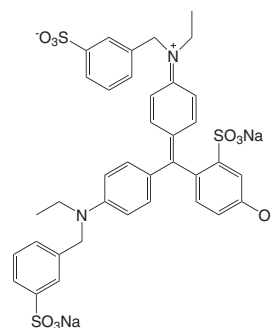
WGK 2

Type analysis:

Purity (GC, Isomers) ≥85 %

8707.1	1 g	plastic	75,15 €

Fast Green FCF



Fast Green FCF

for microscopy

For staining proteins.

Food Green 3

C₃₇H₃₄N₂Na₂O₁₀S₃

M 808,84 g/mol

[2353-45-9] • EC No. 219-091-5

WGK 2

⚠ Warning H341-H351

Type analysis:

Dye content ≥85 %

In H₂O insoluble matter ≤0,2 %Solubility (0,1 % in H₂O) complies

0301.1	25 g	glass	85,90 €

For further information, please see page 1398

Fast Oxidation reagent

Fast Oxidation reagent

for DNA-Synthesis with ABI™ and PolyGen® Synthesizer

For quick separating phosphoramidites.
Iodine/water/pyridine/tetrahydrofuran-mixture.
0,02 M iodine.

D 0,935 • bp ~65 °C

flp -21 °C

Storage temp.: +20 °C

UN No. 1993 • ADR 3 II • WGK 2

 **Danger** H225-H302+H312+H332-H351-H319-H335-EU019

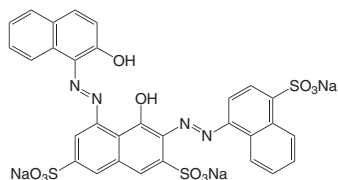
A133.2	450 ml	glass	47,85 €

For further information, please see page 1430

Fast staining kits for histology & cytology

- ▶ Panoptical fast staining kit see p. 2019
- ▶ H&E fast staining kit see p. 1868
- ▶ PAP fast staining kit see p. 2020

Fast sulphon black F (C.I. 26990)



Fast sulphon black F (C.I. 26990)

≥95 %, p.a.

Metal indicator for Cu

Acid Black 32

C₃₀H₁₇N₄O₁₁S₃Na₃

M 774,6 g/mol

[3682-47-1]

WGK 3

Type analysis:

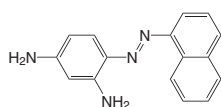
Appearance..... black powder
Assay (TLC)..... ≥95,0 %
Appearance of solution (0,1 % in H₂O). clear, green
Suitability as indicator..... complies

7685.1	5 g	glass	13,15 €

7685.2	25 g	glass	22,40 €

7685.3	100 g	glass	61,20 €

Fat brown RR (C.I. 11285)



Fat brown RR (C.I. 11285)

for microscopy

Liposoluble dye

C₁₆H₁₄N₄

M 262,31 g/mol

mp 147-158 °C

[6416-57-5]

WGK 3

 **Warning** H315-H319-H335

Type analysis:

Appearance..... dark red to rusty brown powder
Appearance of solution (1 mg/ml in CHCl₃).
..... clear to slightly hazy, orange to dark red brown
Loss on drying..... ≤0,5 %

7687.1	5 g	glass	13,15 €

7687.2	25 g	glass	21,40 €

7687.3	100 g	glass	55,80 €

Fat-soluble dyes

- ▶ Chapter histology see p. 1421

Fatty acid mixtures

Fatty acid methyl ester mixture

ROTICHRON® ME 11

Storage temp.: +4 °C

UN No. 1993 • ADR 3 III • WGK 1

 **Warning** H226-H315

Type analysis:

C 6:0 Methyl hexanoate..... 20 %
C 7:0 Methyl heptanoate..... 20 %
C 8:0 Methyl octanoate..... 20 %
C 9:0 Methyl nonanoate..... 20 %
C 10:0 Methyl decanoate..... 20 %

8632.1	100 mg	plastic	127,95 €

Fatty acid methyl ester mixture

ROTICHRON® ME 12

Storage temp.: +4 °C

WGK 1

Type analysis:

C 11:0 Methyl undecanoate..... 20 %
C 12:0 Methyl laurate..... 20 %
C 13:0 Methyl tridecanoate..... 20 %
C 14:0 Methyl myristate..... 20 %
C 15:0 Methyl pentadecanoate..... 20 %

8636.1	100 mg	plastic	127,95 €

Fatty acid methyl ester mixture

ROTICHRON® ME 13

Storage temp.: +4 °C

UN No. 1888 • ADR 6.1 III • WGK 3

 **Danger**

H331-H372-H351-H361d-H302-H315-H319

Type analysis:

C 16:0 Methyl hexadecanoate..... 20 %
C 17:0 Methyl heptadecanoate..... 20 %
C 18:0 Methyl stearate..... 20 %
C 19:0 Methyl nonadecanoate..... 20 %
C 20:0 Methyl eicosanoate..... 20 %

8642.1	100 mg	plastic	127,95 €

Fatty acid methyl ester mixture

ROTICHRON® ME 14

UN No. 1888 • ADR 6.1 III • WGK 3

 **Danger**

H331-H372-H351-H361d-H302-H315-H319

Type analysis:

C 18:0 Methyl stearate..... 20 %
C 19:0 Methyl nonadecanoate..... 20 %
C 20:0 Methyl arachinate..... 20 %
C 21:0 Methyl heneicosanoate..... 20 %
C 22:0 Methyl behenate..... 20 %

8644.1	100 mg	plastic	127,95 €

Fatty acid methyl ester mixture

ROTICHRON® ME 15

Storage temp.: +4 °C

WGK 1

Type analysis:

C 8:0 Methyl octanoate..... 20 %
C 9:0 Methyl nonanoate..... 20 %
C 10:0 Methyl decanoate..... 20 %
C 11:0 Methyl undecanoate..... 20 %
C 12:0 Methyl dodecanoate..... 20 %

8650.1	100 mg	plastic	127,95 €

Fatty acid methyl ester mixture

ROTICHRON® ME 16

Storage temp.: +4 °C

WGK 1

Type analysis:

C 13:0 Methyl tridecanoate..... 20 %
C 14:0 Methyl myristate..... 20 %
C 15:0 Methyl pentadecanoate..... 20 %
C 16:0 Methyl palmitate..... 20 %
C 17:0 Methyl heptadecanoate..... 20 %

8661.1	100 mg	plastic	127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 17**

Storage temp.: +4 °C

UN No. 1888 • ADR 6.1 III • WGK 3

 **Danger**

H331-H372-H351-H361d-H302-H315-H319

Type analysis:

C 20:0 Methyl arachinate.....	20 %
C 21:0 Methyl heneicosanoate.....	20 %
C 22:0 Methyl docosanoate.....	20 %
C 23:0 Methyl tricosanoate.....	20 %
C 24:0 Methyl tetracosanoate.....	20 %

8666.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 18**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 6:0 Methyl caproate.....	20 %
C 8:0 Methyl caprylate.....	20 %
C 10:0 Methyl caprate.....	20 %
C 12:0 Methyl laurate.....	20 %
C 14:0 Methyl myristate.....	20 %

8667.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 19**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 8:0 Methyl caprylate.....	20 %
C 10:0 Methyl caprate.....	20 %
C 12:0 Methyl laurate.....	20 %
C 14:0 Methyl myristate.....	20 %
C 16:0 Methyl palmitate.....	20 %

8669.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 21**

Storage temp.: +4 °C

UN No. 1888 • ADR 6.1 III • WGK 3

 **Danger**

H331-H372-H351-H361d-H302-H315-H319

Type analysis:

C 16:0 Methyl palmitate.....	20 %
C 18:0 Methyl stearate.....	20 %
C 20:0 Methyl arachinate.....	20 %
C 22:0 Methyl behenate.....	20 %
C 24:0 Methyl lignocerate.....	20 %

8676.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 22**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 12:0 Methyl laurate.....	20 %
C 14:0 Methyl myristate.....	20 %
C 16:0 Methyl palmitate.....	20 %
C 18:0 Methyl stearate.....	20 %
C 20:0 Methyl arachinate.....	20 %

8677.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 24**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 13:0 Methyl tridecanoate.....	20 %
C 15:0 Methyl pentadecanoate.....	20 %
C 17:0 Methyl heptadecanoate.....	20 %
C 19:0 Methyl nonadecanoate.....	20 %
C 21:0 Methyl heneicosanoate.....	20 %

8679.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 26**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 12:0 Methyl laurate.....	20 %
C 14:0 Methyl myristate.....	20 %
C 14:1 Methyl myristoleate.....	20 %
C 16:0 Methyl palmitate.....	20 %
C 16:1 Methyl palmitoleate.....	20 %

8685.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 28**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 16:0 Methyl palmitate.....	~20 %
C 18:0 Methyl stearate.....	~20 %
C 18:1 Methyl oleate.....	~20 %
C 18:2 Methyl linoleate.....	~20 %
C 18:3 Methyl linolenate.....	~20 %

8691.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® ME 29**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 16:1 Methyl palmitoleate.....	20 %
C 18:1 Methyl oleate.....	20 %
C 20:1 Methyl eicosenate.....	20 %
C 22:1 Methyl erucate.....	20 %
C 24:1 Methyl nervonate.....	20 %

8692.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® ME 30**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 18:0 Methyl stearate.....	20 %
C 18:1 Methyl oleate.....	20 %
C 18:2 Methyl linoleate.....	20 %
C 18:3 Methyl linolenate.....	20 %
C 20:4 Methyl arachidonate.....	20 %

8693.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® ME 32**

Storage temp.: +4 °C • WGK 1

Type analysis:

C 20:0 Methyl eicosanoate.....	20 %
C 20:1 Methyl eicosenate.....	20 %
C 20:2 Methyl eicosadienoate.....	20 %
C 20:3 Methyl eicosatrienoate.....	20 %
C 20:4 Methyl arachidonate.....	20 %

8697.1 100 mg plastic 127,95 €

Fatty acid methyl ester mixture**ROTICHROM® ME 35**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 4:0 Methyl butyrate.....	4,0 %
C 6:0 Methyl hexanoate.....	3,0 %
C 8:0 Methyl octanoate.....	2,0 %
C 10:0 Methyl decanoate.....	3,0 %
C 12:0 Methyl laurate.....	3,0 %
C 14:0 Methyl myristate.....	12,0 %
C 16:0 Methyl palmitate.....	30,0 %
C 18:0 Methyl stearate.....	10,0 %
C 18:1 Methyl oleate.....	30,0 %
C 18:2 Methyl linoleate.....	2,0 %
C 18:3 Methyl linolenate.....	1,0 %

8701.1 100 mg plastic 159,65 €

Fatty acid methyl ester mixture**ROTICHROM® ME 36**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 4:0 Methyl butyrate.....	4 %
C 6:0 Methyl caproate.....	2 %
C 8:0 Methyl caprylate.....	1 %
C 10:0 Methyl caprate.....	3 %
C 12:0 Methyl laurate.....	4 %
C 14:0 Methyl myristate.....	10 %
C 14:1 Methyl myristoleate.....	2 %
C 16:0 Methyl palmitate.....	25 %
C 16:1 Methyl palmitoleate.....	5 %
C 18:0 Methyl stearate.....	10 %
C 18:1 Methyl oleate.....	25 %
C 18:2 Methyl linoleate.....	3 %
C 18:3 Methyl linolenate.....	4 %
C 20:0 Methyl arachinate.....	2 %

8702.1 100 mg plastic 159,65 €

Fatty acid methyl ester mixture**ROTICHROM® ME 37**

Storage temp.: +4 °C

WGK 2

 **Warning H315****Type analysis:**

C 4:0 Methyl butyrate.....	7,7 %
C 6:0 Methyl caproate.....	7,7 %
C 8:0 Methyl caprylate.....	7,7 %
C 10:0 Methyl caprate.....	7,7 %
C 12:0 Methyl laurate.....	7,7 %
C 14:0 Methyl myristate.....	7,7 %
C 16:0 Methyl palmitate.....	7,7 %
C 18:0 Methyl stearate.....	7,7 %
C 18:1 Methyl oleate.....	7,7 %
C 18:2 Methyl linoleate.....	7,7 %
C 18:3 Methyl linolenate.....	7,7 %
C 20:0 Methyl arachinate.....	7,7 %
C 22:0 Methyl behenate.....	7,7 %

8703.1 100 mg plastic 159,65 €

Fatty acid methyl ester mixture**ROTICHROM® ME 38**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 8:0 Methyl octanoate.....	2,0 %
C 10:0 Methyl decanoate.....	3,0 %
C 12:0 Methyl dodecanoate.....	4,0 %
C 14:0 Methyl tetradecanoate.....	8,0 %
C 16:0 Methyl hexadecanoate.....	10,0 %
C 18:0 Methyl octadecanoate.....	7,0 %
C 18:1 Methyl oleate.....	8,0 %
C 18:2 Methyl linoleate.....	8,0 %
C 18:3 Methyl linolenate.....	10,0 %
C 20:0 Methyl eicosanoate.....	8,0 %
C 22:0 Methyl docosanoate.....	10,0 %
C 22:1 Methyl erucate.....	10,0 %
C 24:0 Methyl tetracosanoate.....	12,0 %

8705.1 100 mg plastic 159,65 €

Fatty acid methyl ester mixture**ROTICHROM® ME 39**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 12:0 Methyl laurate.....	2,0 %
C 14:0 Methyl myristate.....	2,0 %
C 14:1 Methyl myristoleate.....	1,0 %
C 16:0 Methyl palmitate.....	22,0 %
C 16:1 Methyl palmitoleate.....	5,0 %
C 17:0 Methyl heptadecanoate.....	10,0 %
C 18:0 Methyl stearate.....	10,0 %
C 18:1 Methyl oleate.....	32,0 %
C 18:2 Methyl linoleate.....	8,0 %
C 18:3 Methyl linolenate.....	4,0 %
C 20:4 Methyl arachidonate.....	4,0 %

8709.1 100 mg plastic 159,65 €

Fatty acid methyl ester mixture**ROTICHROM® ME 46**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 16:0 Methyl palmitate.....	10,0 %
C 18:0 Methyl stearate.....	5,0 %
C 18:1 Methyl oleate.....	30,0 %
C 18:2 Methyl linoleate.....	50,0 %
C 18:3 Methyl linolenate.....	5,0 %

8730.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® ME 51**

Storage temp.: +4 °C

WGK 1

Type analysis:

C 16:0 Methyl palmitate.....	4,0 %
C 18:0 Methyl stearate.....	1,0 %
C 18:1 Methyl oleate.....	58,0 %
C 18:2 Methyl linoleate.....	20,0 %
C 18:3 Methyl linolenate.....	10,0 %
C 20:0 Methyl arachinate.....	1,0 %
C 20:1 Methyl eicosenoate.....	2,0 %
C 22:0 Methyl behenate.....	1,0 %
C 22:1 Methyl erucate.....	2,00 %
C 24:0 Methyl lignocerate.....	1,0 %

8737.1 100 mg plastic 159,65 €

Fatty acid methyl ester mixture**ROTICHROM® FO 3**

Suitable for coconut, rape seed and mustard seed oils.

Storage temp.: +4 °C • WGK 1

Type analysis:

C 14:0 Methyl myristate.....	1,0 %
C 16:0 Methyl palmitate.....	4,0 %
C 18:0 Methyl stearate.....	3,0 %
C 18:1 Methyl oleate.....	45,0 %
C 18:2 Methyl linoleate.....	15,0 %
C 18:3 Methyl linolenate.....	3,0 %
C 20:0 Methyl arachinate.....	3,0 %
C 22:0 Methyl behenate.....	3,0 %
C 22:1 Methyl erucate.....	20,0 %
C 24:0 Methyl lignocerate.....	3,0 %

8756.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® FO 4**

Suitable for olive and tea seed oils.

Storage temp.: +4 °C

WGK 1

Type analysis:

C 16:0 Methyl palmitate.....	11,0 %
C 18:0 Methyl stearate.....	3,0 %
C 18:1 Methyl oleate.....	80,0 %
C 18:2 Methyl linoleate.....	6,0 %

8758.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® FO 5**

Suitable for coconut, palm kernel and babassu oils.

Storage temp.: +4 °C

WGK 1

Type analysis:

C 8:0 Methyl caprylate.....	~7 %
C 10:0 Methyl caprate.....	~5 %
C 12:0 Methyl laurate.....	~48 %
C 14:0 Methyl myristate.....	~15 %
C 16:0 Methyl palmitate.....	~7 %
C 18:0 Methyl stearate.....	~3 %
C 18:1 Methyl oleate.....	~12 %
C 18:2 Methyl linoleate.....	~3 %

8759.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® FO 7**

Suitable for rape seed oil.

Storage temp.: +4 °C

WGK 1

Type analysis:

C 14:0 Methyl myristate.....	1,0 %
C 16:0 Methyl palmitate.....	4,0 %
C 18:0 Methyl stearate.....	3,0 %
C 18:1 Methyl oleate.....	60,0 %
C 18:2 Methyl linoleate.....	12,0 %
C 18:3 Methyl linolenate.....	5,0 %
C 20:0 Methyl arachidate.....	3,0 %
C 20:1 Methyl eicosenoate.....	1,0 %
C 22:0 Methyl behenate.....	3,0 %
C 22:1 Methyl erucate.....	5,0 %
C 24:0 Methyl lignocerate.....	3,0 %

8761.1 100 mg plastic 132,80 €

Fatty acid methyl ester mixture**ROTICHROM® FO 8**

Suitable for rape seed oil.

Storage temp.: +4 °C

WGK 1

Type analysis:

C 16:0 Methyl palmitate.....	4,0 %
C 18:0 Methyl stearate.....	1,0 %
C 18:1 Methyl oleate.....	53,8 %
C 18:1 Methyl vaccenate.....	4,0 %
C 18:2 Methyl linoleate.....	20,2 %
C 18:3 Methyl linolenate.....	10,0 %
C 20:0 Methyl arachidate.....	2,0 %
C 20:1 Methyl eicosenoate.....	1,9 %
C 22:0 Methyl behenate.....	1,0 %
C 22:1 Methyl erucate.....	2,1 %

6330.1 100 mg plastic 159,65 €

Free acid mixture**ROTICHROM® FA 1**

Storage temp.: +4 °C

UN No. 1760 • ADR 8 III • WGK 1

⚠️ ⚠️ Danger H314-H335

Type analysis:

C 6:0 Caproic acid.....	20 %
C 8:0 Caprylic acid.....	20 %
C 10:0 Capric acid.....	20 %
C 12:0 Lauric acid.....	20 %
C 14:0 Myristic acid.....	20 %

8792.1 100 mg plastic 149,45 €

FA Glyceride mixture**ROTICHROM® TLC 8**

Storage temp.: +4 °C

UN No. 1888 • ADR 6.1 III • WGK 3

⚠️ ⚠️ Danger

H331-H372-H351-H361d-H302-H315-H319

Type analysis:

Monopalmitin.....	20 %
Dipalmitin.....	20 %
Tripalmitin.....	20 %
Methyl palmitate.....	20 %
Palmitic acid.....	20 %

8823.1 100 mg plastic 132,80 €

FA Glyceride mixture**ROTICHROM® TLC 10**

Storage temp.: +4 °C

WGK 1

Type analysis:

Monolein.....	20 %
Diolein.....	20 %
Triolein.....	20 %
Methyl oleate.....	20 %
Oleic acid.....	20 %

8827.1 100 mg plastic 159,65 €

Fatty Acids and their Derivatives

Art. No.	Description	Page
8736	Arachidic acid	1653
9264	Arachidic acid calcium salt	1653
4717	Arachidonic acid	1653
5487	Azelaic acid	1660
5030	Behenic acid	1668
5466	5-Bromovaleric acid	1693
3277	Butyric acid	1701
5572	Butyric acid ethyl ester	1701
9451	Butyric acid hexyl ester	1701
5186	Butyric acid methyl ester	1701
8797	Capric acid	1712
3164	Capric acid	1712
3575	Capric acid ethyl ester	1712
4420	Capric acid isoamyl ester	1712
3325	Capric acid methyl ester	1712
6709	Capric acid methyl ester	1712
7547	Capric aldehyde	1712
8799	Caproic acid	1712
6019	Caproic acid ethyl ester	1713
6653	Caproic acid methyl ester	1713
3327	Caproic aldehyde	1713
6757	Caproic aldehyde	1713
3168	Caprylic acid	1713
6018	Caprylic acid ethyl ester	1713
3331	Caprylic acid methyl ester	1713
4349	Caprylic acid methyl ester	1713
5762	Cetyl alcohol	1726
9229	Cetyl palmitate	1726
3404	Cholesterol palmitate	1733
3405	Cholesterol stearate	1733
3754	Dodecyl aldehyde	1793
7065	Erucic acid	1807
9932	Erucic acid	1807
9431	Erucic acid methyl ester	1807
3786	Glyceryl 1-monopalmitate	1859
3787	Glyceryl monostearate	1860
5085	Lanolin alcohols	1922
4410	Lauric acid ethyl ester	1924
6787	Lauric acid methyl ester	1924
AE81	Lecithin	1928
9812	Lecithin	1928
7514	Lecithin	1928
3976	Levulinic acid	1930
5315	Linoleic acid	1932
3198	Linoleic acid ethyl ester	1932
7217	Linoleic acid methyl ester	1933
3199	Linoleic acid methyl ester	1933
6039	Linolenic acid	1933
5320	Linolenic acid	1933
6469	Myristic acid	1978
5527	Myristic acid isopropyl ester	1979
3753	Myristic acid methyl ester	1979
7213	Oleic acid	2012
5362	Oleic acid	2012
3186	Oleic acid methyl ester	2012
8856	Oleic acid sodium salt	2013
5907	Palmitic acid	2019
4459	Palmitic acid methyl ester	2019
7015	Pelargonic acid	2023
4462	Pelargonic acid vanillylamide	2023
5270	Pimelic acid	2042
9459	Stearic acid	2183
8150	Stearic acid butyl ester	2183
8238	Stearic acid lithium salt	2183
4704	Stearic acid methyl ester	2183
8628	Stearic acid sodium salt	2184

8663	Stearyl alcohol	2184
4813	Tributyrin	2216
7252	Tricaprin	2217
7249	Tricaprylin	2217
8877	Tripelargonin	2222
4866	Undecanoic acid methyl ester	2231
3701	1-Undecanol	2231
4874	n-Valeric acid	2234
4876	n-Valeric acid methyl ester	2234
9295	Zinc stearate	2253

Fatty ponceau

► Sudan IV (C.I. 26105) see p. 2188

Fehling's solution I

Fehling's solution I

for sugar determination, reagent Ph.Eur.

Cupric sulphate solution, Copper(II)-sulphate solution

D 1,042

UN No. 3082 • ADR 9 III • WGK 3

H410

N055.1	1 l	glass	28,95 €
Original pack 6 x 1 l			27,50/1 l

Fehling's solution II

Fehling's solution II

for sugar determination, reagent Ph.Eur.

Alkaline potassium sodium tartrate solution

Potassium sodium tartrate solution

D 1,255

UN No. 1824 • ADR 8 II • WGK 1

Danger H290-H314

N056.1	1 l	glass	40,75 €
Original pack 6 x 1 l			38,71/1 l

Fenchol

► Fenchyl alcohol see p. 1827

D-Fenchone

► (+)-Fenchone see p. 1826

(+)-Fenchone



(+)-Fenchone

ROTICHRON® GC

Reference substance for GC

(1S,4R)-1,3,3-Trimethyl bicyclo[2.2.1]heptan-2-one, D-Fenchone

C₁₀H₁₆O

M 152,24 g/mol

D ~0,945 • bp 192-194 °C

mp 5 °C • flp 52 °C

Storage temp.: +4 °C

[4695-62-9] • EC No. 232-107-5

UN No. 1224 • ADR 3 III • WGK 2

Warning H226

Type analysis:

Purity (GC) ≥99 %

6210.1	1 g	plastic	75,15 €

(-)-Fenchone



(-)-1,3,3-Trimethyl-2-norbornanone, L-Fenchone

C₁₀H₁₆O

M 152,24 g/mol

D 0,948 • bp 192-194 °C

mp 5 °C • flp 68 °C

[7787-20-4] • EC No. 232-107-5

UN No. 1224 • ADR 3 III

Warning H226

(-)-Fenchone

≥98 %

Type analysis:

Appearance. colourless to light yellow liquid

Assay (GC) ≥98,0 %

Optical rotation -53,5° to -47,5°

7294.1	50 ml	glass	71,50 €

(-)-Fenchone

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥98,5 %

9377.1	1 g	plastic	75,15 €

Fenchyl alcohol

Fenchyl alcohol

ROTICHRON® GC

Reference substance for GC

Fenchol

C₁₀H₁₈O

M 154,25 g/mol

mp 39-45 °C • flp 73 °C

Storage temp.: +4 °C

[1632-73-1] • EC No. 216-639-5

WGK 2

Type analysis:

Purity (GC): ≥97,5 %

3253.1	1 g	plastic	75,15 €

Fermentation salt

- ▶ di-Ammonium hydrogen phosphate see p. 1639

Ferric ammonium citrate

- ▶ Ammonium iron(III) citrate see p. 1640

Ferric chloride

- ▶ Iron(III) chloride see p. 1906
- ▶ Iron(III) chloride hexahydrate see p. 1906

Ferric citrate

- ▶ Iron(III) citrate hydrate see p. 1907

Ferric oxide

- ▶ Iron(III) oxide see p. 1907

Ferroin

1,10-Phenanthroline iron(II) salt solution

WGK 1

H412

Ferroin indicator solution

for sewage analysis

For determination of COD according to DIN 38409 part H41 and H43.

T131.1	100 ml	glass	28,95 €

Ferroin solution

1/40 mol/l (1/40 M) Redox indicator

T132.1	100 ml	glass	36,05 €

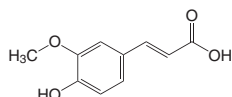
Ferrous ammonium sulphate

- ▶ Ammonium iron(II) sulphate hexahydrate see p. 1640

Ferrous sulphate heptahydrate

- ▶ Iron(II) sulphate heptahydrate see p. 1908

Ferulic acid



Ferulic acid

≥98 %

4-Hydroxy-3-methoxycinnamic acid

C₁₀H₁₀O₄

M 194,19 g/mol

mp 169-173 °C

[537-98-4] • EC No. 208-679-7

⚠ Warning H315-H319-H335

Type analysis:

Assay (acidim.): ≥98 %

Melting range: 169-173 °C

Loss on drying (3 h, 105 °C): ≤0,5 %

9936.1	10 g	plastic	32,15 €

9936.2	100 g	plastic	177,40 €

Ficoll® 400

Ficoll® 400

for molecular biology and biochemistry

For density gradient centrifugation; ingredient of gel loading buffers. Non-ionic polymer of saccharose.

M ~400 000 g/mol

[26873-85-8]

Guarantee analysis:

Appearance: white powder

Solubility (10 % in H₂O): clear, colourless

Loss on drying: ≤3 %

Heavy metals: ≤0,001 %

CN90.1	10 g	plastic	36,45 €

CN90.2	25 g	plastic	76,90 €

CN90.3	100 g	plastic	245,65 €

For further information, please see page 1277

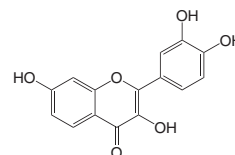
Filter aids

- ▶ Aluminium oxide, neutral, basic, acidic see p. 1627
- ▶ Celite® see p. 1722
- ▶ Cellulose see p. 1724
- ▶ Charcoal activated see p. 1727
- ▶ Florisil® see p. 1829
- ▶ Glass wool see p. 1852
- ▶ Infusorial earth see p. 1900
- ▶ Polyamide see p. 2045
- ▶ Quarz see p. 2075
- ▶ Quarz wool see p. 2076
- ▶ Sea sand see p. 2123

Filter glass wool

- ▶ Glass wool see p. 1852

Fisetin



3,3',4',7-Tetrahydroxyflavone

C₁₅H₁₀O₆

M 286,23 g/mol

mp 330 °C

Storage temp.: +4 °C

[528-48-3] • EC No. 208-434-4

Fisetin

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC): ≥99 %

7457.1	10 mg	plastic	184,40 €

Fisetin

ROTICHRON® ~CHR

7383.1	250 mg	glass	67,65 €

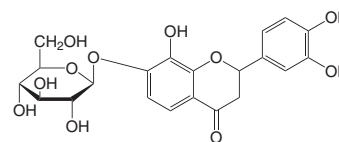
FITC

- ▶ Fluorescein isothiocyanate Isomer I see p. 1830

Fixation spray

- ▶ Roti®-Fix spray fixative see p. 2097

Flavanomarein



Flavanomarein

ROTICHRON® HPLC

Reference substance for HPLC

C₂₁H₂₂O₁₁

M 450,29 g/mol

Storage temp.: +4 °C

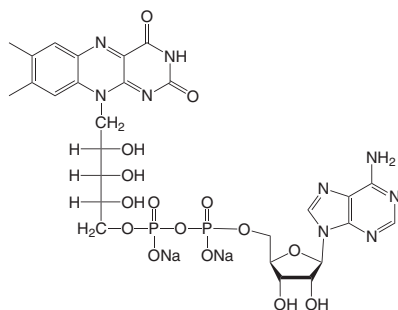
[577-38-8] • EC No. 209-411-1

Type analysis:

Purity (HPLC): ≥99 %

7458.1	10 mg	glass	321,45 €

Flavine-adenine-dinucleotide disodium salt



FAD disodium salt, Riboflavin-5'-adenosine diphosphate disodium salt

$C_{27}H_{31}O_{15}N_9Na_2P_2$

M 865,55 g/mol

Storage temp.: +4 °C

[84366-81-4] • EC No. 282-733-8

WGK 3

Flavine-adenine-dinucleotide disodium salt

≥95 %, **CELLPURE®**

Type analysis:

Appearance.....orange yellow to pale yellowish brown powder
 Assay (dry substance).....≥95 %
 Endotoxins.....≤100 E.U./g
 Heavy metals (as Pb).....≤0,001 %
 Arsenic (As₂O₃).....≤0,0001 %
 Moisture.....≤10 %

6833.1	10 mg	glass	23,15 €
6833.2	50 mg	glass	34,95 €
6833.3	100 mg	glass	46,15 €

Flavine-adenine-dinucleotide disodium salt

≥95 %, for biochemistry

Type analysis:

Appearance.....light orange powder
 Assay (dry substance).....≥95 %
 Water content.....≤10 %
 pH value (1 % in H₂O).....5,5-6,5

5581.2	10 mg	glass	17,10 €
5581.3	25 mg	glass	21,40 €
5581.1	100 mg	glass	42,90 €
5581.4	500 mg	glass	53,65 €
5581.5	1 g	glass	85,90 €

Flavonoids

Art. No.	Description	Page
6531	Acacetin	1596
5010	Acacetin	1596
5255	Amentoflavone trihydrate	1628
NE37	Apigenin	1651
NC37	Apigenin	1651
5611	Apigenin	1651
NE19	Apigenin-7-glucoside	1651
NC19	Apigenin-7-glucoside	1651
6348	Apigenin-7-glucoside	1651
5557	Apigenin-7-glucoside	1651
1085	Apiin	1652
1110	Baicalein	1665
1121	Baicalin	1665
8898	Bavachinin A	1668
7010	Butein	1697
6356	(+)-Catechin	1721
6200	(+)-Catechin	1721
8822	DL-Catechin hydrate	1721
6475	Chrysin	1735
6044	Chrysoeriol	1735
0641	Cyanidin 3-arabinoside chloride	1752
4545	Cyanidin chloride	1752
1133	Cyanin chloride	1752
5568	Cyanin chloride	1752
9323	Daidzin	1758
7444	Datiscetin	1758
4537	Delphinidin chloride	1761
0643	Delphinidin 3-galactoside chloride	1761
0644	Delphinidin 3-glucoside chloride	1762
0977	Delphinidin 3-rutinoside chloride	1762
7445	Didymin	1772
T893	(+)-Dihydroquercetin	1777
6960	Dihydrorobinetin	1777
8066	6,7-Dihydroxyflavone	1779
7446	Diosmetin	1786
9326	Diosmetinidin chloride	1786
6736	Diosmin	1786
7447	Diosmin	1787
7293	(-)-Epicatechin	1805
NE41	(-)-Epicatechin	1805
NC41	(-)-Epicatechin	1805
1139	(-)-Epicatechin	1805
5798	(-)-Epicatechin	1805
6358	(-)-Epicatechin gallate	1805
6359	(-)-Epigallocatechin	1805
6361	(-)-Epigallocatechin gallate	1805
NE42	Eriocitrin	1806
NC42	Eriocitrin	1806
7453	Eriodictyol	1807
6990	Eriodictyol	1807
6521	Eriodictyol-7-glucoside	1807
6493	Eupatorin	1821
7457	Fisetin	1827
7383	Fisetin	1827
7458	Flavanomarein	1827
9570	Formononetin	1840
7460	Galangin	1844
0716	Genistein	1847
3429	Genistein	1847
9374	Genistin	1847
7743	Hesperetin	1873
7570	Hesperetin	1873
9972	Hesperidin	1873
7577	Hesperidin	1873
5800	Hesperidin	1873
7737	Hesperidin	1873
7585	Homoeriodictyol	1880
9382	Homoeriodictyol	1880
6002	Homoorientin	1880
NE23	Hyperoside	1895
NC23	Hyperoside	1895
7932	Hyperoside	1895
4215	Hyperoside	1895
3967	Idaein chloride	1896
NE24	Isoquercitrin	1912
NC24	Isoquercitrin	1912
7586	Isoquercitrin	1912
5573	Isoquercitrin	1912
7589	Isorhamnetin	1913
6528	Isorhamnetin	1913
9386	Isorhamnetin-3-glucoside	1913
9388	Isorhamnetin-3-rutinoside	1913
6989	Isorhoifolin	1913
7498	Isosakuranetin	1913
5883	Isoscopoletin	1913
NE25	Isovitexin	1913
NC25	Isovitexin	1913
6412	Isovitexin	1913
7501	Kaempferide	1915
NE26	Kaempferol	1915
NC26	Kaempferol	1915
7503	Kaempferol	1915
5859	Kaempferol	1915
9321	Kaempferol-3-glucoside	1915
4526	Kaempferol-3-rhamnosidoglucoside	1915
6134	Keracyanine chloride	1917
NE49	Luteolin	1939
NC49	Luteolin	1939
4546	Luteolin	1939
4164	Luteolin-7-glucoside	1940
9325	Luteolinidin chloride	1940
6496	(-)-Maackiain	1942
6140	Malvidin chloride	1947
K013	Malvin chloride	1948
4171	Marein	1951
4172	Maritimein	1951
6459	Morin hydrate	1975
6461	Myricetin	1978
4187	Myricetin	1978
9391	Myricitrin	1978
8524	Naringenin	1981
1186	Naringenin	1981
8865	Naringenin-7-glucoside	1982
6786	Naringenin-7-glucoside	1982
6481	Naringin	1982
4200	Naringin	1982
4206	Neoequicitrin	1983
6767	Neohesperidin	1984
K030	Oenin chloride	2000
6151	Orientin	2015
4541	Pelargonidin chloride	2023
6853	Pelargonidin chloride	2023
1646	Pelargonidin 3,5-diglucoside chloride	2023
7406	Peltatoside	2024
1413	Peonidin 3,5-diglucoside chloride	2026
1619	Peonidin 3-glucoside chloride	2026
1469	Petunidin 3-glucoside chloride	2033
7051	Phloretin	2038
4196	Phlorizin dihydrate	2038
7413	Poncirin	2049
K014	Primulin chloride	2065
1210	Quercetin	2076
7138	Quercetin dihydrate (C.I. 75670)	2076
NE27	Quercetin dihydrate	2076
NC27	Quercetin dihydrate	2076
7417	Quercetin dihydrate	2077
9419	Quercetin-3-O-glucose-6"-acetate	2077
NE29	Quercitrin	2077

NC29	Quercitrin	2077
9417	Quercitrin	2077
7418	Rhamnetin	2083
7420	Rhoifolin	2085
9247	Rhoifolin	2085
7421	Robinetin	2086
6413	Saponarin	2120
9410	Sciadopitysin	2121
5578	Silybin	2138
1216	Spiraeoside	2165
4564	Spiraeoside	2165
7569	Sulfuretin	2188
9432	Syringetin-3-glucoside	2195
7425	Tamarixetin	2196
3268	Tiliosid	2210
NE56	Vitexin	2238
NC56	Vitexin	2238
6418	Vitexin	2238
5579	Vitexin	2238
4173	Vitexin	2238
NE34	Vitexin-2"-O-rhamnoside	2238
NC34	Vitexin-2"-O-rhamnoside	2238
5819	Vitexin-2"-O-rhamnoside	2238

Florisil®

Magnesium silicate
MgO · 3,6 SiO₂ · 1,53 OH
D 2,51
[1343-88-0] • EC No. 215-681-1

Florisil®

for Hydrocarbon Index analysis, 60-100 mesh

For Hydrocarbon Index determination according to EN ISO 9377-2 (H53).

Type analysis:

Magnesium oxide (MgO) ~15,5 %
Silicate (SiO₂) ~84,0 %
Sodium sulphate (Na₂SO₄) ~0,5 %
Adapted for EN ISO 9377-2 (H53)

CN39.1	100 g	plastic	37,55 €
CN39.3	500 g	plastic	126,35 €
Original pack 6 x 500 g			120,03/500 g
CN39.2	1 kg	plastic	201,05 €
Original pack 6 x 1 kg			191,00/1 kg

Florisil® PR

for (pesticides) residue analysis 60-100 mesh

specialty activated.

Type analysis:

Magnesium oxide (MgO) ~15,5 %
Silicate (SiO₂) ~84,0 %
Sodium sulphate (Na₂SO₄) ~0,5 %

T201.1	100 g	plastic	39,25 €
T201.2	500 g	plastic	134,40 €
Original pack 6 x 500 g			127,68/500 g
T201.3	1 kg	plastic	231,15 €
Original pack 6 x 1 kg			219,59/1 kg

Florisil®

for chromatography 60-100 mesh

Standard adsorbent

Type analysis:

Magnesium oxide (MgO) ~15,5 %
Silicate (SiO₂) ~84,0 %
Sodium sulphate (Na₂SO₄) ~0,5 %

0101.1	100 g	plastic	37,55 €
0101.2	500 g	plastic	126,35 €
Original pack 6 x 500 g			120,03/500 g

Florisil®

for chromatography 100-200 mesh

Type analysis:

Magnesium oxide (MgO) ~15,5 %
Silicate (SiO₂) ~84,0 %
Sodium sulphate (Na₂SO₄) ~0,5 %

0102.1	100 g	plastic	37,55 €
0102.2	500 g	plastic	126,35 €
Original pack 6 x 500 g			120,03/500 g

Flower of sulphur

► Sulphur see p. 2190

N-(9-Fluorenylmethoxycarbonyl)-L-alanine

► Fmoc-L-Alanine monohydrate see p. 1831

N-(9-Fluorenylmethoxycarbonyl)-L-arginine

► Fmoc-L-Arginine see p. 1834

N-(9-Fluorenylmethoxycarbonyl)-L-asparagine

► Fmoc-L-Asparagine see p. 1831

N-α-(9-Fluorenylmethoxycarbonyl)-L-Aspartic-acid-β-allyl ester

► Fmoc-L-Aspartic acid-(OAllyl) see p. 1832

N-α-(9-Fluorenylmethoxycarbonyl)-β-azido-L-alanine

► Fmoc-L-β-Azidoalanine see p. 1832

N-α-(9-Fluorenylmethoxycarbonyl)-γ-azido-L-homoalanine

► Fmoc-L-γ-Azido-homoalanine see p. 1832

N-α-(9-Fluorenylmethoxycarbonyl)-ε-azido-L-lysine

► Fmoc-L-Azidolysine see p. 1832

N-α-(9-Fluorenylmethoxycarbonyl)-δ-azido-L-ornithine

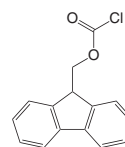
► Fmoc-L-Azidoornithine see p. 1832

N-α-(9-Fluorenylmethoxycarbonyl)-4-azido-L-phenylalanine

► Fmoc-L-4-Azidophenylalanine see p. 1833

trans-N-α-(9-Fluorenylmethoxycarbonyl)-4-azido-L-proline

► Fmoc-L-4-Azidoproline (2S,4R) see p. 1833

9-Fluorenylmethoxycarbonyl chloride (Fmoc-Cl)**9-Fluorenylmethoxycarbonyl chloride (Fmoc-Cl)**

≥98 %

Protective group reagent

Fmoc-Cl, (9-Fluorenylmethyl) chloroformate

C₁₅H₁₁ClO₂

M 258,7 g/mol

Storage temp.: +4 °C

[28920-43-6] • EC No. 249-313-6

UN No. 1759 • ADR 8 II • WGK 2

⚠ ⚠ Danger H302+H332-H314

Type analysis:

Assay (HPLC) ≥98,0 %

2201.1	5 g	glass	17,75 €
2201.2	25 g	glass	39,70 €
2201.3	100 g	glass	115,60 €

N-(9-Fluorenylmethoxycarbonyl)-L-glutamine

► Fmoc-L-Glutamine see p. 1834

N-(9-Fluorenylmethoxycarbonyl)-glycine

► Fmoc-Glycine see p. 1834

N-(9-Fluorenylmethoxycarbonyl)-L-isoleucine

► Fmoc-L-Isoleucine see p. 1834

N-(9-Fluorenylmethoxycarbonyl)-L-leucine

► Fmoc-L-Leucine see p. 1835

N-(9-Fluorenylmethoxycarbonyl)-L-lysine

► Fmoc-L-Lysine see p. 1835

N-(9-Fluorenylmethoxycarbonyl)-L-methionine

► Fmoc-L-Methionine see p. 1835

N-(9-Fluorenylmethoxycarbonyl)-L-phenylalanine

► Fmoc-L-Phenylalanine see p. 1835

N-(9-Fluorenylmethoxycarbonyl)-L-proline

► Fmoc-L-Proline see p. 1836

N-α-(9-Fluorenylmethoxycarbonyl)-L-propargylglycine

► Fmoc-L-Propargylglycine see p. 1836

F

N-(9-Fluorenylmethoxycarbonyl)-L-serine

► Fmoc-L-Serine monohydrate see p. 1836

N-(9-Fluorenylmethoxycarbonyl)-L-tryptophan

► Fmoc-L-Tryptophan see p. 1836

N-(9-Fluorenylmethoxycarbonyl)-L-tyrosine

► Fmoc-L-Tyrosine see p. 1837

N-(9-Fluorenylmethoxycarbonyl)-L-valine

► Fmoc-L-Valine see p. 1837

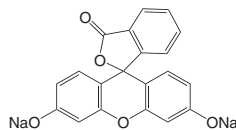
(9-Fluorenylmethyl) chloroformate

► 9-Fluorenylmethoxycarbonyl chloride see p. 1829

Fluorescein complexone

► Calcein see p. 1704

Fluorescein disodium salt (C.I. 45350)



Fluorescein disodium salt (C.I. 45350)

extra concentrated

For source staining and for the study of water current.

Uranin

$C_{20}H_{10}Na_2O_5$

M 376,28 g/mol

mp >300 °C

Solubility: 500 g/l (H_2O , 20 °C)

[518-47-8] • EC No. 208-253-0

WGK 1

Type analysis:

Appearance..... orange-red powder
Water..... ≤5,0 %
Absorption max. (in H_2O)..... ~491 nm
Solubilities:
Water..... 40 mg/ml
Ethanol..... 70 mg/ml
Soluble in water with a yellow-green fluorescence.

5283.3	25 g	glass	19,25 €
5283.1	100 g	glass	31,10 €
5283.2	500 g	glass	97,75 €
Original pack 6 x 500 g			92,86/500 g

Fluorescein-12-dUTP

Fluorescein-12-dUTP

≥95 %, 1 mM solution

For non-radioactive, enzymatic labelling of DNA.

Fluorescein-6-carboxyaminocaproyl-[5-(3-aminoallyl)-2'-deoxyuridine-5'-triphosphate]

$C_{39}H_{38}N_4O_{21}P_3$

M 991,66 g/mol

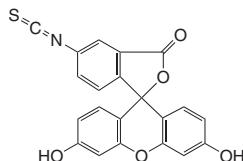
Storage temp.: -20 °C

Transport temp.: cooled

1048.1	25 nmol (25 µl)	plastic	165,55 €
1048.2	50 nmol (50 µl)	plastic	294,05 €

For further information, please see page 1208

Fluorescein isothiocyanate Isomer I



Fluorescein isothiocyanate Isomer I

≥90 %, p.a.

For the study of antigen and antibody reactions.

FITC

$C_{21}H_{11}NO_5S$

M 389,39 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[3326-32-7] • EC No. 222-042-0

WGK 2

⚠ Danger H334-H317

Type analysis:

Appearance..... orange-yellow, fine powder
Assay (HPLC)..... ≥90,0 %
Sulphated ash..... ≤1,0 %
Loss on drying..... ≤5 %

3745.2	100 mg	glass	31,75 €
3745.1	250 mg	glass	60,10 €

For further information, please see page 1406

Fluorescence staining (DNA-Gels)

► Roti®-GelStain see p. 2098

► Ethidium bromide solution 1 % see p. 1811

Fluorexon

► Calcein see p. 1704

Fluorhydric acid

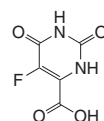
► Hydrofluoric acid Ultra-quality see p. 1887

► Hydrofluoric acid Supra-quality see p. 1887

Fluoride-Standards

► Fluoride IC Standard Solution see p. 2181

5-Fluoroorotic acid



5-Fluoroorotic acid

≥98 %, for biochemistry

For identification and selection of yeast strains.

5-Fluorouracil-4-carboxylic acid, 5-FOA

$C_5H_3FN_2O_4$

M 174,09 g/mol

mp ~280 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[703-95-7] • EC No. 211-876-0

WGK 1

⚠ Warning H302-H315-H319-H335

Type analysis:

Assay (titr.)..... ≥98 %
Water (KF)..... ≤10,5 %

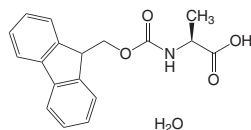
4015.1	500 mg	glass	36,45 €
4015.2	1 g	glass	55,80 €
4015.3	2,5 g	glass	107,40 €

5-Fluorouracil-4-carboxylic acid

► 5-Fluoroorotic acid see p. 1830

Fmoc-L-Aha-OH

► Fmoc-L-γ-Azidohomoalanine see p. 1832

Fmoc-L-Alanine monohydrate**Fmoc-L-Alanine monohydrate**

≥98 %, for biochemistry

Fmoc-L-Ala-OH, N-(9-Fluorenylmethoxycarbonyl)-L-alanine

C₁₈H₁₇NO₄

M 311,33 g/mol

mp 147 °C

Storage temp.: -20 °C

Transport temp.: room temp.

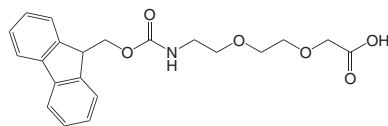
[35661-39-3]

WGK 2

Type analysis:

Assay (HPLC)..... ≥98,0 %
 Free amino acids..... ≤0,2 %

6646.1	10 g	glass	14,55 €
6646.2	50 g	glass	33,25 €
6646.3	250 g	glass	124,60 €
6646.4	500 g	glass	224,70 €
Original pack 6 x 500 g			213,47/500 g
6646.5	1 kg	glass	428,95 €
Original pack 6 x 1 kg			407,50/1 kg

Fmoc-8-Amino-3,6-dioxaoctanoic acid**Fmoc-8-Amino-3,6-dioxaoctanoic acid**

≥99 %, for biochemistry

Linker

[2-[2-(Fmoc-amino)ethoxy]ethoxy]acetic acid, Fmoc-O₂Oc-OHC₂₁H₂₃NO₆

M 385,4 g/mol

mp 85-102 °C

Storage temp.: +4 °C

[166108-71-0]

WGK 3

Type analysis:

Appearance..... white cryst. powder
 Assay (HPLC)..... ≥99 %

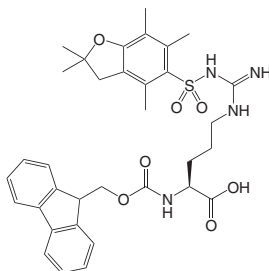
7400.1	500 mg	glass	66,55 €
7400.2	1 g	glass	107,40 €

{2-[2-(Fmoc-amino)ethoxy]ethoxy}acetic acid

► Fmoc-8-Amino-3,6-dioxaoctanoic acid
 see p. 1831

9-Fmoc-amino-xanthen-3-yloxy-Merrifield resin

► Sieber amide resin see p. 2127

Fmoc-L-Arginine-(Pbf)

NEW

Fmoc-L-Arginine-(Pbf)

≥98 %, for biochemistry

N-α-Fmoc-N-ω-(2,2,4,6,7-pentamethyl-5-sulfonyl-1,2,3,4-tetrahydrophthalimido)-L-arginine, Fmoc-L-Arg(Pbf)-OH

C₃₄H₄₀N₄O₇S

M 648,77 g/mol

mp 130-136 °C

Storage temp.: +4 °C

[154445-77-9]

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... white to off-white powder
 Assay (HPLC)..... ≥98,0 %
 Water (KF)..... ≤2,0 %
 Specific rotation [α]_D²⁰ (c=1 in DMF)..... -6,0° to -4,0°
 Enantiomeric purity..... ≤0,5 % D-Enantiomer

8833.1	5 g	glass	35,40 €
8833.2	25 g	glass	131,05 €
8833.3	100 g	glass	428,95 €

Fmoc-L-Arg-OH

► Fmoc-L-Arginine see p. 1834

Fmoc-L-Arg(Pbf)-OH

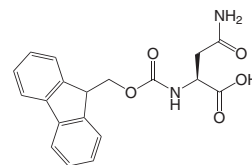
► Fmoc-L-Arginine-(Pbf) see p. 1831

Fmoc-L-Asn-OH

► Fmoc-L-Asparagine see p. 1831

Fmoc-L-Asn(Trt)-OH

► Fmoc-L-Asparagine-(Trityl) see p. 1831

Fmoc-L-Asparagine**Fmoc-L-Asparagine**

≥98,5 %, for biochemistry

Fmoc-L-Asn-OH, N-(9-Fluorenylmethoxycarbonyl)-L-asparagine

C₁₉H₁₈N₂O₅

M 354,36 g/mol

mp 190 °C

Storage temp.: +4 °C

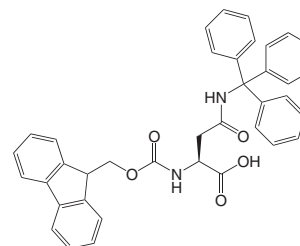
[71989-16-7] • EC No. 276-252-2

WGK 3

Type analysis:

Appearance..... white to off-white powder
 Assay..... ≥98,5 %
 Loss on drying..... ≤0,5 %

6897.1	5 g	glass	17,10 €
6897.2	25 g	glass	48,30 €
6897.3	100 g	glass	150,40 €

Fmoc-L-Asparagine-(Trityl)

NEW

Fmoc-L-Asparagine-(Trityl)

≥98 %, for biochemistry

Fmoc-L-Asn(Trt)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-N-β-trityl-L-asparagine

C₃₈H₃₂N₂O₅

M 596,68 g/mol

[132388-59-1]

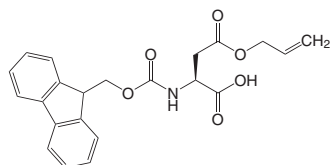
WGK 2

Type analysis:

Appearance..... white to off-white powder
 Assay (HPLC)..... ≥98,0 %
 Water (KF)..... ≤1,0 %
 Spec. rotation [α]_D²⁴ (0,5 % in MeOH)..... -16,0° to -13,0°
 Enantiomeric purity..... ≤0,5 % D-enantiomer

9652.1	5 g	glass	19,25 €
9652.2	25 g	glass	60,10 €
9652.3	100 g	glass	192,45 €

Fmoc-L-Aspartic acid-(OAllyl)



Fmoc-L-Aspartic acid-(OAllyl)

≥98,5 %, for biochemistry

Fmoc-L-Asp(OAllyl)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-L-Aspartic acid-β-allyl ester

C₂₂H₂₁NO₆

M 395,41 g/mol

mp 111 °C

Storage temp.: +4 °C

[146982-24-3]

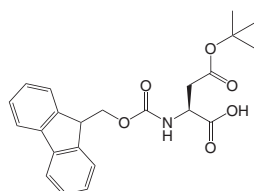
WGK 2

Type analysis:

Assay (HPLC)..... ≥98,5 %

6641.1	500 mg	glass	24,20 €
6641.2	1 g	glass	39,25 €
6641.3	5 g	glass	163,95 €

Fmoc-L-Aspartic acid-(OtBu)



NEW

Fmoc-L-Aspartic acid-(OtBu)

≥99 %, for biochemistry

Fmoc-L-Asp(OtBu)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-L-aspartic acid-β-tert-butyl ester

C₂₃H₂₅NO₆

M 411,46 g/mol

Storage temp.: +4 °C

[71989-14-5] • EC No. 276-251-7

WGK 1

Type analysis:

Appearance..... white powder

Assay (HPLC)..... ≥99,0 %

Water (KF)..... ≤1,0 %

Spec. rotation [α]_D²⁵ (1 % in DMF)..... -25,5° to -22,5°

Foreign amino acids..... ≤0,3 %

Enantiomeric purity..... ≤0,3 % D-enantiomer

9654.1	5 g	glass	21,40 €
9654.2	25 g	glass	64,40 €
9654.3	100 g	glass	213,95 €

Fmoc-L-Asp(OAllyl)-OH

► Fmoc-L-Aspartic acid-(OAllyl) see p. 1832

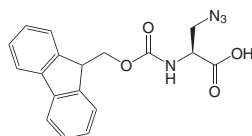
Fmoc-L-Asp(OtBu)-OH

► Fmoc-L-Aspartic acid-(OtBu) see p. 1832

Fmoc-L-Aza-OH

► Fmoc-L-β-Azidoalanine see p. 1832

Fmoc-L-β-Azidoalanine



Fmoc-L-β-Azidoalanine

≥98 %, for biochemistry

N-α-(9-Fluorenylmethoxycarbonyl)-β-azido-L-alanine, Fmoc-L-Aza-OH

C₁₈H₁₆N₄O₄

M 352,3 g/mol

mp 117-130 °C

Storage temp.: +4 °C

[684270-46-0]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

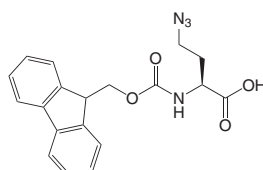
Appearance..... white cryst. powder

Assay (HPLC)..... ≥98 %

Specific rotation [α]_D²⁵ (c=1 in DMF)..... -11,0° to -8,0°

7369.1	250 mg	glass	99,90 €
7369.2	1 g	glass	332,20 €

Fmoc-L-γ-Azidohomoalanine



Fmoc-L-γ-Azidohomoalanine

≥99 %, for biochemistry

N-α-(9-Fluorenylmethoxycarbonyl)-γ-azido-L-homoalanine, Fmoc-L-Aha-OH

C₁₉H₁₈N₄O₄

M 366,41 g/mol

mp 123-128 °C

Storage temp.: +4 °C

[942518-20-9]

WGK 3

Type analysis:

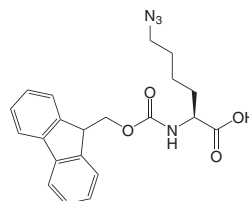
Appearance..... white cryst. powder

Assay (HPLC)..... ≥99 %

Specific rotation [α]_D²⁵ (c=1 in DMF)..... -29,0° to -26,5°

7363.1	250 mg	glass	79,45 €
7363.2	1 g	glass	274,15 €

Fmoc-L-Azidolysine



Fmoc-L-Azidolysine

≥98 %, for biochemistry

N-α-(9-Fluorenylmethoxycarbonyl)-ε-azido-L-lysine, Fmoc-L-Lys(N₃)-OH

C₂₁H₂₂N₄O₄

M 394,42 g/mol

mp 74-82 °C

Storage temp.: +4 °C

[159610-89-6]

WGK 3

Type analysis:

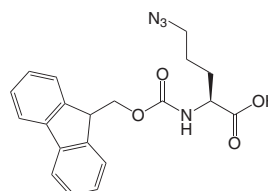
Appearance..... white cryst. powder

Assay (HPLC)..... ≥98 %

Specific rotation [α]_D²⁵ (c=1 in DMF)..... -14,0° to -12,0°

7357.1	250 mg	glass	93,45 €
7357.2	1 g	glass	310,70 €

Fmoc-L-Azidoornithine



Fmoc-L-Azidoornithine

≥98 %, for biochemistry

N-α-(9-Fluorenylmethoxycarbonyl)-δ-azido-L-ornithine, Fmoc-L-Orn(N₃)-OH

C₂₀H₂₀N₄O₄

M 380,4 g/mol

mp 132-138 °C

Storage temp.: +4 °C

[1097192-04-5]

WGK 3

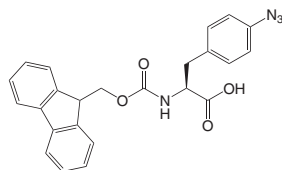
Type analysis:

Appearance..... white cryst. powder

Assay (HPLC)..... ≥98 %

Specific rotation [α]_D²⁵ (c=1 in DMF)..... -15,5° to -13,5°

7362.1	250 mg	glass	99,90 €
7362.2	1 g	glass	332,20 €

Fmoc-L-4-Azidophenylalanine**Fmoc-L-4-Azidophenylalanine**

≥98 %, for biochemistry

N-α-(9-Fluorenylmethoxycarbonyl)-4-azido-L-phenylalanine, Fmoc-L-Phe(4-N₃)-OHC₂₄H₂₀N₄O₄

M 428,5 g/mol

Storage temp.: +4 °C

[163217-43-4]

WGK 3

Type analysis:

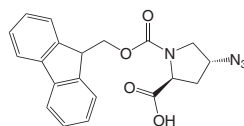
Appearance.....white to off-white powder

Assay (TLC).....≥98 %

Solubility (5 % in MeOH).....clear solution

7485.1	100 mg	glass	48,30 €

7485.2	250 mg	glass	104,20 €

Fmoc-L-4-Azidoproline (2S,4R)**Fmoc-L-4-Azidoproline (2S,4R)**

≥98 %, for biochemistry

trans-N-α-(9-Fluorenylmethoxycarbonyl)-4-azido-L-proline, Fmoc-L-Pro(4-N₃)-OH (2S,4R)C₂₀H₁₈N₄O₄

M 378,38 g/mol

mp 140-145 °C

Storage temp.: +4 °C

[702679-55-8]

WGK 3

Type analysis:

Appearance.....white cryst. powder

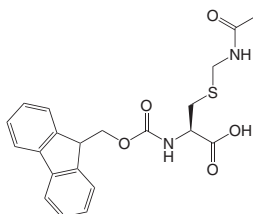
Assay (HPLC).....≥98 %

Spec. rotation [α]_D²⁰ (c=1 in methanol). -37,5° to -34,0°

7367.1	100 mg	glass	89,15 €

7367.2	250 mg	glass	176,85 €

7367.3	1 g	glass	590,20 €

Fmoc-Cl► 9-Fluorenylmethoxycarbonyl chloride
see p. 1829**Fmoc-L-Cys(Acm)-OH**► Fmoc-L-Cysteine-(Acetamidomethyl)
see p. 1833**Fmoc-L-Cysteine-(Acetamidomethyl)**

NEW

Fmoc-L-Cysteine-(Acetamidomethyl)

≥99 %, for biochemistry

N-α-Fmoc-S-acetamidomethyl-L-cysteine, Fmoc-L-Cys(Acm)-OH

C₂₁H₂₂N₂O₅S

M 414,48 g/mol

mp 148-154 °C

Storage temp.: +4 °C

[86060-81-3]

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....white to off-white powder

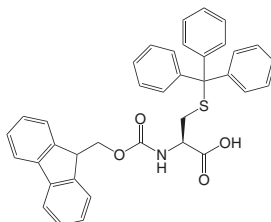
Assay (HPLC).....≥99,0 %

Enantiomeric purity.....≤0,2 % D-Enantiomer

8842.1	5 g	glass	32,15 €

8842.2	25 g	glass	92,35 €

8842.3	100 g	glass	289,20 €

Fmoc-L-Cysteine-(Trityl)

NEW

Fmoc-L-Cysteine-(Trityl)

≥98,5 %, for biochemistry

N-α-Fmoc-S-trityl-L-cysteine, Fmoc-L-Cys(Trt)-OH

C₃₇H₃₁NO₄S

M 585,71 g/mol

mp 169-179 °C

Storage temp.: +4 °C

[103213-32-7]

WGK 1

Type analysis:

Appearance.....white to off-white powder

Assay (HPLC).....≥98,5 %

Enantiomeric purity.....≤0,2 % D-Enantiomer

8841.1	5 g	glass	18,20 €

8841.2	25 g	glass	53,65 €

8841.3	100 g	glass	161,15 €

Fmoc-L-Cys(Trt)-OH

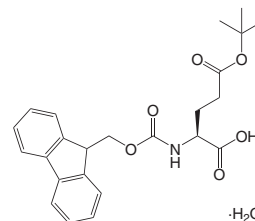
► Fmoc-L-Cysteine-(Trityl) see p. 1833

Fmoc-L-Gln-OH

► Fmoc-L-Glutamine see p. 1834

Fmoc-L-Gln(Trt)-OH

► Fmoc-L-Glutamine-(Trityl) see p. 1834

Fmoc-L-Glutamic acid-(OtBu) monohydrate

NEW

Fmoc-L-Glutamic acid-(OtBu) monohydrate

≥99 %, for biochemistry

Fmoc-L-Glu(OtBu)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-L-glutamic acid-γ-tert-butyl ester monohydrate

C₂₄H₂₇NO₆ · H₂O

M 443,50 g/mol

Storage temp.: +4 °C

[204251-24-1]

WGK 1

Type analysis:

Appearance.....white to off-white powder

Assay (HPLC).....≥99,0 %

Water (KF).....3,0-5,0 %

Spec. rotation [α]_D²⁴ (1 % in DMF).....-19,0° to -17,0°

Foreign amino acids.....≤0,3 %

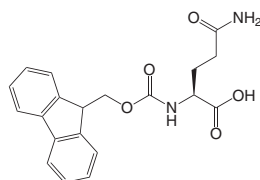
Enantiomeric purity.....≤0,1 % D-enantiomer

9655.1	5 g	glass	20,35 €

9655.2	25 g	glass	62,25 €

9655.3	100 g	glass	203,20 €

Fmoc-L-Glutamine



Fmoc-L-Glutamine

≥98 %, for biochemistry

Fmoc-L-Gln-OH, N-(9-Fluorenylmethoxycarbonyl)-L-glutamine

C₂₀H₂₀N₂O₅

M 368,39 g/mol

mp 218-226 °C

Storage temp.: +4 °C

[71989-20-3] • EC No. 276-254-3

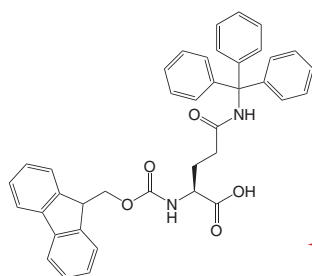
WGK 3

Type analysis:

Appearance.....white to off-white powder
Assay.....≥95,0 %
Water (KF).....≤1,0 %

6898.1	5 g	glass	17,10 €
6898.2	25 g	glass	48,30 €
6898.3	100 g	glass	150,40 €

Fmoc-L-Glutamine-(Trityl)



NEW

Fmoc-L-Glutamine-(Trityl)

≥98 %, for biochemistry

Fmoc-L-Gln(Trt)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-N-γ-trityl-L-glutamine

C₃₉H₃₄N₂O₅

M 610,71 g/mol

[132327-80-1]

WGK 1

Type analysis:

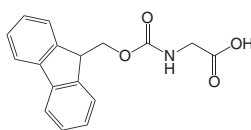
Appearance.....white powder
Assay (HPLC).....≥98,0 %
Water (KF).....≤1,0 %
Spec. rotation [α]_D²⁴ (1 % in MeOH).....-3,0° to -1,0°
Foreign amino acids.....≤0,3 %
Enantiomeric purity.....≤0,1 % D-enantiomer

9653.1	5 g	glass	22,50 €
9653.2	25 g	glass	74,10 €
9653.3	100 g	glass	247,25 €

Fmoc-L-Glu(OtBu)-OH

► Fmoc-L-Glutamic acid-(OtBu) monohydrate see p. 1833

Fmoc-Glycine



Fmoc-Glycine

≥99 %, for biochemistry

Fmoc-Gly-OH, N-(9-Fluorenylmethoxycarbonyl)-glycine

C₁₇H₁₅NO₄

M 297,31 g/mol

mp 174 °C

Storage temp.: +4 °C

[29022-11-5] • EC No. 249-373-3

WGK 3

Type analysis:

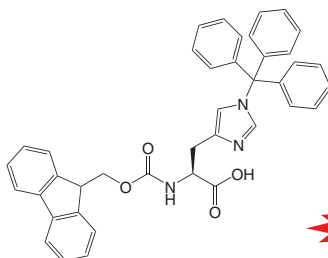
Appearance.....white to off-white powder
Assay.....≥99,0 %
Loss on drying.....≤1,0 %

6899.1	5 g	glass	10,65 €
6899.2	25 g	glass	32,15 €
6899.3	100 g	glass	107,40 €

Fmoc-Gly-OH

► Fmoc-Glycine see p. 1834

Fmoc-L-Histidine-(Trityl)



NEW

Fmoc-L-Histidine-(Trityl)

≥98,5 %, for biochemistry

N-α-Fmoc-N-(im)-trityl-L-histidine, Fmoc-L-His(Trt)-OH

C₄₀H₃₃N₃O₄

M 619,71 g/mol

mp 150-170 °C

Storage temp.: +4 °C

[109425-51-6] • EC No. 439-640-4

WGK 1

Type analysis:

Appearance.....white to off-white powder
Assay (HPLC).....≥98,5 %
Enantiomeric purity.....≤0,2 % D-Enantiomer

8843.1	5 g	glass	20,35 €
8843.2	25 g	glass	62,25 €
8843.3	100 g	glass	188,05 €

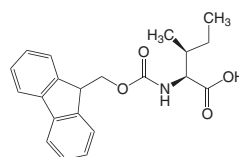
Fmoc-L-His(Trt)-OH

► Fmoc-L-Histidine-(Trityl) see p. 1834

Fmoc-L-Ile-OH

► Fmoc-L-Isoleucine see p. 1834

Fmoc-L-Isoleucine



Fmoc-L-Isoleucine

≥98,5 %, for biochemistry

Fmoc-L-Ile-OH, N-(9-Fluorenylmethoxycarbonyl)-L-isoleucine

C₂₁H₂₃NO₄

M 353,41 g/mol

mp 145 °C

Storage temp.: +4 °C

[71989-23-6]

WGK 2

Type analysis:

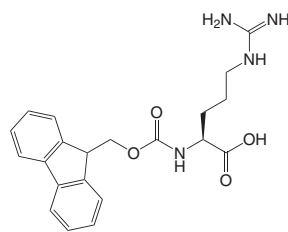
Assay (HPLC).....≥98,5 %
Free amino acids.....≤0,2 %
Water (KF).....≤1,0 %

6647.1	10 g	glass	14,55 €
6647.2	50 g	glass	33,25 €
6647.3	250 g	glass	124,60 €

Fmoc-L-Ala-OH

► Fmoc-L-Alanine monohydrate see p. 1831

Fmoc-L-Arginine



Fmoc-L-Arginine

≥98 %, for biochemistry

Fmoc-L-Arg-OH, N-(9-Fluorenylmethoxycarbonyl)-L-arginine

C₂₁H₂₄N₄O₄

M 396,44 g/mol

mp 145 °C

[91000-69-0]

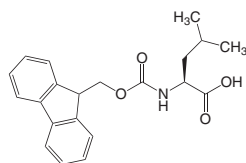
WGK 3

Type analysis:

Appearance.....white to off-white powder
Assay.....≥98,0 %
Water (KF).....≤2,0 %

6896.1	5 g	glass	28,95 €
6896.2	25 g	glass	112,35 €

Fmoc-L-Leucine



Fmoc-L-Leucine

≥98,5 %, for biochemistry

Fmoc-L-Leu-OH, N-(9-Fluorenyl-methoxycarbonyl)-L-leucine

C₂₁H₂₃NO₄

M 353,41 g/mol

mp 152 °C

Storage temp.: +4 °C

[35661-60-0]

WGK 2

Type analysis:

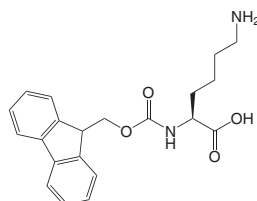
Assay (HPLC)..... ≥98,5 %
 Free amino acids..... ≤0,2 %
 Water (KF)..... ≤1,0 %

6654.1	10 g	glass	14,55 €
6654.2	50 g	glass	33,25 €
6654.3	250 g	glass	124,60 €
6654.4	500 g	glass	224,70 €
Original pack 6 x 500 g			213,47/500 g

Fmoc-L-Leu-OH

► Fmoc-L-Leucine see p. 1835

Fmoc-L-Lysine



Fmoc-L-Lysine

≥98 %, for biochemistry

Fmoc-L-Lys-OH, N-(9-Fluorenyl-methoxycarbonyl)-L-lysine

C₂₁H₂₄N₂O₄

M 368,44 g/mol

Storage temp.: +4 °C

[105047-45-8]

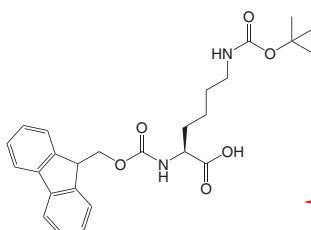
WGK 3

Type analysis:

Appearance..... white to off-white powder
 Assay..... ≥98,0 %

6900.1	1 g	glass	16,05 €
6900.2	5 g	glass	48,30 €
6900.3	10 g	glass	85,90 €

Fmoc-L-Lysine-(Boc)



NEW

Fmoc-L-Lysine-(Boc)

≥98,5 %, for biochemistry

N-α-Fmoc-N-ε-Boc-L-lysine,
Fmoc-L-Lys(Boc)-OHC₂₆H₃₂N₂O₆

M 486,55 g/mol

mp 126-132 °C

Storage temp.: +4 °C

[71989-26-9] • EC No. 276-256-4

WGK 1

Type analysis:

Appearance..... white to off-white powder
 Assay (HPLC)..... ≥98,5 %
 Water (KF)..... ≤1,0 %
 Specific rotation [α]_D²⁰ (c=1 in DMF)..... -13,0° to -11,0°
 Enantiomeric purity..... ≤0,2 % D-Enantiomer

8840.1	5 g	glass	18,20 €
8840.2	25 g	glass	53,65 €
8840.3	100 g	glass	161,15 €

Fmoc-L-Lys-OH

► Fmoc-L-Lysine see p. 1835

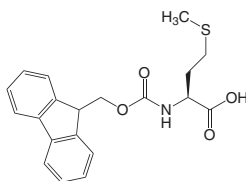
Fmoc-L-Lys(Boc)-OH

► Fmoc-L-Lysine-(Boc) see p. 1835

Fmoc-L-Lys(N3)-OH

► Fmoc-L-Azidolysine see p. 1832

Fmoc-L-Methionine



Fmoc-L-Methionine

≥98,5 %, for biochemistry

Fmoc-L-Met-OH, N-(9-Fluorenyl-methoxycarbonyl)-L-methionine

C₂₀H₂₁NO₄S

M 371,45 g/mol

mp 121 °C

Storage temp.: +4 °C

[71989-29-1]

WGK 2

Type analysis:

Assay (HPLC)..... ≥98,5 %
 Free amino acids..... ≤0,1 %

6656.1	10 g	glass	14,55 €
6656.2	50 g	glass	33,25 €
6656.3	250 g	glass	124,60 €

Fmoc-L-Met-OH

► Fmoc-L-Methionine see p. 1835

Fmoc-O2Oc-OH

► Fmoc-8-Amino-3,6-dioxaoctanoic acid
see p. 1831

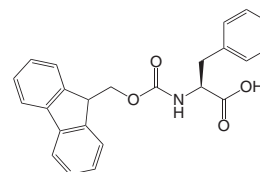
Fmoc-L-Orn(N3)-OH

► Fmoc-L-Azidoornithine see p. 1832

Fmoc-L-Phe(4-N3)-OH

► Fmoc-L-4-Azidophenylalanine see p. 1833

Fmoc-L-Phenylalanine



Fmoc-L-Phenylalanine

≥98,5 %, for biochemistry

Fmoc-L-Phe-OH, N-(9-Fluorenyl-methoxycarbonyl)-L-phenylalanine

C₂₄H₂₁NO₄

M 387,43 g/mol

mp 184 °C

Storage temp.: +4 °C

[35661-40-6]

WGK 1

Type analysis:

Assay (HPLC)..... ≥98,5 %
 Free amino acids..... ≤0,1 %
 Water (KF)..... ≤1,0 %

6658.1	10 g	glass	15,60 €
6658.2	50 g	glass	39,70 €
6658.3	250 g	glass	149,45 €

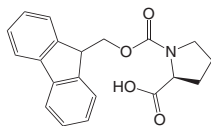
Fmoc-L-Phe-OH

► Fmoc-L-Phenylalanine see p. 1835

Fmoc-L-Pra-OH

► Fmoc-L-Propargylglycine see p. 1836

Fmoc-L-Proline



Fmoc-L-Proline

≥99 %, for biochemistry

Fmoc-L-pro-OH, N-(9-Fluorenylmethoxycarbonyl)-L-proline

C₂₀H₂₁NO₄

M 337,37 g/mol

mp 117 °C

Storage temp.: +4 °C

[71989-31-6]

WGK 1

Type analysis:

Assay (HPLC) ≥99 %
Free amino acids ≤0,1 %
Water (KF) ≤6,0 %

6659.1	10 g	glass	15,60 €
6659.2	50 g	glass	39,70 €
6659.3	250 g	glass	149,45 €

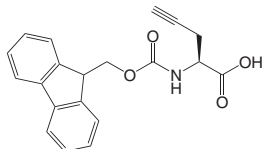
Fmoc-L-Pro-OH

► Fmoc-L-Proline see p. 1836

Fmoc-L-Pro(4-N3)-OH (2S,4R)

► Fmoc-L-4-Azidoproline (2S,4R) see p. 1833

Fmoc-L-Propargylglycine



Fmoc-L-Propargylglycine

≥99 %, for biochemistry

N-α-(9-Fluorenylmethoxycarbonyl)-L-propargylglycine, Fmoc-L-Pra-OH

C₂₀H₁₇NO₄

M 335,3 g/mol

Storage temp.: +4 °C

[198561-07-8]

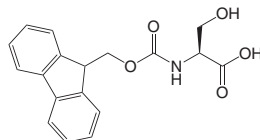
WGK 3

Type analysis:

Appearance white powder
Assay ≥99 %
Enantiomeric purity ≥99 %
Identity complies
Water (KF) ≤0,5 %

7491.1	100 mg	glass	44,65 €
7491.2	250 mg	glass	82,70 €

Fmoc-L-Serine monohydrate



Fmoc-L-Serine monohydrate

≥98 %, for biochemistry

Fmoc-L-Ser-OH, N-(9-Fluorenylmethoxycarbonyl)-L-serine

C₁₈H₁₉NO₆

M 345,35 g/mol

Storage temp.: +4 °C

[73724-45-5]

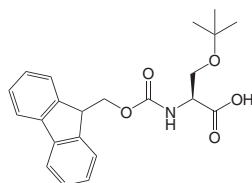
WGK 3

Type analysis:

Appearance white powder
Assay ≥98,0 %
Loss on drying ≤1,0 %

6901.1	5 g	glass	47,20 €
6901.2	25 g	glass	150,40 €

Fmoc-L-Serine-(tBu)



NEW

Fmoc-L-Serine-(tBu)

≥99 %, for biochemistry

Fmoc-L-Ser(tBu)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-O-tert-butyl-L-serine

C₂₂H₂₅NO₅

M 383,44 g/mol

[71989-33-8] • EC No. 276-260-6

WGK 1

Type analysis:

Appearance white to off-white powder
Assay (HPLC) ≥99,0 %
Water (KF) ≤1,0 %
Spec. rotation [α]_D²⁴ (1 % in EtOAc) +24,5° to +26,5°
Foreign amino acids ≤0,3 %
Enantiomeric purity ≤0,5 % D-enantiomer

9666.1	5 g	glass	21,40 €
9666.2	25 g	glass	64,40 €
9666.3	100 g	glass	213,95 €

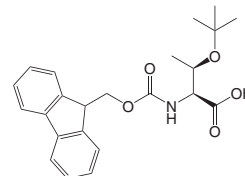
Fmoc-L-Ser-OH

► Fmoc-L-Serine monohydrate see p. 1836

Fmoc-L-Ser(tBu)-OH

► Fmoc-L-Serine-(tBu) see p. 1836

Fmoc-L-Threonine-(tBu)



NEW

Fmoc-L-Threonine-(tBu)

≥99 %, for biochemistry

Fmoc-L-Thr(tBu)-OH, N-α-(9-Fluorenylmethoxycarbonyl)-O-tert-butyl-L-threonine

C₂₃H₂₇NO₅

M 397,47 g/mol

Storage temp.: +4 °C

[71989-35-0] • EC No. 276-261-1

WGK 1

Type analysis:

Appearance white powder
Assay (HPLC) ≥99,0 %
Water (KF) ≤1,0 %
Spec. rotation [α]_D²⁴ (1 % in DMF) -7,0° to -5,0°
Foreign amino acids ≤0,3 %
Enantiomeric purity ≤0,5 % D-enantiomer

9659.1	5 g	glass	21,40 €
9659.2	25 g	glass	64,40 €
9659.3	100 g	glass	213,95 €

Fmoc-L-Thr(tBu)-OH

► Fmoc-L-Threonine-(tBu) see p. 1836

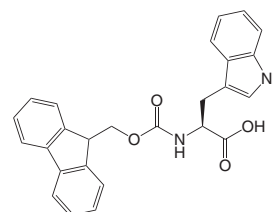
Fmoc-L-Trp-OH

► Fmoc-L-Tryptophan see p. 1836

Fmoc-L-Trp(Boc)-OH

► Fmoc-L-Tryptophan-(Boc) see p. 1837

Fmoc-L-Tryptophan



Fmoc-L-Tryptophan

≥98 %, for biochemistry

Fmoc-L-Trp-OH, N-(9-Fluorenylmethoxycarbonyl)-L-tryptophan

C₂₆H₂₂N₂O₄

M 426,46 g/mol

mp 160-170 °C

Storage temp.: +4 °C

[35737-15-6] • EC No. 252-706-5

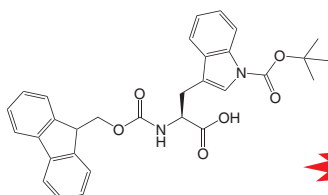
WGK 3

Type analysis:

Appearance white powder
Assay ≥98,0 %
Water (KF) ≤1,0 %

6903.1	5 g	glass	10,65 €
6903.2	25 g	glass	32,15 €
6903.3	100 g	glass	107,40 €

Fmoc-L-Tryptophan-(Boc)



NEW

Fmoc-L-Tryptophan-(Boc)

≥97 %, for biochemistry

Fmoc-L-Trp(Boc)-OH, N-α-(9-Fluorenyl-methoxycarbonyl)-N-(in)-Boc-L-tryptophan

C₃₁H₃₀N₂O₆

M 526,59 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[143824-78-6]

WGK 1

Type analysis:

Appearance.....white to off-white powder

Assay (HPLC).....≥97,0 %

Spec. rotation [α]_D²⁴ (1 % in DMF).....-22,0° to -18,0°

Foreign amino acids.....≤0,3 %

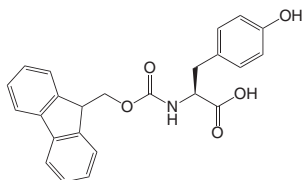
Enantiomeric purity.....≤0,5 % D-enantiomer

9668.1	5 g	glass	26,80 €
9668.2	25 g	glass	89,15 €
9668.3	100 g	glass	279,50 €

Fmoc-L-Tyr-OH

► Fmoc-L-Tyrosine see p. 1837

Fmoc-L-Tyrosine



Fmoc-L-Tyrosine

≥98 %, for biochemistry

Fmoc-L-Tyr-OH, N-(9-Fluorenyl-methoxycarbonyl)-L-tyrosine

C₂₄H₂₁NO₅

M 403,43 g/mol

mp 170-180 °C

Storage temp.: +4 °C

[92954-90-0]

WGK 3

Type analysis:

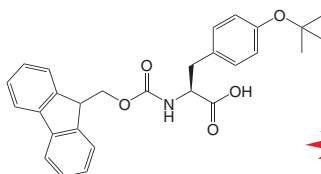
Appearance.....white to off-white powder

Assay.....≥98,0 %

Loss on drying.....≤0,5 %

6906.1	1 g	glass	32,15 €
6906.2	5 g	glass	75,15 €
6906.3	10 g	glass	128,90 €

Fmoc-L-Tyrosine-(tBu)



NEW

Fmoc-L-Tyrosine-(tBu)

≥99 %, for biochemistry

Fmoc-L-Tyr(tBu)-OH, N-α-(9-Fluorenyl-methoxycarbonyl)-O-tert-butyl-L-tyrosine

C₂₈H₂₉NO₅

M 459,54 g/mol

[71989-38-3] • EC No. 276-262-7 • WGK 1

Type analysis:

Appearance.....white to pale yellow powder

Assay (HPLC).....≥99,0 %

Water (KF).....≤1,0 %

Spec. rotation [α]_D²⁴ (1 % in DMF).....-30,0° to -27,0°

Foreign amino acids.....≤0,3 %

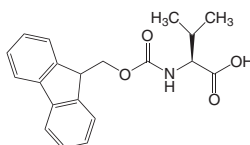
Enantiomeric purity.....≤0,1 % D-enantiomer

9669.1	5 g	glass	21,40 €
9669.2	25 g	glass	64,40 €
9669.3	100 g	glass	213,95 €

Fmoc-L-Tyr(tBu)-OH

► Fmoc-L-Tyrosine-(tBu) see p. 1837

Fmoc-L-Valine



Fmoc-L-Valine

≥98,5 %, for biochemistry

Fmoc-L-Val-OH, N-(9-Fluorenyl-methoxycarbonyl)-L-valine

C₂₀H₂₁NO₄

M 339,39 g/mol

mp 143 °C

Storage temp.: +4 °C

[68858-20-8] • WGK 2

Type analysis:

Assay (HPLC).....≥98,5 %

Free amino acids.....≤0,1 %

Water (KF).....≤1,0 %

6660.1	10 g	glass	14,55 €
6660.2	50 g	glass	33,25 €
6660.3	250 g	glass	124,60 €
6660.4	500 g	glass	224,70 €
Original pack 6 x 500 g			213,47/500 g

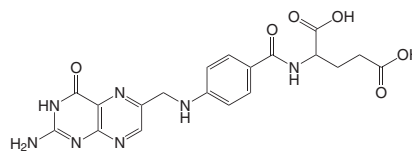
Fmoc-L-Val-OH

► Fmoc-L-Valine see p. 1837

5-FOA

► 5-Fluoroorotic acid see p. 1830

Folic acid



Folic acid

≥96 %, for biochemistry

Pteroyl glutamic acid

C₁₉H₁₉N₇O₆

M 441,4 g/mol

mp 250 °C

Solubility: 2 mg/l (H₂O, 25 °C)

[59-30-3] • EC No. 200-419-0

WGK 1

Type analysis:

Appearance.....yellow to orange cryst. powder

Assay (dry substance).....96,0-102,0 %

Water (KF).....5,0-8,5 %

Sulphated ash.....≤0,2 %

T912.1	25 g	plastic	38,60 €
T912.2	50 g	plastic	67,65 €

Food Green 3

► Fast Green FCF see p. 1822

Formaldehyde solutions

Formol, Formalin

CH₂O

M 30,03 g/mol

D 1,09 • bp 99 °C • flp 62 °C

Storage temp.: >+15 °C

[50-00-0] • EC No. 200-001-8

UN No. 2209 • ADR 8 III • WGK 2

   **Danger** H301+H311+H331-H314-H317-H341-H350-H370-H335

Formaldehyde solution 37 %

ROTIPURAN® ROTIPURAN® 37 %, p.a., ACS

Stabilized with methanol.

Guarantee analysis:

Assay (acidimetric after oxidation).....	36,5-38,0 %
Colour (Hazen).....	≤10
Acidity.....	≤0,025 %
Methanol (GC).....	9,0-14,0 %
Ash content (as SO ₄).....	≤0,005 %
Chloride (Cl).....	≤0,0005 %
Sulphate (SO ₄).....	≤0,002 %
Heavy metals (as Pb).....	≤0,0005 %
Iron (Fe).....	≤0,0001 %
Calcium (Ca).....	≤0,0005 %
Cadmium (Cd).....	≤0,0001 %
Cobalt (Co).....	≤0,0001 %
Chromium (Cr).....	≤0,0001 %
Copper (Cu).....	≤0,0001 %
Potassium (K).....	≤0,001 %
Magnesium (Mg).....	≤0,0001 %
Manganese (Mn).....	≤0,0001 %
Sodium (Na).....	≤0,001 %
Nickel (Ni).....	≤0,0001 %
Lead (Pb).....	≤0,0001 %
Zinc (Zn).....	≤0,0001 %
Stabilized with methanol.	

Do not store under 15 °C

Lower temperatures favour the polymerization to paraformaldehyde. The formaldehyde solution can, however, be used after decanting deposit to a clear solution.

4979.1	1 l	plastic	24,65 €
Original pack 6 x 1 l			23,42/1 l
4979.2	2,5 l	plastic	45,70 €
Original pack 4 x 2,5 l			43,42/2,5 l
4979.3	5 l	plastic	61,20 €
Original pack 2 x 5 l			58,14/5 l

For further information, please see page 1384

Formaldehyde solution 37 %

≥37 %, Ph.Eur., BP, USP

Histology, for fixation. Stabilized with methanol.

Guarantee analysis:

Assay (acidim.).....	37,0-38,0 %
Identity.....	complies
Appearance of solution.....	complies
Sulphated ash.....	≤0,05 %
Free acid.....	complies
Methanol (GC).....	9,0-15,0 %
Chloride (Cl).....	≤0,003 %
Sulphate (SO ₄).....	≤0,005 %
Heavy metals (as Pb).....	≤0,001 %
Stabilised with methanol	

Do not store under 15 °C

CP10.1	1 l	plastic	16,35 €
Original pack 6 x 1 l			15,53/1 l
CP10.2	2,5 l	plastic	28,95 €
Original pack 4 x 2,5 l			27,50/2,5 l
CP10.3	5 l	plastic	41,40 €
Original pack 2 x 5 l			39,33/5 l
CP10.4	10 l	plastic	62,25 €

For further information, please see page 1384

Formaldehyde solution 37 %

≥37 %, for synthesis

Stabilized with methanol.

Type analysis:

Appearance.....	clear to light turbid solution
Assay.....	37,0-37,5 %
Methanol.....	8,0-12,0 %
Formic acid.....	≤0,02 %
Stabilized with methanol.	

Do not store under 15 °C

7398.1	1 l	plastic	13,15 €
Original pack 6 x 1 l			12,49/1 l
7398.4	2,5 l	plastic	21,20 €
Original pack 4 x 2,5 l			20,14/2,5 l
7398.2	10 l	plastic	44,00 €
7398.3	30 l	plastic	100,95 €

For further information, please see page 1384

Formaldehyde solution 35 %

≥35 % DAB, for histology

Stabilized with methanol.

Guarantee analysis:

Appearance.....	clear to turbid, colourless liquid
Assay.....	35,5-36,5 %
Methanol.....	9,0-11,0 %
Formic acid.....	≤0,03 %
Sulphated ash.....	≤0,1 %
Stabilized with methanol.	

Do not store under 15 °C

4980.1	1 l	plastic	14,95 €
Original pack 6 x 1 l			14,20/1 l
4980.2	5 l	plastic	34,95 €
Original pack 2 x 5 l			33,20/5 l
4980.4	10 l	plastic	55,40 €
4980.3	30 l	plastic	109,55 €

For further information, please see page 1384

Formaldehyde solution 30 %, methanol-free

Formaldehyde solution 30 %, methanol-free

30 %

Formol, Formalin

CH₂O

M 30,03 g/mol

D 1,09 • bp 99 °C • flp 62 °C

Storage temp.: >+15 °C

[50-00-0] • EC No. 200-001-8

UN No. 2209 • ADR 8 III • WGK 2

   **Danger** H301+H311+H331-H314-H317-H341-H350-H370-H335

Type analysis:

Appearance.....	clear to turbid, colourless solution
Assay.....	29,0-31,0 %
Density (20 °C).....	1,080-1,095
Methanol.....	≤1,5 %
Formic acid.....	≤0,2 %

Do not store under 15 °C

4235.1	1 l	plastic	11,50 €
Original pack 6 x 1 l			10,93/1 l
4235.2	5 l	plastic	27,85 €
Original pack 2 x 5 l			26,46/5 l
4235.3	10 l	plastic	39,25 €
4235.4	30 l	plastic	93,45 €

For further information, please see page 1384

Formaldehyde solution 23,5 %, methanol-free

Formaldehyde solution 23,5 %, methanol-free

23,5 %

Formol, Formalin

CH₂O

M 30,03 g/mol

D 1,07 • bp 79-85 °C • mp <-15 °C

Storage temp.: >+15 °C

[50-00-0] • EC No. 200-001-8 • WGK 2

  **Danger** H302+H312+H332-H315-H317-H319-H335-H341-H350

Type analysis:

Assay.....	23,1-23,9 %
Methanol (GC).....	≤1,0 %
Formic acid.....	≤0,05 %
Density.....	1,066-1,076

Do not store under 15 °C

6742.1	1 l	plastic	9,90 €
Original pack 6 x 1 l			9,41/1 l
6742.2	5 l	plastic	24,20 €
Original pack 2 x 5 l			22,99/5 l
6742.3	10 l	plastic	34,30 €
6742.4	25 l	plastic	66,55 €

Formaldehyde solution, non-acidic

Formaldehyde solution, non-acidic

≥37 %, for histology

Stabilized with methanol and calcium carbonate.

Formol, Formalin

D 1,09 • bp 99 °C • flp 62 °C

Storage temp.: >+15 °C

[50-00-0] • EC No. 200-001-8

UN No. 2209 • ADR 8 III • WGK 2

   **Danger** H301+H311+H331-H341-H350-H314-H317-H370-H335

Type analysis:

Appearance.....	clear to turbid, colourless liquid
Assay.....	≥37 %
Methanol.....	8-12 %
Stabilized with methanol and calcium carbonate	
Please note the added acid binding sediment.	
You can filter it, if necessary, before use.	

Do not store under 15 °C

P733.1	1 l	plastic	16,70 €
Original pack 6 x 1 l			15,87/1 l
P733.2	2,5 l	plastic	30,00 €
Original pack 4 x 2,5 l			28,50/2,5 l
P733.3	30 l	plastic	112,80 €

For further information, please see page 1384

Formaldehyde Solutions, Phosphate Buffered

Art. No.	Description	Page
P087	Roti®-Histofix 4 %	2098
3105	Roti®-Histofix 4 %, prefilled containers	2098
2213	Roti®-Histofix 4,5 %	2099
A146	Roti®-Histofix 10 %	2099

Formaline

- ▶ Formaldehyde solutions see p. 1838
- ▶ Formaldehyde solution, non-acidic see p. 1838

Formamide



Formic acid amide
CH₃NO
M 45,04 g/mol
D 1,13 • bp 210 °C
mp 2 °C • flp 175 °C
[75-12-7] • EC No. 200-842-0
WGK 1

 **Danger** H360D-H351-H373

Formamide

≥99,5 %, p.a.

Guarantee analysis:

Assay.....	≥99,5 %
Density (d 20 °C/4 °C).....	1,132-1,135
Water (KF).....	≤0,5 %
Colour (APHA).....	≤10
Lead (Pb).....	≤0,001 %
Cadmium (Cd).....	≤0,001 %
Iron (Fe).....	≤0,001 %
Copper (Cu).....	≤0,001 %
Sulphated ash (600 °C).....	≤0,005 %

6749.3	500 ml	glass	24,20 €
6749.1	1 l	glass	41,40 €
Original pack 6 x 1 l			39,33/1 l
6749.2	2,5 l	glass	73,00 €
Original pack 4 x 2,5 l			69,35/2,5 l

Formamide

≥98 %, extra pure

Type analysis:

Assay.....	≥98,0 %
Density (20 °C).....	1,131-1,134
Formic acid.....	≤0,1 %

4095.1	1 l	plastic	27,85 €
Original pack 6 x 1 l			26,46/1 l
4095.2	2,5 l	plastic	56,45 €
Original pack 4 x 2,5 l			53,63/2,5 l
4095.3	5 l	plastic	96,65 €
Original pack 2 x 5 l			91,82/5 l
4095.4	10 l	plastic	166,65 €

Formamide, deionized

≥99,5 %, BioScience-Grade, RNase / DNase-free

Storage temp.: -20 °C

Transport temp.: room temp.

Guarantee analysis:

Appearance.....	clear, colourless to light yellowish
Assay.....	≥99,5 %
pH value.....	5,0-6,0
Deionization.....	complies

P040.1	250 ml	plastic	42,90 €

Formate Standards

- ▶ Formate IC Standard Solution see p. 2181

Formic acid 98 %

Methanoic acid, Formylic acid, Hydrogen carboxylic acid

CH₂O₂
M 46,02 g/mol
D 1,22 • bp 101 °C
mp 9 °C • flp 50 °C
[64-18-6] • EC No. 200-579-1
UN No. 1779 • ADR 8 (3) II • WGK 1

   **Danger**

H226-H290-H302-H331-H314-EUH071

Formic acid 98 %

ROTIPURAN® ≥98 %, p.a., ACS

Guarantee analysis:

Assay (acidim.).....	≥98,0 %
Colour (APHA).....	≤10
In H ₂ O insoluble matter.....	complies
Non volatile matter.....	≤0,001 %
Acetic acid (CH ₃ COOH).....	≤0,05 %
Chloride (Cl).....	≤0,0005 %
Sulphate (SO ₄).....	≤0,0005 %
Sulphite (SO ₃).....	≤0,001 %
Aluminium (Al).....	≤0,000005 %
Ammonium (NH ₄).....	≤0,001 %
Barium (Ba).....	≤0,000005 %
Beryllium (Be).....	≤0,000002 %
Lead (Pb).....	≤0,000002 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00002 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Germanium (Ge).....	≤0,000002 %
Potassium (K).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Lithium (Li).....	≤0,000002 %
Magnesium (Mg).....	≤0,00005 %
Manganese (Mn).....	≤0,000005 %
Molybdenum (Mo).....	≤0,000002 %
Sodium (Na).....	≤0,00005 %
Nickel (Ni).....	≤0,000005 %
Heavy metals (as Pb).....	≤0,001 %
Silver (Ag).....	≤0,000002 %
Strontium (Sr).....	≤0,000002 %
Thallium (Tl).....	≤0,000002 %
Titanium (Ti).....	≤0,000005 %
Vanadium (V).....	≤0,000002 %
Bismuth (Bi).....	≤0,000005 %
Zinc (Zn).....	≤0,000005 %
Zirconium (Zr).....	≤0,000005 %

4724.3	500 ml	glass	18,20 €

4724.1	1 l	glass	31,10 €

Original pack 6 x 1 l			29,55/1 l

4724.2	2,5 l	glass	66,15 €

Original pack 4 x 2,5 l			62,84/2,5 l

Formic acid 98 %

>98 %, for synthesis

Type analysis:

Assay.....	>98 %
Colour (APHA).....	<10
Evaporation residue.....	<0,002 %
Chloride (Cl).....	<0,0001 %
Iron (Fe).....	<0,0001 %

4742.1	1 l	glass	20,35 €

Original pack 6 x 1 l			19,33/1 l

4742.2	2,5 l	glass	40,75 €

Original pack 4 x 2,5 l			38,71/2,5 l

4742.3	10 l	plastic	88,05 €

Formic acid 85 %

Methanoic acid, Formylic acid, Hydrogen carboxylic acid

CH₂O₂
M 46,02 g/mol
D 1,19 • bp 101 °C
flp 71 °C
[64-18-6] • EC No. 200-579-1
UN No. 3412 • ADR 8 II • WGK 1

   **Danger**

H290-H302-H314-H331-EUH071

Formic acid 85 %

ROTIPURAN® ≥85 %, p.a.

Guarantee analysis:

Assay (acidim.).....	≥85,0 %
Colour (APHA).....	≤15
In H ₂ O insoluble matter.....	complies
Non volatile matter.....	≤0,002 %
Acetic acid (CH ₃ COOH).....	≤0,4 %
Chloride (Cl).....	≤0,001 %
Sulphate (SO ₄).....	≤0,002 %
Sulphite (SO ₃).....	≤0,001 %
Ammonium (NH ₄).....	≤0,005 %
Heavy metals (as Pb).....	≤0,0005 %
Aluminium (Al).....	≤0,000005 %
Beryllium (Be).....	≤0,000002 %
Lead (Pb).....	≤0,000002 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Germanium (Ge).....	≤0,000002 %
Potassium (K).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Lithium (Li).....	≤0,000002 %
Magnesium (Mg).....	≤0,00005 %
Manganese (Mn).....	≤0,000005 %
Molybdenum (Mo).....	≤0,000002 %
Sodium (Na).....	≤0,0001 %
Nickel (Ni).....	≤0,000005 %
Silver (Ag).....	≤0,000002 %
Strontium (Sr).....	≤0,000002 %
Titanium (Ti).....	≤0,000005 %
Vanadium (V).....	≤0,000002 %
Bismuth (Bi).....	≤0,000005 %
Zinc (Zn).....	≤0,000005 %
Zirconium (Zr).....	≤0,000005 %

CP16.1	500 ml	glass	20,35 €

CP16.2	1 l	glass	34,95 €

Original pack 6 x 1 l			33,20/1 l

CP16.3	2,5 l	glass	65,50 €

Original pack 4 x 2,5 l			62,23/2,5 l

CP16.4	10 l	plastic	177,40 €

Formic acid 85 %

85 %, pure

Type analysis:

Assay..... ≥85 %

5355.1	1 l	glass	20,10 €
Original pack 6 x 1 l			19,10/1 l
5355.2	2,5 l	glass	33,25 €
Original pack 4 x 2,5 l			31,59/2,5 l
5355.3	10 l	plastic	59,70 €

Formic acid 45 %

Formic acid 45 %

45 %, pure

Methanoic acid, Formylic acid, Hydrogen carboxylic acid

CH₂O₂

M 46,02 g/mol

D 1,10

[64-18-6] • EC No. 200-579-1

UN No. 3412 • ADR 8 II • WGK 1

 **Danger**

H290-H302+H332-H314-EUH071

Type analysis:

Assay..... 44,0-46,0 %
Chloride (Cl). ≤0,0005 %
Sulphate (SO₄). ≤0,0005 %
Iron (Fe). ≤0,0005 %
Evaporation residue. ≤0,005 %

6739.1	1 l	glass	16,70 €
Original pack 6 x 1 l			15,87/1 l
6739.2	2,5 l	glass	24,65 €
Original pack 4 x 2,5 l			23,42/2,5 l
6739.3	10 l	plastic	44,65 €

Formic acid D2, 95 % solution in D₂O

Formic acid D2, 95 % solution in D₂O

98 Atom%D

For nuclear magnetic resonance spectroscopy.

CD₂O₂

M 48,04 g/mol

D ~1,2 • bp 101 °C

mp 5,9 °C • flp 69 °C

[920-42-3] • EC No. 213-057-3

UN No. 1779 • ADR 8 (3) II • WGK 1

  **Danger**

H226-H290-H302-H331-H314-EUH071

Guarantee analysis:

Deuterising degree. ≥98 %
Assay (mass %). ≥95 %

HN92.1	5 ml	glass	84,85 €

Formic acid amide

► Formamide see p. 1839

Formic acid dimethylamide

► N,N-Dimethylformamide (DMF)
see p. 1783

Formic acid ethyl ester



Formic acid ethyl ester

≥99 %

Ethyl formate, Ethyl methanoate

C₃H₆O₂

M 74,08 g/mol

D ~0,92 • bp ~54 °C

mp -80 °C • flp -20 °C

[109-94-4] • EC No. 203-721-0

UN No. 1190 • ADR 3 II • WGK 1

  **Danger**

H225-H302+H332-H319-H335

Type analysis:

Assay (GC). ≥99,0 %
Density (d 25 °C/25 °C). 0,915-0,925
Refractive index (20 °C). 1,359-1,363

3574.2	100 ml	glass	15,60 €
3574.1	1 l	glass	79,45 €
Original pack 6 x 1 l			75,48/1 l
3574.3	2,5 l	glass	153,20 €
Original pack 4 x 2,5 l			145,54/2,5 l

Formic acid sodium salt

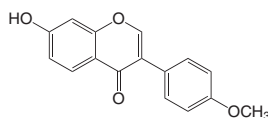
► Sodium formate see p. 2147

Formol

► Formaldehyde solutions see p. 1838

► Formaldehyde solution, non-acidic
see p. 1838

Formononetin



Formononetin

ROTICHRON® HPLC

Reference substance for HPLC

Biochanin B, 7-Hydroxy-4'-methoxyisoflavone

C₁₆H₁₂O₄

M 268,26 g/mol

mp 257-260 °C

[485-72-3] • EC No. 207-623-9

WGK 2

 **Warning** H315-H319-H335

Type analysis:

Purity (HPLC). ≥99 %

9570.1	10 mg	glass	123,65 €

Formononetin-7-O-glucoside

► Ononin see p. 2014

4-Formyl-1,2-dihydroxybenzene

► 3,4-Dihydroxybenzaldehyde see p. 1778

p-Formyldimethylanilin

► 4-(Dimethylamino)-benzaldehyde
see p. 1782

Formylic acid

► Formic acid 98 % see p. 1839

► Formic acid 85 % see p. 1839

► Formic acid 45 % see p. 1840

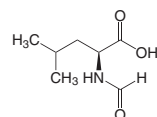
3-Formylindole

► Indole-3-carboxaldehyde see p. 1899

N-Formyl-L-Leu

► N-Formyl-L-leucine see p. 1840

N-Formyl-L-leucine



N-Formyl-L-leucine

≥98 %, for biochemistry

N-Formyl-L-Leu

C₇H₁₃NO₃

M 159,18 g/mol

mp 139-142 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[6113-61-7]

WGK 3

Type analysis:

Assay (HPLC). ≥98,0 %
Loss on drying (105 °C). ≤0,5 %
Melting point. 139,0-142,0 °C

6665.1	500 mg	glass	24,20 €
6665.2	1 g	glass	39,25 €
6665.3	5 g	glass	163,95 €

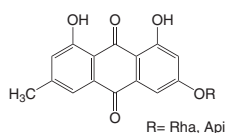
3-Formylphenol

► 3-Hydroxybenzaldehyde see p. 1889

Fractured coal

► Charcoal activated see p. 1727

Frangulin (A+B)



Frangulin (A+B)

ROTICHRON® ~CHR

Franguloside

C₂₁H₂₀O₉ / C₂₀H₁₈O₉

M 416,37 / 402,36 g/mol

mp 203-214 °C

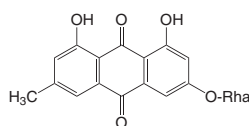
Storage temp.: +4 °C

[60529-33-1]

⚠ Warning H302

7404.1	25 mg	glass	37,65 €

Frangulin A



Frangulin A

ROTICHRON® HPLC

Reference substance for HPLC

From *Rhamnus frangula*.

Emodinrhamnoside, Rhamnoxanthine

C₂₁H₂₀O₉

M 416,40 g/mol

mp ~228 °C

Storage temp.: +4 °C

[521-62-0] • EC No. 208-316-2

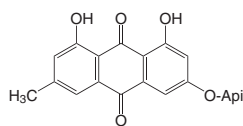
⚠ Warning H302

Type analysis:

Purity (HPLC).....>98 %

1140.1	20 mg	glass	263,40 €

Frangulin B



6-O-(Apiofuranosyl)-1,6,8-trihydroxy-3-methylantraquinone

C₂₀H₁₈O₉

M 402,36 g/mol • mp 196 °C

Storage temp.: +4 °C

[14101-04-3] • EC No. 237-953-9

⚠ Warning H302

Frangulin B

ROTICHRON® HPLC

Reference substance for HPLC

From *Rhamnus frangula*.

Type analysis:

Purity (HPLC).....>98 %

1142.1	10 mg	glass	278,45 €

Frangulin B

ROTICHRON® ~CHR

From *Rhamnus frangula*.

7655.1	10 mg	glass	256,95 €

Franguloside

► Frangulin (A+B) see p. 1841

Fraser Broth (Base)

Fraser Broth (Base)

ISO 11290-1, for microbiology

Enrichment medium for detection and isolation of *Listeria* in foods and environmental samples.

Application: Use 57,3 g for 1 l broth. A slight precipitate may appear after autoclaving. Prior to use add sterile filtered ferric(III) ammonium citrate solution ad 0,5 g/l broth (Art. No. 3130.1).

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Pancreatic digest of casein.....	5 g/l
Meat peptone.....	5 g/l
Beef extract.....	5 g/l
Yeast extract.....	5 g/l
Sodium chloride.....	20 g/l
Disodium phosphate.....	12 g/l
Potassium phosphate.....	1,35 g/l
Lithium chloride.....	3 g/l
Esculin.....	1 g/l
Acriflavine.....	0,025 g/l
Nalidixic acid.....	0,02 g/l
pH value.....	7,2 ±0,2

HP17.1	500 g	plastic	117,20 €

Original pack 6 x 500 g 111,34/500 g

For further information, please see page 1324

Fraser Half Broth (Base)

Fraser Half Broth (Base)

ISO 11290-1, for microbiology

Enrichment medium for detection and isolation of *Listeria* in foods and environmental samples.

Application: Use 57,3 g for 1 l broth. A slight precipitate may appear after autoclaving. Prior to use add sterile filtered iron(III) ammonium citrate solution ad 0,5 g/l broth (Art. No. 3130.1).

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Pancreatic digest of casein.....	5 g/l
Meat peptone.....	5 g/l
Beef extract.....	5 g/l
Yeast extract.....	5 g/l
Sodium chloride.....	20 g/l
Disodium phosphate.....	12 g/l
Potassium phosphate.....	1,3 g/l
Lithium chloride.....	3 g/l
Esculin.....	1 g/l
Acriflavine.....	0,0125 g/l
Nalidixic acid.....	0,01 g/l
pH value.....	7,2 ±0,2

HP18.1	500 g	plastic	90,85 €

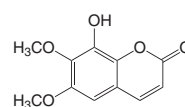
Original pack 6 x 500 g 86,31/500 g

HP18.2	1 kg	plastic	163,95 €

Original pack 6 x 1 kg 155,75/1 kg

For further information, please see page 1324

Fraxidin



Fraxidin

ROTICHRON® ~CHR

C₁₁H₁₀O₅

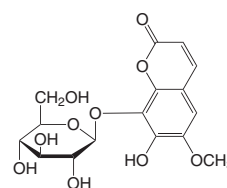
M 222 g/mol

mp 196-198 °C

[525-21-3] • EC No. 208-370-7

9369.1	10 mg	glass	155,90 €

Fraxin



Fraxin

ROTICHRON® HPLC

Reference substance for HPLC

C₁₆H₁₈O₁₀

M 317,31 g/mol

mp 205 °C

Storage temp.: +4 °C

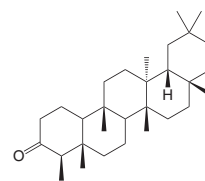
[524-30-1] • EC No. 208-355-5

Type analysis:

Purity (HPLC).....≥99 %

9364.1	10 mg	glass	310,70 €

Friedelin



Friedelin

ROTICHRON® HPLC

Reference substance for HPLC

C₃₀H₅₀O

M 426,70 g/mol

mp 262-265 °C

Storage temp.: +4 °C

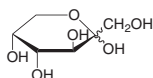
[559-74-0] • EC No. 209-205-1

Type analysis:

Purity (HPLC).....≥98 %

7459.1	25 mg	glass	181,70 €

D(-)-Fructose



D(-)-Fructose

>99,5%, for biochemistry

Fruit sugar, Levulose

$C_6H_{12}O_6$

M 180,16 g/mol

D 1,59

mp 102-104 °C (dec.)

Solubility: 790 g/l (H_2O , 20 °C)

[57-48-7] • EC No. 200-333-3

Type analysis:

Appearance: white crystalline powder

Assay: >99,5 %

pH value: 3,0-6,0

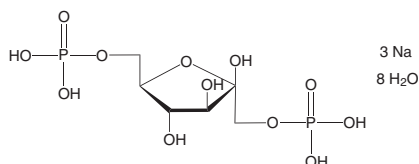
Specific rotation $[\alpha]_D^{20}$: -93,5° to -91,0°

Loss on drying: <0,2 %

Ash content: <0,1 %

4981.1	500 g	plastic	14,95 €
Original pack 6 x 500 g			14,20/500 g
4981.4	1 kg	plastic	22,80 €
Original pack 6 x 1 kg			21,66/1 kg
4981.2	2,5 kg	plastic	48,05 €
4981.5	5 kg	plastic	63,35 €
4981.6	10 kg	plastic	82,25 €
4981.3	25 kg	plastic	170,95 €

D-Fructose-1,6-diphosphate trisodium salt octahydrate



D-Fructose-1,6-diphosphate trisodium salt octahydrate

≥98 %, for biochemistry

FDP- Na_3H

$C_6H_{11}Na_3O_{12}P_2 \cdot 8 H_2O$

M 550,18 g/mol

mp ~71-75 °C

Storage temp.: +4 °C

[81028-91-3] • EC No. 253-778-0

Type analysis:

Assay: ≥98,0 %

Loss on drying: 25-28 %

pH value: 5,5-6,5

4982.1	1 g	glass	16,70 €
4982.2	5 g	glass	31,10 €
4982.3	25 g	glass	91,95 €

Fruit sugar

► D(-)-Fructose see p. 1842

FTA® Purification Reagent

FTA® Purification Reagent

ready-to-use, for molecular biology

Made by GE Healthcare. For purification of nucleic acids stored on FTA® Cards. Originally Whatman.

WGK 2

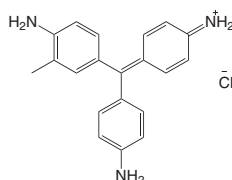
CL99.1	500 ml	plastic	329,00 €

For further information, please see page 1189

Fuchsin acidic

► Acid fuchsin (C.I. 42685) see p. 1612

Fuchsin basic (C.I. 42510)



Fuchsin basic (C.I. 42510)

for microscopy

Indicator pH 1,0-3,1

Basic violet, Magenta

$C_{20}H_{20}N_3Cl$

M 337,85 g/mol

mp 235 °C (dec.)

Solubility: 4 g/l (H_2O , 25 °C)

[632-99-5] • EC No. 211-189-6

WGK 3

Warning H351

Type analysis:

Thin-layer chromatography (TLC): complies

UV-absorption max. (EtOH 50 %): 549-552 nm

Loss on drying (135 °C): ≤15 %

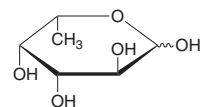
3256.2	25 g	glass	31,10 €
3256.1	50 g	glass	55,80 €
3256.3	100 g	glass	74,20 €

For further information, please see page 1399

Fuchsin sulphurous acid

► Schiff's reagent see p. 2121

L(-)-Fucose



L(-)-Fucose

≥95 %, for biochemistry

6-Desoxy-L-galactose

$C_6H_{12}O_5$

M 164,16 g/mol

mp 150-153 °C

[2438-80-4] • EC No. 219-452-7

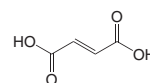
WGK 1

Type analysis:

Assay (HPLC): ≥95 %

KK10.1	1 g	glass	27,85 €
KK10.2	5 g	glass	88,70 €
KK10.3	25 g	glass	375,20 €

Fumaric acid



Fumaric acid

≥99,5 %, for biochemistry

trans-1,2-Ethylene dicarboxylic acid

$C_4H_4O_4$

M 116,08 g/mol

D 1,64

mp ~200 °C (subl.) • flp 273 °C

Solubility: 4,9 g/l (H_2O , 20 °C)

[110-17-8] • EC No. 203-743-0

WGK 1

Warning H319

Type analysis:

Assay (dry substance): 99,5-100,5 %

Maleic acid: ≤0,1 %

Lead (Pb): ≤0,0002 %

Heavy metals (as Pb): ≤0,001 %

Ash content: ≤0,1 %

3748.1	500 g	plastic	17,75 €
Original pack 6 x 500 g			16,86/500 g
3748.2	2,5 kg	plastic	59,05 €

Fumarine

► Protopine see p. 2070

Fungicide

► Nystatin dihydrate see p. 1997

Fungizone

► Amphotericin B see p. 1644

N6-Furfuryladenine

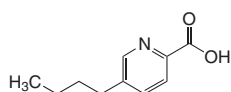
► Kinetin see p. 1917

6-Furfurylamino-purine

► Kinetin see p. 1917

7-H-Furo[3,2-g]benzopyran-7-one

► Psoralen see p. 2071

Fusaric acid**Fusaric acid**

≥99 %

5-Butylpicolinic acid, 5-Butylpyridine-2-carboxylic acid

C₁₀H₁₃NO₂

M 179,22 g/mol

mp 97-101 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[536-69-6] • EC No. 208-643-0

WGK 1

⚠ Warning H302

Type analysis:

Assay (titr.): ≥99,0 %
 Solution (1 % in ethanol): colourless, clear
 Water (KF): ≤0,5 %
 Melting point: 97-101 °C

5561.1	250 mg	glass	32,80 €
5561.2	1 g	glass	102,05 €

G418 solution

► Geneticin disulphate (G418)-solution see p. 1847

Gadolinia

► Gadolinium(III) oxide see p. 1843

Gadolinium Standards

► Gadolinium ICP Standard Solution see p. 2171
 ► Gadolinium ICP Standard Solution see p. 2175

Gadolinium(III) chloride hexahydrate**Gadolinium(III) chloride hexahydrate**

ROTI®REMETIC 99,99 %

Gadoliniumtrichloride

GdCl₃ · 6 H₂O

M 371,70 g/mol

[13450-84-5] • EC No. 233-386-6

WGK 3

⚠ Warning H315-H319

Type analysis:

Assay (TREO*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7209.1	1 g	plastic	18,20 €
7209.2	10 g	plastic	111,30 €

Gadolinium(III) oxide

Gadolinium trioxide, Gadolinia

Gd₂O₃

M 362,49 g/mol

bp 3900 °C

mp 2339 °C

Solubility: insoluble (H₂O, 20 °C)

[12064-62-9] • EC No. 235-060-9

WGK 1

⚠ Warning H319

Gadolinium(III) oxide

ROTI®REMETIC 99,999 %

Type analysis:

Assay (TREO*) 99,999 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7189.1	1 g	plastic	16,70 €
7189.2	5 g	plastic	26,80 €
7189.3	50 g	plastic	213,95 €

Gadolinium(III) oxide

ROTI®REMETIC 99,99 %

Type analysis:

Assay (TREO*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7136.1	1 g	plastic	13,45 €
7136.2	5 g	plastic	23,55 €
7136.3	25 g	plastic	92,35 €
7136.4	100 g	plastic	321,45 €

Gadolinium trioxide

► Gadolinium(III) oxide see p. 1843

Galactitol

► Dulcitol see p. 1796

Galactomannan**Galactomannan**

for biochemistry

Carubin type

M ~300 000 g/mol

[11078-30-1] • EC No. 234-299-6

Type analysis:

Appearance: white powder

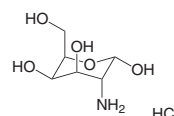
3768.1	5 g	plastic	43,55 €

4-O-β-D-Galactopyranosyl-D-fructose

► Lactulose see p. 1921

α-D-Galactopyranosyl phosphat dipotassium salt pentahydrate

► α-D-Galactose-1-phosphate Dipotassium salt pentahydrate see p. 1844

D-Galactosamine hydrochloride**D-Galactosamine hydrochloride**

≥98 %, for biochemistry

For experimental generation of hepatitis.

Hepasamin®

C₆H₁₄ClNO₅

M 215,64 g/mol

mp 182-185 °C (dec.)

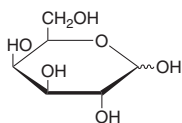
Storage temp.: +4 °C

[1772-03-8] • EC No. 217-198-1

Type analysis:

Appearance: white to almost white cryst. powder
 Assay: ≥98,0 %
 pH value (1 % in H₂O): 3,5-5,0
 Specific rotation [α]_D²⁰: +92° to +98°
 Solution (1 % in H₂O): clear, colourless to slightly
 yellowish
 Ash content: ≤1,0 %

7411.1	1 g	plastic	75,15 €
7411.2	5 g	plastic	321,45 €
7411.3	25 g	plastic	1235,20 €

D(+)-Galactose**D(+)-Galactose**

≥98 %, for biochemistry

C₆H₁₂O₆

M 180,16 g/mol

mp 166-170 °C

Solubility: 650 g/l (H₂O, 20 °C)

[59-23-4] • EC No. 200-416-4

Type analysis:

Appearance: white to almost white cryst. powder

Assay (HPLC): ≥98,0 %

Water: ≤0,5 %

Chloride (Cl): ≤0,01 %

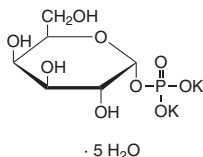
Sulphate (SO₄): ≤0,005 %Specific rotation [α]_D²⁰ (c=5 in H₂O, 5 h): +80° ±2,0°Solubility (10 % in H₂O): clear, colourless

Glucose (HPLC): ≤0,1 %

Heavy metals (as Pb): ≤0,001 %

G

4987.1	100 g	plastic	24,65 €
4987.2	500 g	plastic	83,35 €
Original pack 6 x 500 g			79,18/500 g
4987.3	1 kg	plastic	143,55 €
Original pack 6 x 1 kg			136,37/1 kg

**α-D-Galactose-1-phosphate
Dipotassium salt pentahydrate**· 5 H₂O**α-D-Galactose-1-phosphate
Dipotassium salt pentahydrate**

≥99 %, for biochemistry

α-D-Galactopyranosyl phosphat dipotassium salt pentahydrate, Phos-α-D-Gal

C₆H₁₁K₂O₉P · 5 H₂O

M 426,40 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[19046-60-7] • EC No. 242-783-3

Type analysis:

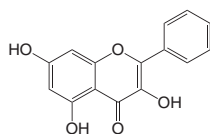
Assay (titr.): ≥99,0 %

Solution (5 % in H₂O): colourless

Water (KF): ≤23,0 %

Specific rotation [α]_D²⁰: +80,0° to +83,0°

5550.1	25 mg	plastic	26,80 €
5550.2	100 mg	plastic	91,30 €

Galangin**Galangin**

ROTICHRON® HPLC

Reference substance for HPLC

3,5,7-Trihydroxyflavone

C₁₅H₁₀O₅

M 270,25 g/mol

mp 214-215 °C

Storage temp.: +4 °C

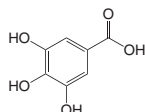
[548-83-4] • EC No. 208-960-4

⚠ Warning H302

Type analysis:

Purity (HPLC): ≥99 %

7460.1	10 mg	glass	149,45 €

Gallic acid**Gallic acid**

≥98 %, p.a., ACS, anhydrous

C₇H₆O₅

M 170,12 g/mol

mp 251 °C

[149-91-7] • EC No. 205-749-9

WGK 1

⚠ Warning H315-H319-H335

Guarantee analysis:

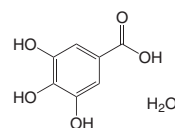
Assay: ≥98,0 %

In H₂O insoluble matter: ≤0,01 %Sulphate (SO₄): ≤0,02 %

Ash content: ≤0,05 %

Loss on drying (105 °C): ≤0,5 %

2699.1	100 g	glass	45,70 €
2699.2	250 g	glass	83,35 €
2699.3	500 g	glass	132,80 €
Original pack 6 x 500 g			126,16/500 g

Gallic acid monohydrate

3,4,5-Trihydroxybenzoic acid hydrate

C₇H₆O₅ · H₂O

M 188,14 g/mol

mp 250 °C

[5995-86-8] • EC No. 205-749-9

WGK 1

⚠ Warning H315-H319-H335

Gallic acid monohydrate

≥98 %, p.a., ACS

Guarantee analysis:

Assay: ≥98,0 %

In H₂O insoluble matter: ≤0,01 %Sulphate (SO₄): ≤0,02 %

Ash content: ≤0,05 %

Loss on drying (105 °C): ≤10 %

2698.1	100 g	plastic	42,90 €
2698.2	250 g	plastic	78,40 €
2698.3	500 g	plastic	132,15 €
Original pack 6 x 500 g			125,54/500 g

Gallic acid monohydrate

≥99 %

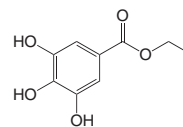
Type analysis:

Appearance: light beige crystals

Assay: ≥99,0 %

Loss on drying: ≤10 %

7300.1	50 g	plastic	30,00 €
7300.2	100 g	plastic	42,50 €
7300.3	500 g	plastic	127,95 €
Original pack 6 x 500 g			121,55/500 g

Gallic acid ethyl ester**Gallic acid ethyl ester**

≥98 %

Ethyl gallate

C₉H₁₀O₅

M 198,18 g/mol

mp 150-152 °C

[831-61-8] • EC No. 212-608-5

Type analysis:

Assay (acidim.): ≥98 %

Melting range: 150-152 °C

3629.1	25 g	plastic	28,50 €

Gallium

Ga
M 69,72 g/mol
D ~5,91 • bp 2403 °C
mp 29,8 °C
[7440-55-3] • EC No. 231-163-8
UN No. 2803 • ADR 8 III

 **Danger** H290-H314

Gallium

ROTI®METIC 99,9999 % (6N)

Type analysis:

Assay (metals basis)..... 99,9999 %
Particle size..... 6-12 mm
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4507.1	10 g	plastic	134,40 €
4507.2	25 g	plastic	256,95 €

Gallium

99,9999 %

Type analysis:

Assay (Ga)..... 99,9999 %

3761.1	5 g	glass	72,60 €

Gallium Standards

- ▶ Gallium ICP Standard Solution see p. 2171
- ▶ Gallium ICP Standard Solution see p. 2175

Gallium(III) nitrate hydrate

Gallium(III) nitrate hydrate

ROTI®METIC 99,9995 % (5N5)

Gallium trinitrate
 $\text{Ga}(\text{NO}_3)_3 \cdot x \text{H}_2\text{O}$
M 255,74 + x H₂O g/mol
mp 110 °C (dec.)
[69365-72-6] • EC No. 236-815-5
UN No. 1477 • ADR 5.1 II • WGK 1
  **Danger** H272-H315-H319

Type analysis:

Assay (metals basis)..... 99,9995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5548.1	25 g	plastic	241,90 €

Gallium(III) oxide

Gallium(III) oxide

ROTI®METIC 99,999 % (5N)

Ga_2O_3
M 187,44 g/mol
D 5,88
mp 1807 °C
[12024-21-4] • EC No. 234-691-7

Type analysis:

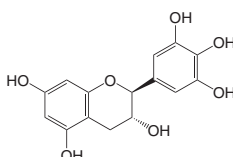
Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5377.1	10 g	plastic	127,95 €

Gallium trinitrate

▶ Gallium(III) nitrate hydrate see p. 1845

(-)-Gallocatechin



(-)-Gallocatechin

ROTICHRON® HPLC

Reference substance for HPLC.
From *Camellia sinensis*.

Gallocatechol

$\text{C}_{15}\text{H}_{14}\text{O}_7$

M 306,27 g/mol

Storage temp.: +4 °C

[3371-27-5]

 **Warning** H315-H319-H335

Type analysis:

Purity (HPLC)..... >99 %

4480.1	10 mg	glass	220,40 €
4480.2	20 mg	glass	353,70 €

Gallocatechol

▶ (-)-Gallocatechin see p. 1845

D-GaINAc

▶ N-Acetyl-D-galactosamine see p. 1610

Gas-leak tester Roth

Gas-leak tester Roth

Special liquid for finding smallest leaks in tubing or hollow spaces.

WGK 1

2686.1	500 ml	pump spray bottle	17,15 €

For further information, please see page 1104

Gasoline

▶ Petroleum benzine 30-50 see p. 2030

GDH

▶ Glutamate dehydrogenase see p. 1856

Gelatine

Storage temp.: +20 °C

[9000-70-8] • EC No. 232-554-6

Gelatine

platinum, extra pure, 240 Bloom

Type analysis:

Gel strength..... 240 Bloom
Particle size..... ≤30 mesh
Water..... <15 %
Ash..... <2 %
Peroxides (as H₂O₂)..... <0,001 %
Sulphur dioxide (SO₂)..... <0,005 %
Gelatine is produced from porcine skin.

4582.3	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
4582.1	1 kg	plastic	46,15 €
Original pack 6 x 1 kg			43,84/1 kg
4582.2	5 kg	plastic	166,65 €

Gelatine

gold, extra pure, 180 Bloom

Type analysis:

Gel strength..... 180 Bloom
Particle size..... ≤30 mesh
Water..... <15 %
Ash..... <2 %
Peroxides (as H₂O₂)..... <0,001 %
Sulphur dioxide (SO₂)..... <0,005 %
Gelatine is produced from porcine skin.

4274.3	500 g	plastic	27,45 €
Original pack 6 x 500 g			26,08/500 g
4274.1	1 kg	plastic	39,70 €
Original pack 6 x 1 kg			37,72/1 kg
4274.2	5 kg	plastic	160,20 €

Gelatine

crystal, extra pure, 160 Bloom

Type analysis:

Gel strength..... 160 Bloom
Particle size..... ≤30 mesh
Protein..... 83-91 %
Water..... <15 %
Ash..... <2 %
Peroxides (as H₂O₂)..... <0,001 %
Sulphur dioxide (SO₂)..... <0,005 %
Gelatine is produced from porcine skin.

4308.3	500 g	plastic	26,80 €
Original pack 6 x 500 g			25,46/500 g
4308.1	1 kg	plastic	39,25 €
Original pack 6 x 1 kg			37,29/1 kg
4308.2	5 kg	plastic	158,60 €

Gelatine

silver, extra pure, 140 Bloom

Type analysis:

Gel strength..... ~140 Bloom
Particle size..... ≤30 mesh
Water..... <15 %
Ash..... <2 %
Peroxides (as H₂O₂)..... <0,001 %
Sulphur dioxide (SO₂)..... <0,005 %
Gelatine is produced from porcine skin.

4275.3	500 g	plastic	26,70 €
Original pack 6 x 500 g			25,37/500 g
4275.1	1 kg	plastic	38,60 €
Original pack 6 x 1 kg			36,67/1 kg
4275.2	5 kg	plastic	156,45 €

Gelatin Agar (DEV)

Gelatin Agar (DEV)

DEV, for microbiology

For enumeration of the total microbial population and detection of gelatin-liquefying microorganisms in water samples.

Application: Use 50 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Meat peptone.....	10 g/l
Meat extract.....	10 g/l
Sodium chloride (NaCl).....	5 g/l
Gelatin.....	10 g/l
Agar.....	15 g/l
pH value.....	7,3 ±0,2

HP07.1	500 g	plastic	119,90 €

Original pack 6 x 500 g 113,91/500 g

For further information, please see page 1324

Gelatine Capsules

G

Gelatine Capsules

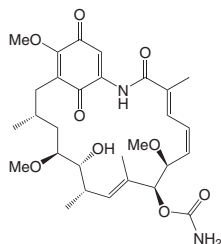
for electron microscopy

No. 0, length 22 mm, diameter 7 mm, volume 0,68 ml.

8641.1	100 pieces	plastic	17,75 €

For further information, please see page 1389

Geldanamycin



Geldanamycin

≥98 %, for biochemistry

HSP90 inhibitor, tyrosin kinase inhibitor. Benzoquinone ansamycin antibiotic. Binds specifically to the heat shock protein HSP90.

C₂₉H₄₀N₂O₉

M 560,64 g/mol

mp 260-275 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[30562-34-6]

Type analysis:

Assay (HPLC).....	≥98 %
Loss on drying.....	≤1,0 %
Melting point.....	260-275 °C

HN71.1	1 mg	glass	61,85 €

HN71.2	5 mg	glass	152,55 €

HN71.3	10 mg	glass	218,80 €

For further information, please see page 1365

Gel Loading Buffer

Art. No.	Description	Page
K929	Roti®-Load 1	2100
K930	Roti®-Load 2	2100
3359	Roti®-Load 3 (LDS)	2100
X905	Roti®-Load DNA (with ficoll)	2100
T847	Roti®-Load DNA (with saccharose)	2100
X904	Roti®-Load DNA (with glycerol)	2100
0100	Roti®-Load DNA 1x (with glycerol)	2101
0095	Roti®-Load DNA short-run (with glycerol)	2101
0099	Roti®-Load DNA short-run 1x (with glycerol)	2101
HP03	Roti®-Load DNA small (with glycerol)	2101
HP04	Roti®-Load DNA orange 1 (with glycerol)	2101
HP05	Roti®-Load DNA-orange 2 (with glycerol)	2101
HP06	Roti®-Load DNA-tricolor (with glycerol)	2101
5783	Roti®-Load DNASTain 1	2101
5784	Roti®-Load DNASTain 2	2101
6472	Roti®-Load DNASTain 3	2101
T848	Roti®-Load RNA	2101

Gel Media and Additives

Art. No.	Description	Page
5834	Roti®lyte pH 3-5	2102
5835	Roti®lyte pH 3-6	2102
5839	Roti®lyte pH 3-7	2102
5841	Roti®lyte pH 3-10	2102
5845	Roti®lyte pH 4-6	2102
5850	Roti®lyte pH 4-7	2102
5851	Roti®lyte pH 5-6	2102
5856	Roti®lyte pH 5-7	2102
5857	Roti®lyte pH 5-8	2102
5858	Roti®lyte pH 6-7	2103
5860	Roti®lyte pH 6-8	2103
5861	Roti®lyte pH 7-9	2103
5864	Roti®lyte pH 8-10	2103
3029	Rotiphorese® Gel 30 (37,5:1)	2107
3030	Rotiphorese® Gel 40 (19:1)	2107
A515	Rotiphorese® Gel 40 (29:1)	2107
T802	Rotiphorese® Gel 40 (37,5:1)	2108
A124	Rotiphorese® NF-Acrylamide/ Bis-solution 30 % (29:1)	2107
A516	Rotiphorese® NF-Acrylamide/ Bis-solution 40 % (19:1)	2108
A121	Rotiphorese® NF-Acrylamide/ Bis-solution 40 % (29:1)	2108
3037	Rotiphorese® Gel A	2108
7748	Rotiphorese® Gel A-40	2108
3039	Rotiphorese® Gel B	2108
A431	Rotiphorese® DNA sequencing system	2108
3043	Rotiphorese® Sequencing gel concentrate	2108
3047	Rotiphorese® Sequencing gel diluent	2108
3050	Rotiphorese® Sequencing gel buffer concentrate	2109

GELRITE®

GELRITE®

Gelling agent for microbiological culture media

Alternative to Agar

Storage temp.: +20 °C

[71010-52-1] • EC No. 275-117-5

Type analysis:

Gel strength.....	400-700 g/cm ²
Loss on drying.....	≤15,0 %

0039.1	500 g	plastic	240,30 €

Original pack 6 x 500 g 228,29/500 g

0039.2	1 kg	plastic	389,70 €

Original pack 6 x 1 kg 370,22/1 kg

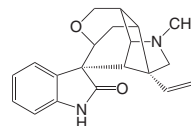
For further information, please see page 1362

Gel Running Buffer

Art. No.	Description	Page
A118	Rotiphorese® NF 10 x TBE Buffer	2108
3060	Rotiphorese® 10x SDS-PAGE	2108
T845	Rotiphorese® 10x TAE Buffer	2109
0122	Rotiphorese® 10x TAE Buffer <i>light</i>	2109
CL86	Rotiphorese® 50x TAE Buffer	2109
3061	Rotiphorese® 10x TBE Buffer	2109

Gelsemine hydrochloride

HCl



Gelsemine hydrochloride

~90 %

C₂₀H₂₂N₂O₂ · HCl

M 358,87 g/mol

mp ~326 °C

[35306-33-3] • EC No. 252-504-7

UN No. 1544 • ADR 6.1 I

⚠ Danger H300+H330

Type analysis:

Appearance.....	white powder
Melting point.....	~326 °C

6571.1	500 mg	glass	51,50 €

Gelseminic acid

► Scopoletin see p. 2122

Gel Staining Solutions and Kits

Art. No.	Description	Page
HP47	Ethidium bromide solution 0,025 % in dropper bottle	1811
HP46	Ethidium bromide solution 0,5 % in dropper bottle	1811
2218	Ethidium bromide solution 1 %	1811
8905	Eva Green® Fluorescent Dye	1822
N769	Roti®-Black N	2088
P081	Roti®-Black NSeq	2088
L533	Roti®-Black P	2088
N766	Roti®-Bleach	2089
A152	Roti®-Blue	2089
4829	Roti®-Blue quick	2089
3865	Roti®-GelStain	2098
5783	Roti®-Load DNASTain 1	2101
5784	Roti®-Load DNASTain 2	2101
6472	Roti®-Load DNASTain 3	2101
0648	Roti®-Methylene blue staining concentrate	2104
3074	Rotiphorese® Blue R	2107
K063	Roti®-White	2114

Geneticin disulphate (G418 Sulphate)

Geneticin disulphate (G418 Sulphate)

≥650 U/mg, for biochemistry

Aminoglycoside antibiotic

Antibiotic G418, Geneticin disulphate, G418 sulphate

 $C_{20}H_{40}N_4O_{10} \cdot 2 H_2SO_4$

M 692,70 g/mol

Storage temp.: +4 °C

[108321-42-2]

 **Danger** H334-H317

Type analysis:

Activity..... ≥650 U/mg
 Water (KF)..... ≤10 %

0239.1	250 mg	glass	33,25 €
0239.2	500 mg	glass	42,90 €
0239.3	1 g	glass	79,45 €
0239.4	10 g	glass	557,95 €

For further information, please see page 1365

Geneticin disulphate (G418)-solution

Aqueous G418 sulphate solution, G418 solution

 $C_{20}H_{40}N_4O_{10} \cdot 2 H_2SO_4$

M 692,70 g/mol

Storage temp.: +4 °C

[108321-42-2]

WGK 1

 **Danger** H334-H317

Geneticin disulphate (G418)-solution

50 mg/ml, CELLPURE®

Aminoglycoside antibiotic. For cell culture, biochemistry and molecular biology.

Type analysis:

Concentration..... 50 mg/ml
 Activity (powder)..... >600 µg/mg
 Endotoxins..... <10 EU/ml
 Sterility..... complies
 Suitability for cell cultur..... complies
 pH value..... 5,0-6,0

CP11.1	10 ml	plastic	63,35 €
CP11.2	20 ml	plastic	82,25 €
CP11.3	100 ml	plastic	302,10 €

For further information, please see page 1365

Geneticin disulphate (G418)-solution

50 mg/ml, BioScience-Grade, sterile

Aminoglycoside antibiotic. For cell culture, biochemistry and molecular biology.

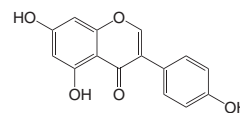
Type analysis:

Concentration..... 50 ±10 mg/ml
 Active assay..... ≥700 µg/mg
 Sterility..... complies

2039.1	10 ml	plastic	57,20 €
2039.2	20 ml	plastic	74,75 €
2039.3	100 ml	plastic	281,15 €

For further information, please see page 1366

Genistein



Prunetol, Genisteol, 4',5,7-Trihydroxyisoflavone

 $C_{15}H_{10}O_5$

M 270,24 g/mol

mp 297-298 °C

Storage temp.: +4 °C

[446-72-0] • EC No. 207-174-9

WGK 3

Genistein

≥98 %, for biochemistry

Inhibitor of tyrosine specific protein kinases.

Type analysis:

Assay (HPLC)..... ≥98 %
 Heavy metals..... ≤0,001 %
 Loss on drying..... ≤1,0 %

0716.1	25 mg	plastic	59,05 €
0716.2	50 mg	plastic	84,40 €
0716.3	100 mg	plastic	145,15 €

For further information, please see page 1229

Genistein

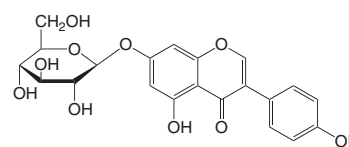
ROTICHRON® -CHR

3429.1	50 mg	glass	131,70 €

Genisteol

► Genistein see p. 1847

Genistin



Genistin

ROTICHRON® HPLC

Reference substance for HPLC

 $C_{21}H_{20}O_{10}$

M 432,38 g/mol

mp 254 °C

Storage temp.: +4 °C

[529-59-9]

Type analysis:

Purity (HPLC)..... ≥99 %

9374.1	5 mg	glass	273,60 €

Gentamycin sulphate

Gentamycin sulphate

≥590 I.U./mg, for biochemistry

Aminoglycoside antibiotic

Gentamycin sulphate

 $C_{19-21}H_{39-43}N_5O_7 \cdot 2,5 H_2SO_4$

M 694,75-723,75 g/mol

Storage temp.: +4 °C

[1405-41-0] • EC No. 215-778-9

WGK 1

 **Danger** H334-H317

Type analysis:

Assay (dry substance) ≥590 I.U./mg

pH value (4 % in H_2O) 3,5-5,5Specific rotation $[\alpha]_D^{20}$ (10 % in H_2O) +107° to +121°Sulphate (SO_4) 32-35 %

Water (KF) ≤15,0 %

Sulphated ash ≤1,0 %

0233.1	1 g	glass	10,25 €

0233.2	5 g	glass	19,60 €

0233.3	10 g	glass	30,00 €

0233.4	25 g	glass	57,95 €

For further information, please see page 1366

Gentamycin sulphate solution

Aqueous gentamycin sulphate solution

 $C_{19-21}H_{39-43}N_5O_7 \cdot 2,5 H_2SO_4$

M 694,75-723,75 g/mol

Storage temp.: +4 °C

[1405-41-0] • EC No. 215-778-9

WGK 1

 **Danger** H334-H317Gentamycin sulphate solution
50 mg/ml, CELLPURE®

Aminoglycoside antibiotic. For cell culture and biochemistry.

Type analysis:

Concentration 50 mg/ml

Endotoxins <10 EU/ml

pH value 4,5-5,5

Sterility complies

Suitability for cell cultur. complies

HN09.1	20 ml	plastic	81,20 €

HN09.2	100 ml	plastic	306,40 €

For further information, please see page 1366

Gentamycin sulphate solution

50 mg/ml, BioScience-Grade, sterile

Aminoglycoside antibiotic. For cell culture and biochemistry.

Type analysis:

Appearance clear, colourless to pale yellow

Concentration 50 mg/ml

Active assay ≥590 µg/mg

pH value 3,5-5,5

Sterility complies

2475.1	20 ml	plastic	80,55 €

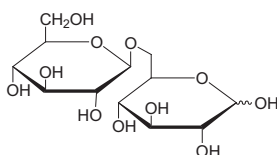
2475.2	100 ml	plastic	289,20 €

For further information, please see page 1366

Gentian violet

► Crystal violet (C.I. 42555) see p. 1751

β-D-Gentiobiose



β-D-Gentiobiose

≥98 %, for biochemistry

Amygdalose, 6-O-β-D-Glucopyranosyl-D-glucose

 $C_{12}H_{22}O_{11}$

M 342,30 g/mol

[554-91-6] • EC No. 209-074-0

WGK 1

Type analysis:

Assay (HPLC) ≥98 %

Solution (5 % in H_2O) almost colourless, clear

Water (KF) ≤1 %

Specific rotation $[\alpha]_D^{20}$ (c=2 in H_2O after 6 h) +9,5° ±1°

4123.1	250 mg	glass	47,85 €

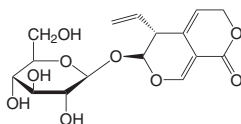
4123.2	500 mg	glass	89,15 €

4123.3	1 g	glass	155,90 €

Gentiopicroin

► Gentiopicroside see p. 1848

Gentiopicroside



Gentiopicroside

≥95 %, for biochemistry

Gentiopicroin, bitter constituent from *Gentiana* $C_{16}H_{20}O_9$

M 356,32 g/mol

mp 117-120 °C

[20831-76-9] • EC No. 244-070-2

Type analysis:

Appearance white powder

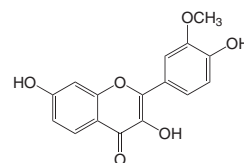
Assay (HPLC) ≥95 %

Melting point 117-120 °C

Specific rotation $[\alpha]_D^{20}$ (in ethanol) -193° to -203°

0467.2	10 mg	glass	266,10 €

Geraldol



Geraldol

ROTICHRUM® HPLC

Reference substance for HPLC

 $C_{16}H_{12}O_6$

M 300,27 g/mol

Storage temp.: +4 °C

[21511-25-1] • EC No. 244-414-1

Type analysis:

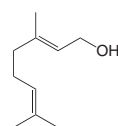
Purity (HPLC) ≥99 %

7461.2	5 mg	glass	276,85 €

Geranial

► Citral see p. 1737

Geraniol



3,7-Dimethyl-2,6-octadien-1-ol

 $C_{10}H_{18}O$

M 154,25 g/mol

D 0,889 • bp 229-230 °C

flp 76 °C

Storage temp.: +4 °C

[106-24-1] • EC No. 203-377-1

WGK 1

  **Danger** H318-H315-H317

Geraniol

≥90 %

Type analysis:

Appearance colourless to yellowish liquid

Assay (GC) ≥90 %

4988.1	25 ml	glass	14,55 €

4988.2	100 ml	glass	44,65 €

Geraniol

ROTICHRUM® GC

Reference substance for GC

Type analysis:

Purity (GC) ≥98 %

5264.1	1 g	plastic	75,15 €

Geranium aldehyde

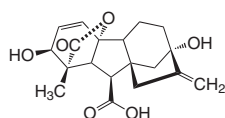
► Citral see p. 1737

Geranyl acetate

► Acetic acid geranyl ester see p. 1602

Germanium Standards

- Germanium ICP Standard Solution see p. 2171
- Germanium ICP Standard Solution see p. 2175

Gibberellic acid**Gibberellic acid**

90 %, for biochemistry

Gibberellin A₃

C₁₉H₂₂O₆

M 346,38 g/mol

mp ~225 °C • flp 111 °C

Solubility: 5 g/l (H₂O, 25 °C)

Storage temp.: +4 °C

[77-06-5] • EC No. 201-001-0

WGK 1

Type analysis:

Appearance white powder
 Assay (Gibberellin in A₃) ≥900 µg/mg
 Specific rotation [α]_D²⁰ ≥+85°
 Loss on drying ≤0,5 %

7464.1	250 mg	glass	14,55 €
7464.2	1 g	glass	25,30 €

Gibberellin A₃

► Gibberellic acid see p. 1849

Giemsa stain**Giemsa stain**

for microscopy

mp 300 °C

[51811-82-6] • EC No. 257-438-2

WGK 3

⚠ Warning H319

Type analysis:

Appearance dark green to black powder
 Appearance of solution (0,1 % in MeOH)
 clear, blue to brown
 Loss on drying (1 h, 110 °C) ≤10,0 %

7691.1	5 g	glass	13,15 €
7691.2	25 g	glass	22,50 €
7691.3	100 g	glass	56,90 €

For further information, please see page 1399

Giemsa stock solution**Giemsa stock solution**

for microscopy

Azure eosin solution

UN No. 1992 • ADR 3 (6.1) II • WGK 1

⚠ ⚠ ⚠ Danger

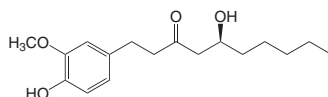
H225-H301+H311+H331-H370

Type analysis:

Suitability for microscopy (blood smear) complies

T862.1	500 ml	plastic	24,20 €
T862.2	1 l	glass	36,05 €
Original pack 6 x 1 l			34,25/1 l
T862.3	2,5 l	plastic	77,95 €
Original pack 4 x 2,5 l			74,05/2,5 l

For further information, please see page 1390

[6]-Gingerol**[6]-Gingerol**

ROTICHROM® HPLC

Reference substance for HPLC

From *Zingiber officinale*.

C₁₇H₂₆O₄

M 294,40 g/mol

Storage temp.: +4 °C

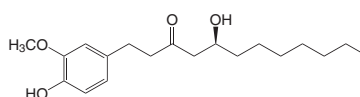
[23513-14-6]

⚠ Warning H315-H319-H335

Type analysis:

Purity (HPLC) >98 %

T895.1	10 mg	glass	263,40 €

[8]-Gingerol**[8]-Gingerol**

ROTICHROM® HPLC

Reference substance for HPLC

From *Zingiber officinale*.

C₁₉H₃₀O₄

M 322,44 g/mol

Storage temp.: +4 °C

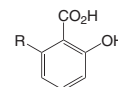
[23513-08-8]

⚠ Warning H315-H319-H335

Type analysis:

Purity (HPLC) >98 %

1143.1	10 mg	glass	299,95 €

Ginkgolic acids RN

R= C₁₃H₂₇, C₁₅H₂₉, C₁₇H₃₃

Ginkgolic acids RN

ROTICHROM® HPLC

Reference substance for HPLC

From *Ginkgo biloba*.

C₂₀H₃₂O₃/C₂₂H₃₄O₃/C₂₄H₃₈O₃

M 320,5/ 346,5/ 374,6 g/mol

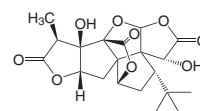
Storage temp.: +4 °C

⚠ Warning H315-H319-H335

Type analysis:

Purity (HPLC) >90 %

1148.1	5 mg	glass	284,90 €

Ginkgolide A

C₂₀H₂₄O₉

M 408,41 g/mol

[15291-75-5]

WGK 3

Ginkgolide A

ROTI®STAR Primary Standard

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC) ≥95,0 %
 Residual solvents (GC) ≤3,0 %
 Water (KF) ≤7,0 %
 Assay (qNMR) ≥90,0 %
 Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE43.1	10 mg	glass	826,70 €

Ginkgolide A

ROTICHROM® Working Standard

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC) ≥85,0 %
 Identity complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC43.1	25 mg	glass	278,45 €

Ginkgolide A

ROTICHROM® HPLC

Reference substance for HPLC

From *Ginkgo biloba*.

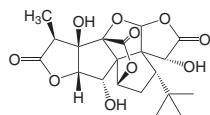
Storage temp.: +4 °C

Type analysis:

Purity (HPLC) >98 %

1145.1	20 mg	glass	299,95 €

Ginkgolide B



Ginkgolide B

ROTICHROM® HPLC

Reference substance for HPLC
From *Ginkgo biloba*.

1-Hydroxyginkgolide A

$C_{20}H_{24}O_{10}$

M 424,40 g/mol

Storage temp.: +4 °C

[15291-77-7]

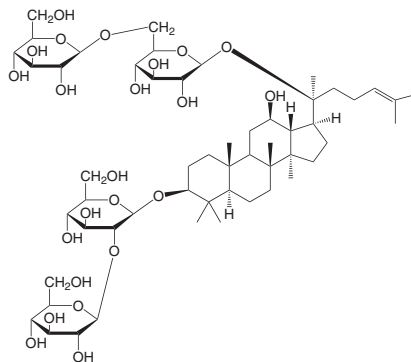
⚠ Warning H315-H319-H335

Type analysis:

Purity (HPLC).....>99 %

1146.1	20 mg	glass	342,95 €

Ginsenoside Rb1



$C_{54}H_{92}O_{23}$

M 1109,31 g/mol

[41753-43-9] • EC No. 255-532-8

WGK 1

⚠ Warning H302

Ginsenoside Rb1

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥90,0 %

Residual solvents (GC).≤2,0 %

Water (KF).....≤10,0 %

Assay (qNMR).....≥80,0 %

Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE44.1	10 mg	glass	714,90 €

Ginsenoside Rb1

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC).....≥85,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC44.1	25 mg	glass	222,00 €

Ginsenoside Rb1

ROTICHROM® HPLC

Reference substance for HPLC

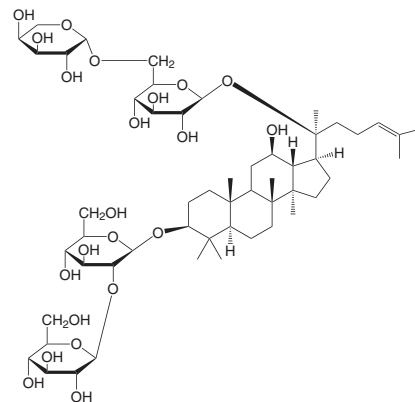
Storage temp.: +4 °C

Type analysis:

Purity (HPLC).≥98 %

7462.1	5 mg	glass	159,00 €

Ginsenoside Rb2



Ginsenoside Rb2

ROTICHROM® HPLC

Reference substance for HPLC

$C_{53}H_{90}O_{22}$

M 1079,28 g/mol

Storage temp.: +4 °C

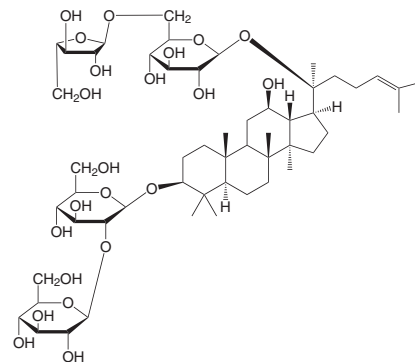
[11021-13-9] • EC No. 234-251-4

Type analysis:

Purity (HPLC).....≥94 %

7463.1	5 mg	glass	278,45 €

Ginsenoside Rc



Ginsenoside Rc

ROTICHROM® HPLC

Reference substance for HPLC

$C_{53}H_{90}O_{22}$

M 1079,28 g/mol

Storage temp.: +4 °C

[11021-14-0] • EC No. 234-253-5

⚠ Warning H302+H312+H332

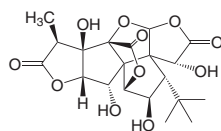
Type analysis:

Purity (HPLC).....≥98 %

7465.1	5 mg	glass	188,15 €

G

Ginkgolide C



Ginkgolide C

ROTICHROM® HPLC

Reference substance for HPLC
From *Ginkgo biloba*.

1,7-Dihydroxyginkgolide A

$C_{20}H_{24}O_{11}$

M 440,40 g/mol

Storage temp.: +4 °C

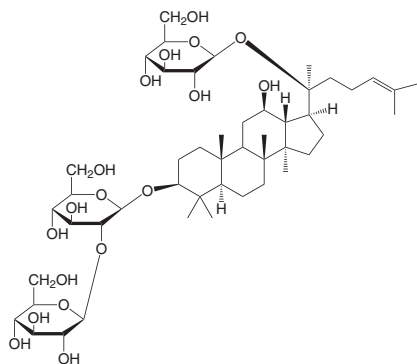
[15291-76-6]

⚠ Warning H315-H319-H335

Type analysis:

Purity (HPLC).....>95 %

1147.1	20 mg	glass	353,70 €

Ginsenoside Rd**Ginsenoside Rd****ROTICHROM® HPLC**

Reference substance for HPLC

 $C_{48}H_{82}O_{18}$

M 947,16 g/mol

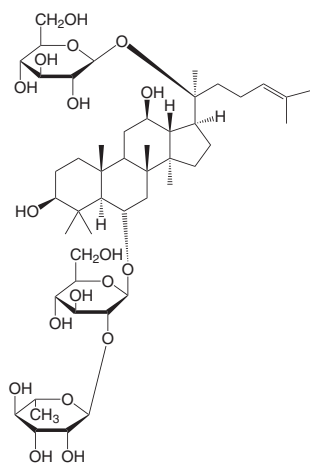
Storage temp.: +4 °C

[52705-93-8] • EC No. 258-118-5

Type analysis:

Purity (HPLC)..... ≥98 %

7466.1	5 mg	glass	166,65 €

Ginsenoside Re

[52286-59-6] • EC No. 257-814-6

WGK 3

Ginsenoside Re**ROTI®STAR Primary Standard****Type analysis:**

Assay (HPLC)..... ≥90,0 %

Residual solvents (GC)..... ≤2,0 %

Water (KF)..... ≤10,0 %

Assay (qNMR)..... ≥85,0 %

Proof of identity by $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, MS, UV.

The certificate includes all results of analytical tests and validations.

NE45.1	10 mg	glass	714,90 €

Ginsenoside Re**ROTICHROM® Working Standard****Type analysis:**

Assay (HPLC)..... ≥80,0 %

Identity..... complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC45.1	25 mg	glass	226,30 €

Ginsenoside Re**ROTICHROM® HPLC**

Reference substance for HPLC

 $C_{48}H_{82}O_{18}$

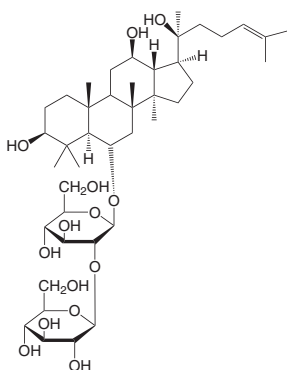
M 947,16 g/mol

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... ≥98 %

7468.1	5 mg	glass	117,20 €

Ginsenoside Rf**Ginsenoside Rf****ROTICHROM® HPLC**

Reference substance for HPLC

 $C_{42}H_{72}O_{14}$

M 801,05 g/mol

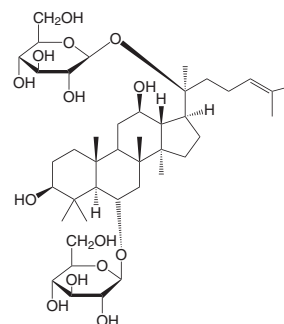
Storage temp.: +4 °C

[52286-58-5]

Type analysis:

Purity (HPLC)..... ≥98 %

4552.1	5 mg	glass	349,40 €

Ginsenoside Rg1 $C_{42}H_{72}O_{14}$

M 801,02 g/mol

Storage temp.: +4 °C

[22427-39-0] • EC No. 244-989-9

WGK 3

⚠ Warning H302

Ginsenoside Rg1**ROTI®STAR Primary Standard****Type analysis:**

Assay (HPLC)..... ≥90,0 %

Residual solvents (GC)..... ≤2,0 %

Water (KF)..... ≤10,0 %

Assay (qNMR)..... ≥80,0 %

Proof of identity by $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, MS, UV.

The certificate includes all results of analytical tests and validations.

NE62.1	10 mg	glass	714,90 €

Ginsenoside Rg1**ROTICHROM® Working Standard****Type analysis:**

Assay (HPLC)..... ≥85,0 %

Identity..... complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC62.1	25 mg	glass	357,45 €

Ginsenoside Rg1**ROTICHROM® HPLC**

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥98 %

7467.1	5 mg	glass	160,20 €

Glacial acetic acid

▶ Acetic acid 100 % see p. 1598

Glass wool

[65997-17-3] • EC No. 266-046-0

Glass wool

chemically pure, of borosilicate glass

Resistant against solvents and most acids and bases. For filtering or as final stopper in chromatography columns.

Filter glass wool

Type analysis:

Fibre size.....~11 µm
Transformation temp.....~559 °C

7377.2 500 g plastic 20,65 €

Original pack 6 x 500 g 19,62/500 g

7377.1 1 kg plastic 33,90 €

Original pack 6 x 1 kg 32,21/1 kg

Glass wool

for normal laboratory work, chemically resistant glass according to DIN 1259-1

Filter aid

Type N (filter glass wool)

Type analysis:

Fibre size.....~11 µm
Transformation temp.....530 °C

6574.1 500 g plastic 16,70 €

Original pack 6 x 500 g 15,87/500 g

D-GlcA

► D-Glucuronic acid see p. 1856

X-β-D-GlcNAc

► 5-Bromo-4-chloro-3-indoxyl-N-acetyl-β-D-glucosaminide see p. 1689

GLDH

► Glutamate dehydrogenase see p. 1856

Gliadin

Gliadin

from wheat

M ~50 000 g/mol

[9007-90-3] • EC No. 232-707-7

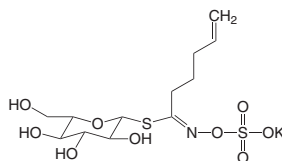
Type analysis:

Appearance.....fine, light beige crystals
Nitrogen (N).....13-18 %

7482.1 10 g glass 100,55 €

7482.2 100 g glass 622,45 €

Glucobrassicinapin



Glucobrassicinapin

ROTICHROM® HPLC

Reference substance for HPLC

From *Brassica napus*

4-Pentenylglucosinolate potassium salt

C₁₂H₂₀KNO₉S₂

M 443,52 g/mol

Storage temp.: +4 °C

[19041-10-2]

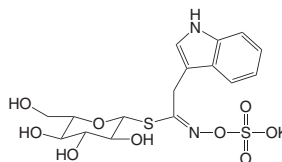
WGK 3

Type analysis:

Purity (HPLC).....≥98 %

2276.1 10 mg glass 274,15 €

Glucobrassicin



Glucobrassicin

ROTICHROM® HPLC

Reference substance for HPLC

From *Brassica oleracea*

3-Indolylmethylglucosinolate potassium salt

C₁₆H₁₉KN₂O₉S₂

M 476,26 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[4356-52-9]

WGK 1

Type analysis:

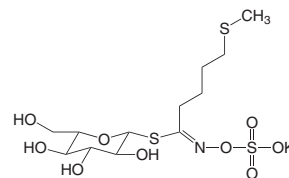
Purity (HPLC).....≥97 %

2279.1 20 mg glass 413,90 €

α-D-Glucochloralose

► α-Chloralose see p. 1728

Glucoerucin



Glucoerucin

ROTICHROM® HPLC

Reference substance for HPLC

From *Eruca sativa*

4-Methylthiobutylglucosinolate potassium salt

C₁₂H₂₂KNO₉S₃

M 459,61 g/mol

Storage temp.: +4 °C

[21973-56-8]

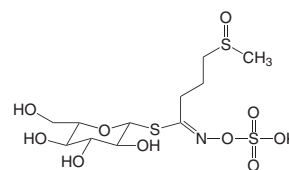
WGK 3

Type analysis:

Purity (HPLC).....≥97 %

2280.1 10 mg glass 284,90 €

Glucoiberin



Glucoiberin

ROTICHROM® HPLC

Reference substance for HPLC

From *Iberis amara*

3-(Methylsulfinyl)propylglucosinolate potassium salt

C₁₁H₂₀KNO₁₀S₃

M 461,56 g/mol

Storage temp.: +4 °C

[554-88-1]

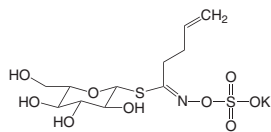
WGK 3

Type analysis:

Purity (HPLC).....≥99 %

2281.1 10 mg glass 228,45 €

Gluconapin



Gluconapin

ROTICHRON® HPLC

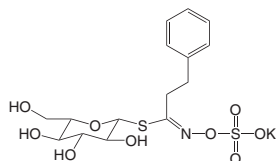
Reference substance for HPLC
From *Brassica napus*
3-Butenylglucosinolate potassium salt
 $C_{11}H_{18}KNO_5S_2$
M 411,48 g/mol
Storage temp.: +4 °C
[19041-09-9]
WGK 3

Type analysis:

Purity (HPLC).....≥97 %

2282.1	10 mg	glass	235,45 €

Gluconasturtiin



Gluconasturtiin

ROTICHRON® HPLC

Reference substance for HPLC
From *Nasturtium officinale*
Phenylethylglucosinolate potassium salt
 $C_{15}H_{20}KNO_5S_2$
M 461,16 g/mol
Storage temp.: +4 °C
[499-30-9]
WGK 3

Type analysis:

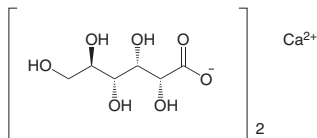
Purity (HPLC).....≥97 %

2357.1	20 mg	glass	413,90 €

D-Gluconate-6-phosphate trisodium salt

► 6-Phosphogluconic acid trisodium salt dihydrate see p. 2038

D-Gluconic acid calcium salt



D-Gluconic acid calcium salt

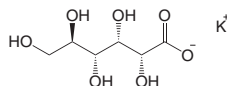
≥98,5 %, Ph.Eur.
Calcium gluconate monohydrate
 $C_{12}H_{22}CaO_{14} \cdot H_2O$
M 448,4 g/mol
mp 195 °C
Solubility: 33 g/l (H_2O , 20 °C)
[18016-24-5] • EC No. 206-075-8
WGK 1

Guarantee analysis:

Appearance..... white powder
Assay..... 98,5-102,0 %
Identity..... complies
Appearance of solution..... complies
Chloride (Cl)..... ≤0,02 %
Sulphate (SO_4)..... ≤0,01 %
Magnesium and alkali metals..... ≤0,4 %
Heavy metals (as Pb)..... ≤0,001 %
Org. substances and boric acid..... complies
Sucrose and reducing sugar..... complies

7502.1	500 g	plastic	29,60 €
Original pack 6 x 500 g			28,12/500 g
7502.2	1 kg	plastic	48,95 €
Original pack 6 x 1 kg			46,50/1 kg
7502.3	2,5 kg	plastic	104,20 €

Gluconic acid potassium salt



Gluconic acid potassium salt

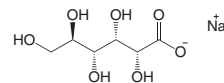
≥99 %, for synthesis
Potassium gluconate
 $C_6H_{11}KO_7$
M 234,24 g/mol
mp 180 °C (dec.)
Solubility: 590 g/l (H_2O , 20 °C)
[299-27-4] • EC No. 206-074-2
WGK 1

Type analysis:

Assay..... ≥99,0 %
Chloride (Cl)..... ≤0,005 %
Sulphate (SO_4)..... ≤0,01 %
pH value (10 % solution)..... 7,0-8,3
Heavy metals (as Pb)..... ≤0,001 %
Arsenic (As)..... ≤0,0001 %
Lead (Pb)..... ≤0,0002 %

2621.1	100 g	plastic	14,20 €
2621.2	500 g	plastic	25,30 €
Original pack 6 x 500 g			24,04/500 g
2621.3	1 kg	plastic	39,70 €
Original pack 6 x 1 kg			37,72/1 kg

Gluconic acid sodium salt



Gluconic acid sodium salt

≥99 %, for synthesis
Sodium gluconate
 $C_6H_{11}NaO_7$
M 218,14 g/mol
mp 170-175 °C
Solubility: 590 g/l (H_2O , 25 °C)
[527-07-1] • EC No. 208-407-7
WGK 1

Type analysis:

Assay..... ≥99,0 %
pH value (10 % solution)..... 6,5-7,5
Heavy metals (as Pb)..... ≤0,002 %
Arsenic (As)..... ≤0,0003 %

2622.1	100 g	plastic	13,15 €
2622.2	500 g	plastic	18,85 €
Original pack 6 x 500 g			17,91/500 g
2622.3	1 kg	plastic	27,85 €
Original pack 6 x 1 kg			26,46/1 kg
2622.4	2,5 kg	plastic	44,65 €

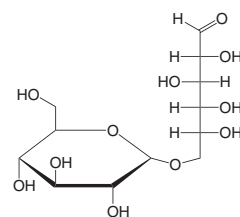
4-O-β-D-Glucopyranosyl-D-glucose

► D(+)-Cellobiose see p. 1723

6-O-β-D-Glucopyranosyl-D-glucose

► β-D-Gentiobiose see p. 1848

1-O-α-D-Glucopyranosyl-D-mannitol



1-O-α-D-Glucopyranosyl-D-mannitol

~99 %, for biochemistry
α-D-Glucopyranosyl-1,6-mannitol
 $C_{12}H_{24}O_{11} \cdot 2 H_2O$
M 380,32 g/mol
mp 70 °C
[20942-99-8] • EC No. 244-122-4

Type analysis:

Assay..... ~99 %

6337.1	10 g	plastic	96,25 €
6337.2	100 g	plastic	708,45 €
6337.3	1 kg	plastic	6009,25 €
Original pack 6 x 1 kg			5708,79/1 kg

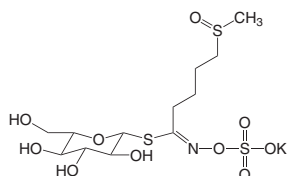
(S)-(β -D-Glucopyranosyl-oxy)(4-hydroxyphenyl)-acetonitrile

► Dhurrin see p. 1767

α -D-Glucopyranosyl-1,6-mannitol

► 1-O- α -D-Glucopyranosyl-D-mannitol
see p. 1853

Glucoraphanin



Glucoraphanin

ROTICHROM® HPLC

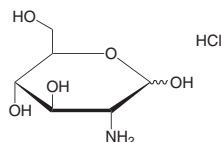
Reference substance for HPLC
From *Brassica oleracea*
3-(Methylsulphonyl)butyl-glucosinolate
potassium salt
 $C_{12}H_{22}KNO_{10}S_2$
M 475,66 g/mol
Storage temp.: +4 °C
[21414-41-5]
WGK 3

Type analysis:

Purity (HPLC)..... $\geq 97,0\%$

2374.1	10 mg	glass	241,90 €

D(+)-Glucosamine hydrochloride



D(+)-Glucosamine hydrochloride

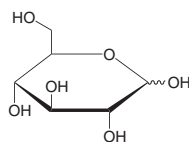
$\geq 99\%$, for biochemistry
Chitosamine hydrochloride
 $C_6H_{14}ClNO_5$
M 215,64 g/mol
mp $>300^\circ\text{C}$
[66-84-2] • EC No. 200-638-1

Type analysis:

Appearance.....fine white crystals
Assay..... $\geq 99\%$

3769.1	100 g	plastic	75,80 €

D(+)-Glucose



Dextrose, blood sugar

$C_6H_{12}O_6$
M 180,16 g/mol
Solubility: ~ 470 g/l (H_2O , 20°C)
[50-99-7] • EC No. 200-075-1

D(+)-Glucose

p.a., ACS, anhydrous

Biochemical and microbiological applications.

Guarantee analysis:

Specific rotation $[\alpha]_D^{20}$ ($c=10$ in H_2O)..... $+52,5^\circ$ to $+53,0^\circ$
In H_2O insoluble matter..... $\leq 0,003\%$
Loss on drying (105°C)..... $\leq 0,2\%$
Ash content (as SO_4)..... $\leq 0,01\%$
Acidity (as CH_3COOH)..... $\leq 0,012\%$
Starch.....complies
Chloride (Cl)..... $\leq 0,0025\%$
Sulphate and sulphite (as SO_4)..... $\leq 0,0025\%$
Heavy metals (as Pb)..... $\leq 0,0005\%$
Arsenic (As)..... $\leq 0,00004\%$
Lead (Pb)..... $\leq 0,0005\%$
Cadmium (Cd)..... $\leq 0,001\%$
Iron (Fe)..... $\leq 0,0005\%$
Copper (Cu)..... $\leq 0,0005\%$
Nickel (Ni)..... $\leq 0,0005\%$

X997.1	250 g	plastic	12,80 €

X997.2	1 kg	plastic	30,00 €

Original pack 6 x 1 kg 28,50/1 kg

X997.3	2,5 kg	plastic	62,90 €

X997.4	5 kg	plastic	107,40 €

X997.5	25 kg	plastic	510,65 €

D(+)-Glucose

$\geq 99,5\%$, CELLPURE®, anhydrous

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins..... $\leq 5,0$ I.U./g
Assay..... $\geq 99,5\%$
Specific rotation $[\alpha]_D^{20}$ $+52,5^\circ$ to $+53,3^\circ$
Sulphated ash..... $\leq 0,1\%$
Water (KF)..... $\leq 1\%$
Sulphite (SO_3)..... $\leq 0,0015\%$
Chloride (Cl)..... $\leq 0,0125\%$
Sulphate (SO_4)..... $\leq 0,02\%$
Arsenic (As)..... $\leq 0,0001\%$
Barium (Ba).....complies
Lead (Pb)..... $\leq 0,00005\%$
Calcium (Ca)..... $\leq 0,02\%$

HN06.1	250 g	plastic	12,70 €

HN06.2	500 g	plastic	20,35 €

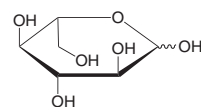
Original pack 6 x 500 g 19,33/500 g

HN06.3	1 kg	plastic	29,80 €

Original pack 6 x 1 kg 28,31/1 kg

HN06.4	5 kg	plastic	96,65 €

L(-)-Glucose



L(-)-Glucose

$\geq 98\%$, for biochemistry

mixture of anomers

$C_6H_{12}O_6$
M 180,16 g/mol
mp $140-145^\circ\text{C}$
[921-60-8] • EC No. 213-068-3

Type analysis:

Appearance.....white powder
Assay (HPLC)..... $\geq 98,0\%$

7509.1	100 mg	glass	27,85 €

7509.2	500 mg	glass	63,35 €

7509.3	1 g	glass	104,20 €

D(+)-Glucose monohydrate

Dextrose, blood sugar

$C_6H_{12}O_6 \cdot H_2O$
M 198,17 g/mol
mp 83°C
Solubility: 1000 g/l (H_2O , 20°C)
[14431-43-7] • EC No. 200-075-1

D(+)-Glucose monohydrate

$\geq 99,5\%$, Ph.Eur.

Suitable for cell culture, tested for endotoxins.

Guarantee analysis:

Appearance.....white cryst. powder
Assay (dry substance)..... $\geq 99,5\%$
Identity.....complies
Water..... $7,0-9,5\%$
Appearance of solution.....complies
Specific rotation $[\alpha]_D^{20}$ $+52,5^\circ$ to $+53,3^\circ$
Sulphated ash..... $\leq 0,1\%$
Acid or alkaline react. substances.....complies
Chloride (Cl)..... $\leq 0,0125\%$
Sulphate (SO_4)..... $\leq 0,02\%$
Sulphite (SO_3).....complies
Arsenic (As)..... $\leq 0,0001\%$
Barium (Ba).....complies
Lead (Pb)..... $\leq 0,00005\%$
Calcium (Ca)..... $\leq 0,02\%$
Foreign sugar, soluble starch, dextrin.....complies
Endotoxin content..... $< 1,25$ I.U./g

6780.1	1 kg	plastic	18,20 €

Original pack 6 x 1 kg 17,29/1 kg

6780.2	5 kg	plastic	61,85 €

6780.4	10 kg	plastic	102,05 €

6780.3	50 kg	plastic	303,70 €

D(+)-Glucose monohydrate for microbiology

Biochemical and microbiological applications.

Guarantee analysis:

Appearance of solution (10 %, H₂O)..... complies
Water 7,0-9,5 %
Arsenic (As)..... ≤0,0001 %
Lead (Pb)..... ≤0,00005 %
Specific rotation [α]_D²⁰ (c=10 in H₂O, dry substance).
..... +52,5° to +53,3°
Suitable for microbiology. complies

6887.1	1 kg	plastic	17,75 €
Original pack 6 x 1 kg			16,86/1 kg
6887.2	2,5 kg	plastic	36,45 €
6887.3	5 kg	plastic	59,05 €
6887.5	25 kg	plastic	160,20 €

Glucose oxidase

Glucose oxidase

~360 U/mg protein (approx. 280 U/mg material)

From *Aspergillus niger*, freeze-dried.

GOx, GOD

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-37-0] • EC No. 232-601-0

WGK 1

Danger H334

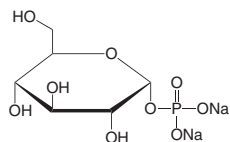
Type analysis:

Appearance..... yellow powder
Activity..... ~360 U/mg protein
α-Amylase..... <0,05 %
Invertase..... <0,5 %
Maltase..... <0,05 %
Ratio glucose-oxidase/catalase..... >2000

6028.1	0,5 MU	plastic	170,95 €

For further information, please see page 1221

α-D-Glucose-1-phosphate disodium salt tetrahydrate



α-D-Glucose-1-phosphate disodium salt tetrahydrate

≥98 %, for biochemistry

C₆H₁₁Na₂O₉P · 4 H₂O

M 376,17 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

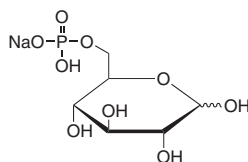
[56401-20-8] • EC No. 260-154-1

Type analysis:

Assay..... ≥98 %

6119.1	1 g	glass	30,00 €
6119.2	10 g	glass	132,15 €

D-Glucose-6-phosphate monosodium salt



D-Glucose-6-phosphate monosodium salt

≥98 %, for biochemistry

C₆H₁₂O₉PNa

M 282,12 g/mol

Storage temp.: +4 °C

[54010-71-8] • EC No. 258-921-0

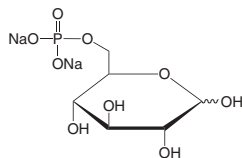
Type analysis:

Assay (titr.)..... ≥98,0 %
Solution (10 % in H₂O)..... colourless
Water (KF)..... ≤1,0 %
Specific rotation [α]_D²⁰ (10 % in H₂O)..... +31° to +35°

5544.1	1 g	glass	42,50 €

5544.2	5 g	plastic	149,45 €

D-Glucose-6-phosphate disodium dihydrate



D-Glucose-6-phosphate disodium dihydrate

≥98 %, for biochemistry

G-6-P-Na₂

C₆H₁₁Na₂O₉P · 2 H₂O

M 340,13 g/mol

Storage temp.: -20 °C • Transport temp.:

room temp.

[3671-99-6] • EC No. 222-938-1

WGK 1

Type analysis:

Appearance..... white powder

Assay..... ≥98 %

CN72.1	1 g	glass	28,50 €

CN72.2	5 g	plastic	96,65 €

CN72.3	10 g	plastic	171,50 €

Glucose solution in water

► Roti®-CELL Glucose solution see p. 2091

β-Glucosidase

β-Glucosidase

≥1000 U/mg, from almonds

ex amygdal

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-22-3] • EC No. 232-589-7

WGK 1

Danger H334

Type analysis:

Appearance.....

..... almost white to yellow, lyophilisate powder

Activity..... ≥1000 U/mg

7512.1	100 mg	glass	23,15 €

7512.2	1 g	glass	177,30 €

For further information, please see page 1221

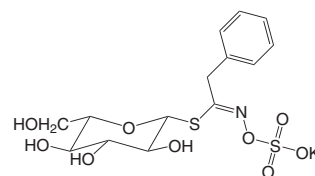
X-β-D-Glucoside

► X-Glu see p. 2244

Glucosinolates

Art. No.	Description	Page
2273	Epiprogoitrin	1805
2276	Glucobrassicinapin	1852
2279	Glucobrassicin	1852
2280	Glucoerucin	1852
2281	Glucioiberin	1852
2282	Glucunapin	1853
2357	Glucunasturtin	1853
2374	Glucoraphanin	1854
2436	Progoitrin	2066
6694	Sinigrin potassium salt	2138
5319	Sinigrin monohydrate	2139

Glucotropaeolin



Glucotropaeolin

ROTICROM® HPLC

Reference substance for HPLC

From *Tropaeolum majus*.

Benzylglucosinolate potassium salt

C₁₄H₁₈KNO₉S₂

M 447,52 g/mol

Storage temp.: +4 °C

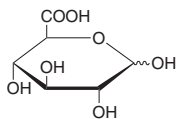
[5115-71-9]

Type analysis:

Purity (HPLC)..... >99 %

1149.1	50 mg	glass	413,90 €

D-Glucuronic acid



D-Glucuronic acid

≥98 %, for biochemistry

D-GlcA

C₆H₁₀O₇

M 194,14 g/mol

mp 159-161 °C

Storage temp.: +4 °C

[6556-12-3] • EC No. 229-486-4

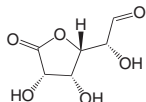
WGK 1

Type analysis:

Assay (titr.) ≥98 %
 Solution (20 % in water) colourless, clear
 Water (KF) ≤1 %
 Specific rotation [α]_D²⁰ (c=6 in H₂O, after 4 h) +36,5° ±1°
 Chloride (Cl) ≤0,005 %
 Sulphate (SO₄) ≤0,01 %

4124.1	1 g	glass	17,10 €
4124.2	5 g	glass	36,45 €
4124.3	10 g	glass	60,10 €
4124.4	25 g	glass	103,75 €

D(+)-Glucuronic acid γ-lactone



D(+)-Glucuronic acid γ-lactone

≥98 %, for biochemistry

D-Glucuronolactone

C₆H₈O₆

M 176,13 g/mol

mp 176-180 °C

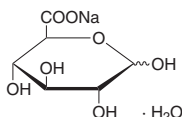
[32449-92-6] • EC No. 251-053-3

Type analysis:

Appearance whitish beige powder
 Assay 98,0-102 %
 Specific rotation [α]_D²⁰ (10 % in H₂O, 24 h) 18,0° ±1,0°
 Loss on drying ≤0,5 %
 Loss on ignition ≤0,1 %

9946.1	25 g	glass	31,10 €

D-Glucuronic acid sodium salt monohydrate



D-Glucuronic acid sodium salt monohydrate

≥99 %, for biochemistry

Sodium glucuronate hydrate

C₆H₉NaO₇ · H₂O

M 234,14 g/mol

[14984-34-0] • EC No. 239-065-7

Type analysis:

Assay (acidim.) ≥99 %
 Water (KF) 6,7-8,7 %

4355.1	10 g	glass	39,70 €
4355.2	25 g	glass	66,55 €

D-Glucuronolactone

► D(+)-Glucuronic acid γ-lactone see p. 1856

Glutamate dehydrogenase

Glutamate dehydrogenase

≥10 U/mg material (approx. 40 U/mg protein)

From bovine liver, freeze-dried.

GDH, GLDH; L-Glutamic dehydrogenase

Storage temp.: -20 °C

Transport temp.: room temp.

[9029-12-3] • EC No. 232-848-4 • WGK 1

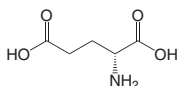
Type analysis:

Appearance white powder
 Activity ≥10 U/mg material

6052.1	10 KU	plastic	141,40 €

For further information, please see page 1221

D-Glutamic acid



D-Glutamic acid

≥99 %, for biochemistry

(R)-2-Aminopentanedioic acid, H-D-Glu-OH

C₅H₉NO₄

M 147,1 g/mol

Storage temp.: +4 °C

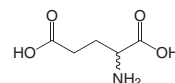
[6893-26-1] • EC No. 230-000-8 • WGK 1

Type analysis:

Appearance white to off-white powder
 Assay 99,0-101,0 %
 Specific rotation [α]_D²⁰ (c=10 in 2 N HCl) -32,5° to -31,5°
 Loss on drying ≤0,2 %

7879.1	5 g	plastic	22,50 €
7879.2	25 g	plastic	67,20 €
7879.3	100 g	plastic	166,55 €

DL-Glutamic acid



DL-Glutamic acid

≥98,5 %, for biochemistry

C₅H₉NO₄

M 147,13 g/mol

Storage temp.: +4 °C

[617-65-2] • EC No. 210-522-2

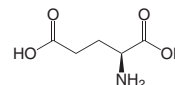
WGK 3

Type analysis:

Appearance white to off-white powder
 Assay ≥98,5 %
 Identity (IR) complies
 Heavy metals (as Pb) ≤0,001 %
 Loss on drying ≤0,5 %

8596.1	25 g	plastic	55,80 €
8596.2	100 g	plastic	178,35 €

L-Glutamic acid



(S)-2-Aminopentanedioic acid, H-L-Glu-OH

C₅H₉NO₄

M 147,13 g/mol

mp 160 °C

Solubility: 11 g/l (H₂O, 25 °C)

[56-86-0] • EC No. 200-293-7

WGK 1

L-Glutamic acid

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins ≤6,0 E.U./g
 Assay ≥99 %
 Loss on drying ≤0,1 %
 Specific rotation [α]_D²⁰ +31,5° to +32,4°
 Foreign amino acids complies
 Ammonium (NH₄) ≤0,02 %
 Chloride (Cl) ≤0,02 %
 Sulphate (SO₄) ≤0,02 %
 Heavy metals (as Pb) ≤0,001 %
 Arsenic (As₂O₃) ≤0,0001 %
 Iron (Fe) ≤0,001 %

1743.1	25 g	plastic	13,45 €
1743.2	100 g	plastic	21,40 €
1743.3	500 g	plastic	67,20 €
Original pack 6 x 500 g			63,84/500 g

Glutaraldehyde 25 %

1,5-Pentanedial, Glutaric dialdehyde, Glutaral
 $C_5H_8O_2$
 M 100,12 g/mol
 D 1,06 • bp 100 °C
 flp >100 °C
 [111-30-8] • EC No. 203-856-5
 UN No. 2922 • ADR 8 (6.1) II • WGK 2
 **Danger**
 H334-H314-H400-H302+H332-H317

Glutaraldehyde 25 %

for electron microscopy

25 % solution in water.

Type analysis:

Assay.....23-27 %
 Density (d 20 °C/4 °C). 1,055-1,065

3778.1	1 l	plastic	50,45 €
Original pack 6 x 1 l			
3778.2	5 l	plastic	201,60 €
Original pack 2 x 5 l			
			191,52/5 l

For further information, please see page 1386

Glutaraldehyde 25 % Mini Pack

for electron microscopy

25 % solution in water.

Type analysis:

Appearance.....colourless to light yellow
 Odour.....characteristic
 Assay.....23-27 %
 Density (d 20 °C/4 °C). 1,055-1,065

4157.1	25 ml	glass	16,90 €
4157.2	10 x 1 ml (with septum)	card board box	60,10 €

For further information, please see page 1386

Glutaric dialdehyde

► Glutaraldehyde 50 % see p. 1857

Glutathione cellulose

Glutathione cellulose

for biochemistry

For purification and concentration of
 GST-tagged proteins.

Storage temp.: +4 °C

UN No. 1170 • ADR 3 III • WGK 1

 **Warning H226**

Type analysis:

Dynamic binding capacity.....≥10 mg/ml
 Ligand (Glutathion).....10-20 µmol/ml
 Matrix exclusion limit.....4x10⁶ Da
 Maximum linear flow rate (H₂O).....450 cm/h
 Recommended flow rate.....<400 cm/h
 Maximum operating pressure (H₂O).....2,0 bar
 Particle volume.....15,7 ml/g
 Particle size.....80-100 µm
 Stability (1 M acetate pH 4, 6 M guanidine-Cl).....1 h
 Stability (pH 2-14).....≤2 h
 Stability (pH 3-11).....≤1 week
 Solvent.....20 % Ethanol

HP56.1	5 ml	glass	89,15 €
HP56.2	25 ml	glass	364,45 €
HP56.3	50 ml	glass	643,95 €

For further information, please see page 1248

Glutathione oxidized

Glutathione oxidized

≥98 %, for biochemistry

Dimer of GSH

GSSG

$C_{20}H_{32}N_6O_{12}S_2$

M 612,6 g/mol

Storage temp.: +4 °C

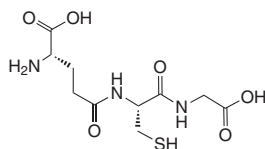
[27025-41-8]

Type analysis:

Appearance.....white powder
 Assay.....≥98,0 %
 Water.....≤8,0 %
 Heavy metals.....≤0,002 %
 Specific rotation [α]_D²⁰.....-106° to -96°

6378.1	1 g	glass	32,15 €
6378.2	5 g	glass	134,40 €

L-Glutathione reduced



γ-L-Glutamyl-L-cysteinyl-glycine, GSH

$C_{10}H_{17}N_3O_6S$

M 307,33 g/mol

mp 177-183 °C

Storage temp.: +4 °C

[70-18-8] • EC No. 200-725-4

WGK 1

L-Glutathione reduced

≥99 %, CELLPURE®

Type analysis:

Appearance.....white cryst. powder
 Endotoxins.....≤6,0 E.U./g
 Assay (dry substance).....≥99 %
 Specific rotation [α]_D²⁰.....-17,5° to -15,5°
 Ammonium (NH₄).....≤0,05 %
 Sulphate (SO₄).....≤0,05 %
 Heavy metals (as Pb).....≤0,001 %
 Arsenic (As₂O₃).....≤0,0001 %
 Iron (Fe).....≤0,001 %
 Loss on drying.....≤0,5 %
 Ash content.....≤0,1 %

6832.1	2,5 g	glass	23,35 €
6832.2	5 g	glass	33,25 €
6832.3	10 g	glass	51,10 €
6832.4	25 g	glass	103,10 €

L-Glutathione reduced

>98 %, for biochemistry

Type analysis:

Appearance.....white powder
 Assay (dry substance).....≥98,0 %
 Loss on drying (105 °C).....≤0,5 %
 Specific rotation [α]_D²⁰.....-17,5° to -15,5°

6382.1	5 g	glass	25,30 €
6382.2	25 g	glass	87,65 €
6382.3	50 g	glass	153,65 €
6382.4	100 g	glass	278,45 €

For further information, please see page 1434

Gluten

Gluten

~80 % protein

From wheat

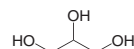
[8002-80-0] • EC No. 232-317-7

Type analysis:

Assay (protein).....~80 %

4601.1	100 g	plastic	21,40 €

Glycerol



1,2,3-Propanetriol

$C_3H_8O_3$

M 92,09 g/mol

D 1,26 • bp 290 °C (dec.)

mp 18,2 °C • flp 160 °C

[56-81-5] • EC No. 200-289-5 • WGK 1

Glycerol

≥99,7 %, p.a., Ultra-quality, synthetic,
 anhydrous

Type analysis:

Assay.....≥99,7 %
 Water.....≤0,5 %
 Chloride (Cl).....≤0,001 %
 Sulphate (SO₄).....≤0,002 %
 Sulphated ash.....≤0,01 %
 Relative density (20/20 °C).....1,260-1,265
 Refractive index n_D²⁰.....1,470-1,475
 Heavy metals.....≤0,0005 %
 Aluminium (Al).....≤0,00005 %
 Barium (Ba).....≤0,00001 %
 Boron (B).....≤0,00002 %
 Calcium (Ca).....≤0,0001 %
 Cadmium (Cd).....≤0,000005 %
 Cobalt (Co).....≤0,000005 %
 Chromium (Cr).....≤0,000002 %
 Copper (Cu).....≤0,000005 %
 Iron (Fe).....≤0,00001 %
 Magnesium (Mg).....≤0,0001 %
 Manganese (Mn).....≤0,00001 %
 Nickel (Ni).....≤0,000002 %
 Lead (Pb).....≤0,00001 %
 Tin (Sn).....≤0,00001 %
 Zinc (Zn).....≤0,00001 %

6962.1	1 l	plastic	56,90 €
Original pack 6 x 1 l			
6962.2	2,5 l	plastic	112,80 €
Original pack 4 x 2,5 l			
6962.3	5 l	plastic	180,50 €
Original pack 2 x 5 l			
6962.4	10 l	plastic	293,40 €

Glycerol**ROTIPURAN® ≥99,5 %, p.a., anhydrous****Guarantee analysis:**

Appearance.....	clear liquid
Assay.....	≥99,5 %
Colour (APHA).....	≤5
Water (KF).....	≤0,5 %
Chloride (Cl).....	≤0,001 %
Sulphated ash.....	≤0,01 %
Heavy metals (as Pb).....	≤0,0005 %
Relative density (20/20 °C).....	1,263-1,2651
Refractive index n _D ²⁰	1,470-1,475
Halogen compounds.....	≤0,0035 %

3783.1	1 l	plastic	48,95 €
Original pack 6 x 1 l			46,50/1 l
3783.3	1 l	glass	52,90 €
Original pack 6 x 1 l			50,26/1 l
3783.2	2,5 l	plastic	87,65 €
Original pack 4 x 2,5 l			83,27/2,5 l
3783.4	2,5 l	glass	95,60 €
Original pack 4 x 2,5 l			90,82/2,5 l
3783.5	5 l	plastic	134,95 €
Original pack 2 x 5 l			128,20/5 l
3783.6	10 l	plastic	209,65 €

Glycerol**≥99 %, Ph.Eur., USP, synthetic, anhydrous****Guarantee analysis:**

Appearance.....	clear, colourless liquid
Assay (dry substance).....	99,0-101,0 %
Identity.....	complies
Water.....	≤2,0 %
Colour.....	complies
Acidity/alkalinity.....	complies
Ester.....	complies
Halogen compounds.....	≤0,003 %
Aldehydes.....	≤0,001 %
Sugar.....	complies
Chloride (Cl).....	≤0,001 %
Sulphate (SO ₄).....	≤0,002 %
Heavy metals.....	≤0,0005 %
Specific density (25/25 °C).....	≥1,249
Refractive index n _D ²⁰	1,470-1,475
Ash content.....	≤0,01 %
Sulphated ash.....	≤0,01 %
Ethylene and diethylene glycol.....	complies
Related substances.....	complies
Impurities A, related substances.....	complies

6967.1	1 l	plastic	40,35 €
Original pack 6 x 1 l			38,33/1 l
6967.2	2,5 l	plastic	80,55 €
Original pack 4 x 2,5 l			76,52/2,5 l
6967.3	5 l	plastic	131,70 €
Original pack 2 x 5 l			125,12/5 l
6967.4	10 l	plastic	203,20 €

Glycerol**≥98 %, Ph.Eur., anhydrous****Guarantee analysis:**

Assay.....	98,0-101,0 %
Appearance of solution.....	complies
Identity.....	complies
Refractive index n _D ²⁰	1,470-1,475
Relative density (20/20 °C).....	1,263-1,2651
Acidity/alkalinity.....	complies
Ester.....	complies
Colour.....	complies
Heavy metals (as Pb).....	≤0,0005 %
Sulphated ash.....	≤0,01 %
Halogen compounds.....	complies
Water (KF).....	≤2,0 %
Chloride (Cl).....	≤0,001 %
Aldehydes.....	≤0,001 %
Sugar.....	complies
Impurity A, related substances.....	complies

7530.1	1 l	plastic	34,30 €
Original pack 6 x 1 l			32,59/1 l
7530.4	2,5 l	plastic	55,80 €
Original pack 4 x 2,5 l			53,01/2,5 l
7530.5	5 l	plastic	101,60 €
Original pack 2 x 5 l			96,52/5 l
7530.2	10 l	plastic	187,60 €
7530.3	35 kg	plastic	364,45 €

Glycerol 86 %

1,2,3-Propanetriol

M 92,1 g/mol

D 1,23 • bp 290 °C (dec.)

mp 18,2 °C • flp 160 °C

[56-81-5] • EC No. 200-289-5 • WGK 1

Glycerol 86 %**ROTIPURAN® ≥86 %, p.a.**

For freeze technique.

Guarantee analysis:

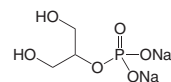
Appearance.....	clear liquid
Assay.....	≥86 %
Density (20 °C).....	1,224-1,232
Water (KF).....	12,0-16,0 %
Chloride (Cl).....	≤0,001 %
Heavy metals (as Pb).....	≤0,0005 %
Reducing substances (Aldehydes).....	complies
Sulphated ash.....	≤0,01 %
Halogen compounds.....	≤0,003 %

4043.1	1 l	plastic	44,00 €
Original pack 6 x 1 l			41,80/1 l
4043.3	2,5 l	plastic	65,50 €
Original pack 4 x 2,5 l			62,23/2,5 l
4043.2	5 l	plastic	120,95 €
Original pack 2 x 5 l			114,90/5 l

Glycerol 86 %**~86 %, Ph.Eur., extra pure****Guarantee analysis:**

Appearance.....	clear liquid
Assay.....	83,5-88,5 %
Identity.....	complies
Water (KF).....	12,0-16,0 %
Appearance of solution.....	complies
Acidity/alkalinity.....	complies
Ester.....	complies
Density (20 °C).....	1,224-1,232
Refractive index n _D ²⁰	1,449-1,455
Aldehydes, red. substances.....	complies
Sugar test.....	complies
Sulphated ash.....	≤0,01 %
Chloride (Cl).....	≤0,001 %
Heavy metals (as Pb).....	≤0,0005 %
Halogen compounds.....	≤0,003 %
Impurity A, related substances.....	complies

7533.1	1 l	plastic	31,10 €
Original pack 6 x 1 l			29,55/1 l
7533.3	2,5 l	plastic	55,40 €
Original pack 4 x 2,5 l			52,63/2,5 l
7533.4	5 l	plastic	95,60 €
Original pack 2 x 5 l			90,82/5 l
7533.2	10 l	plastic	169,35 €
7533.5	25 l	plastic	332,20 €

Glycerol gelatine► Kaiser's glycerol gelatine phenol-free
see p. 1916**β-Glycerophosphate disodium salt pentahydrate****β-Glycerophosphate disodium salt pentahydrate****≥97 %, for biochemistry**

Phosphatase inhibitor

C₃H₇Na₂O₆P · 5 H₂O

M 306,12 g/mol

Solubility: 370 g/l (20 °C, H₂O)

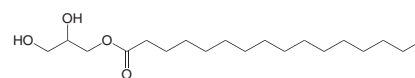
[13408-09-8] • EC No. 212-464-3

WGK 3

Type analysis:

Appearance.....	white cryst. powder
Assay.....	≥97,0 %
Chloride (Cl).....	≤0,01 %
Sulphate (SO ₄).....	≤0,01 %
Heavy metals (as Pb).....	≤0,002 %

6847.1	50 g	glass	44,00 €
6847.2	100 g	glass	81,20 €
6847.3	250 g	glass	188,05 €
6847.4	500 g	glass	360,15 €
Original pack 6 x 500 g			342,14/500 g

Glyceryl 1-monopalmitate**Glyceryl 1-monopalmitate****≥98 %, for biochemistry**

1-Palmitin

C₁₉H₃₈O₄

M 330,5 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[19670-51-0] • EC No. 247-887-2

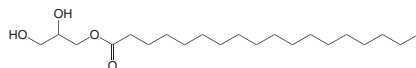
WGK 1

Type analysis:

Appearance.....	white powder
Assay (TLC).....	≥98 %

3786.2	1 g	glass	170,95 €

Glyceryl monostearate



Glyceryl monostearate

pure

C₂₁H₄₂O₄

M 358,57 g/mol

mp 58-61 °C

Storage temp.: +4 °C

[31566-31-1] • EC No. 250-705-4

WGK 1

Type analysis:

Monoglyceride..... 47,0-55,0 %
Acid value (mg KOH/g)..... ≤2,0
Iodine value (g I₂/100 g)..... ≤0,5
Melting point..... 58-61 °C

3787.1	500 g	plastic	18,85 €
Original pack 6 x 500 g			17,91/500 g

Glyceryl triacetate

▶ Triacetin see p. 2216

Glyceryl tributyrate

▶ Tributyrin see p. 2216

Glyceryl tricaprinate

▶ Tricaprin see p. 2217

Glyceryl tricaprilate

▶ Tricaprylin see p. 2217

Glycidether 100

Glycidether 100

for electron microscopy

Formerly known as Epon 812, Epoxipropyl ether of glycerol.

Epon 812

D ~1,22 • bp >200 °C

flp 118 -135 °C

[90529-77-4] • EC No. 292-011-4

WGK 1

⚠ Warning H319-H335

Type analysis:

Appearance..... clear, colourless to pale yellow viscous liquid

8619.1	500 g	glass	33,90 €
Original pack 6 x 500 g			32,21/500 g
8619.2	2,5 kg	glass	120,95 €

For further information, please see page 1389

Glycidether Accelerator DMP-30

Glycidether Accelerator DMP-30

for glycidether 100

2,4,6-Tris(dimethylaminomethyl)-phenol

D 0,98 • bp >200 °C

flp 107 °C

[90-72-2] • EC No. 202-013-9

UN No. 2735 • ADR 8 II • WGK 2

⚠ Warning H302-H315-H319

8621.1	100 g	glass	22,50 €

Glycidether Hardener DBA

Glycidether Hardener DBA

for glycidether 100

DDSA, 2-Dodecenylsuccinic acid anhydride

bp 160-180 °C

mp 12 °C

[25377-73-5] • EC No. 246-917-1

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... clear, yellowish viscous liquid

8623.1	100 g	glass	24,20 €

8623.2	1 kg	glass	143,95 €

Original pack 6 x 1 kg 136,75/1 kg

Glycidether Hardener MNA

Glycidether Hardener MNA

for glycidether 100

1-Methyl-5-norbornene-2,3-dicarboxylic acid anhydride, Methylnadac anhydride

C₁₀H₁₀O₃

M 178,15 g/mol

D 1,23 • bp 295 °C

flp 150 °C

[25134-21-8] • EC No. 246-644-8

UN No. 3265 • ADR 8 II • WGK 2

⚠ ⚠ Danger H334-H302-H335-H315-H319

Type analysis:

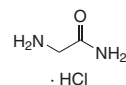
Appearance..... clear, pale yellow viscous liquid

8639.1	100 g	glass	29,60 €

8639.2	1 kg	glass	200,95 €

Original pack 6 x 1 kg 190,90/1 kg

Glycinamide hydrochloride



Glycinamide hydrochloride

≥95 %, for biochemistry

H-Gly-NH₂ · HCl, 2-Aminoacetamide hydrochloride

C₂H₇ClN₂O

M 110,54 g/mol

mp 193-203 °C

[1668-10-6] • EC No. 216-789-1

Type analysis:

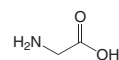
Assay (titr.)..... ≥95,0-105,0 %
Solution (10 % in H₂O)..... colourless to yellow
Melting point..... 193-203 °C
Heavy metals (as Pb)..... ≤0,0015 %

5543.1	10 g	plastic	21,40 €

5543.2	25 g	plastic	39,25 €

5543.3	50 g	plastic	62,25 €

Glycine



α-Aminoacetic acid, Glycocoll

C₂H₅NO₂

M 75,07 g/mol

D 1,16

mp 232-236 °C (dec.)

Solubility: 225 g/l (H₂O, 20 °C)

[56-40-6] • EC No. 200-272-2

WGK 1

Glycine

≥99 %, Blotting-Grade

For Western blotting

Type analysis:

Appearance..... white cryst. powder
Assay..... ≥99 %
Loss on drying..... ≤0,2 %
Hydrolysable substances..... complies
pH value (5 % solution)..... 6,1 ±0,2
Sulphated ash..... ≤0,1 %
Ammonium (NH₄)..... ≤0,02 %
Chloride (Cl)..... ≤0,007 %
Sulphate (SO₄)..... ≤0,006 %
Iron (Fe)..... ≤0,001 %
Heavy metals (as Pb)..... ≤0,0005 %
Arsenic (As)..... ≤0,0001 %

0079.1	250 g	plastic	23,15 €

0079.2	500 g	plastic	43,75 €

Original pack 6 x 500 g 41,56/500 g

0079.3	1 kg	plastic	69,35 €

Original pack 6 x 1 kg 65,88/1 kg

0079.4	2,5 kg	plastic	138,70 €

For further information, please see page 1176

Glycine**PUFFERAN® ≥99 %, p.a.****Guarantee analysis:**

Appearance.....	white cryst. powder
Assay.....	≥99 %
pH value (5 % in H ₂ O).....	5,9-6,4
Ammonium (NH ₄).....	≤0,02 %
Chloride (Cl).....	≤0,007 %
Sulphate (SO ₄).....	≤0,006 %
Arsenic (As).....	≤0,0001 %
Iron (Fe).....	≤0,001 %
Heavy metals.....	≤0,0005 %
Sulphated ash.....	≤0,1 %
Loss on drying.....	≤0,2 %

3908.1	250 g	plastic	21,00 €

3908.2	1 kg	plastic	67,65 €

Original pack 6 x 1 kg	64,27/1 kg

3908.3	5 kg	plastic	188,15 €

3908.5	25 kg	plastic	654,70 €

For further information, please see page 1214

Glycine**≥99 %, CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤6,0 E.U./g
Assay.....	≥99 %
Loss on drying.....	≤0,2 %
Ammonium (NH ₄).....	≤0,02 %
Chloride (Cl).....	≤0,007 %
Sulphate (SO ₄).....	≤0,006 %
Heavy metals (as Pb).....	≤0,0005 %
Arsenic (As).....	≤0,0001 %
Iron (Fe).....	≤0,001 %

HN07.1	100 g	plastic	15,60 €

HN07.2	500 g	plastic	42,50 €

Original pack 6 x 500 g	40,38/500 g

HN07.3	1 kg	plastic	77,30 €

Original pack 6 x 1 kg	73,44/1 kg

Glycine**≥98,5 %, Ph.Eur., USP, JP**

Buffer substance

Guarantee analysis:

Assay (perchl. based on dry substance).....	98,5-101,0 %
pH value (5 % solution).....	5,9-6,3
Identity.....	complies
Chloride (Cl).....	≤0,007 %
Sulphate (SO ₄).....	≤0,006 %
Loss on drying (105 °C).....	≤0,2 %
Ash content (as SO ₄).....	≤0,1 %
Hydrolysable substances.....	complies
Ninhydrin-positive substances (TLC).....	≤0,5 %
Heavy metals (as Pb).....	≤0,0005 %
Arsenic (As).....	≤0,0001 %
Residual solvents.....	complies

T873.1	250 g	plastic	23,55 €

T873.3	500 g	plastic	44,00 €

Original pack 6 x 500 g	41,80/500 g

T873.2	1 kg	plastic	73,00 €

Original pack 6 x 1 kg	69,35/1 kg

T873.4	2,5 kg	plastic	165,05 €

Glycine**≥99 %, for biochemistry****Type analysis:**

Assay.....	≥99,0 %
pH value (5 % in H ₂ O).....	5,5-6,5
Loss on drying.....	≤0,2 %
Heavy metals (as Pb).....	≤0,002 %
Ammonium (NH ₄).....	≤0,01 %
Chloride (Cl).....	≤0,007 %
Sulphate (SO ₄).....	≤0,006 %
Arsenic (As).....	≤0,0001 %
Iron (Fe).....	≤0,001 %

3187.1	250 g	plastic	17,75 €

3187.2	500 g	plastic	23,15 €

Original pack 6 x 500 g	21,99/500 g

3187.3	1 kg	plastic	36,25 €

Original pack 6 x 1 kg	34,44/1 kg

3187.4	5 kg	plastic	153,20 €

For further information, please see page 1214

Glycine**≥99 %, for synthesis****Type analysis:**

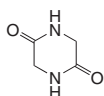
Assay.....	≥99 %
Loss on drying.....	≤0,2 %

3790.1	250 g	plastic	16,70 €

3790.2	1 kg	plastic	33,25 €

Original pack 6 x 1 kg	31,59/1 kg

3790.3	5 kg	plastic	117,75 €

Glycine anhydride**Glycine anhydride****extra pure**

2,5-Piperazinedione, 2,5-Diketopiperazine,

Cyclo(Gly-Gly)

C₄H₆N₂O₂

M 114,10 g/mol

mp >300 °C

Solubility: 142 g/l (H₂O, 20 °C)

[106-57-0] • EC No. 203-411-5

Type analysis:

Appearance.....	white to off-white cryst. powder
Solution (1 % in H ₂ O).....	colourless, clear
Loss on drying.....	≤0,5 %
pH value (0,1 % in H ₂ O).....	5,3-6,3
Elemental analysis:	
Carbon (C).....	41,80-42,40 %
Hydrogen.....	5,00-5,60 %
Nitrogen (N).....	24,25-24,85 %
Chloride (Cl).....	≤0,1 %

5542.1	25 g	plastic	38,20 €

Glycocholic acid sodium salt

▶ Sodium glycocholate see p. 2147

Glycocoll

▶ Glycine see p. 1860

Glycogen**Glycogen****lyophilised, from oysters**

For molecular biology and biochemistry.

[9005-79-2] • EC No. 232-683-8

WGK 1

Type analysis:

Appearance.....	bright powder
Origin.....	oysters
Solubility (1 M NaCl).....	0,25 %
Loss on drying.....	≤15 %
Specific rotation [α] _D ²⁰	+170° to +200°

HP51.1	1 g	glass	22,50 €

HP51.2	5 g	plastic	88,70 €

HP51.3	10 g	plastic	153,65 €

HP51.4	25 g	plastic	332,20 €

For further information, please see page 1192

Glycol

▶ Ethylene glycol see p. 1817

Glycolaldehyde**Glycolaldehyde****Dimer**

Hydroxyacetaldehyde

C₄H₈O₄

M 120,10 g/mol

mp ~85 °C

[141-46-8] • EC No. 205-484-9

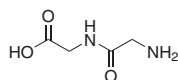
Type analysis:

Appearance.....	white powder
Melting point.....	80-90 °C

3801.1	1 g	glass	70,45 €

3801.2	5 g	glass	284,90 €

Glycylglycine



Diglycine, Gly-gly
 $C_4H_8N_2O_3$
 M 132,12 g/mol
 mp 220-230 °C
 [556-50-3] • EC No. 209-127-8

Glycylglycine PUFFERAN® ≥99 %, ultra quality

Guarantee analysis:
 Appearance.....white cryst. powder
 Assay (titr.).....99,0-100,5 %
 pH value.....5,5-6,5
 Sulphated ash.....≤0,1 %
 Heavy metals (as Pb).....≤0,0005 %
 Foreign amino acids.....non detected
 UV-absorption (10 % in H_2O):
 405 nm.....≤0,01

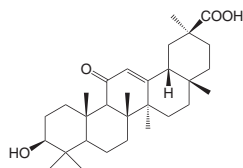
3794.1	10 g	plastic	15,40 €
3794.2	100 g	plastic	78,40 €
3794.3	250 g	plastic	167,20 €
3794.4	500 g	plastic	304,25 €
Original pack 6 x 500 g			289,04/500 g
For further information, please see page 1214			

Glycylglycine PUFFERAN® ≥98,5 %, Buffer Grade

Guarantee analysis:
 Assay (titr.).....≥98,5 %
 Loss on drying.....≤2,0 %
 pH value (0,5 % in H_2O).....5,5-6,0
 Residue on ignition.....≤0,1 %
 Heavy metals (as Pb).....≤0,001 %

HN74.1	50 g	plastic	31,10 €
HN74.2	100 g	plastic	49,35 €
HN74.3	250 g	plastic	107,40 €
HN74.4	500 g	plastic	192,45 €
Original pack 6 x 500 g			182,83/500 g
For further information, please see page 1214			

18-β-Glycyrrhetic acid



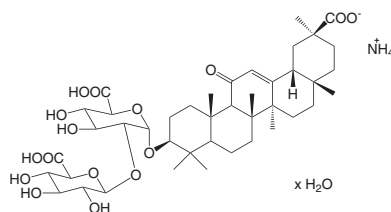
18-β-Glycyrrhetic acid ROTICHROM® HPLC

Reference substance for HPLC
 Enoxolone
 $C_{30}H_{46}O_4$
 M 470,69 g/mol
 Storage temp.: +4 °C
 [471-53-4] • EC No. 207-444-6
 ⚠ Warning H319

Type analysis:
 Purity (HPLC).....≥99 %

7469.1	25 mg	glass	166,65 €

Glycyrrhizic acid ammonium salt hydrate



Glycyrrhizic acid ammonium salt hydrate

≥98 %, for biochemistry
 Monoammonium glycyrrhizinate hydrate
 $C_{42}H_{65}NO_{16} \cdot x H_2O$
 M 839,95 + x H_2O g/mol • mp >200 °C
 [53956-04-0] • EC No. 258-887-7 • WGK 1

Type analysis:
 Assay (dry substance).....≥98 %
 Water.....≤6 %
 Specific rotation $[\alpha]_D^{25}$+49° to +54°
 Heavy metals.....≤0,002 %
 Sulphated ash.....≤0,2 %

6247.1	10 g	glass	39,25 €
6247.2	50 g	glass	150,00 €

Gly-Gly ▶ Glycylglycine see p. 1862

H-Gly-NH₂ · HCl ▶ Glycinamide hydrochloride see p. 1860

Glyoxal



Glyoxal solution 40 %
 Analytical reagent
 Ethanedial
 $C_2H_2O_2$
 M 58,04 g/mol
 D ~1,27 • bp 104 °C • mp -14 °C
 [107-22-2] • EC No. 203-474-9 • WGK 1
 ⚠ ⚠ Warning
 H341-H315-H319-H317-H332-H335

Guarantee analysis:
 Assay (titr.).....40 % ±0,5 %
 pH value.....2,0-3,5
 Colour number (APHA).....≤20

HN49.1	100 ml	glass	13,80 €
HN49.2	1 l	glass	32,50 €
Original pack 6 x 1 l			30,88/1 l
HN49.3	2,5 l	glass	62,25 €
Original pack 4 x 2,5 l			59,14/2,5 l

Glyoxalin ▶ Imidazole see p. 1896

Glyoxyldiureide ▶ Allantoin see p. 1624

GOD ▶ Glucose oxidase see p. 1855

Gold shot

Gold shot
 ROTI®METIC 99,999 % (5N)
 Au
 M 196,97 g/mol
 D 19,3 • bp 2800 °C
 mp 1064 °C
 [7440-57-5] • EC No. 231-165-9

Type analysis:
 Assay (metals basis).....99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5622.1	1 g	plastic	203,20 €
5622.2	5 g	plastic	966,45 €

Gold ▶ Sheets of gold see p. 2127

Gold Standards ▶ Gold AAS Standard Solution see p. 2167 ▶ Gold ICP Standard Solution see p. 2171 ▶ Gold ICP Standard Solution see p. 2175

Gold(III) chloride

Gold(III) chloride
 ROTI®METIC 99,99 % (4N)
 Auric chloride
 $AuCl_3$
 M 303,33 g/mol
 D 3,9 • mp 254 °C (dec.)
 Solubility: 680 g/l (H_2O , 20 °C)
 [13453-07-1] • EC No. 236-623-1
 ⚠ Warning H315-H319-H335

Type analysis:
 Assay (metals basis).....99,99 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5624.1	1 g	glass	224,70 €

Goldner's staining I

Goldner's staining I for microscopy
 For visualising connective tissue (Masson-Goldner trichrome staining).
 Ponceau-Fuchsin solution
 WGK 1

3469.1	500 ml	glass	26,35 €
3469.2	1 l	glass	37,55 €
Original pack 6 x 1 l			35,67/1 l
For further information, please see page 1392			

Goldner's staining II

Goldner's staining II
for microscopy

For visualising connective tissue
(Masson-Goldner trichrome staining).
Phosphotungstic acid-Orange G solution
WGK 1

 **Danger** H318-H315

3470.1	500 ml	glass	46,80 €

3470.2	1 l	glass	80,10 €

Original pack 6 x 1 l	76,10/1 l

For further information, please see page 1392

Goldner's staining III

Goldner's staining III
for microscopy

For visualising connective tissue
(Masson-Goldner trichrome staining).
Light green SF yellowish solution
WGK 1

3473.1	500 ml	glass	27,45 €

3473.2	1 l	glass	36,05 €

Original pack 6 x 1 l	34,25/1 l

For further information, please see page 1392

Gold potassium cyanide

► Potassium dicyanoaurate see p. 2054

Gold trichloride hydrochloride

► Tetrachloroauric(III) acid trihydrate
see p. 2201

Gold trichloride trihydrate

► Tetrachloroauric(III) acid trihydrate
see p. 2201

GOx

► Glucose oxidase see p. 1855

G-6-P-Na₂

► D-Glucose-6-phosphate disodium dihydrate
see p. 1855

Gram's decolourising solution

Gram's decolourising solution
for Gram staining

UN No. 1993 • ADR 3 II • WGK 1

  **Danger** H225-H319-H336

CN02.1	500 ml	glass	20,35 €

For further information, please see page 1395

Gram staining kit

Gram staining kit
for microbiology

Kit for differentiation of gram-positive and gram-negative bacteria, incl. instructions for use.

UN No. 1992 • ADR 3 (6.1) II • WGK 2

   **Danger** H225-H314-H302+H312+H332-H336-H341

Formulation:

Carbol gentiana violet solution (Art. No. CN00).....500 ml

Iodine-potassium iodide solution acc. to Lugol (Art. No. N052).....500 ml

Gram's decolourising solution (Art. No. CN02).....500 ml

Carbol fuchsine solution (Art. No. A130).....500 ml

HP02.1	1 kit	glass	90,20 €

For further information, please see page 1395

Granopent® "P"

Granopent® "P"

Paraffin, in pellets

Melting range: 52-54 °C

D 0,9 • bp >315 °C

flp 200 °C

[8002-74-2] • EC No. 232-315-6

Type analysis:

Appearance..... white, wax-like pellets

Solidification point..... 52-54 °C

Needle penetration (25 °C, 1/10 mm)..... 14-20

9279.1	1 kg	plastic	17,95 €

Original pack 6 x 1 kg	17,05/1 kg

9279.2	2,5 kg	plastic	36,05 €

For further information, please see page 1387

Granulopent

► Phosphorus pentoxide see p. 2040

Graphite

Graphite

natural, amorphous

Ideal as lubricant for metals and for metal blacking, absorbent.

D 2,2

[7782-42-5] • EC No. 231-955-3

Type analysis:

Carbon (C)..... 45-50 %

Ash..... 50-55 %

Humidity..... ≤0,7 %

Sieve analysis:

≥ 85 % passes 75 µm sieve (200 mesh)

7614.2	500 g	plastic	16,15 €

Original pack 6 x 500 g	15,34/500 g

7614.3	1 kg	plastic	24,20 €

Original pack 6 x 1 kg	22,99/1 kg

7614.1	3 kg	plastic	39,70 €

Graciolon

► Betulinic acid see p. 1675

GSH

► L-Glutathione reduced see p. 1858

GSSG

► Glutathione oxidized see p. 1858

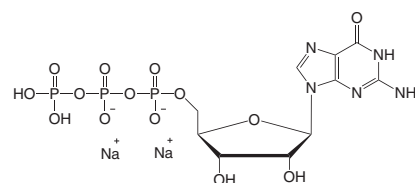
G418 sulphate solution

► Geneticin disulphate (G418 Sulphate)
see p. 1847

GTC

► Guanidine thiocyanate see p. 1864

GTP



GTP

≥90 %, lyophilised

Guanosine-5'-triphosphate di-sodium salt

C₁₀H₁₄N₅O₁₄P₃Na₂ · 3 H₂O

M 621,18 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[56001-37-7] • EC No. 259-940-7

K056.1	100 mg	plastic	45,05 €

K056.2	250 mg	plastic	87,00 €

K056.3	500 mg	plastic	169,35 €

K056.4	1 g	plastic	278,45 €

For further information, please see page 1210

GTP solution

GTP

≥99 %, 100 mM solution

Guanosine-5'-triphosphate

C₁₀H₁₃N₅O₁₄P₃

M 520,15 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

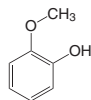
[56001-37-7]

WGK 1

K047.1	25 µmol (250 µl)	plastic	37,30 €

For further information, please see page 1209

Guaiacol



2-Hydroxyanisole
 $C_7H_8O_2$
 M 124,14 g/mol
 D 1,129 • bp 205 °C
 mp 27-29 °C • flp 82 °C
 [90-05-1] • EC No. 201-964-7
 WGK 1

⚠ Warning H302-H315-H319

Guaiacol

≥98%, extra pure

Type analysis:

Assay (GC): ≥98,0 %

7308.1	100 ml	glass	36,45 €

Guaiacol

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC): ≥96,0 %

5135.1	1 g	plastic	75,15 €

Guaiac (resin)

Guaiac (resin)

soluble in alcohol

mp >90 °C

[9000-29-7] • EC No. 232-535-2

Type analysis:

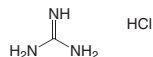
Appearance: powdered, light brown

Water (KF): ≤3 %

Ash: ≤5 %

6033.1	100 g	plastic	63,35 €

Guanidine hydrochloride



Guanidine HCl, Guanidinium chloride

$CH_5N_3 \cdot HCl$

M 95,53 g/mol

D 1,345

mp 185 -188 °C

Solubility: 2150 g/l (H_2O , 20 °C)

[50-01-1] • EC No. 200-002-3

WGK 1

⚠ Warning H302-H315-H319

Guanidine hydrochloride

≥99,7 %, p.a., Protein Grade

Reagent used for reversible denaturation and renaturation of proteins.

Guarantee analysis:

Assay: ≥99,7 %

Appearance of solution (50 % solution): clear, colourless

Dicyandiamide: ≤0,01 %

Ammonium (NH_4): ≤0,01 %

Iron (Fe): ≤0,0001 %

Melamin: ≤0,01 %

Water: ≤0,2 %

Melting point: 185-188 °C

pH value (6 M, 50 % sol.): 4,5-7,0

UV-absorption (6 M):

230 nm: ≤0,15

260 nm: ≤0,03

280 nm: ≤0,015

DNAse: none detected

RNAse: none detected

Protease: none detected

0035.1	100 g	plastic	51,50 €

0035.2	500 g	plastic	186,55 €

Original pack 6 x 500 g 177,22/500 g

0035.3	1 kg	plastic	267,70 €

Original pack 6 x 1 kg 254,32/1 kg

For further information, please see page 1250

Guanidine hydrochloride

≥99,5 %, for biochemistry

Type analysis:

Assay: ≥99,5 %

Water: ≤0,2 %

Ammonium (NH_4): ≤0,05 %

Iron (Fe): ≤0,0001 %

Melamin: ≤0,01 %

Dicyandiamide: ≤0,1 %

pH value (6 M, 50 % in H_2O): 4,5-7,0

UV-absorption (55 %):

260 nm: ≤0,05

280 nm: ≤0,20

0037.3	250 g	plastic	34,30 €

0037.2	500 g	plastic	59,70 €

0037.1	1 kg	plastic	109,15 €

Original pack 6 x 1 kg 103,69/1 kg

Guanidine hydrochloride

≥98 %

For technical use.

Type analysis:

Appearance: colourless crystals

Assay: ≥98 %

Water: ≤0,3 %

Ammonium chloride: ≤0,5 %

Insoluble in water: ≤0,4 %

6069.2	500 g	plastic	27,65 €

Original pack 6 x 500 g 26,27/500 g

6069.1	1 kg	plastic	41,40 €

Original pack 6 x 1 kg 39,33/1 kg

6069.3	2,5 kg	plastic	86,55 €

Guanidine HCl

► Guanidine hydrochloride see p. 1864

Guanidine hydrochloride solution

Guanidine hydrochloride solution

55 % in water (5,75 M)

For protein denaturation.

D ~1,16

EC No. 200-002-3

WGK 1

⚠ Warning H302-H315-H319

Type analysis:

Assay: 54,0-56,0 %

pH value: 5,0-7,0

Iron (Fe): ≤0,00001 %

UV-absorption:

280 nm: ≤0,3

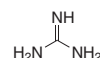
Clear particle-free and extremely low-iron solution. Due to low iron content, substance is excellent e.g. for iron determination in biological solutions.

9465.1	1 l	glass	57,55 €

Original pack 6 x 1 l 54,67/1 l

For further information, please see page 1250

Guanidine thiocyanate



· HSCN

GTC, Guanidinium isothiocyanate

$C_2H_6N_4S$

M 118,16 g/mol

D 1,29

mp 118 °C

Solubility: 1420 g/l (H_2O , 20 °C)

[593-84-0] • EC No. 209-812-1

WGK 2

⚠ Warning

H302+H312+H332-H412-EUH032

Guanidine thiocyanate

≥99 %, for biochemistry

Reagent for denaturation of proteins and for isolation of DNA and RNA.

For a 4 M solution, solubilise 472,64 g in distilled water and fill to 1 l.

Type analysis:

Appearance.....colourless crystals
 Appearance (33 %, water).....colourless, clear
 Assay.....≥99,0 %
 Melting point.....118-121 °C
 Water.....≤0,3 %
 Iron (Fe).....≤0,0001 %
 Heavy metals.....≤0,001 %
 pH value (1 M, H₂O).....5,0-7,0
 UV-absorption (33 % aqueous solution):
 280 nm.....≤0,40
 300 nm.....≤0,05

0017.1	100 g	plastic	26,55 €

0017.3	500 g	plastic	97,75 €

Original pack 6 x 500 g	92,86/500 g

0017.2	1 kg	plastic	157,50 €

Original pack 6 x 1 kg	149,63/1 kg

For further information, please see page 1198

Guanidine thiocyanate

≥99 %, extra pure

Type analysis:

Assay (titr.).....≥99,0 %
 pH value.....5-7
 Water (KF).....≤0,5 %
 Melting point.....116-120 °C
 Appearance of solution (20 %, H₂O).....clear, colourless
 Iron (Fe).....≤0,0001 %
 UV-absorption (35 % aqueous solution):
 280 nm.....≤0,4

2628.1	100 g	plastic	21,40 €

2628.2	250 g	plastic	40,75 €

2628.3	500 g	plastic	70,45 €

Original pack 6 x 500 g	66,93/500 g

2628.4	1 kg	plastic	121,40 €

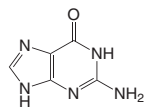
Original pack 6 x 1 kg	115,33/1 kg

Guanidinium chloride

► Guanidine hydrochloride see p. 1864

Guanidiniumisothiocyanat

► Guanidine thiocyanate see p. 1864

Guanine**Guanine**

≥97 %, for biochemistry

4-Aminohypoxanthine

C₅H₅N₅O

M 151,13 g/mol

mp 360 °C

Storage temp.: +4 °C

[73-40-5] • EC No. 200-799-8

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....white powder
 Assay.....≥97,0 %

7505.1	10 g	glass	23,35 €

7505.2	25 g	glass	47,20 €

Guanine hydrochloride**Guanine hydrochloride**

≥98 %, for biochemistry

C₅H₅N₅O · HCl

M 187,59 g/mol

mp ~300 °C

Storage temp.: +4 °C

[635-39-2] • EC No. 211-235-2

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC).....≥98,0 %
 Loss on drying.....≤1,0 %

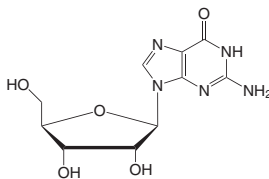
3814.2	5 g	glass	13,45 €

3814.1	10 g	glass	19,90 €

3814.3	50 g	glass	67,20 €

Guanine-9-β-D-ribofuranoside

► Guanosine see p. 1865

Guanosine**Guanosine**

≥98 %, for biochemistry

Guanine-9-β-D-ribofuranoside

C₁₀H₁₃N₅O₅

M 283,24 g/mol

mp 250 °C (dec.)

[118-00-3] • EC No. 104-227-8

WGK 1

Type analysis:

Assay (HPLC).....≥98,0 %
 Arsenic (As).....≤0,0001 %
 Heavy metals.....≤0,001 %
 Loss on drying.....≤3,0 %

0715.1	10 g	plastic	20,35 €

0715.2	25 g	plastic	36,05 €

Guanosine-BCE-phosphoramidite**Guanosine-BCE-phosphoramidite**

For DNA-synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-dG(N-Bu)P-(OCH₂CH₂CN)-N(iPr)₂

C₄₄H₅₄N₇O₈P

M 839,7 g/mol

Storage temp.: +4 °C

[93183-15-4]

K923.1	1 g	glass	32,15 €

For further information, please see page 1429

Guanosine-CPG-Support**Guanosine-CPG-Support**

500 Å pore size

Support material for DNA-synthesis.

dG-lcaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥98,0 %
 CPG loading.....30-40 μmol/g
 Coupling efficiency.....≥99 %

2320.3	1 g	plastic	52,15 €

For further information, please see page 1429

Guanosine-5'-triphosphate disodium salt

► GTP see p. 1863

Guarana powder**Guarana powder**

powdered

Guar plant containing ~3-5 % caffeine.

Semen guaranae powdered

[84929-28-2] • EC No. 284-512-1

WGK 1

Type analysis:

Appearance.....light brownish powder

A527.1	250 g	plastic	27,45 €

A527.2	1 kg	plastic	79,05 €

Original pack 6 x 1 kg	75,10/1 kg

Guar flour**Guar flour**

~5000 cP

[9000-30-0] • EC No. 232-536-8

WGK 1

Type analysis:

Viscosity (1 % solution).....~5000 cP
 pH value (1 M in H₂O).....5,4-7,0
 Moisture.....≤12 %
 Carbohydrates.....≥80 %
 Protein.....≤5,0 %
 Ash.....≤0,8 %
 Obtained from endosperm of the seed of the guar plant "Cyamopsis tetragonolobus" which is mainly cultivated in Asia.

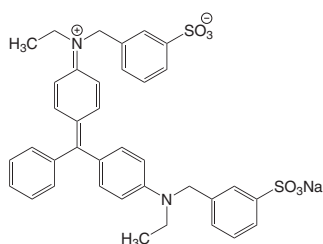
3527.2	500 g	plastic	26,80 €

Original pack 6 x 500 g	25,46/500 g

3527.1	1 kg	plastic	45,05 €

Original pack 6 x 1 kg	42,80/1 kg

Guinea green B (C.I. 42085)



Guinea green B (C.I. 42085)

extra pure

Acid Green 3

 $C_{37}H_{35}N_2NaO_6S_2$

M 690,82 g/mol

mp 225 °C (dec.)

[4680-78-8] • EC No. 225-132-8

WGK 3

Type analysis:

Appearance: dark green to dark purple powder

Appearance of solution (1 % in H_2O): clear, blue to green

7694.1	5 g	glass	13,45 €

7694.2	25 g	glass	23,55 €

7694.3	100 g	glass	64,40 €

Gum arabic

Gum arabic

spray dried

Acacia

flp >250 °C

[9000-01-5] • EC No. 232-519-5

⚠ Warning H319

Guarantee analysis:

Appearance: white powder

Identity: complies

pH value (25 % in H_2O): 4,1-5,8Specific rotation $[\alpha]_D^{20}$: -36° to -22°

Loss on drying: ≤10 %

Heavy metals (as Pb): ≤0,004 %

Arsenic (As): <0,0003 %

Lead (Pb): ≤0,0002 %

Mercury (Hg): <0,0001 %

Cadmium (Cd): <0,0001 %

Total ash: ≤4 %

Products of hydrolysis: complies

Acid insoluble ash: ≤0,5 %

Insoluble matter: ≤0,5 %

4159.2	100 g	plastic	14,95 €

4159.3	500 g	plastic	37,10 €

Original pack 6 x 500 g	35,25/500 g

4159.1	1 kg	plastic	67,20 €

Original pack 6 x 1 kg	63,84/1 kg

Hafnium Standards

▶ Hafnium ICP Standard Solution see p. 2171

▶ Hafnium ICP Standard Solution see p. 2175

Hafnium(IV) oxide

Hafnium(IV) oxide

≥99,3 %

 HfO_2

M 210,49 g/mol

D 9,68

mp 2812 °C

[12055-23-1] • EC No. 235-013-2

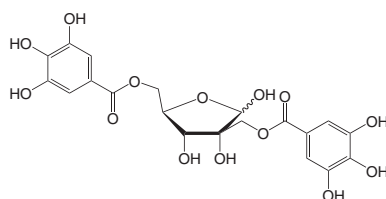
Type analysis:

Assay: ≥99,3 %

9073.1	1 g	glass	25,30 €

9073.2	10 g	glass	172,55 €

Hamamelitannin



Hamamelitannin

ROTICHRON® HPLC

Reference substance for HPLC

From *Hamamelis virginiana*. $C_{20}H_{20}O_{14}$

M 484,37 g/mol

Storage temp.: +4 °C

[469-32-9] • EC No. 207-416-3

Type analysis:

Purity (HPLC): >99 %

1151.1	20 mg	glass	235,45 €

Ham's F12 cell culture medium

▶ Roti®-CELL Ham's F12 see p. 2092

Hanks' salt solution

▶ Roti®-CELL Hanks' BSS see p. 2092

Hanus solution (0,2 N)

Hanus solution

0,1 mol IBr/l - 0,2 N volumetric standard solution

For determination of iodine number

UN No. 2789 • ADR 8 (3) II • WGK 1

⚠ ⚠ Danger H226-H314-H290

Type analysis:

Amount-of-substance conc. (20 °C): 0,1 mol IBr/l ±2 %

KK63.1	1 l	plastic	44,65 €

Original pack 6 x 1 l	42,42/1 l

For further information, please see page 1546

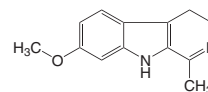
Hardener DBA

▶ Glycidether Hardener DBA see p. 1860

Hardener MNA

▶ Glycidether Hardener MNA see p. 1860

Harmaline



Harmaline

ROTICHRON® ~CHR

 $C_{13}H_{14}N_2O$

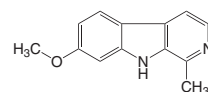
M 214,26 g/mol

mp 232-234 °C (dec.)

[304-21-2] • EC No. 206-152-6

7644.3	25 mg	glass	139,25 €

Harmine



Harmine

ROTICHRON® TLC

Reference substance for thin layer chromatography

 $C_{13}H_{12}N_2O$

M 212,25 g/mol

mp 262-264 °C (dec.)

Storage temp.: +4 °C

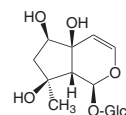
[442-51-3] • EC No. 207-131-4

UN No. 1544 • ADR 6.1 II

⚠ Warning H302+H312+H332-H319

9968.1	500 mg	glass	39,70 €

Harpagid



Harpagid

ROTICHRON® HPLC

Reference substance for HPLC
From *Harpagophytum procumbens*. $C_{15}H_{24}O_{10}$

M 364,34 g/mol

Storage temp.: +4 °C

[6926-08-5]

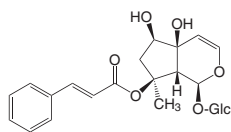
⚠ Warning H302

Type analysis:

Purity (HPLC): >99 %

1152.1	10 mg	glass	278,45 €

Harpagoside



8'-Cinnamoylharpagide
 $C_{24}H_{30}O_{11}$
 M 494,48 g/mol
 mp 120-129 °C
 [19210-12-9] • EC No. 242-881-6
 WGK 1

Harpagoside

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %
 Residual solvents (GC) ≤2,0 %
 Water (KF) ≤5,0 %
 Assay (qNMR) ≥80,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests
 and validations.

NE21.1	25 mg	glass	714,90 €

Harpagoside

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC) ≥80,0 %
 Identity complies
 Traceable to a primary reference standard. With proof
 of identity and batch specific certificate of analysis.

NC21.1	50 mg	glass	401,55 €

Harpagoside

ROTICHROM® HPLC

Reference substance for HPLC
 From *Harpagophytum procumbens*.
 Storage temp.: +4 °C

Type analysis:

Purity (HPLC) >98 %

7471.1	10 mg	glass	91,40 €

Harris Hematoxylin solution

► Hematoxylin solution acc. to Harris
 see p. 1869

HATU

► O-(7-Azabenzotriazol-1-yl)-N,N,N',N'-tetra-
 methylurionium hexafluorophosphate
 see p. 1660

HBBS

► Roti®-CELL Hanks' BSS see p. 2092

HBTU

► O-(Benzotriazol-1-yl)-N,N,N',N'-tetra-
 methylurionium hexafluorophosphate
 see p. 1672

HCl-ethanol solution 3 %

HCl-ethanol solution 3 %

for histology

Differentiating solution for histological staining
 Hydrochloric acid in ethanol
 D 0,9

UN No. 1170 • ADR 3 II • WGK 1

⚠ Danger H225

Type analysis:

Appearance clear, colourless
 Density (20 °C) 0,896-0,900

6477.1	500 ml	plastic	15,60 €

6477.2	1 l	plastic	27,45 €

Original pack 6 x 1 l	26,08/1 l

6477.3	5 l	plastic	96,65 €

Original pack 2 x 5 l	91,82/5 l

For further information, please see page 1380

HCTU

► O-(1H-6-Chlorobenzotriazole-1-yl)-
 N,N,N',N'-tetramethylurionium
 hexafluorophosphate see p. 1729

HDMA

► 1-[(Dimethylamino)(morpholino)methylene]-
 1H-[1,2,3]triazolo[4,5-b]pyridine-1-ium
 3-oxide hexafluorophosphate (HDMA)
 see p. 1782

HDMC

► 4-((6-Chloro-1H-benzo[d][1,2,3]triazol-
 1-yloxy)(dimethylamino)methylene)-
 morpholin-4-ium hexafluorophosphate
 (HDMC) see p. 1730

HDPA

► Hexadecylphosphonic acid see p. 1874

Heart infusion

Heart infusion

for microbiology

Storage temp.: +20 °C
 WGK 1

Type analysis:

Total nitrogen ≥10 %
 Amino nitrogen ≥3 %
 Loss on drying ≤6 %
 Ash ≤15 %
 pH (2 % solution) 6,5-7,5

7596.1	250 g	plastic	53,65 €

7596.2	500 g	plastic	91,30 €

Original pack 6 x 500 g	86,74/500 g

For further information, please see page 1356

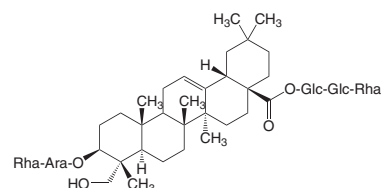
Heating Bath Media

Art. No.	Description	Page
1980	Alloy acc. to Wood	1624
1670	Heating and cooling mediums, Rotitherm® H 250	2113
0991	Heating and cooling mediums, Rotitherm® M 220	2113
0990	Heating and cooling mediums, Rotitherm® M 150	2113
0244	Heating and cooling mediums, Rotitherm® K + H	2114
4106	Silicone oil M 3	2132
7844	Silicone oil M 5	2132
4113	Silicone oil M 10	2132
4010	Silicone oil M 20	2132
4020	Silicone oil M 50	2132
4025	Silicone oil M 100	2132
4035	Silicone oil M 350	2133
4040	Silicone oil M 500	2133
4045	Silicone oil M 1000	2133
4050	Silicone oil M 5000	2133
4055	Silicone oil M 10 000	2133
4060	Silicone oil M 20 000	2133
4080	Silicone oil M 60 000	2133
4085	Silicone oil M 100 000	2133
4112	Silicone oil M 250 000	2133
4109	Silicone oil M 500 000	2133
9375	Silicone oil M 1 000 000	2133
4130	Silicone oil PN 200	2134
6826	Silicone oil PN 1000	2134

Heavy water

► Deuterium oxide see p. 1765

Hederacoside C



$C_{59}H_{96}O_{26}$
 M 1221,39 g/mol
 mp 218-223 °C
 [27013-76-9] • EC No. 238-072-2
 UN No. 2811 • ADR 6.1 III • WGK 2
 ⚠ Warning H302

Hederacoside C

>90 %, for biochemistry

Storage temp.: +4 °C

Type analysis:

Appearance, colourless to light ochre coloured powder
 Assay (HPLC, 205 nm) >90 %

6775.1	250 mg	glass	138,70 €

Hederacoside C

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %
Residual solvents (GC).....≤8,0 %
Water (KF).....≤3,0 %
Assay (qNMR).....≥84,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE46.1	10 mg	glass	525,70 €

Hederacoside C

ROTICHRM® Working Standard

Type analysis:

Assay (HPLC).....≥85,0 %
Identity.....complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC46.1	25 mg	glass	299,95 €

Hederacoside C

ROTICHRM® HPLC

Reference substance for HPLC
From *Hedera helix*.

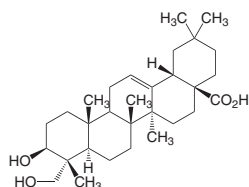
Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥99 %

7472.1	10 mg	glass	112,90 €

Hederagenin



Caulosapogenin, Melanthigenin

C₃₀H₄₈O₄
M 472,71 g/mol
mp 310-320 °C
Storage temp.: +4 °C
[465-99-6] • EC No. 207-369-9
WGK 1

Hederagenin

ROTICHRM® HPLC

Reference substance for HPLC
From *Hedera helix*

Type analysis:

Purity (HPLC).....≥98 %

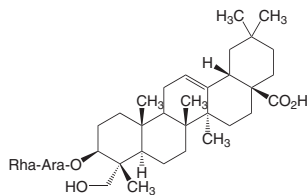
7474.2	20 mg	glass	188,15 €

Hederagenin

ROTICHRM® ~CHR

9141.2	250 mg	glass	220,40 €

α-Hederin



Helixin

C₄₁H₆₆O₁₂
M 750,98 g/mol
mp 256-257 °C
Storage temp.: +4 °C
[27013-91-8] • EC No. 248-166-5
UN No. 2811 • ADR 6.1 III

⚠ Warning H302

α-Hederin

ROTICHRM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥98 %

7486.1	10 mg	glass	155,90 €

α-Hederin

ROTICHRM® ~CHR

9970.1	250 mg	glass	306,40 €

H&E fast staining kit

H&E fast staining kit

for microscopy

Staining kit for fast oversight staining of tissue sections. Hematoxylin-eosin staining, incl. instructions for use.

Storage temp.: +20 °C

UN No. 1230 • ADR 3 II • WGK 3

⚠ ⚠ ⚠ ⚠ Danger

H225-H290-H301+H311+H331-H370

Formulation:

Fast staining H&E, solution 1 (Art. No. 8947)

Fast staining H&E, solution 2 (Art. No. 8950)

9194.1	2 x 250 ml	plastic	48,40 €

9194.2	2 x 500 ml	plastic	70,45 €

For further information, please see page 1391

Helenien

Helenien

ROTICHRM® ~CHR

Mixture of natural fatty acid esters of lutein.

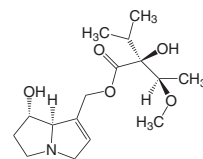
Storage temp.: -20 °C

Transport temp.: room temp.

[547-17-1] • EC No. 208-916-4

4452.2	10 mg	glass	278,45 €

Heliotrine



Heliotrine

ROTICHRM® HPLC

Reference substance for HPLC
From *Heliotropium*

C₁₆H₂₇NO₅

M 313,39 g/mol

mp 118-122 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[303-33-3]

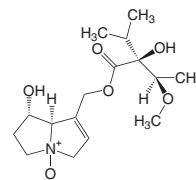
WGK 3

Type analysis:

Purity (HPLC).....≥98,0 %

1929.1	20 mg	glass	289,20 €

Heliotrine N-oxide



Heliotrine N-oxide

ROTICHRM® HPLC

Reference substance for HPLC
From *Heliotropium*

C₁₆H₂₇NO₆

M 329,39 g/mol

mp 163-167 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[6209-65-0]

WGK 3

Type analysis:

Purity (HPLC).....≥97 %

1944.1	10 mg	glass	252,65 €

Helixin

▶ α-Hederin see p. 1868

Hemalum solution acid acc. to Mayer

Hemalum solution acid acc. to Mayer

for microscopy

For visualising nuclei.

Mayers Hemalum solution

WGK 1

⚠ **Warning** H302-H315-H319

Type analysis:

Suitability for microscopy (tissue section).....complies

T865.1	500 ml	glass	24,20 €

T865.2	1 l	glass	39,70 €

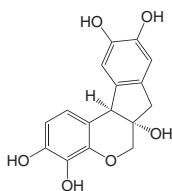
Original pack 6 x 1 l			37,72/1 l

T865.3	2,5 l	plastic	71,95 €

Original pack 4 x 2,5 l			68,35/2,5 l

For further information, please see page 1391

Hematoxylin (C.I. 75290)



Hematoxylin (C.I. 75290)

for microscopy

Hydroxybrasilin

C₁₆H₁₄O₆

M 302,29 g/mol

mp +145 °C

[517-28-2] • EC No. 208-237-3

Type analysis:

Appearance.....light-brown powder

Maximum absorption.....~292 nm in methanol

pH value (1 % in H₂O).....5,0-7,0

3816.1	10 g	glass	37,95 €

3816.3	50 g	glass	151,05 €

3816.2	100 g	glass	266,10 €

For further information, please see page 1399

Hematoxylin solution acc. to Delafield

Hematoxylin solution acc. to Delafield

for microscopy

Delafield's hematoxylin solution

UN No. 1992 • ADR 3 (6.1) II • WGK 1

⚠ **Danger**

H225-H370-H332+H312+H302

Type analysis:

Suitability for microscopy.....complies

Dilution for use: 1:20 in distilled water
(staining: 30 min.)

CN03.1	500 ml	glass	36,05 €

For further information, please see page 1393

Hematoxylin solution acid acc. to Ehrlich

Hematoxylin solution acid acc. to Ehrlich

for microscopy

Ehrlich's acid hematoxylin solution

UN No. 1993 • ADR 3 II • WGK 1

⚠ **Danger** H225-H319-H336

Type analysis:

Suitability for microscopy.....complies

CN04.1	500 ml	glass	36,05 €

For further information, please see page 1393

Hematoxylin solution acc. to Gill II

Hematoxylin solution acc. to Gill II

for microscopy

WGK 1

⚠ **Danger** H318-H302

Type analysis:

Suitability for microscopy (tissue section).....complies

T864.1	500 ml	glass	36,05 €

T864.2	1 l	glass	52,15 €

Original pack 6 x 1 l			49,54/1 l

T864.3	2,5 l	plastic	99,90 €

Original pack 4 x 2,5 l			94,91/2,5 l

For further information, please see page 1393

Hematoxylin solution acc. to Harris

Hematoxylin solution acc. to Harris

for microscopy

Harris Hematoxylin solution, Papanicolaou
solution 1a

WGK 1

Type analysis:

Suitability for microscopy (tissue section).....complies

X903.1	500 ml	glass	31,10 €

X903.2	1 l	glass	48,30 €

Original pack 6 x 1 l			45,89/1 l

X903.3	2,5 l	plastic	101,60 €

Original pack 4 x 2,5 l			96,52/2,5 l

For further information, please see page 1393

Hematoxylin solution A acc. to Weigert

Hematoxylin solution A acc. to Weigert

for microscopy

Hematoxylin solution acc. to Weigert

Solution A acc. to Weigert

UN No. 1219 • ADR 3 II • WGK 1

⚠ **Danger** H225-H319-H336

Type analysis:

Suitability for microscopy.....complies

Working solution:

Mix Weigert's solution A and Weigert's solution B at a
ratio of 1:1.

X906.1	500 ml	glass	51,30 €

For further information, please see page 1392

Hematoxylin solution B acc. to Weigert

Hematoxylin solution B acc. to Weigert

for microscopy

Iron(III) chloride solution acc. to Weigert

Solution B acc. to Weigert

WGK 1

⚠ **Danger** H318

Type analysis:

Suitability for microscopy.....complies

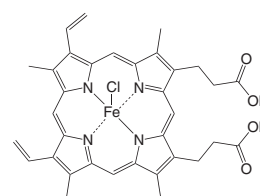
Working solution:

Mix Weigert's solution A and Weigert's solution B at a
ratio of 1:1.

X907.1	500 ml	glass	19,25 €

For further information, please see page 1392

Hemin(chloride)



Hemin(chloride)

≥98 %, cryst.

C₃₄H₃₂ClFeN₄O₄

M 651,96 g/mol

[16009-13-5] • EC No. 240-140-1

Type analysis:

Appearance.....fine black cryst. powder

Assay (HPLC).....≥98,0 %

Moisture.....≤0,5 %

7629.1	1 g	glass	15,60 €

7629.2	5 g	glass	42,90 €

Heptadeuterodimethyl- formamide

► N,N-Dimethylformamide D7 see p. 1784

Heparin sodium salt

Heparin sodium salt

≥180 I.U./mg, Ph.Eur., from porcine intestine mucosa

M ~2x10⁴ g/mol

Storage temp.: +4 °C

[9041-08-1] • WGK 1

Guarantee analysis:

Appearance..... white to almost white, hygroscopic powder
 Appearance of solution..... clear
 Assay..... ≥180 I.U./mg
 Identity..... complies
 pH value (1 % H₂O)..... 5,5-8,0
 Nitrogen (N)..... 1,5-2,5 %
 Heavy metals..... ≤0,003 %
 Sodium (Na)..... 9,5-12,5 %
 Loss on drying..... ≤8,0 %
 Protein..... ≤0,5 %
 Nucleotidic impurities (260 nm)..... ≤0,15
 Dermatan sulphate, chondroitin sulphate..... ≤2,0 %
 Any other impurities..... complies

7692.1 1 g glass 66,15 €

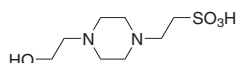
7692.2 5 g glass 287,60 €

7692.3 25 g plastic 1279,25 €

Hepasamin

► D-Galactosamine hydrochloride see p. 1843

HEPES



N-2-Hydroxyethyl piperazine-N'-2-ethane sulphonic acid, Good's buffer

C₈H₁₇N₂O₄S

M 238,31 g/mol

mp 234-238 °C

[7365-45-9] • EC No. 230-907-9 • WGK 3

HEPES

PUFFERAN® ≥99,5 %, CELLPURE®

For cell culture, tissue culture and biotechnology.

Guarantee analysis:

Assay (titr.)..... ≥99,5 %
 Water (KF)..... ≤0,2 %
 Chloride (Cl)..... ≤0,005 %
 Sulphate (SO₄)..... ≤0,01 %
 Phosphate (PO₄)..... ≤0,001 %
 Heavy metals (as Pb)..... ≤0,0005 %
 Arsenic (As)..... ≤0,00005 %
 Iron (Fe)..... ≤0,0003 %
 UV-absorption (1 M in H₂O):
 260 nm..... ≤0,04
 280 nm..... ≤0,03
 Endotoxins..... tested
 DNases, RNases, Protease..... none detected

HN77.1 50 g plastic 26,80 €

HN77.2 100 g plastic 39,25 €

HN77.3 250 g plastic 74,10 €

HN77.4 500 g plastic 131,70 €

Original pack 6 x 500 g 125,12/500 g

HN77.5 1 kg plastic 231,05 €

Original pack 6 x 1 kg 219,50/1 kg

For further information, please see page 1214

HEPES

≥99,5 %, BioScience-Grade

For molecular biology and biotechnology.

Guarantee analysis:

Assay..... ≥99,5 %
 Solubility (0,1 M in H₂O)..... clear, complete
 pKa (at 25 °C)..... 7,48-8,2
 UV-absorption (1 M in H₂O):
 260 nm..... ≤0,04
 280 nm..... ≤0,03
 405 nm..... ≤0,02
 Chloride (Cl)..... ≤0,005 %
 Sulphate (SO₄)..... ≤0,01 %
 Phosphate (PO₄)..... ≤0,001 %
 Calcium (Ca)..... ≤0,003 %
 Sodium (Na)..... ≤0,005 %
 Heavy metals (as Pb)..... ≤0,0005 %
 DNases, RNases, Protease..... none detected

6763.1 100 g plastic 33,25 €

6763.2 500 g plastic 128,50 €

Original pack 6 x 500 g 122,08/500 g

6763.3 1 kg plastic 213,95 €

Original pack 6 x 1 kg 203,25/1 kg

For further information, please see page 1214

HEPES

PUFFERAN® ≥99,5 %, p.a.

For biochemistry and molecular biology.

Guarantee analysis:

Assay (titr.)..... ≥99,5 %
 Water (KF)..... ≤0,5 %
 pH (1 % solution)..... 4,7-5,3
 Sulphated ash..... ≤0,1 %
 Loss on drying (110 °C)..... ≤0,5 %
 Heavy metals (as Pb)..... ≤0,0005 %
 Lead (Pb)..... ≤0,0005 %
 Cadmium (Cd)..... ≤0,0005 %
 Iron (Fe)..... ≤0,0005 %
 Copper (Cu)..... ≤0,0005 %
 Magnesium (Mg)..... ≤0,0005 %
 Sulphate (SO₄)..... ≤0,01 %
 Phosphate (PO₄)..... ≤0,01 %
 Chloride (Cl)..... ≤0,005 %
 Solubility (1 M solution in H₂O)..... clear, colourless
 UV-absorption (1 M in H₂O, d = 1 cm):
 260 nm..... ≤0,05
 280 nm..... ≤0,04
 UV-absorption (50 % solution):
 330 nm..... ≤0,2
 440 nm..... ≤0,05

9105.2 100 g plastic 31,10 €

9105.4 500 g plastic 128,90 €

Original pack 6 x 500 g 122,46/500 g

9105.3 1 kg plastic 212,35 €

Original pack 6 x 1 kg 201,73/1 kg

9105.6 2,5 kg plastic 428,95 €

9105.5 5 kg plastic 815,95 €

For further information, please see page 1214

HEPES

PUFFERAN® ≥99,5 %, Buffer Grade

For all standard applications.

Guarantee analysis:

Assay (titr.)..... ≥99,5 %
 Water (KF)..... ≤0,5 %
 pH value (5 % in H₂O)..... 5,0-6,5
 Chloride (Cl)..... ≤0,05 %
 Sulphate (SO₄)..... ≤0,05 %
 Sulphated ash..... ≤0,1 %
 Heavy metals (as Pb)..... ≤0,001 %

HN78.1 100 g plastic 25,70 €

HN78.2 500 g plastic 86,55 €

Original pack 6 x 500 g 82,22/500 g

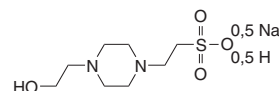
HN78.3 1 kg plastic 158,05 €

Original pack 6 x 1 kg 150,67/1 kg

HN78.4 5 kg plastic 719,20 €

For further information, please see page 1214

HEPES 0,5 Na



HEPES 0,5 Na

PUFFERAN® ≥96 %

N-2-Hydroxyethyl piperazine-N'-2-ethane sulphonic acid 0,5 Na

C₈H_{17,5}N₂O₄S · 0,5 Na

M 249,3 g/mol

[103404-87-1]

WGK 3

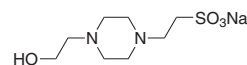
Type analysis:

Assay (titr.)..... ≥96 %
 Water (KF)..... ≤3,0 %
 pH value (1 % solution)..... 7,2-7,6
 UV-absorption (0,1 M in H₂O):
 280 nm..... ≤0,03
 260 nm..... ≤0,04

5582.1 50 g plastic 53,65 €

For further information, please see page 1214

HEPES sodium salt



HEPES sodium salt

PUFFERAN® ≥99 %

N-2-Hydroxyethyl piperazine-N'-2-ethane sulphonic acid sodium salt

C₈H₁₇N₂SO₄Na

M 260,3 g/mol

[75277-39-3] • EC No. 278-169-7

WGK 1

Type analysis:

Appearance..... white powder
 Assay (titr., dry substance)..... ≥99,0 %
 Loss on drying..... ≤1,5 %
 pH value (1 M in H₂O)..... 10,0-12,0
 UV-absorption (0,1 M in H₂O):
 260 nm..... ≤0,2
 280 nm..... ≤0,2

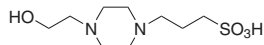
7020.1 25 g plastic 31,10 €

7020.2 100 g plastic 96,65 €

For further information, please see page 1214

HEPES solution

▶ Roti®-CELL HEPES solution
see p. 2092

HEPPS, EPPS**HEPPS, EPPS**

PUFFERAN® ≥98 %

4-(2-Hydroxyethyl)-piperazine-1-propane
sulphonic acid

$C_9H_{20}N_2O_4S$

M 252,33 g/mol

mp 231 °C (dec.)

[16052-06-5] • EC No. 240-198-8

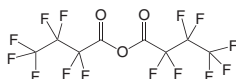
Type analysis:

Appearance..... white to almost white powder
Assay (titr.)..... ≥98,0 %
pH value (1 % solution)..... 5,0-6,5
Loss on drying..... ≤1,0 %
UV-absorption (0,1 M in H_2O):
260 nm..... ≤0,1

9164.1	10 g	plastic	18,20 €

9164.2	100 g	plastic	85,90 €

For further information, please see page 1214

Heptafluorobutyric acid anhydride**Heptafluorobutyric acid anhydride**

≥98 %, for GC

Acylation reagent

HFBA

$C_8F_{14}O_3$

M 410,06 g/mol

D 1,66 • bp ~110 °C

[336-59-4] • EC No. 206-410-8

UN No. 3265 • ADR 8 III • WGK 2

⚠ Danger H314

Type analysis:

Appearance..... clear, colourless liquid
Assay (GC)..... ≥98 %

0026.1	5 g	glass	83,35 €

For further information, please see page 1494

Heptamethylene glycol

▶ 1,7-Heptanediol see p. 1872

n-Heptane

n-Methyl hexane

C_7H_{16}

M 100,20 g/mol

D 0,68 • bp 98 °C • mp -90,5 °C • flp -4 °C

[142-82-5] • EC No. 205-563-8

UN No. 1206 • ADR 3 II • WGK 2

⚠ ⚠ ⚠ ⚠ Danger

H225-H304-H400-H410-H315-H336

n-Heptane

ROTISOLV® ≥99 %, HPLC

Guarantee analysis:

Assay (GC)..... ≥99,0 %
Water (KF)..... ≤0,01 %
Acidity (as CH_3COOH)..... ≤0,001 %
Evaporation residue..... ≤0,0005 %
Transmission:
245 nm..... ≥98 %
220 nm..... ≥80 %
200 nm..... ≥20 %
Fluorescence (as quinine):
254 nm..... ≤1 ppb
365 nm..... ≤1 ppb
Filtered through 0,2 µm membrane and filled under
protective gas.

6828.1	2,5 l	glass	102,05 €

Original pack 4 x 2,5 l	96,95/2,5 l

For further information, please see page 1515

n-Heptane

ROTISOLV® ≥95 %, HPLC

Guarantee analysis:

Assay (GC)..... ≥95 %
Water (KF)..... ≤0,005 %
Free acid..... ≤0,001 %
Non volatile matter..... ≤0,0001 %
Transmission:
255 nm..... ≥99 %
220 nm..... ≥80 %
205 nm..... ≥50 %
Filtered through 0,2 µm membrane and filled under
protective gas.

7337.2	1 l	glass	43,55 €

Original pack 6 x 1 l	41,37/1 l

7337.1	2,5 l	glass	95,15 €

Original pack 4 x 2,5 l	90,39/2,5 l

For further information, please see page 1515

n-Heptane

ROTISOLV® ≥99 %, Pestilyse® plus

For determination of dioxins, furans, PCBs,
pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC)..... ≥99,0 %
Colour (APHA)..... ≤5
Water (KF)..... ≤0,01 %
Free acid (as CH_3COOH)..... ≤0,001 %
Evaporation residue..... ≤0,0001 %
GC/FID suitability (as 2-octanol)..... ≤10 ng/ml
GC/ECD suitability (as heptachloro epoxide)..... ≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane)..... ≤5 ng/l
GC/ECD pesticides (as lindane)..... ≤2 ng/l
GC/NPD pesticides (as parathion)..... ≤5 ng/l
GC/ECD volatile impurities (as ethylene dibromide)..... ≤5 ng/ml
Oil index (any hydrocarbon $C_{10}-C_{40}$)..... ≤0,05 mg/l
PAH-test (less than 2 ppb, HPLC)..... complies
Fluorescence (as quinine): 254 nm..... ≤1 ppb
365 nm..... ≤1 ppb

7566.1	2,5 l	glass	94,50 €

Original pack 4 x 2,5 l	89,78/2,5 l

n-Heptane

ROTISOLV® ≥99 %, Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Assay (GC)..... ≥99 %
Water (KF)..... ≤0,005 %
Acidity..... ≤0,0005 meq/g
Evaporation residue..... 0,0005 %
GC/ECD (individual signal as lindane)..... ≤5 ng/l
GC/PND (individual signal as ethylparathion)..... ≤10 ng/l

X878.1	2,5 l	glass	92,35 €

Original pack 4 x 2,5 l	87,73/2,5 l

n-Heptane

ROTISOLV® ≥99 %, UV/IR-Grade

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC)..... ≥99 %
Water (KF)..... ≤0,005 %
Acidity..... ≤0,0005 meq/g
Evaporation residue..... ≤0,0005 %
Fluorescence (as quinine):
254 nm..... ≤1,0 ppb
365 nm..... ≤1,0 ppb
Transmission:
245 nm..... ≥98 %
228 nm..... ≥90 %
220 nm..... ≥80 %
210 nm..... ≥50 %
200 nm..... ≥10 %

CP78.1	2,5 l	glass	98,40 €

Original pack 4 x 2,5 l	93,48/2,5 l

n-Heptane

ROTIPURAN® ≥99 %, p.a.

Guarantee analysis:

Assay (GC)..... ≥99,0 %
Colour (APHA)..... ≤10
Water..... ≤0,01 %
Acidity..... ≤0,0003 meq/g
Thiophene..... complies
Calcium (Ca)..... ≤0,00005 %
Cadmium (Cd)..... ≤0,000005 %
Cobalt (Co)..... ≤0,000002 %
Chromium (Cr)..... ≤0,000002 %
Copper (Cu)..... ≤0,000002 %
Iron (Fe)..... ≤0,00001 %
Magnesium (Mg)..... ≤0,00001 %
Manganese (Mn)..... ≤0,000002 %
Nickel (Ni)..... ≤0,000002 %
Lead (Pb)..... ≤0,00001 %
Zinc (Zn)..... ≤0,00001 %
Sulphur compounds (as S)..... ≤0,005 %
Evaporation residue..... ≤0,001 %
Matter discoloured by H_2SO_4 complies

T174.1	1 l	glass	65,60 €

Original pack 6 x 1 l	62,32/1 l

T174.2	2,5 l	glass	139,25 €

Original pack 4 x 2,5 l	132,29/2,5 l

T174.3	5 l	aluminium	231,15 €

Original pack 2 x 5 l	219,59/5 l

n-Heptane

≥99 %, for synthesis

Type analysis:

Appearance..... clear, colourless
Assay (GC)..... ≥99,0 %
Density (15 °C)..... 0,686-0,690
Aromatic compounds (GC)..... ≤0,005 %
Evaporation residue..... ≤1 mg/100 ml

8654.1	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
8654.3	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l
8654.5	5 l	aluminium	109,15 €
Original pack 2 x 5 l			103,69/5 l
8654.2	10 l	tinplate	203,20 €
8654.4	25 l	tinplate	428,95 €

n-Heptane

≥95 %, for synthesis

Type analysis:

Appearance..... clear, colourless
Assay (GC)..... ≥95 %
Density (15 °C)..... 0,686-0,690
Aromatic compounds (GC)..... ≤0,02 %
Evaporation residue..... ≤0,002 %

CP46.1	1 l	glass	28,95 €
Original pack 6 x 1 l			27,50/1 l
CP46.2	2,5 l	glass	55,40 €
Original pack 4 x 2,5 l			52,63/2,5 l
CP46.4	5 l	aluminium	96,65 €
Original pack 2 x 5 l			91,82/5 l
CP46.3	10 l	tinplate	177,40 €
CP46.5	25 l	tinplate	346,70 €

Heptane (isomers)

Heptane (isomers)

99 %, for synthesis

C₇H₁₆

M 100,21 g/mol

D ~0,706 • bp 94-100 °C

flp -4 °C

UN No. 1206 • ADR 3 II • WGK 2

 **Danger**

H225-H304-H315-H336-H410

Type analysis:

Appearance..... clear, colourless
Assay (GC)..... ~99 %
Density (15 °C)..... 0,7000-0,7200
n-Heptane..... ≥35 %
Methyl cyclohexane (GC)..... ≤25 %
Benzene..... ≤0,001 %
Other aromatic compounds..... <0,002 %
Boiling range..... 94-100 °C

7725.2	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
7725.3	2,5 l	glass	33,90 €
Original pack 4 x 2,5 l			32,21/2,5 l
7725.1	10 l	tinplate	95,15 €
7725.4	25 l	tinplate	184,80 €

Heptanedioic acid

► Pimelic acid see p. 2042

1,7-Heptanediol



1,7-Heptanediol

≥98 %

Heptamethylene glycol, 1,7-Dihydroxyheptane

C₇H₁₆O₂

M 132,20 g/mol

D 0,95 • bp 259 °C

mp 17-19 °C • flp 113 °C

[629-30-1] • EC No. 211-085-0

Type analysis:

Assay (GC)..... ≥98,0 %
Water (KF)..... ≤0,5 %
Refractive index n_D²⁰..... 1,453-1,457

5541.1	5 g	glass	60,10 €
5541.2	10 g	glass	100,95 €

Heptane-1-sulphonic acid sodium salt



Heptane-1-sulphonic acid sodium salt

≥98 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-heptane sulphonate

C₇H₁₅NaO₃S

M 202,24 g/mol • mp >300 °C

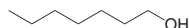
[22767-50-6] • EC No. 245-210-5 • WGK 1

Guarantee analysis:

Assay (acidim.)..... ≥98,0 %
Water..... ≤2 %
A 200 nm (0,25 M in water)..... ≤0,1 AU
A 210 nm (0,25 M in water)..... ≤0,05 AU
A 220 nm (0,25 M in water)..... ≤0,04 AU
A 230 nm (0,25 M in water)..... ≤0,03 AU
A 240 nm (0,25 M in water)..... ≤0,01 AU
A 250 nm (0,25 M in water)..... ≤0,01 AU
A 260 nm (0,25 M in water)..... ≤0,01 AU

KK53.1	10 g	glass	42,50 €
KK53.2	25 g	glass	81,60 €
KK53.3	100 g	glass	246,20 €

1-Heptanol



Heptyl alcohol

C₇H₁₆O

M 116,20 g/mol

D ~0,82 • bp 175,8 °C

mp -34,6 °C • flp 70 °C

[111-70-6] • EC No. 203-897-9 • WGK 1

 **Warning** H302+H312-H319

1-Heptanol

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99 %
Density (d 20 °C/4 °C)..... 0,822-0,823

3827.1	500 ml	glass	65,05 €

1-Heptanol

ROTICHRON® GC

Reference substance for GC

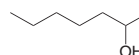
Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥99 %

3173.1	1 g	glass	21,40 €

2-Heptanol



2-Heptanol

ROTICHRON® GC

Reference substance for GC

Amyl methylcarbinol

C₇H₁₆O

M 116,20 g/mol

D ~0,817 • bp 160-162 °C

flp +59 °C

Storage temp.: +4 °C

[543-49-7] • EC No. 208-844-3

UN No. 1987 • ADR 3 III • WGK 1

 **Warning** H226-H312-H319

Type analysis:

Purity (GC)..... ≥98,5 %

8768.1	1 g	plastic	75,15 €

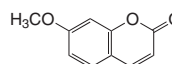
n-Heptyl acetate

► Acetic acid n-heptyl ester see p. 1602

Heptyl alcohol

► 1-Heptanol see p. 1872

Herniarin



7-Methoxycoumarin

C₁₀H₈O₃

M 176,17 g/mol

mp 116-118 °C

[531-59-9] • EC No. 208-513-3

WGK 3

Herniarin

≥98 %

Type analysis:

Appearance..... white to beige, cryst. powder
Assay (TLC)..... ≥98 %
Water (KF)..... ≤1,0 %
Melting temperature..... 116-118 °C

7734.1	1 g	glass	26,80 €

Herniarin**ROTI®STAR Primary Standard****Type analysis:**

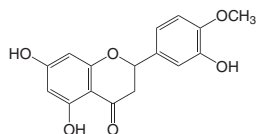
Assay (HPLC).....≥95,0 %
 Residual solvents (GC).....≤1,0 %
 Water (KF).....≤1,0 %
 Assay (qNMR).....≥93,0 %
 Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE47.1	10 mg	glass	467,65 €

Herniarin**ROTICHROM® Working Standard****Type analysis:**

Assay (HPLC).....≥95,0 %
 Identity.....complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC47.1	50 mg	glass	133,85 €

Hesperetin

3',5,7-Trihydroxy-4'-methoxyflavone
 $C_{16}H_{14}O_6$
 M 302,28 g/mol
 mp 223-229 °C
 Storage temp.: +4 °C
 [41001-90-5] • EC No. 208-290-2

Hesperetin

≥95 %

Type analysis:

Appearance.....yellowish to brownish powder
 Assay (HPLC).....≥95 %

7743.1	1 g	glass	55,80 €

Hesperetin**ROTICHROM® HPLC**

Reference substance for HPLC

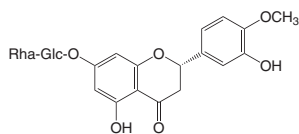
Type analysis:

Purity (HPLC).....≥99 %

7570.1	10 mg	glass	142,45 €

Hesperetin-7-rutinoside

▶ Hesperidin see p. 1873

Hesperidin

Hesperetin-7-rutinoside
 $C_{28}H_{34}O_{15}$
 M 610,55 g/mol
 mp 250-255 °C
 Storage temp.: +4 °C
 [520-26-3] • EC No. 208-288-1

Hesperidin

~90 %

Type analysis:

Assay (HPLC).....~90 %

9972.2	25 g	plastic	33,25 €

9972.1	100 g	plastic	131,70 €

Hesperidin**ROTICHROM® HPLC**

Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥98 %

7577.1	10 mg	glass	166,65 €

7577.2	20 mg	glass	177,40 €

Hesperidin**ROTICHROM® TLC**

Reference substance for thin layer chromatography
 From *Citrus sinensis*.

5800.1	10 mg	glass	52,70 €

Hesperidin**ROTICHROM® ~CHR**

7737.1	10 g	plastic	37,55 €

Heteroauxin

▶ Indolyl 3-acetic acid see p. 1899

Hexachloroplatinum(IV) acid hydrate

▶ Hydrogen hexachloroplatinate(IV) hydrate see p. 1888

Hexachloroplatinum(IV) acid hexahydrate**Hexachloroplatinum(IV) acid hexahydrate**

~40 % Pt

Hydrogen hexachloroplatinate(IV) hexahydrate

 $H_2Cl_6Pt \cdot 6 H_2O$

M 517,88 g/mol

mp 150 °C

[18497-13-7] • EC No. 241-010-7

UN No. 2507 • ADR 8 III • WGK 2

Danger H301-H334-H314-H317
Typanalyse:

Assay (on Pt).....~40 %

9014.1	1 g	glass	103,10 €

9014.2	5 g	glass	396,70 €

1-Hexacosanoic acid

▶ Cerotic acid methyl ester see p. 1725

n-Hexadecane**n-Hexadecane****ROTICHROM® GC**

Reference substance for GC

 $C_{16}H_{34}$

M 226,45 g/mol

D ~0,773 • bp 287 °C

mp 18 °C • flp 135 °C

Storage temp.: +4 °C

[544-76-3] • EC No. 208-878-9

WGK 1

Danger H304-EUH066
Type analysis:

Purity (GC).....≥98 %

9003.1	1 g	plastic	75,15 €

Hexadecanoic acid

▶ Palmitic acid see p. 2019

1-Hexadecanol

▶ Cetyl alcohol see p. 1726

1-Hexadecene



1-Hexadecene

≥90 %

Ceten

C₁₆H₃₂

M 224,43 g/mol

D 0,78 • bp 274 °C

mp 4 °C • flp 132 °C

[629-73-2] • EC No. 211-105-8

WGK 1

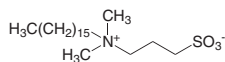
Danger H304

Type analysis:

Assay (GC): ≥90 %

3834.1	500 ml	glass	67,20 €

N-Hexadecyl-N,N-dimethyl-3-ammonio-1-propane sulphate



N-Hexadecyl-N,N-dimethyl-3-ammonio-1-propane sulphate

≥98 %, for biochemistry

Zwitterionic detergent

Sulfobetaine-16, SB-16

C₂₁H₄₅NO₃S

M 391,7 g/mol

[2281-11-0]

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (HPLC): ≥98,0 %

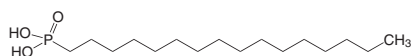
pH value (1 % in H₂O): 5,0-8,0

Loss on drying: ≤2,0 %

1823.1	5 g	glass	52,15 €

1823.2	25 g	glass	142,90 €

Hexadecylphosphonic acid



Hexadecylphosphonic acid

Suitable for the production and modification of nanoparticles.

HDP A

C₁₆H₃₅O₃P

M 306,42 g/mol

mp 88-93 °C

Storage temp.: +4 °C

[4721-17-9] • WGK 3

Type analysis:

Melting point: 88-93 °C

8466.1	1 g	glass	34,95 €

8466.2	5 g	glass	128,90 €

Hexadecyl-trimethyl-ammoniumbromide

► Cetyltrimethylammonium bromide see p. 1726

Hexadeuteroacetone

► Acetone D6 see p. 1605

Hexadeuteroethanol

► Ethanol D6 see p. 1811

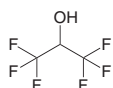
2,4-Hexadienoic acid

► Sorbic acid see p. 2163

Hexafluoroisopropanol

► 1,1,1,3,3,3-Hexafluoro-2-propanol see p. 1874

1,1,1,3,3,3-Hexafluoro-2-propanol



1,1,1,3,3,3-Hexafluoro-2-propanol

≥99 %, for (peptide) synthesis

HFIPA, HFIP, Hexafluoroisopropanol

C₃H₂F₆O

M 168,04 g/mol

D 1,596 • bp 58 °C

mp -4 °C

[920-66-1] • EC No. 213-059-4

UN No. 1760 • ADR 8 II • WGK 1

Danger H290-H302+H332-H314

Type analysis:

Assay (GC): ≥99,0 %

Colour (Hazen): ≤10

2473.1	10 ml	glass	36,25 €

2473.2	25 ml	glass	76,25 €

2473.3	100 ml	glass	276,85 €

Hexahydrobenzene

► Cyclohexane see p. 1753

Hexahydrophenol

► Cyclohexanol see p. 1754

Hexahydropyridine

► Piperidine see p. 2043

Hexahydrothymol

► Menthol see p. 1954

► DL-Menthol see p. 1955

1,2,3,5/4,6-Hexahydroxy-cyclohexane

► meso-Inositol see p. 1901

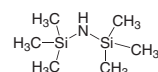
3,3',4',5,5',7-Hexahydroxy-flavone

► Myricetin see p. 1978

Hexalin

► Cyclohexanol see p. 1754

1,1,1,3,3,3-Hexamethyl-disilazane



1,1,1,3,3,3-Hexamethyl-disilazane

≥98 %, for GC

Silylation reagent

HMDS, Bis(trimethylsilyl)-amine

C₆H₁₉NSi₂

M 161,40 g/mol

D ~0,77 • bp 126 °C

mp -82 °C • flp 9 °C

[999-97-3] • EC No. 213-668-5

UN No. 3286 • ADR 3 (8) (6.1) II • WGK 1

Danger

H225-H302-H311+H331-H314

Type analysis:

Appearance: colourless liquid

Assay (GC): ≥98 %

3840.3	10 ml	glass	12,70 €

3840.1	50 ml	glass	16,70 €

3840.2	250 ml	glass	33,25 €

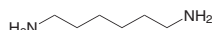
3840.5	500 ml	glass	45,05 €

3840.4	1 l	glass	80,10 €

Original pack 6 x 1 l 76,10/1 l

For further information, please see page 1494

Hexamethylene diamine



Hexamethylene diamine

≥99,5 %

1,6-Diaminohexane

C₆H₁₆N₂

M 116,21 g/mol

D ~0,84

mp 38-42 °C • flp 80 °C

[124-09-4] • EC No. 204-679-6

UN No. 2280 • ADR 8 III • WGK 1

Danger H314-H302+H312-H335

Type analysis:

Assay (GC). ≥99,5 %
 Water. ≤0,1 %
 Melting point. 38-42 °C
 We recommend to melt the product in a heating bath prior to use (mp 38-42 °C).

4465.1	100 g	glass	15,60 €

4465.2	250 g	glass	26,80 €

4465.3	1 kg	glass	51,50 €

Original pack 6 x 1 kg 48,93/1 kg

Hexamethylene pararosaniline chloride

► Crystal violet (C.I. 42555) see p. 1751

Hexamethylene tetramine



Urotropin, Methenamine, Hexamine

C₆H₁₂N₄

M 140,19 g/mol

mp ~263 °C (subl.) • flp 250 °C

Solubility: 895 g/l (H₂O, 20 °C)

[100-97-0] • EC No. 202-905-8

UN No. 1328 • ADR 4.1 III • WGK 1

Warning H228-H317

Hexamethylene tetramine

ROTIPURAN® ≥99 %, p.a., ACS

Guarantee analysis:

Assay (acidim.). ≥99,0 %
 pH (10 % solution). 8,0-9,5
 In H₂O insoluble matter. ≤0,01 %
 Loss on drying. ≤2,0 %
 Ash content (as SO₄). ≤0,05 %
 Chloride (Cl). ≤0,002 %
 Sulphate (SO₄). ≤0,005 %
 Heavy metals (as Pb). ≤0,001 %
 Aluminium (Al). ≤0,0005 %
 Barium (Ba). ≤0,0005 %
 Calcium (Ca). ≤0,0005 %
 Cadmium (Cd). ≤0,0005 %
 Chromium (Cr). ≤0,0005 %
 Copper (Cu). ≤0,001 %
 Iron (Fe). ≤0,001 %
 Potassium (K). ≤0,0005 %
 Magnesium (Mg). ≤0,0005 %
 Manganese (Mn). ≤0,0005 %
 Nickel (Ni). ≤0,001 %
 Lead (Pb). ≤0,001 %
 Zinc (Zn). ≤0,0005 %

4366.1	100 g	plastic	14,85 €

4366.2	500 g	plastic	26,35 €

Original pack 6 x 500 g 25,03/500 g

4366.3	1 kg	plastic	43,55 €

Original pack 6 x 1 kg 41,37/1 kg

4366.4	2,5 kg	plastic	85,90 €

Hexamethylene tetramine

≥99 %, extra pure

Type analysis:

Assay (acidim.). 99,0-100,5 %
 In H₂O insoluble matter. ≤0,01 %
 Loss on drying. ≤2,0 %
 Chloride (Cl). ≤0,005 %
 Sulphate (SO₄). ≤0,01 %
 Heavy metals (as Pb). ≤0,001 %

4484.1	500 g	plastic	17,75 €

Original pack 6 x 500 g 16,86/500 g

4484.2	1 kg	plastic	25,30 €

Original pack 6 x 1 kg 24,04/1 kg

4484.3	2,5 kg	plastic	52,15 €

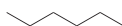
Hexamine

► Hexamethylene tetramine see p. 1875

Hexanal

► Caproic aldehyde see p. 1713

n-Hexane



1-Methylpentane

C₆H₁₄

M 86,18 g/mol

D 0,66 • bp 69 °C

mp -95 °C • flp -26 °C

[110-54-3] • EC No. 203-777-6

UN No. 1208 • ADR 3 II • WGK 2

Danger H225-H304-H315-

H336-H361f***-H373*-H411

n-Hexane

ROTISOLV® HPLC

Guarantee analysis:

Assay (GC). ≥98 %
 Water (KF). ≤0,005 %
 Free acid. ≤0,001 %
 Non volatile matter. ≤0,0003 %
 Transmission:
 260 nm. ≥99 %
 250 nm. ≥98 %
 230 nm. ≥95 %
 220 nm. ≥85 %
 210 nm. ≥50 %
 200 nm. ≥25 %
 Filtered through 0,2 µm membrane and filled under protective gas.

7339.2	1 l	glass	37,30 €

Original pack 6 x 1 l 35,44/1 l

7339.1	2,5 l	glass	76,25 €

Original pack 4 x 2,5 l 72,44/2,5 l

For further information, please see page 1515

n-Hexane

ROTISOLV® ≥95 %, GC Ultra Grade

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC). ≥95 %
 Colour (APHA). ≤10
 Water (KF). ≤0,005 %
 Free acid (as CH₃COOH). ≤0,001 %
 Evaporation residue. ≤0,0001 %
 GC/ECD dioxins, furans and PCBs (as lindane).
 ≤5 ng/l
 GC/ECD pesticides (as lindane). ≤3 ng/l
 GC/NPD pesticides (as parathion). ≤5 ng/l
 PAH-test (less than 2 ppb, HPLC). complies
 Filtered through 0,2 µm membrane and filled under protective gas.

KK48.1	2,5 l	glass	93,45 €

Original pack 4 x 2,5 l 88,78/2,5 l

n-Hexane

ROTISOLV® ≥99 %, Pestilyse® plus

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC). ≥99,0 %
 Colour (APHA). ≤10
 Water (KF). ≤0,005 %
 Free acid (as CH₃COOH). ≤0,002 %
 Evaporation residue. ≤0,0001 %
 GC/FID suitability (as 2-octanol). ≤10 ng/ml
 GC/ECD suitability (as heptachloro epoxide). ≤10 ng/l
 GC/ECD pesticides (as lindane). ≤2 ng/l
 GC/NPD pesticides (as parathion). ≤5 ng/l
 Oil index (any hydrocarbon C₁₀-C₄₀). ≤0,05 mg/l
 GC/ECD dioxins, furans and PCBs (as lindane).
 ≤5 ng/l
 GC/ECD volatile impurities (as ethylene dibromide).
 ≤5 ng/ml
 PAH-test (less than 2 ppb, HPLC). complies
 Fluorescence (as quinine):
 254 nm. ≤1 ppb
 365 nm. ≤1 ppb

7573.1	2,5 l	glass	110,65 €

Original pack 4 x 2,5 l 105,12/2,5 l

n-Hexane

ROTISOLV® ≥99 %, Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Assay (GC). ≥99,0 %
 Water (KF). ≤0,01 %
 Acidity. ≤0,0005 meq/g
 Evaporation residue. ≤0,0005 %
 GC/ECD (individual signal as lindane). ≤5 ng/l
 GC/PND (individual signal as ethylparathion). ≤10 ng/l

T861.2	1 l	glass	45,70 €

Original pack 6 x 1 l 43,42/1 l

T861.1	2,5 l	glass	107,40 €

Original pack 4 x 2,5 l 102,03/2,5 l

n-Hexane**ROTISOLV® ≥97,5 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥97,5 %
Water (KF).....	≤0,02 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l

T165.2	1 l	glass	39,70 €
Original pack 6 x 1 l			37,72/1 l
T165.1	2,5 l	glass	91,30 €
Original pack 4 x 2,5 l			86,74/2,5 l
T165.3	4 l	glass	99,90 €

n-Hexane**ROTISOLV® ≥96 %, Pestilyse® plus**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥96,0 %
Colour (APHA).....	≤5
Water (KF).....	≤0,005 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Evaporation residue.....	≤0,0001 %
GC/FID suitability (as 2-octanol).....	≤10 ng/ml
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤2 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
Oil index (any hydrocarbon C ₁₀ -C ₄₀).....	≤0,05 mg/l
GC/ECD volatile impurities (as ethylene dibromide).....	≤5 ng/ml
PAH-test (less than 2 ppb, HPLC).....	complies
Fluorescence (as quinine):	
254 nm.....	≤1 ppb
365 nm.....	≤1 ppb

7567.1	2,5 l	glass	88,05 €
Original pack 4 x 2,5 l			83,65/2,5 l

n-Hexane**ROTISOLV® ≥99 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....	≥99 %
Water (KF).....	≤0,005 %
Acidity.....	≤0,005 meq/g
Evaporation residue.....	≤0,0005 %
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤1,0 ppb
Transmission:	
245 nm.....	≥98 %
225 nm.....	≥90 %
217 nm.....	≥80 %
210 nm.....	≥50 %
195 nm.....	≥10 %

T908.1	2,5 l	glass	97,75 €
Original pack 4 x 2,5 l			92,86/2,5 l

n-Hexane**ROTIDRY®Sept ≥99 % (≤30 ppm H₂O)**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC).....	≥99 %
Colour (APHA).....	≤10
Water (KF).....	≤0,003 %
Acidity (as CH ₃ COOH).....	≤0,001 %
Evaporation residue.....	≤0,0005 %

5180.1	250 ml	glass	39,70 €

n-Hexane**ROTIDRY® ≥99 % (≤50 ppm H₂O)**

Dried; for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,0 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,005 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Filtered through a membrane and filled under protective gas.	

AE05.1	1 l	glass	62,25 €
Original pack 6 x 1 l			59,14/1 l

n-Hexane**ROTIPURAN® ≥99 %, p.a., ACS****Guarantee analysis:**

Assay (GC).....	≥99,0 %
Colour (Hazen).....	≤10
Water.....	≤0,01 %
Alkalinity.....	≤0,0002 meq/g
Acidity.....	≤0,0002 meq/g
Thiophene.....	complies
Aromatic compounds (as benzene).....	≤0,01 %
Sulphur compounds (as S).....	≤0,005 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Boron (B).....	≤0,000002 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %
Tin (Sn).....	≤0,00001 %
Evaporation residue.....	≤0,001 %
Matter discoloured by H ₂ SO ₄ (Hazen).....	≤10

4723.1	1 l	glass	69,80 €
Original pack 6 x 1 l			66,31/1 l
4723.2	2,5 l	glass	150,00 €
Original pack 4 x 2,5 l			142,50/2,5 l
4723.3	5 l	aluminium	279,00 €
Original pack 2 x 5 l			265,05/5 l
4723.5	10 l	tinplate	536,45 €
4723.4	25 l	tinplate	1235,20 €

n-Hexane**≥99 %, for synthesis****Type analysis:**

Appearance.....	clear, colourless
Assay (GC).....	≥99 %
Density (15 °C).....	0,662-0,666
Aromatic compounds (GC).....	≤0,001 %
Evaporation residue.....	≤0,001 %

CP47.1	1 l	glass	42,50 €
Original pack 6 x 1 l			40,38/1 l
CP47.2	2,5 l	glass	92,35 €
Original pack 4 x 2,5 l			87,73/2,5 l
CP47.4	5 l	aluminium	162,90 €
Original pack 2 x 5 l			154,76/5 l
CP47.3	10 l	tinplate	310,70 €
CP47.5	25 l	tinplate	622,45 €

n-Hexane**≥95 %, for synthesis****Type analysis:**

Appearance.....	clear, colourless
Assay (GC).....	≥95 %
Aromatic compounds (GC).....	≤0,001 %
Evaporation residue.....	≤0,001 %
Density (15 °C).....	0,663-0,667

3907.1	1 l	glass	30,65 €
Original pack 6 x 1 l			29,12/1 l
3907.2	2,5 l	glass	59,70 €
Original pack 4 x 2,5 l			56,72/2,5 l
3907.5	5 l	aluminium	103,75 €
Original pack 2 x 5 l			98,56/5 l
3907.3	10 l	tinplate	198,90 €
3907.4	25 l	tinplate	407,45 €

iso-Hexane

▶ Isohexane see p. 1910

Hexanedioic acid

▶ Adipic acid see p. 1616

Hexane (isomers)**Hexane (isomers)****≥95 % (isomers), for synthesis**

C ₆ H ₁₄	
M 86,18 g/mol	
D -0,675 • bp 65-70 °C	
flp -26 °C	
Solubility: 5,9 g/l (H ₂ O, 20 °C)	
UN No. 1208 • ADR 3 II • WGK 2	
 Danger H225-H304-H361-	
H373-H315-H336-H411-EUH066	

Typ analysis:

Appearance.....	clear, colourless
Assay (isomers).....	≥95,0 %
Boiling range.....	65-70 °C
n-Hexane.....	48-55 %
Aromatic compounds.....	≤0,005 %
Benzene.....	≤0,001 %
Sulphur (S).....	≤0,0001 %
Density (15 °C).....	0,670-0,680
Refractive index n _D ²⁰	≥1,3770

7782.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
7782.3	2,5 l	glass	33,25 €
Original pack 4 x 2,5 l			31,59/2,5 l
7782.2	10 l	tinplate	88,70 €
7782.4	25 l	tinplate	177,40 €

Hexane-1-sulphonic acid
sodium saltHexane-1-sulphonic acid
sodium salt

≥98 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-hexane sulphonate

C₆ H₁₃ NaO₃ S

M 188,22 g/mol

[2832-45-3] • EC No. 220-601-3

WGK 2

Guarantee analysis:

Assay (acidim.)	≥98,0 %
Water	≤2 %
A 200 nm (0,25 M in water)	≤0,1 AU
A 210 nm (0,25 M in water)	≤0,05 AU
A 220 nm (0,25 M in water)	≤0,04 AU
A 230 nm (0,25 M in water)	≤0,03 AU
A 240 nm (0,25 M in water)	≤0,01 AU
A 250 nm (0,25 M in water)	≤0,01 AU
A 260 nm (0,25 M in water)	≤0,01 AU

KK54.1	10 g	glass	42,50 €
KK54.2	25 g	glass	81,60 €
KK54.3	100 g	glass	246,20 €

Hexanoic acid

▶ Caproic acid see p. 1712

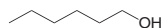
Hexanoic acid methyl ester

▶ Caproic acid methyl ester see p. 1713

n-Hexanol

▶ 1-Hexanol see p. 1877

1-Hexanol



Hexyl alcohol, n-Hexanol

C₆H₁₄O

M 102,18 g/mol

D 0,82 • bp 157 °C

mp -45 °C • flp 60 °C

Solubility: 5,9 g/l (H₂O, 20 °C)

[111-27-3] • EC No. 203-852-3

UN No. 2282 • ADR 3 III • WGK 1

⚠ ⚠ Warning H302-H319-H226

1-Hexanol

≥98 %, for synthesis

Type analysis:

Appearance	colourless, clear liquid
Assay (GC)	≥98 %
Density (20 °C)	0,817-0,821

3847.1	1 l	glass	40,35 €
Original pack 6 x 1 l			38,33/1 l
3847.2	2,5 l	glass	88,70 €
Original pack 4 x 2,5 l			84,27/2,5 l

1-Hexanol

ROTICHROM® GC

Reference substance for GC

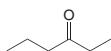
Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥94 %

3174.1	1 g	plastic	75,15 €

3-Hexanone



3-Hexanone

ROTICHROM® GC

Reference substance for GC

C₆H₁₂O

M 100,16 g/mol

Storage temp.: +4 °C

[589-38-8] • EC No. 209-645-4

UN No. 1224 • ADR 3 II

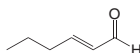
⚠ ⚠ Danger H225

Type analysis:

Purity (GC) ≥97 %

3843.1	1 g	glass	75,15 €

trans-Hexen-2-al

C₆H₁₀O

M 98,12 g/mol

D 0,846 • bp 146 °C

flp 35 °C

[6728-26-3] • EC No. 229-778-1

UN No. 1988 • ADR 3 (6.1) III • WGK 2

⚠ ⚠ ⚠ Danger H226-H302-H311

trans-Hexen-2-al

>96 %

Type analysis:

Assay (GC)	>96 %
Density (20 °C)	0,845-0,847

3757.1	25 ml	glass	60,10 €

trans-Hexen-2-al

ROTICHROM® GC

Reference substance for GC

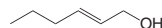
Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥90 %

5258.1	1 g	plastic	75,15 €

trans-2-Hexen-1-ol



trans-2-Hexen-1-ol

≥97 %

C₆H₁₂O

M 100,16 g/mol

D 0,84 • bp 158-160 °C

flp 54 °C

[928-95-0] • EC No. 213-191-2

UN No. 1987 • ADR 3 III • WGK 2

⚠ ⚠ Warning H226

Type analysis:

Assay (GC) ≥97 %

Density (d 20 °C/4 °C) 0,842-0,844

3756.1	5 ml	glass	26,35 €

Hexyl acetate

▶ Acetic acid hexyl ester see p. 1602

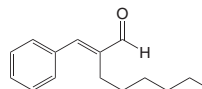
Hexyl alcohol

▶ 1-Hexanol see p. 1877

Hexyl butyrate

▶ Butyric acid hexyl ester see p. 1701

Hexylcinnamaldehyde



Hexylcinnamaldehyde

ROTICHROM® GC

Reference substance for GC

C₁₅H₂₀O

M 216,33 g/mol

bp 174-176 °C

flp >110 °C

Storage temp.: +4 °C

[101-86-0] • EC No. 202-983-3

UN No. 3265 • ADR 8 III • WGK 2

⚠ ⚠ ⚠ Danger H314

Type analysis:

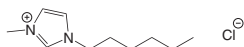
Purity (GC) ≥97 %

9392.1	1 g	plastic	75,15 €

Hexylenegluco

▶ 2-Methyl-2,4-pentanediol see p. 1969

1-Hexyl-3-methyl-imidazolium chloride (HMIM Cl)



1-Hexyl-3-methyl-imidazolium chloride (HMIM Cl)

≥98 %

Ionic liquid

HMIM Cl

C₁₀H₁₉ClN₂

M 202,73 g/mol

D 1,041

mp -75 °C

[171058-17-6]

WGK 3

⚠ Warning H315-H319

Type analysis:

Appearance..... yellowish liquid

Assay..... ≥98 %

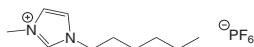
Water (KF)..... ≤1 %

2064.1	25 g	glass	235,45 €

2064.2	100 g	glass	418,20 €

Lit.: "Dynamic Viscosities of a Series of 1-Alkyl-3-methylimidazolium Chloride Ionic Liquids and Their Binary Mixtures with Water at Several Temperatures" E. Gomez, B. Gonzalez, A. Dominguez, E. Tojo, J. Tojo, *J. Chem. Eng. Data* **2006**, 51, 696-701.
For further information, please see page 1459

1-Hexyl-3-methyl-imidazolium-hexafluorophosphate (HMIM PF₆)



1-Hexyl-3-methyl-imidazolium-hexafluorophosphate (HMIM PF₆)

≥99 %

Ionic liquid

HMIM PF₆

C₁₀H₁₉F₆N₂P

M 312,24 g/mol

D 1,298

mp -61 °C

[304680-35-1]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... colourless to yellowish liquid

Assay..... ≥99 %

Water (KF)..... ≤0,025 %

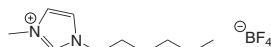
Halogens..... ≤0,01 %

2069.1	25 g	glass	134,40 €

2069.2	100 g	glass	299,95 €

Lit.: "Use of 1-alkyl-3-methylimidazolium hexafluorophosphate room temperature ionic liquids as chelate extraction solvent with 4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione" I. Naoki, D. Mika, K. Hitomi, H. Takaharu, *Talanta* **2005**, 65, 255-260.
"On the solubilization of water with ethanol in hydrophobic hexafluoro-phosphate ionic liquids" R. P. Swatoski, A. E. Visser, W. M. Reichert, G. A. Broker, L. M. Farina, J. D. Holbrey, R. D. Rogers, *Green Chem.* **2002**, 4, 81 - 87.
For further information, please see page 1459

1-Hexyl-3-methyl-imidazolium-tetrafluoroborate (HMIM BF₄)



1-Hexyl-3-methyl-imidazolium-tetrafluoroborate (HMIM BF₄)

≥99 %

Ionic liquid

HMIM BF₄

C₁₀H₁₉BF₄N₂

M 254,08 g/mol

D 1,148

mp -82 °C

[244193-50-8]

WGK 3

⚠ Warning H315-H319

Type analysis:

Appearance..... colourless to yellowish liquid

Assay..... ≥99 %

Water (KF)..... ≤0,025 %

Halogens..... ≤0,01 %

2070.1	25 g	glass	133,85 €

2070.2	100 g	glass	278,45 €

Lit.: "Activity Coefficients at Infinite Dilution in 1-Alkyl-3-methylimidazolium Tetrafluoroborate Ionic Liquids" G. M. Foco, S. B. Bottini, N. Quezada, J. C. de la Fuente, Cor J. Peters, *J. Chem. Eng. Data* **2006**, 51, 1088 -1091.
"Physical and electrochemical properties of 1-alkyl-3-methylimidazolium tetrafluoroborate for electrolyte" T. Nishida; Y. Tashiro; M. Yamamoto, *J. Fluorine Chem.* **2003**, 120, 135-141.
For further information, please see page 1459

HFBA

▶ Heptafluorobutyric acid anhydride
see p. 1871

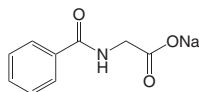
HFIP

▶ 1,1,1,3,3,3-Hexafluoro-2-propanol
see p. 1874

HFIPA

▶ 1,1,1,3,3,3-Hexafluoro-2-propanol
see p. 1874

Hippuric acid sodium salt hydrate



Hippuric acid sodium salt hydrate

≥99 %, cryst.

N-Benzoylglycine sodium salt

C₉H₉NNaO₃ · x H₂O

M 201,16 + x H₂O g/mol

[532-94-5] • EC No. 208-548-4 • WGK 1

Type analysis:

Appearance..... white powder

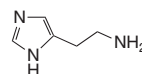
Assay (TLC)..... ≥99 %

7507.1	25 g	plastic	85,90 €

HIS

▶ L-Histidine see p. 1879

Histamine dihydrochloride



· 2 HCl

Histamine dihydrochloride

≥98,5 %, for biochemistry

2-(4-Imidazolyl) ethylamine dihydrochloride

C₅H₉N₃ · 2 HCl

M 184,07 g/mol

Storage temp.: +4 °C

[56-92-8] • EC No. 200-298-4

WGK 1

⚠ ⚠ Danger H334-H335-H315-H319-H317

Type analysis:

Assay (titr.)..... ≥98,5 %

Solution (5 % in water)..... colourless

Loss on drying (105 °C, 3 h)..... ≤0,5 %

pH value..... 2,85-3,60

Sulphated ash..... ≤0,1 %

Histidine..... ≤1 %

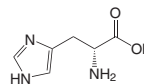
Sulphate (SO₄)..... ≤0,1 %

4017.1	5 g	glass	28,95 €

4017.2	10 g	glass	48,95 €

4017.3	25 g	glass	95,60 €

D-Histidine



D-Histidine

≥98 %, for biochemistry

D-3-Imidazol-4-ylalanine, H-D-His-OH

C₆H₉N₃O₂

M 155,2 g/mol

Storage temp.: +4 °C

[351-50-8] • EC No. 206-513-8

WGK 1

Type analysis:

Appearance..... white to off-white powder

Assay..... ≥98,0 %

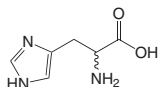
Specific rotation [α]_D²⁰ (c=5 in H₂O)..... +38,0° to +39,0°

Loss on drying..... ≤0,5 %

7880.1	5 g	plastic	42,90 €

7880.2	25 g	plastic	128,90 €

DL-Histidine



DL-Histidine

≥98,5 %, for biochemistry

3-Imidazol-4-ylalanine

C₆H₉N₃O₂

M 155,15 g/mol

Storage temp.: +4 °C

[4998-57-6] • EC No. 225-660-9

WGK 3

Type analysis:

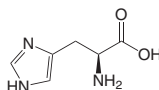
Appearance.....white to off-white powder
 Assay.....≥98,5 %
 Identity (IR).....complies
 Heavy metals (as Pb).....≤0,001 %
 Ash content.....≤0,1 %
 Loss on drying.....≤0,5 %

8597.1	5 g	plastic	28,95 €

8597.2	25 g	plastic	84,85 €

8597.3	100 g	plastic	278,45 €

L-Histidine



L-3-Imidazol-4-ylalanine, H-L-His-OH, HIS

C₆H₉N₃O₂

M 155,16 g/mol

mp 282 °C (dec.)

Solubility: ~32 g/l (H₂O, 20 °C)

[71-00-1] • EC No. 200-745-3

WGK 1

L-Histidine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤6 E.U./g
 Assay.....≥99 %
 Loss on drying.....≤0,2 %
 Specific rotation [α]_D²⁰.....+12,0° to +12,8°
 Foreign amino acids.....complies
 Ammonium (NH₄).....≤0,02 %
 Chloride (Cl).....≤0,02 %
 Sulphate (SO₄).....≤0,02 %
 Heavy metals (as Pb).....≤0,001 %
 Iron (Fe).....≤0,001 %

1696.1	25 g	plastic	24,20 €

1696.2	100 g	plastic	52,60 €

1696.3	500 g	plastic	220,95 €

Original pack 6 x 500 g	209,90/500 g

L-Histidine

≥98,5 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance.....white cryst. powder
 Assay (dry substance).....98,5-101,0 %
 Identity.....complies
 Appearance of solution.....clear, colourless
 Specific rotation [α]_D²⁰.....+11,4° to +12,4°
 pH value (1 g, 50 ml H₂O).....7,0-8,5
 Ammonium (NH₄).....≤0,02 %
 Chloride (Cl).....≤0,02 %
 Sulphate (SO₄).....≤0,02 %
 Iron (Fe).....≤0,001 %
 Heavy metals (as Pb).....≤0,001 %
 Foreign amino acids.....complies
 Loss on drying.....≤0,2 %
 Sulphated ash.....≤0,1 %

3852.1	25 g	plastic	15,80 €

3852.3	100 g	plastic	43,55 €

3852.2	1 kg	plastic	330,60 €

Original pack 6 x 1 kg	314,07/1 kg

L-Histidine hydrochloride monohydrate

4-Imidazolyl-L-alanine

C₆H₉N₃O₂ · HCl · H₂O

M 209,63 g/mol

mp 259 °C (dec.)

Solubility: ~170 g/l (H₂O, 20 °C)

[5934-29-2] • EC No. 211-438-9

WGK 1

L-Histidine hydrochloride monohydrate

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤6,0 E.U./g
 Assay.....≥99 %
 Specific rotation [α]_D²⁰.....+9,2° to +10,6°
 Foreign amino acids.....complies
 Ammonium (NH₄).....≤0,02 %
 Chloride (Cl).....18,22-18,68 %
 Sulphate (SO₄).....≤0,02 %
 Heavy metals (as Pb).....≤0,001 %
 Iron (Fe).....≤0,001 %
 Ash content.....≤0,10 %

1697.1	25 g	plastic	21,00 €

1697.2	100 g	plastic	50,45 €

1697.3	500 g	plastic	203,20 €

Original pack 6 x 500 g	193,04/500 g

L-Histidine hydrochloride monohydrate

≥98,5 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance.....white cryst. powder
 Assay (dry substance).....98,5-101 %
 Identity.....complies
 Appearance of solution.....clear, colourless
 Specific rotation [α]_D²⁰.....+9,2° to +10,6°
 pH value.....3,0-5,0
 Ammonium (NH₄).....≤0,02 %
 Sulphate (SO₄).....≤0,03 %
 Iron (Fe).....≤0,001 %
 Heavy metals (as Pb).....≤0,001 %
 Foreign amino acids.....complies
 Sulphated ash.....≤0,1 %
 Water.....7,2-10,0 %

9455.1	100 g	plastic	40,35 €

9455.3	250 g	plastic	84,85 €

9455.2	500 g	plastic	155,90 €

Original pack 6 x 500 g	148,11/500 g

HMDS

▶ 1,1,1,3,3,3-Hexamethyldisilazane
 see p. 1874

H₂N-PEG4-Alkyne▶ H₂N-PEG4-Alkyne see p. 2022H₂N-PEG3-Azide▶ H₂N-PEG3-Azide see p. 2022H₂N-PEG8-Azide▶ H₂N-PEG8-Azide see p. 2023

Holmia

▶ Holmium(III) oxide see p. 1880

Holmium Standards

▶ Holmium ICP Standard Solution see p. 2171

▶ Holmium ICP Standard Solution see p. 2175

Holmium(III) fluoride

Holmium(III) fluoride

ROTI®REMATIC 99,99 %

Holmium trifluoride

HoF₃

M 221,93 g/mol

bp >2200 °C

mp 1143 °C

Solubility: insoluble (H₂O, 20 °C)

[13760-78-6] • EC No. 237-352-1

WGK 3

⚠ Warning

H302+H312+H332-H315-H319-H335

Type analysis:

Assay (TREO)*.....99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7155.1	5 g	plastic	90,20 €

Holmium(III) oxide

Diholmium trioxide, Holmia
 Ho_2O_3
 M 377,86 g/mol
 D 8,4 • bp 3900 °C
 mp 2330 °C
 [12055-62-8] • EC No. 235-015-3
 WGK 3

Holmium(III) oxide

ROTI®METIC 99,99 % (4N)

Type analysis:

Assay (metals basis)..... 99,99 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5338.1	10 g	plastic	203,20 €
5338.2	50 g	plastic	643,95 €

Holmium(III) oxide

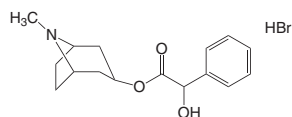
ROTI®REMETIC 99,99 %

Type analysis:

Assay (TREO*)..... 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7149.1	1 g	plastic	51,50 €
7149.2	5 g	plastic	90,20 €

Homatropine hydrobromide



Homatropine hydrobromide

pure

Tropine mandelate hydrobromide
 $\text{C}_{16}\text{H}_{21}\text{NO}_3 \cdot \text{HBr}$
 M 356,25 g/mol
 mp 214-217 °C (dec.)
 [51-56-9] • EC No. 200-105-3
 UN No. 1544 • ADR 6.1 III • WGK 3

⚠ Warning H302+H312+H332

Type analysis:

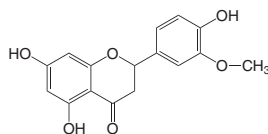
Melting point (dec.)..... 214-217 °C

7855.1	5 g	glass	20,10 €

Homidium bromide

- ▶ Ethidium bromide see p. 1811
- ▶ Ethidium bromide solution 1 % see p. 1811

Homoeriodictyol



$\text{C}_{16}\text{H}_{14}\text{O}_6$
 M 302,27 g/mol
 mp 225 °C (dec.)
 Storage temp.: +4 °C
 [446-71-9] • EC No. 207-173-3

Homoeriodictyol

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

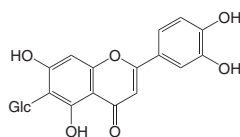
7585.1	10 mg	glass	171,90 €

Homoeriodictyol

ROTICHRON® ~CHR

9382.1	50 mg	glass	428,95 €

Homoorientin



Homoorientin

ROTICHRON® HPLC

Reference substance for HPLC
 From *Adonis vernalis*

Isoorientin
 $\text{C}_{21}\text{H}_{20}\text{O}_{11}$
 M 448,38 g/mol
 mp ~245 °C
 Storage temp.: +4 °C
 [4261-42-1]

Type analysis:

Purity (HPLC)..... ≥99 %

6002.1	5 mg	glass	217,70 €

HOOC-PEG4-Alkyne

- ▶ HOOC-PEG4-Alkyne see p. 2022

HO-PEG2-Azide

- ▶ HO-PEG2-Azide see p. 2022

Hormodin

- ▶ Indole-3-butyric acid see p. 1899

Horseradish peroxidase

- ▶ Peroxidase see p. 2029

HOSu

- ▶ N-Hydroxysuccinimide see p. 1893

HPLC solvents

Art. No.	Description	Page
7336	Acetic acid ethyl ester	1601
7328	Acetone	1604
T195	Acetonitrile	1605
8825	Acetonitrile	1606
HN44	Acetonitrile	1606
7330	Acetonitrile	1606
CN20	Acetonitrile	1606
6827	Acetonitrile	1606
T178	1-Butanol	1696
T175	tert-Butyl methyl ether	1699
7333	Cyclohexane	1753
7334	Dichloromethane	1770
X949	1,4-Dioxane	1787
P076	Ethanol	1809
6828	n-Heptane	1871
7337	n-Heptane	1871
7339	n-Hexane	1875
T176	Isohexane	1910
7340	Isooctane	1911
X948	Methanol	1960
7342	Methanol	1960
KK39	Methanol	1960
P717	Methanol	1960
CN99	n-Pentane	2025
7343	2-Propanol	2067
7344	Tetrahydrofuran	2203
7346	Toluene	2213
7331	Trichloromethane/Chloroform	2217
A511	Water	2241

HRP

- ▶ Peroxidase see p. 2029

HRP substrate

- ▶ Roti®-Lumin see p. 2101
- ▶ Roti®-Lumin plus see p. 2101
- ▶ Roti®-Lumin ultra see p. 2101

Hünigs base

- ▶ N,N-Diisopropylethylamine (DIPEA) see p. 1780

Humic acid

Humic acid

virgin

[1415-93-6] • EC No. 215-809-6

Type analysis:

Assay of humic acid.~30-40 %
 Percentage of moisture.~45 %
 Prepared from the sodium salt of humic acid found in
 fine earthy brown coal (Kassel brown).

7821.1	100 g	plastic	20,35 €
7821.2	500 g	plastic	29,60 €
Original pack 6 x 500 g			28,12/500 g
7821.3	1 kg	plastic	39,25 €
Original pack 6 x 1 kg			37,29/1 kg

Humic acid sodium salt

Humic acid sodium salt

~45-70 %

[68131-04-4] • EC No. 268-608-0

WGK 1

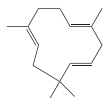
⚠ Warning H315-H319

Type analysis:

Assay of humic acid.~45-70 %
 Loss on drying (4 h, 105 °C).~25 %

7824.1	1 kg	plastic	30,85 €
Original pack 6 x 1 kg			29,31/1 kg
7824.2	10 kg	plastic	148,25 €
7824.4	25 kg	plastic	295,65 €

α-Humulene



α-Humulene

ROTICHRON® GC

Reference substance for GC

C₁₅H₂₄

M 204,36 g/mol

D ~0,889 • bp 106-107 °C

flp 90 °C

Storage temp.: +4 °C

[6753-98-6] • EC No. 229-816-7

⚠ Warning H315-H319-H335

Type analysis:

Purity (GC).≥95 %

9385.1	100 mg	plastic	169,35 €

Hyaluronidase

M ~70000 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[37326-33-3] • EC No. 253-464-3

⚠ Danger H334

Hyaluronidase

~500 U/mg, free from salt, lyophilised

ex ovine testes

Type analysis:

Activity.~500 U/mg

9978.2	250 mg	glass	56,90 €
9978.1	1 g	glass	181,70 €

Hyaluronidase

~300 U/mg, free from salt, lyophilised

ex ovine testes

Type analysis:

Activity.~300 U/mg

9980.1	250 mg	glass	31,10 €
9980.2	1 g	glass	84,85 €

For further information, please see page 1222

Hyamine® 1622-solution
(0,004 M)

Hyamine® 1622-solution

0,004 mol/l - 0,004 M volumetric standard solution

For determination of anionic tensides.

Benzethonium chloride solution

Type analysis:

Amount-of-substance conc. (20 °C).
0,004 mol/l ±0,1 %

KK64.1	1 l	plastic	23,15 €
Original pack 6 x 1 l			21,99/1 l

For further information, please see page 1546

Hybridisation buffers

▶ Roti®-Hybri-Quick see p. 2099

▶ Roti®-Stock 20x SSC see p. 2112

Hydrazinium sulphate

Hydrazinium sulphate

≥99 %, p.a., ACS

Reducing agent; reagent for separation of Po and Te.

Hydrazonium sulphate, Hydrazine sulphate

H₆N₂O₄S

M 130,12 g/mol

D 1,37

mp 254 °C

Solubility: 30 g/l (H₂O, 20 °C)

[10034-93-2] • EC No. 233-110-4

UN No. 3288 • ADR 6.1 II • WGK 3

⚠ ⚠ ⚠ Danger

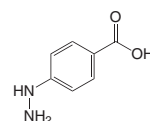
H301+H311+H331-H350-H400-H410-H317

Guarantee analysis:

Assay (iodom.).≥99,0 %
 In H₂O insoluble matter.≤0,005 %
 Ash content (as SO₄).≤0,02 %
 Chloride (Cl).≤0,001 %
 Heavy metals (as Pb).≤0,001 %
 Barium (Ba).≤0,0005 %
 Beryllium (Be).≤0,0005 %
 Lead (Pb).≤0,001 %
 Cadmium (Cd).≤0,0005 %
 Cobalt (Co).≤0,0005 %
 Iron (Fe).≤0,001 %
 Indium (In).≤0,0005 %
 Copper (Cu).≤0,001 %
 Manganese (Mn).≤0,0005 %
 Nickel (Ni).≤0,001 %
 Silicon (Si).≤0,0005 %
 Strontium (Sr).≤0,0005 %

HN96.1	100 g	plastic	17,75 €
HN96.2	500 g	plastic	48,30 €
Original pack 6 x 500 g			45,89/500 g

4-Hydrazinobenzoic acid



4-Hydrazinobenzoic acid

≥97 %, for synthesis

C₇H₈N₂O₂

M 152,15 g/mol

mp 216-218 °C

[619-67-0] • EC No. 210-609-5

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance. white to yellow-beige powder
 Assay.≥97,0 %
 Loss on drying.≤1,0 %

4539.1	10 g	glass	28,95 €
4539.2	50 g	glass	74,10 €
4539.3	100 g	glass	122,45 €

Hydrazonium sulphate

▶ Hydrazinium sulphate see p. 1881

Hydrobromic acid Ultra-quality

Hydrobromic acid Ultra-quality

ROTIPURAN® Ultra 48 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis. The quality for highest demands on purity.

HBr

M 80,91 g/mol

D 1,49 • bp 126 °C • mp ~-11 °C

[10035-10-6] • EC No. 233-114-0

UN No. 1788 • ADR 8 III • WGK 1

Danger H314-H335-H290

Guarantee analysis:

Assay (w/w)	44-49 %
Aluminium (Al)	≤100 ppt
Barium (Ba)	≤100 ppt
Beryllium (Be)	≤100 ppt
Lead (Pb)	≤1 ppt
Cadmium (Cd)	≤100 ppt
Cesium (Cs)	≤10 ppt
Calcium (Ca)	≤100 ppt
Cerium (Ce)	≤10 ppt
Chromium (Cr)	≤100 ppt
Dysprosium (Dy)	≤10 ppt
Iron (Fe)	≤100 ppt
Erbium (Er)	≤10 ppt
Europium (Eu)	≤10 ppt
Gadolinium (Gd)	≤10 ppt
Gallium (Ga)	≤100 ppt
Gold (Au)	≤100 ppt
Hafnium (Hf)	≤10 ppt
Holmium (Ho)	≤10 ppt
Indium (In)	≤10 ppt
Potassium (K)	≤100 ppt
Cobalt (Co)	≤100 ppt
Copper (Cu)	≤100 ppt
Lanthanum (La)	≤10 ppt
Lithium (Li)	≤100 ppt
Lutetium (Lu)	≤10 ppt
Magnesium (Mg)	≤100 ppt
Manganese (Mn)	≤100 ppt
Molybdenum (Mo)	≤100 ppt
Sodium (Na)	≤100 ppt
Neodymium (Nd)	≤10 ppt
Nickel (Ni)	≤100 ppt
Niobium (Nb)	≤10 ppt
Palladium (Pd)	≤100 ppt
Platinum (Pt)	≤100 ppt
Praseodymium (Pr)	≤10 ppt
Rhenium (Re)	≤100 ppt
Rhodium (Rh)	≤100 ppt
Rubidium (Rb)	≤100 ppt
Ruthenium (Ru)	≤100 ppt
Samarium (Sm)	≤10 ppt
Scandium (Sc)	≤100 ppt
Silver (Ag)	≤100 ppt
Strontium (Sr)	≤100 ppt
Tellur (Te)	≤10 ppt
Terbium (Tb)	≤10 ppt
Thallium (Tl)	≤10 ppt
Thorium (Th)	≤1 ppt
Thulium (Tm)	≤10 ppt
Titanium (Ti)	≤100 ppt
Uranium (U)	≤1 ppt
Vanadium (V)	≤100 ppt
Bismuth (Bi)	≤100 ppt
Tungsten (W)	≤100 ppt
Ytterbium (Yb)	≤10 ppt
Yttrium (Y)	≤10 ppt
Zinc (Zn)	≤100 ppt
Tin (Sn)	≤100 ppt
Zirconium (Zr)	≤10 ppt

HN67.3 250 ml plastic (FEP) 507,40 €

HN67.1 500 ml plastic (FEP) 697,70 €

HN67.2 1 l plastic (FEP) 1073,95 €

Original pack 6 x 1 l 1020,25/1 l

HN67.4 2 l plastic (FEP) 1574,90 €

For further information, please see page 1573

Hydrochloric acid Ultra-quality

Hydrochloric acid Ultra-quality

ROTIPURAN® Ultra 34 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis.

Hydrogen chloride

HCl

M 36,46 g/mol

D 1,18 • bp 85 °C • mp -26 °C

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

Danger H314-H290-H335

Guarantee analysis:

Assay (w/w)	32-35 %
Aluminium (Al)	≤20 ppt
Antimony (Sb)	≤20 ppt
Arsenic (As)	≤50 ppt
Barium (Ba)	≤10 ppt
Beryllium (Be)	≤10 ppt
Lead (Pb)	≤10 ppt
Boron (B)	≤100 ppt
Cadmium (Cd)	≤10 ppt
Cesium (Cs)	≤10 ppt
Calcium (Ca)	≤10 ppt
Cerium (Ce)	≤10 ppt
Chromium (Cr)	≤10 ppt
Dysprosium (Dy)	≤1 ppt
Iron (Fe)	≤10 ppt
Erbium (Er)	≤1 ppt
Europium (Eu)	≤1 ppt
Gadolinium (Gd)	≤1 ppt
Gallium (Ga)	≤10 ppt
Gold (Au)	≤50 ppt
Hafnium (Hf)	≤10 ppt
Holmium (Ho)	≤1 ppt
Indium (In)	≤1 ppt
Potassium (K)	≤10 ppt
Cobalt (Co)	≤10 ppt
Copper (Cu)	≤10 ppt
Lanthanum (La)	≤1 ppt
Lithium (Li)	≤10 ppt
Lutetium (Lu)	≤10 ppt
Magnesium (Mg)	≤10 ppt
Manganese (Mn)	≤10 ppt
Molybdenum (Mo)	≤10 ppt
Sodium (Na)	≤10 ppt
Neodymium (Nd)	≤1 ppt
Nickel (Ni)	≤20 ppt
Niobium (Nb)	≤1 ppt
Praseodymium (Pr)	≤1 ppt
Mercury (Hg)	≤50 ppt
Rhenium (Re)	≤10 ppt
Rhodium (Rh)	≤10 ppt
Rubidium (Rb)	≤10 ppt
Ruthenium (Ru)	≤10 ppt
Samarium (Sm)	≤1 ppt
Scandium (Sc)	≤10 ppt
Silver (Ag)	≤10 ppt
Strontium (Sr)	≤10 ppt
Tellur (Te)	≤1 ppt
Terbium (Tb)	≤1 ppt
Thallium (Tl)	≤10 ppt
Thorium (Th)	≤1 ppt
Thulium (Tm)	≤1 ppt
Titanium (Ti)	≤10 ppt
Uranium (U)	≤1 ppt
Vanadium (V)	≤10 ppt
Bismuth (Bi)	≤10 ppt
Tungsten (W)	≤10 ppt
Ytterbium (Yb)	≤1 ppt
Yttrium (Y)	≤1 ppt
Zinc (Zn)	≤10 ppt
Tin (Sn)	≤20 ppt
Zirconium (Zr)	≤10 ppt

HN63.1 250 ml plastic (PFA) 310,70 €

HN63.2 500 ml plastic (PFA) 467,65 €

HN63.3 1 l plastic (PFA) 779,40 €

Original pack 6 x 1 l 740,43/1 l

HN63.4 2 l plastic (PFA) 1127,70 €

For further information, please see page 1573

Hydrochloric acid Supra-quality

Hydrochloric acid Supra-quality

ROTIPURAN® Supra 35 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

Hydrogen chloride

HCl

M 36,46 g/mol

D ~ 1,18 • bp 85 °C

mp -26 °C

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

Danger H314-H290-H335

Guarantee analysis:

Assay (w/w)	34-37 %
Colour (APHA)	≤10
Bromide (Br)	≤0,001 %
Free chlorine (Cl ₂)	≤0,00005 %
Total Phosphorous (P)	≤0,000001 %
Total Sulfur (S)	≤0,00003 %
Aluminium (Al)	≤1 ppb
Antimony (Sb)	≤0,5 ppb
Arsenic (As)	≤0,5 ppb
Barium (Ba)	≤0,1 ppb
Beryllium (Be)	≤0,1 ppb
Lead (Pb)	≤0,1 ppb
Boron (B)	≤1 ppb
Cadmium (Cd)	≤0,1 ppb
Cesium (Cs)	≤0,1 ppb
Calcium (Ca)	≤1 ppb
Cerium (Ce)	≤0,1 ppb
Chromium (Cr)	≤0,5 ppb
Dysprosium (Dy)	≤0,1 ppb
Iron (Fe)	≤1 ppb
Erbium (Er)	≤0,1 ppb
Europium (Eu)	≤0,1 ppb
Gadolinium (Gd)	≤0,1 ppb
Gallium (Ga)	≤0,1 ppb
Gold (Au)	≤0,5 ppb
Hafnium (Hf)	≤0,1 ppb
Holmium (Ho)	≤0,1 ppb
Indium (In)	≤0,1 ppb
Potassium (K)	≤1 ppb
Cobalt (Co)	≤0,1 ppb
Copper (Cu)	≤0,5 ppb
Lanthanum (La)	≤0,1 ppb
Lithium (Li)	≤0,1 ppb
Lutetium (Lu)	≤0,1 ppb
Magnesium (Mg)	≤0,5 ppb
Manganese (Mn)	≤0,1 ppb
Molybdenum (Mo)	≤0,1 ppb
Sodium (Na)	≤1 ppb
Neodymium (Nd)	≤0,1 ppb
Nickel (Ni)	≤0,5 ppb
Niobium (Nb)	≤0,1 ppb
Praseodymium (Pr)	≤0,1 ppb
Mercury (Hg)	≤0,1 ppb
Rhenium (Re)	≤0,1 ppb
Rhodium (Rh)	≤0,1 ppb
Rubidium (Rb)	≤0,1 ppb
Ruthenium (Ru)	≤0,1 ppb
Samarium (Sm)	≤0,1 ppb
Scandium (Sc)	≤0,1 ppb
Selenium (Se)	≤1 ppb
Silver (Ag)	≤1 ppb
Strontium (Sr)	≤0,1 ppb
Tellur (Te)	≤0,1 ppb
Terbium (Tb)	≤0,1 ppb
Thallium (Tl)	≤0,1 ppb
Thorium (Th)	≤0,1 ppb
Thulium (Tm)	≤0,1 ppb
Titanium (Ti)	≤0,5 ppb
Uranium (U)	≤0,1 ppb
Vanadium (V)	≤0,5 ppb
Bismuth (Bi)	≤0,1 ppb
Tungsten (W)	≤0,1 ppb
Ytterbium (Yb)	≤0,1 ppb
Yttrium (Y)	≤0,1 ppb
Zinc (Zn)	≤1 ppb
Tin (Sn)	≤0,5 ppb
Zirconium (Zr)	≤0,1 ppb

HN53.1	500 ml	plastic	66,15 €

HN53.2	1 l	plastic	102,70 €

Original pack 6 x 1 l 97,57/1 l

HN53.3	2,5 l	plastic	113,45 €

Original pack 4 x 2,5 l 107,78/2,5 l

For further information, please see page 1573

Hydrochloric acid Supra-quality

Hydrochloric acid Supra-quality

ROTIPURAN® Supra 30 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

Hydrogen chloride

HCl

M 36,46 g/mol

D ~ 1,18 • bp 85 °C • mp -26 °C

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

 **Danger** H314-H290-H335

Guarantee analysis:

Assay (w/w).....	29-31 %
Colour (APHA).....	≤10
Bromide (Br).....	≤0,001 %
Free chlorine (Cl ₂).....	≤0,00005 %
Total Phosphorous (P).....	≤0,000001 %
Total Sulfur (S).....	≤0,00003 %
Aluminium (Al).....	≤1 ppb
Antimony (Sb).....	≤0,5 ppb
Arsenic (As).....	≤0,5 ppb
Barium (Ba).....	≤0,1 ppb
Beryllium (Be).....	≤0,1 ppb
Lead (Pb).....	≤0,1 ppb
Boron (B).....	≤1 ppb
Cadmium (Cd).....	≤0,1 ppb
Cesium (Cs).....	≤0,1 ppb
Calcium (Ca).....	≤1 ppb
Cerium (Ce).....	≤0,1 ppb
Chromium (Cr).....	≤0,5 ppb
Dysprosium (Dy).....	≤0,1 ppb
Iron (Fe).....	≤1 ppb
Erbium (Er).....	≤0,1 ppb
Europium (Eu).....	≤0,1 ppb
Gadolinium (Gd).....	≤0,1 ppb
Gallium (Ga).....	≤0,1 ppb
Gold (Au).....	≤0,5 ppb
Hafnium (Hf).....	≤0,1 ppb
Holmium (Ho).....	≤0,1 ppb
Indium (In).....	≤0,1 ppb
Potassium (K).....	≤1 ppb
Cobalt (Co).....	≤0,1 ppb
Copper (Cu).....	≤0,5 ppb
Lanthanum (La).....	≤0,1 ppb
Lithium (Li).....	≤0,1 ppb
Lutetium (Lu).....	≤0,1 ppb
Magnesium (Mg).....	≤0,5 ppb
Manganese (Mn).....	≤0,1 ppb
Molybdenum (Mo).....	≤0,1 ppb
Sodium (Na).....	≤1 ppb
Neodymium (Nd).....	≤0,1 ppb
Nickel (Ni).....	≤0,5 ppb
Niobium (Nb).....	≤0,1 ppb
Praseodymium (Pr).....	≤0,1 ppb
Mercury (Hg).....	≤0,1 ppb
Rhenium (Re).....	≤0,1 ppb
Rhodium (Rh).....	≤0,1 ppb
Rubidium (Rb).....	≤0,1 ppb
Ruthenium (Ru).....	≤0,1 ppb
Samarium (Sm).....	≤0,1 ppb
Scandium (Sc).....	≤0,1 ppb
Selenium (Se).....	≤1 ppb
Silver (Ag).....	≤1 ppb
Strontium (Sr).....	≤0,1 ppb
Tellur (Te).....	≤0,1 ppb
Terbium (Tb).....	≤0,1 ppb
Thallium (Tl).....	≤0,1 ppb
Thorium (Th).....	≤0,1 ppb

Thulium (Tm).....	≤0,1 ppb
Titanium (Ti).....	≤0,5 ppb
Uranium (U).....	≤0,1 ppb
Vanadium (V).....	≤0,5 ppb
Bismuth (Bi).....	≤0,1 ppb
Tungsten (W).....	≤0,1 ppb
Ytterbium (Yb).....	≤0,1 ppb
Yttrium (Y).....	≤0,1 ppb
Zinc (Zn).....	≤1 ppb
Tin (Sn).....	≤0,5 ppb
Zirconium (Zr).....	≤0,1 ppb

NE57.2	1 l	plastic	96,65 €

Original pack 6 x 1 l 91,82/1 l

For further information, please see page 1573

Hydrochloric acid 37 %

Hydrogen chloride

HCl

M 36,46 g/mol

D ~ 1,19

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

 **Danger** H290-H314-H335

Hydrochloric acid fuming 37 %

ROTIPURAN® 37 %, p.a., ISO, max. 0,005 ppm Hg

Dissolving agent for organic and anorganic samples. For determination of mercury.

Guarantee analysis:

Assay (acidim.).....	36,5-38,0 %
Colour (Hazen).....	≤10
Free chlorine (Cl).....	≤0,0001 %
Bromide (Br).....	≤0,005 %
Sulphate (SO ₄).....	≤0,0001 %
Sulphite (SO ₃).....	≤0,0001 %
Ammonium (NH ₄).....	≤0,0003 %
Mercury (Hg).....	≤0,000005 %
Silver (Ag).....	≤0,000005 %
Aluminium (Al).....	≤0,00001 %
Arsenic (As).....	≤0,000001 %
Gold (Au).....	≤0,00001 %
Boron (B).....	≤0,00002 %
Barium (Ba).....	≤0,000005 %
Beryllium (Be).....	≤0,000002 %
Bismuth (Bi).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Cadmium (Cd).....	≤0,000001 %
Cobalt (Co).....	≤0,000001 %
Chromium (Cr).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Iron (Fe).....	≤0,00002 %
Gallium (Ga).....	≤0,000005 %
Germanium (Ge).....	≤0,000002 %
Indium (In).....	≤0,000005 %
Potassium (K).....	≤0,00001 %
Lithium (Li).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000001 %
Molybdenum (Mo).....	≤0,000001 %
Sodium (Na).....	≤0,00005 %
Nickel (Ni).....	≤0,000002 %
Lead (Pb).....	≤0,000002 %
Platinum (Pt).....	≤0,000001 %
Antimony (Sb).....	≤0,000001 %
Silicon (Si).....	≤0,00001 %
Tin (Sn).....	≤0,00001 %
Strontium (Sr).....	≤0,000002 %
Titanium (Ti).....	≤0,000002 %
Vanadium (V).....	≤0,000001 %
Zinc (Zn).....	≤0,000005 %
Zirconium (Zr).....	≤0,000002 %
Ash content (as SO ₄).....	≤0,0005 %

X942.1	1 l	glass	22,50 €

Original pack 6 x 1 l 21,38/1 l

X942.2	2,5 l	glass	30,65 €

Original pack 4 x 2,5 l 29,12/2,5 l

Hydrochloric acid fuming 37 %

ROTIPURAN® 37 %, p.a., ACS, ISO

Solvent and dissolving agent. For acidifying, neutralisation and regeneration of ion exchangers.

Guarantee analysis:

Assay (acidim.).....	36,5-38,0 %
Colour (Hazen).....	≤10
Free chlorine (Cl).....	≤0,00004 %
Ash content (as SO ₄).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0001 %
Phosphate (PO ₄).....	≤0,00005 %
Sulphate (SO ₄).....	≤0,00005 %
Sulphite (SO ₃).....	≤0,00005 %
Aluminium (Al).....	≤0,000005 %
Ammonium (NH ₄).....	≤0,0001 %
Arsenic (As).....	≤0,000001 %
Barium (Ba).....	≤0,000001 %
Beryllium (Be).....	≤0,000001 %
Bismuth (Bi).....	≤0,000005 %
Lead (Pb).....	≤0,000001 %
Boron (B).....	≤0,00001 %
Bromide (Br).....	≤0,005 %
Cadmium (Cd).....	≤0,000001 %
Calcium (Ca).....	≤0,00003 %
Chromium (Cr).....	≤0,000001 %
Iron (Fe).....	≤0,00001 %
Gallium (Ga).....	≤0,000005 %
Germanium (Ge).....	≤0,000002 %
Gold (Au).....	≤0,000005 %
Potassium (K).....	≤0,00001 %
Cobalt (Co).....	≤0,000001 %
Copper (Cu).....	≤0,000001 %
Lithium (Li).....	≤0,000001 %
Magnesium (Mg).....	≤0,000005 %
Manganese (Mn).....	≤0,000001 %
Molybdenum (Mo).....	≤0,000001 %
Sodium (Na).....	≤0,00005 %
Nickel (Ni).....	≤0,000002 %
Platinum (Pt).....	≤0,00001 %
Mercury (Hg).....	≤0,000001 %
Silver (Ag).....	≤0,000002 %
Strontium (Sr).....	≤0,000002 %
Thallium (Tl).....	≤0,000002 %
Vanadium (V).....	≤0,000001 %
Zinc (Zn).....	≤0,000005 %
Tin (Sn).....	≤0,000005 %
Zirconium (Zr).....	≤0,000002 %

4625.1	1 l	glass	19,25 €

Original pack 6 x 1 l 18,29/1 l

4625.2	2,5 l	glass	30,00 €

Original pack 4 x 2,5 l 28,50/2,5 l

4625.3	10 l	plastic	73,00 €

Hydrochloric acid fuming 37 %

37 %, Ph.Eur.

Guarantee analysis:

Assay (acidim.).....	36,5-39,0 %
Identity.....	complies
Appearance of solution.....	complies
Sulphate (SO ₄).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0002 %
Ash content (as SO ₄).....	≤0,005 %
Non volatile matter.....	≤0,01 %

2607.1	1 l	glass	18,20 €

Original pack 6 x 1 l 17,29/1 l

2607.2	2,5 l	glass	29,60 €

Original pack 4 x 2,5 l 28,12/2,5 l

2607.3	10 l	plastic	64,00 €

Hydrochloric acid 37 %**37 %, extra pure****Type analysis:**

Assay	36,5-38,0 %
Colour (Hazen)	≤10
Density (20 °C)	1,18-1,19
Free chlorine (Cl)	≤0,0001 %
Sulphate (SO ₄)	≤0,0002 %
Heavy metals (as Pb)	≤0,0002 %
Arsenic (As)	≤0,0001 %
Iron (Fe)	≤0,0001 %
Arsenic (As)	≤0,0001 %
Ash content (as SO ₄)	≤0,0005 %

9277.1	1 l	glass	17,75 €
Original pack 6 x 1 l			
9277.2	2,5 l	glass	28,50 €
Original pack 4 x 2,5 l			
9277.3	10 l	plastic	62,25 €

Hydrochloric acid 37 %**37 %, techn.****Type analysis:**

Assay	≥36,5 %
Density (20 °C)	1,183-1,187
Lead (Pb)	≤0,0001 %

7476.1	1 l	glass	14,20 €
Original pack 6 x 1 l			
7476.2	2,5 l	glass	19,90 €
Original pack 4 x 2,5 l			
7476.3	10 l	plastic	38,60 €
Original pack 4 x 2,5 l			
7476.4	25 l	plastic	65,50 €

Hydrochloric acid 32 %

Hydrogen chloride

HCl

M 36,46 g/mol

D ~1,16 • bp 85 °C

mp -40 °C

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

Danger H314-H290-H335**Hydrochloric acid 32 %****ROTIPURAN® ≥32 %, p.a., ISO**

Solvent and dissolving agent.

For neutralisation, regeneration and acidifying of ion exchangers.

Guarantee analysis:

Assay (acidim.)	≥32 %
Colour (Hazen)	≤10
Free chlorine (Cl)	≤0,00005 %
Heavy metals (as Pb)	≤0,0001 %
Ash content (as SO ₄)	≤0,0005 %
Sulphate (SO ₄)	≤0,0001 %
Sulphite (SO ₃)	≤0,0001 %
Phosphate (PO ₄)	≤0,00005 %
Ammonium (NH ₄)	≤0,0001 %
Aluminium (Al)	≤0,000005 %
Arsenic (As)	≤0,000001 %
Barium (Ba)	≤0,000002 %
Beryllium (Be)	≤0,000002 %
Bismuth (Bi)	≤0,000002 %
Lead (Pb)	≤0,000001 %
Bromide (Br)	≤0,005 %
Cadmium (Cd)	≤0,000001 %
Calcium (Ca)	≤0,000002 %
Chromium (Cr)	≤0,000002 %
Iron (Fe)	≤0,00001 %
Gallium (Ga)	≤0,000005 %

Germanium (Ge)	≤0,000002 %
Gold (Au)	≤0,000005 %
Indium (In)	≤0,000005 %
Potassium (K)	≤0,00001 %
Cobalt (Co)	≤0,000001 %
Copper (Cu)	≤0,000002 %
Lithium (Li)	≤0,000001 %
Magnesium (Mg)	≤0,000005 %
Manganese (Mn)	≤0,000001 %
Molybdenum (Mo)	≤0,000001 %
Sodium (Na)	≤0,000005 %
Nickel (Ni)	≤0,000002 %
Platinum (Pt)	≤0,00001 %
Mercury (Hg)	≤0,000001 %
Silver (Ag)	≤0,000005 %
Strontium (Sr)	≤0,000001 %
Thallium (Tl)	≤0,000002 %
Titanium (Ti)	≤0,000002 %
Vanadium (V)	≤0,000001 %
Zinc (Zn)	≤0,000005 %
Zirconium (Zr)	≤0,000002 %

P074.1	1 l	glass	16,70 €
Original pack 6 x 1 l			
P074.3	1 l	plastic	14,20 €
Original pack 6 x 1 l			
P074.2	2,5 l	glass	28,50 €
Original pack 4 x 2,5 l			
P074.4	2,5 l	plastic	26,35 €
Original pack 4 x 2,5 l			

Hydrochloric acid 32 %**32 %, extra pure****Type analysis:**

Assay	≥32 %
Colour (Hazen)	≤10
Density (20 °C)	1,159-1,164
Free chlorine (Cl)	≤0,0001 %
Sulphate (SO ₄)	≤0,0002 %
Heavy metals (as Pb)	≤0,0002 %
Iron (Fe)	≤0,0001 %
Arsenic (As)	≤0,0001 %
Ash content (as SO ₄)	≤0,0005 %

X896.1	1 l	plastic	13,45 €
Original pack 6 x 1 l			
X896.2	2,5 l	plastic	21,00 €
Original pack 4 x 2,5 l			
X896.3	10 l	plastic	53,25 €

Hydrochloric acid 30 %**≥30 %, techn.****Type analysis:**

Appearance	clear, yellowish liquid
Assay	≥30 %
Iron (Fe)	≤0,001 %

9280.3	1 l	plastic	12,80 €
Original pack 6 x 1 l			
9280.1	10 l	plastic	33,90 €
Original pack 4 x 2,5 l			
9280.2	33 kg	plastic	70,45 €

Hydrochloric acid 25 %

Hydrogen chloride

HCl

M 36,46 g/mol

D ~1,12 • bp 107 °C • mp -70 °C

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

Danger H314-H290-H335**Hydrochloric acid 25 %****ROTIPURAN® ≥25 %, p.a., ISO**

Solvent, for neutralisation.

Guarantee analysis:

Assay (acidim.)	≥25 %
Colour (Hazen)	≤10
Free chlorine (Cl)	≤0,00005 %
Heavy metals (as Pb)	≤0,0001 %
Ash content (as SO ₄)	≤0,0005 %
Sulphate (SO ₄)	≤0,0001 %
Sulphite (SO ₃)	≤0,0001 %
Aluminium (Al)	≤0,000005 %
Ammonium (NH ₄)	≤0,0001 %
Arsenic (As)	≤0,000001 %
Barium (Ba)	≤0,000002 %
Beryllium (Be)	≤0,000002 %
Lead (Pb)	≤0,000002 %
Bromide (Br)	≤0,005 %
Cadmium (Cd)	≤0,000001 %
Calcium (Ca)	≤0,000005 %
Chromium (Cr)	≤0,000002 %
Cobalt (Co)	≤0,000001 %
Iron (Fe)	≤0,000002 %
Germanium (Ge)	≤0,000005 %
Potassium (K)	≤0,00001 %
Copper (Cu)	≤0,000002 %
Lithium (Li)	≤0,000001 %
Magnesium (Mg)	≤0,000001 %
Manganese (Mn)	≤0,000001 %
Molybdenum (Mo)	≤0,000002 %
Sodium (Na)	≤0,000005 %
Nickel (Ni)	≤0,000002 %
Strontium (Sr)	≤0,000001 %
Thallium (Tl)	≤0,000005 %
Titanium (Ti)	≤0,0001 %
Vanadium (V)	≤0,000001 %
Bismuth (Bi)	≤0,000001 %
Zinc (Zn)	≤0,000005 %
Zirconium (Zr)	≤0,000001 %

6331.1	1 l	glass	17,10 €
Original pack 6 x 1 l			
6331.3	1 l	plastic	14,55 €
Original pack 6 x 1 l			
6331.2	2,5 l	glass	29,60 €
Original pack 4 x 2,5 l			
6331.4	2,5 l	plastic	25,70 €
Original pack 4 x 2,5 l			

Hydrochloric acid 25 %**25 %, extra pure****Type analysis:**

Assay	≥25 %
Colour (Hazen)	≤10
Density (20 °C)	1,122-1,129
Free chlorine (Cl)	≤0,0001 %
Sulphate (SO ₄)	≤0,0002 %
Heavy metals (as Pb)	≤0,0002 %
Iron (Fe)	≤0,0001 %
Arsenic (As)	≤0,0001 %
Ash content (as SO ₄)	≤0,0005 %

X897.1	1 l	plastic	13,45 €
Original pack 6 x 1 l			
X897.2	2,5 l	plastic	21,40 €
Original pack 4 x 2,5 l			
X897.3	10 l	plastic	45,05 €

Hydrochloric acid 25 %

25 %, techn.

Type analysis:

Appearance..... colourless, light yellowish
 Assay..... 24,0-26,0 %

0992.4	1 l	plastic	11,00 €
Original pack 6 x 1 l			10,45/1 l
0992.1	2,5 l	plastic	19,60 €
Original pack 4 x 2,5 l			18,62/2,5 l
0992.2	10 l	plastic	41,85 €
0992.3	25 l	plastic	76,25 €

Hydrochloric acid 20 %**Hydrochloric acid 20 %**

20 %

Hydrogen chloride

HCl

M 36,46 g/mol

D ~1,10

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

⚠ Warning H290-H335-H315-H319

Type analysis:

Assay..... 19,0-21,0 %
 Density (20 °C)..... 1,0929-1,1032
 Iron (Fe)..... <0,001 %

4326.1	1 l	plastic	12,40 €
Original pack 6 x 1 l			11,78/1 l
4326.2	2,5 l	plastic	19,25 €
Original pack 4 x 2,5 l			18,29/2,5 l
4326.3	5 l	plastic	30,00 €
Original pack 2 x 5 l			28,50/5 l
4326.4	10 l	plastic	41,40 €

Hydrochloric acid 15 %**Hydrochloric acid 15 %**

15 %

Hydrogen chloride

HCl

M 36,46 g/mol

D ~1,07

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

⚠ Warning H290-H335-H315-H319

Type analysis:

Assay..... 14,0-16,0 %
 Density (20 °C)..... 1,0675-1,0776
 Iron (Fe)..... ≤0,001 %

4322.1	1 l	plastic	11,30 €
Original pack 6 x 1 l			10,74/1 l
4322.2	2,5 l	plastic	17,45 €
Original pack 4 x 2,5 l			16,58/2,5 l
4322.3	5 l	plastic	27,85 €
Original pack 2 x 5 l			26,46/5 l
4322.4	10 l	plastic	38,60 €

Hydrochloric acid 10 %**Hydrochloric acid 10 %**

~10 %, techn.

Hydrogen chloride

HCl

M 36,46 g/mol

D ~1,05

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

⚠ Warning H290-H335-H315-H319

Type analysis:

Assay..... ~10 %
 Density (20 °C)..... 1,0450-1,0500

0710.1	2,5 l	plastic	18,85 €
Original pack 4 x 2,5 l			17,91/2,5 l
0710.2	5 l	plastic	25,70 €
Original pack 2 x 5 l			24,42/5 l
0710.3	10 l	plastic	33,90 €

Hydrochloric acid 5 %**Hydrochloric acid 5 %**

5 %

Hydrogen chloride

HCl

M 36,46 g/mol

D ~1,02

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ Warning H290

Type analysis:

Assay..... 4,5-5,5 %
 Density (20 °C)..... 1,0205-1,0255
 Iron (Fe)..... ≤0,0005 %

4328.1	1 l	plastic	11,00 €
Original pack 6 x 1 l			10,45/1 l
4328.2	2,5 l	plastic	17,10 €
Original pack 4 x 2,5 l			16,25/2,5 l
4328.3	5 l	plastic	25,50 €
Original pack 2 x 5 l			24,23/5 l
4328.4	10 l	plastic	33,25 €

Hydrochloric acid (0,01 N)**Hydrochloric acid****0,01 mol/l - 0,01 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,01 mol/l ±0,2 %
 Titer..... 0,998-1,002

N075.1	1 l	plastic	18,20 €
Original pack 6 x 1 l			17,29/1 l

For further information, please see page 1546

Hydrochloric acid (0,05 N)**Hydrochloric acid****0,05 mol/l - 0,05 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,05 mol/l ±0,2 %
 Titer..... 0,998-1,002

8085.1	1 l	plastic	17,75 €
Original pack 6 x 1 l			16,86/1 l
8085.2	2,5 l	plastic	32,15 €
Original pack 4 x 2,5 l			30,54/2,5 l
8085.3	5 l	ROTI®CUBE	51,50 €
Original pack 2 x 5 l			48,93/5 l

Hydrochloric acid (0,1 N)**Hydrochloric acid****0,1 mol/l - 0,1 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,1 mol/l ±0,2 %
 Titer..... 0,998-1,002

K024.1	1 l	plastic	17,45 €
Original pack 6 x 1 l			16,58/1 l
K024.2	5 l	plastic	52,15 €
Original pack 2 x 5 l			49,54/5 l
K024.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l			54,06/5 l
K024.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1546

Hydrochloric acid (0,1 N)**Hydrochloric acid****0,1 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ Warning H290

Type analysis:

Amount-of-substance conc. 0,1 mol/l ±0,1 %

6789.1	1 l	plastic	19,90 €
Original pack 6 x 1 l			18,91/1 l

Hydrochloric acid (0,1 N)**Hydrochloric acid****ROTI®VOLUM 0,1 mol/l - 0,1 N**

Ampoule for preparation of 1000 ml volumetric solution.

HCl

M 36,46 g/mol

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

CN61.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Hydrochloric acid (0,2 N)**Hydrochloric acid****0,2 mol/l - 0,2 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**Amount-of-substance conc. (20 °C)....0,2 mol/l ±0,2 %
Titer. 0,998-1,002

4120.1	1 l	plastic	17,10 €

Original pack 6 x 1 l 16,25/1 l

For further information, please see page 1546

Hydrochloric acid (0,5 N)**Hydrochloric acid****0,5 mol/l - 0,5 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III

⚠ **Warning H290****Type analysis:**Amount-of-substance conc. (20 °C)....0,5 mol/l ±0,2 %
Titer. 0,998-1,002

P708.1	1 l	plastic	17,45 €
Original pack 6 x 1 l 16,58/1 l			
P708.2	5 l	plastic	52,15 €
Original pack 2 x 5 l 49,54/5 l			
P708.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l 54,06/5 l			
P708.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1546

Hydrochloric acid (0,5 N)**Hydrochloric acid****0,5 mol/l - 0,5 N volumetric standard solution, Reag. Ph.Eur.**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**

Amount-of-substance conc. 0,5 mol/l ±0,1 %

6790.1	1 l	plastic	19,90 €

Original pack 6 x 1 l 18,91/1 l

Hydrochloric acid (0,5 N)**Hydrochloric acid****ROTI®VOLUM 0,5 mol/l - 0,5 N**

Ampoule for preparation of 1000 ml volumetric solution.

HCl

M 36,46 g/mol

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**

Amount-of-substance conc. (20 °C). ..0,5 mol/l ±0,2 %

CN62.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Hydrochloric acid (1 N)**Hydrochloric acid****1 mol/l - 1 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**Amount-of-substance conc. (20 °C). 1 mol/l ±0,2 %
Titer. 0,998-1,002

K025.1	1 l	plastic	17,45 €
Original pack 6 x 1 l 16,58/1 l			
K025.2	5 l	plastic	52,15 €
Original pack 2 x 5 l 49,54/5 l			
K025.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l 54,06/5 l			
K025.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1546

Hydrochloric acid (1 N)**Hydrochloric acid****1 mol/l - 1 N volumetric standard solution, Reag. Ph.Eur.**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**

Amount-of-substance conc. 1 mol/l ±0,1 %

6792.1	1 l	plastic	19,90 €

Original pack 6 x 1 l 18,91/1 l

Hydrochloric acid (1 N)**Hydrochloric acid****ROTI®VOLUM 1 mol/l - 1 N**

Ampoule for preparation of 1000 ml volumetric solution.

HCl

M 36,46 g/mol

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

⚠ **Warning H290-H335-H315-H319****Type analysis:**

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %

CN63.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Hydrochloric acid (2 N)**Hydrochloric acid****2 mol/l - 2 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 III • WGK 1

⚠ **Warning H290****Type analysis:**Amount-of-substance conc. (20 °C).....2 mol/l ±0,2 %
Titer. 0,998-1,002

T134.1	1 l	plastic	17,45 €
Original pack 6 x 1 l 16,58/1 l			
T134.2	5 l	plastic	52,15 €
Original pack 2 x 5 l 49,54/5 l			
T134.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l 54,06/5 l			

For further information, please see page 1546

Hydrochloric acid (4 N)**Hydrochloric acid****4 mol/l - 4 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

⚠ **Warning H290-H335-H315-H319****Type analysis:**Amount-of-substance conc. (20 °C).....4 mol/l ±0,2 %
Titer. 0,998-1,002

N076.1	1 l	plastic	27,85 €

Original pack 6 x 1 l 26,46/1 l

For further information, please see page 1546

Hydrochloric acid (6 N)**Hydrochloric acid****6 mol/l - 6 N volumetric standard solution**

[7647-01-0] • EC No. 231-595-7

UN No. 1789 • ADR 8 II • WGK 1

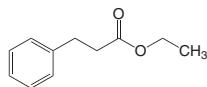
⚠ **Warning H290-H335-H315-H319****Type analysis:**Amount-of-substance conc. (20 °C).....6 mol/l ±0,2 %
Titer. 0,998-1,002

O281.1	1 l	plastic	27,85 €

Original pack 6 x 1 l 26,46/1 l

For further information, please see page 1546

Hydrocinnamic acid ethyl ester



Hydrocinnamic acid ethyl ester

≥98,5 %

3-Phenylpropionic acid ethyl ester

C₁₁H₁₄O₂

M 178,22 g/mol

D ~1,01

mp ~248 °C

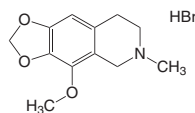
[2021-28-5] • EC No. 217-966-6

Type analysis:

Assay (GC). ≥98,5 %

7920.1 10 ml glass 45,70 €

Hydrocotarnine hydrobromide



Hydrocotarnine hydrobromide

ROTICHRON® ~CHR

C₁₂H₁₅NO₃ · HBr

M 302,18 g/mol

mp ~237 °C

[5985-00-2]

UN No. 1544 • ADR 6.1 II

☠ Danger H301

4268.1 100 mg glass 11,75 €

Hydrofluoric acid Ultra-quality

Hydrofluoric acid Ultra-quality

ROTIPURAN® Ultra ~48 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis.

Fluorhydric acid

HF

M 20,01 g/mol

D 1,18 • bp 108 °C

mp -35 °C

[7664-39-3] • EC No. 231-634-8

UN No. 1790 • ADR 8 (6.1) II • WGK 2

☠ ☠ ☠ Danger H300+H310+H330-H314

Guarantee analysis:

Assay (w/w). 47-51 %
 Total Sulfur (S). ≤0,00001 %
 Aluminium (Al). ≤20 ppt
 Antimony (Sb). ≤20 ppt
 Arsenic (As). ≤50 ppt
 Barium (Ba). ≤10 ppt
 Beryllium (Be). ≤10 ppt
 Lead (Pb). ≤10 ppt
 Boron (B). ≤100 ppt
 Cadmium (Cd). ≤10 ppt
 Cesium (Cs). ≤10 ppt
 Calcium (Ca). ≤10 ppt
 Cerium (Ce). ≤10 ppt
 Chromium (Cr). ≤10 ppt
 Dysprosium (Dy). ≤1 ppt
 Iron (Fe). ≤10 ppt

Erbium (Er).	≤1 ppt
Europium (Eu).	≤1 ppt
Gadolinium (Gd).	≤1 ppt
Gallium (Ga).	≤10 ppt
Germanium (Ge).	≤10 ppt
Gold (Au).	≤20 ppt
Hafnium (Hf).	≤10 ppt
Holmium (Ho).	≤1 ppt
Indium (In).	≤1 ppt
Potassium (K).	≤10 ppt
Cobalt (Co).	≤10 ppt
Copper (Cu).	≤10 ppt
Lanthanum (La).	≤10 ppt
Lithium (Li).	≤10 ppt
Lutetium (Lu).	≤1 ppt
Magnesium (Mg).	≤10 ppt
Manganese (Mn).	≤10 ppt
Molybdenum (Mo).	≤10 ppt
Sodium (Na).	≤10 ppt
Neodymium (Nd).	≤1 ppt
Nickel (Ni).	≤20 ppt
Niobium (Nb).	≤10 ppt
Palladium (Pd).	≤20 ppt
Platinum (Pt).	≤20 ppt
Praseodymium (Pr).	≤1 ppt
Mercury (Hg).	≤50 ppt
Rhenium (Re).	≤10 ppt
Rhodium (Rh).	≤20 ppt
Rubidium (Rb).	≤20 ppt
Ruthenium (Ru).	≤20 ppt
Samarium (Sm).	≤1 ppt
Scandium (Sc).	≤10 ppt
Silver (Ag).	≤10 ppt
Strontium (Sr).	≤10 ppt
Tellur (Te).	≤1 ppt
Terbium (Tb).	≤1 ppt
Thallium (Tl).	≤10 ppt
Thorium (Th).	≤1 ppt
Thulium (Tm).	≤1 ppt
Titanium (Ti).	≤20 ppt
Uranium (U).	≤1 ppt
Vanadium (V).	≤10 ppt
Bismuth (Bi).	≤10 ppt
Tungsten (W).	≤20 ppt
Ytterbium (Yb).	≤1 ppt
Yttrium (Y).	≤1 ppt
Zinc (Zn).	≤10 ppt
Tin (Sn).	≤20 ppt
Zirconium (Zr).	≤10 ppt

HN64.2 250 ml plastic (PFA) 413,90 €

HN64.1 500 ml plastic (PFA) 622,45 €

HN64.3 1 l plastic (PFA) 1001,90 €

Original pack 6 x 1 l 951,81/1 l

HN64.4 2 l plastic (FEP) 1682,40 €

For further information, please see page 1573

Hydrofluoric acid Supra-quality

Hydrofluoric acid Supra-quality

ROTIPURAN® Supra ~48 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

Fluorhydric acid

HF

M 20,01 g/mol

D 1,18 • bp 108 °C

mp -35 °C

[7664-39-3] • EC No. 231-634-8

UN No. 1790 • ADR 8 (6.1) II • WGK 2

☠ ☠ ☠ Danger H300+H310+H330-H314

Guarantee analysis:

Assay (w/w). 47-51 %
 Colour (APHA). ≤10
 Hexafluorosilicate (SiF₆). ≤0,002 %
 Chloride (Cl). ≤0,0004 %
 Total Phosphorous (P). ≤0,000005 %
 Total Sulfur (S). ≤0,00001 %

Aluminium (Al).	≤1 ppb
Antimony (Sb).	≤0,2 ppb
Arsenic (As).	≤0,5 ppb
Barium (Ba).	≤0,1 ppb
Beryllium (Be).	≤0,1 ppb
Lead (Pb).	≤0,1 ppb
Boron (B).	≤1 ppb
Cadmium (Cd).	≤0,1 ppb
Cesium (Cs).	≤0,1 ppb
Calcium (Ca).	≤1 ppb
Cerium (Ce).	≤0,1 ppb
Chromium (Cr).	≤1 ppb
Dysprosium (Dy).	≤0,1 ppb
Iron (Fe).	≤1 ppb
Erbium (Er).	≤0,1 ppb
Europium (Eu).	≤0,1 ppb
Gadolinium (Gd).	≤0,1 ppb
Gallium (Ga).	≤0,1 ppb
Germanium (Ge).	≤0,1 ppb
Gold (Au).	≤0,2 ppb
Hafnium (Hf).	≤0,1 ppb
Holmium (Ho).	≤0,1 ppb
Indium (In).	≤0,1 ppb
Potassium (K).	≤1 ppb
Cobalt (Co).	≤0,1 ppb
Copper (Cu).	≤0,5 ppb
Lanthanum (La).	≤0,1 ppb
Lithium (Li).	≤0,1 ppb
Lutetium (Lu).	≤0,1 ppb
Magnesium (Mg).	≤1 ppb
Manganese (Mn).	≤0,1 ppb
Molybdenum (Mo).	≤0,1 ppb
Sodium (Na).	≤1 ppb
Neodymium (Nd).	≤0,1 ppb
Nickel (Ni).	≤0,5 ppb
Niobium (Nb).	≤0,1 ppb
Palladium (Pd).	≤0,2 ppb
Platinum (Pt).	≤0,2 ppb
Praseodymium (Pr).	≤0,1 ppb
Mercury (Hg).	≤1 ppb
Rhenium (Re).	≤0,1 ppb
Rhodium (Rh).	≤0,1 ppb
Rubidium (Rb).	≤0,1 ppb
Ruthenium (Ru).	≤0,1 ppb
Samarium (Sm).	≤0,1 ppb
Scandium (Sc).	≤0,1 ppb
Selenium (Se).	≤1 ppb
Silver (Ag).	≤0,5 ppb
Strontium (Sr).	≤0,1 ppb
Tellur (Te).	≤0,1 ppb
Terbium (Tb).	≤0,1 ppb
Thallium (Tl).	≤0,1 ppb
Thorium (Th).	≤0,1 ppb
Thulium (Tm).	≤0,1 ppb
Titanium (Ti).	≤1 ppb
Uranium (U).	≤0,1 ppb
Vanadium (V).	≤0,1 ppb
Bismuth (Bi).	≤0,1 ppb
Tungsten (W).	≤0,5 ppb
Ytterbium (Yb).	≤0,1 ppb
Yttrium (Y).	≤0,1 ppb
Zinc (Zn).	≤1 ppb
Tin (Sn).	≤0,5 ppb
Zirconium (Zr).	≤0,1 ppb

HN54.1 500 ml LDPE 124,60 €

For further information, please see page 1573

Hydrogen carboxylic acid

▶ Formic acid 98 % see p. 1839

▶ Formic acid 85 % see p. 1839

▶ Formic acid 45 % see p. 1840

Hydrogen chloride

- ▶ Hydrochloric acid 34 % Ultra-quality see p. 1882
- ▶ Hydrochloric acid 35 % Supra-quality see p. 1882
- ▶ Hydrochloric acid 30 % Supra-quality see p. 1883
- ▶ Hydrochloric acid 37 % see p. 1883
- ▶ Hydrochloric acid 32 % see p. 1884
- ▶ Hydrochloric acid 25 % see p. 1884
- ▶ Hydrochloric acid 20 % see p. 1885
- ▶ Hydrochloric acid 15 % see p. 1885
- ▶ Hydrochloric acid 10 % see p. 1885
- ▶ Hydrochloric acid 5 % see p. 1885

Hydrogen hexachloro-platinate(IV) hydrate

Hydrogen hexachloro-platinate(IV) hydrate

ROTI[®]METIC 99,995 % (4N5)

Chloroplatinic acid hydrate,
Hexachloroplatinum(IV) acid hydrate

H₂PtCl₆ · x H₂O

M 409,79 + x H₂O g/mol

D 2,43 • mp 60 °C

[26023-84-7] • EC No. 241-010-7

UN No. 2507 • ADR 8 III • WGK 1

 **Danger** H301-H317-H318-H334

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5626.1	1 g	plastic	155,90 €
5626.2	5 g	plastic	740,70 €

Hydrogen hexachloro-platinate(IV) hexahydrate

- ▶ Hexachloroplatinum(IV) acid hexahydrate see p. 1873

Hydrogen peroxide Ultra-quality

Hydrogen peroxide Ultra-quality

ROTIPURAN[®] Ultra 31 %

Extra highpure reagent (ppt quality) for sample preparation in ultra trace analysis.

H₂O₂

M 34,02 g/mol

D ~1,11 • bp ~107 °C

[7722-84-1] • EC No. 231-765-0

UN No. 2014 • ADR 5.1 (8) II • WGK 1

 **Danger** H318-H302

Guarantee analysis:

Assay (w/w).....	30-32 %
Aluminium (Al).....	≤50 ppt
Antimony (Sb).....	≤10 ppt
Arsenic (As).....	≤100 ppt
Barium (Ba).....	≤10 ppt
Beryllium (Be).....	≤10 ppt
Lead (Pb).....	≤10 ppt
Boron (B).....	≤100 ppt
Cadmium (Cd).....	≤10 ppt
Cesium (Cs).....	≤1 ppt
Calcium (Ca).....	≤100 ppt

Cerium (Ce).....	≤1 ppt
Chromium (Cr).....	≤10 ppt
Dysprosium (Dy).....	≤1 ppt
Iron (Fe).....	≤20 ppt
Erbium (Er).....	≤1 ppt
Europium (Eu).....	≤1 ppt
Gadolinium (Gd).....	≤1 ppt
Gallium (Ga).....	≤10 ppt
Germanium (Ge).....	≤10 ppt
Gold (Au).....	≤10 ppt
Hafnium (Hf).....	≤1 ppt
Holmium (Ho).....	≤1 ppt
Indium (In).....	≤1 ppt
Potassium (K).....	≤20 ppt
Cobalt (Co).....	≤10 ppt
Copper (Cu).....	≤10 ppt
Lanthanum (La).....	≤1 ppt
Lithium (Li).....	≤10 ppt
Lutetium (Lu).....	≤1 ppt
Magnesium (Mg).....	≤20 ppt
Manganese (Mn).....	≤10 ppt
Molybdenum (Mo).....	≤10 ppt
Sodium (Na).....	≤50 ppt
Neodymium (Nd).....	≤1 ppt
Nickel (Ni).....	≤20 ppt
Niobium (Nb).....	≤10 ppt
Palladium (Pd).....	≤10 ppt
Praseodymium (Pr).....	≤1 ppt
Mercury (Hg).....	≤50 ppt
Rhenium (Re).....	≤10 ppt
Rhodium (Rh).....	≤10 ppt
Rubidium (Rb).....	≤10 ppt
Ruthenium (Ru).....	≤10 ppt
Samarium (Sm).....	≤1 ppt
Scandium (Sc).....	≤10 ppt
Selenium (Se).....	≤100 ppt
Silver (Ag).....	≤10 ppt
Strontium (Sr).....	≤10 ppt
Tantal (Ta).....	≤10 ppt
Tellur (Te).....	≤1 ppt
Terbium (Tb).....	≤1 ppt
Thallium (Tl).....	≤1 ppt
Thorium (Th).....	≤1 ppt
Thulium (Tm).....	≤1 ppt
Titanium (Ti).....	≤20 ppt
Uranium (U).....	≤1 ppt
Vanadium (V).....	≤10 ppt
Bismuth (Bi).....	≤10 ppt
Tungsten (W).....	≤20 ppt
Ytterbium (Yb).....	≤1 ppt
Yttrium (Y).....	≤1 ppt
Zinc (Zn).....	≤50 ppt
Tin (Sn).....	≤50 ppt
Zirconium (Zr).....	≤10 ppt

HN69.1 500 ml plastic (FEP) 456,90 €

For further information, please see page 1573

Hydrogen peroxide 35 %

Hydrogen peroxide 35 % pure, stabilized

Oxidant, bleaching agent

H₂O₂

M 34,02 g/mol

D ~1,13 • bp 108 °C

[7722-84-1] • EC No. 231-765-0

UN No. 2014 • ADR 5.1 (8) II • WGK 1

 **Danger** H318-H335-H315-H302

Type analysis:

Assay.....34-36 %
Density (20 °C).....1,127-1,140

9683.4	500 ml	plastic	14,95 €
9683.1	1 l	plastic	19,60 €
Original pack 6 x 1 l			18,62/1 l
9683.3	2,5 l	plastic	28,95 €
Original pack 4 x 2,5 l			27,50/2,5 l
9683.2	10 l	plastic	71,95 €

Hydrogen peroxide 30 %

H₂O₂

M 34,01 g/mol

D ~1,11 • bp ~107 °C

[7722-84-1] • EC No. 231-765-0

UN No. 2014 • ADR 5.1 (8) II • WGK 1

 **Danger** H318-H302

Hydrogen peroxide 30 % ROTIPURAN[®] p.a., ISO, stabilized

Guarantee analysis:

Assay (perm.).....	≥30 %
Free acid.....	≤1 µeq/g
Chloride (Cl).....	≤0,00005 %
Phosphate (PO ₄).....	≤0,00005 %
Sulphate (SO ₄).....	≤0,00005 %
Nitrate (NO ₃).....	≤0,00005 %
Aluminium (Al).....	≤0,000002 %
Antimony (Sb).....	≤0,000002 %
Arsenic (As).....	≤0,000002 %
Boron (B).....	≤0,000002 %
Cadmium (Cd).....	≤0,000002 %
Chromium (Cr).....	≤0,000002 %
Gold (Au).....	≤0,000002 %
Iron (Fe).....	≤0,000002 %
Potassium (K).....	≤0,000002 %
Molybdenum (Mo).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Strontium (Sr).....	≤0,000002 %
Silver (Ag).....	≤0,000002 %
Lead (Pb).....	≤0,000002 %
Calcium (Ca).....	≤0,000002 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Lithium (Li).....	≤0,000002 %
Manganese (Mn).....	≤0,000002 %
Sodium (Na).....	≤0,000002 %
Titanium (Ti).....	≤0,000002 %
Vanadium (V).....	≤0,000002 %
Magnesium (Mg).....	≤0,000002 %
Tin (Sn).....	≤0,000002 %
Zinc (Zn).....	≤0,000002 %

Stabilized with phosphate.

8070.2	250 ml	plastic	19,05 €
8070.4	500 ml	plastic	25,05 €
8070.1	1 l	plastic	36,05 €
Original pack 6 x 1 l			34,25/1 l
8070.3	2,5 l	plastic	61,85 €
Original pack 4 x 2,5 l			58,76/2,5 l

Hydrogen peroxide 30 % Ph.Eur., stabilized

Guarantee analysis:

Assay.....	29,0-31,0 %
Identity.....	complies
Acid react. substances.....	complies
Organic stabilizers.....	≤0,05 %
Non volatile matters.....	≤0,2 %

9681.4	500 ml	plastic	14,95 €
9681.1	1 l	plastic	19,90 €
Original pack 6 x 1 l			18,91/1 l
9681.3	2,5 l	plastic	28,95 €
Original pack 4 x 2,5 l			27,50/2,5 l
9681.2	10 l	plastic	74,20 €

Hydrogen peroxide 30 %

for synthesis, stab.

Oxidant, bleaching agent

Type analysis:

Assay 29,0-31,0 %
 Relative density (20 °C) 1,107-1,120

CP26.5	500 ml	plastic	13,90 €
CP26.1	1 l	plastic	17,75 €
Original pack 6 x 1 l			
CP26.4	2,5 l	plastic	25,70 €
Original pack 4 x 2,5 l			
CP26.2	10 l	plastic	45,70 €
CP26.3	25 l	plastic	93,00 €

Hydrogen tetrachloroaurate(III) hydrate**Hydrogen tetrachloroaurate(III) hydrate**

ROTI®METIC 99,999 % (5N)

Chloroauric acid hydrate

 $\text{HAuCl}_4 \cdot x \text{H}_2\text{O}$ M 339,79 + x H_2O g/mol

D 3,9

mp 420 °C

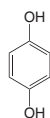
[27988-77-8] • EC No. 240-948-4

UN No. 3260 • ADR 8 III • WGK 3

⚠ ⚠ **Danger** H302-H314-H317**Type analysis:**

Assay (metals basis) 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5628.1	1 g	plastic	149,45 €

Hydroquinone**Hydroquinone**

≥99 %, p.a.

1,4-Dihydroxybenzene

 $\text{C}_6\text{H}_6\text{O}_2$

M 110,11 g/mol

D 1,35 • bp 286 °C

mp 171-175 °C • flp 165 °C

Solubility: 70 g/l (H_2O , 25 °C)

[123-31-9] • EC No. 204-617-8

UN No. 3077 • ADR 9 III • WGK 3

⚠ ⚠ ⚠ **Danger**

H318-H341-H351-H400-H302-H317

Type analysis:

Appearance fine, colourless crystals
 Assay (titr.) ≥99,0 %
 Iron (Fe) ≤0,002 %
 Ash ≤0,05 %
 Heavy metals (as Pb) ≤0,002 %
 Melting range 171-175 °C

3586.1	100 g	plastic	12,40 €
3586.2	250 g	plastic	18,20 €
3586.3	1 kg	plastic	53,25 €
Original pack 6 x 1 kg			
50,59/1 kg			

Hydroxyacetaldehyde

▶ Glycolaldehyde see p. 1861

1-Hydroxyadamantane

▶ 1-Adamantanol see p. 1615

2-Hydroxyadamantane

▶ 2-Adamantanol see p. 1615

5-Hydroxy-2-adamantanone**5-Hydroxy-2-adamantanone**

≥98 %, for synthesis

 $\text{C}_{10}\text{H}_{14}\text{O}_2$

M 166,22 g/mol

mp >300 °C

[20098-14-0] • WGK 3

Type analysis:

Appearance white to off-white cryst. powder
 Assay ≥98,0 %
 Identity complies

7628.1	1 g	glass	19,25 €
7628.2	5 g	glass	60,10 €

3-Hydroxy-L-alanin

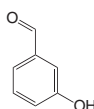
▶ L-Serine see p. 2126

2-Hydroxyanisole

▶ Guaiacol see p. 1864

8-Hydroxy-1-azanaphthalene-β-D-glucuronide, sodium salt

▶ 8-Hydroxyquinoline-β-D-glucuronic acid, sodium salt see p. 1893

3-Hydroxybenzaldehyde**3-Hydroxybenzaldehyde**

≥97 %, for synthesis

3-Formylphenol

 $\text{C}_7\text{H}_6\text{O}_2$

M 122,12 g/mol • mp 101-105 °C

[100-83-4] • EC No. 202-892-9 • WGK 3

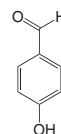
⚠ **Warning** H315-H319-H335**Type analysis:**

Appearance white to off-white cryst. powder
 Assay ≥97,0 %
 Water ≤0,5 %

4493.1	50 g	plastic	22,50 €
4493.2	100 g	plastic	32,15 €
4493.3	250 g	plastic	67,65 €

2-Hydroxybenzaldehyde

▶ Salicylaldehyde see p. 2117

4-Hydroxybenzaldehyde**4-Hydroxybenzaldehyde**

≥99 %, for synthesis

 $\text{C}_7\text{H}_6\text{O}_2$

M 122,12 g/mol

mp 117 °C • flp 174 °C

Solubility: 13,8 g/l (H_2O , 30,5 °C)

[123-08-0] • EC No. 204-599-1

WGK 2

⚠ **Warning** H315-H319-H335**Type analysis:**

Melting point. 115-118 °C
 Assay (GC) ≥99,0 %

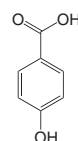
3870.2	50 g	plastic	17,75 €
3870.1	250 g	plastic	73,65 €

Hydroxybenzene

▶ Phenol see p. 2034

2-Hydroxybenzoic acid

▶ Salicylic acid see p. 2117

4-Hydroxybenzoic acid**4-Hydroxybenzoic acid**

≥99 %, for synthesis

 $\text{C}_7\text{H}_6\text{O}_3$

M 138,12 g/mol

mp ~215 °C

Solubility: 5 g/l (H_2O , 20 °C)

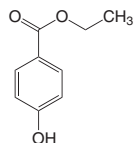
[99-96-7] • EC No. 202-804-9

WGK 1

⚠ **Warning** H315-H319-H335**Type analysis:**

Assay (dry substance) ≥99,0 %
 Melting point. 214-217 °C

3872.1	100 g	plastic	16,70 €
3872.2	500 g	plastic	36,45 €
Original pack 6 x 500 g			
3872.3	1 kg	plastic	52,60 €
Original pack 6 x 1 kg			
49,97/1 kg			

4-Hydroxybenzoic acid ethyl ester

Ethylparaben
 $C_9H_{10}O_3$
 M 166,18 g/mol
 bp 297 °C (dec.)
 mp 115-118 °C
 Solubility: 1,7 g/l (H_2O , 20 °C)
 [120-47-8] • EC No. 204-399-4
 WGK 1

4-Hydroxybenzoic acid ethyl ester

≥98 %, Ph.Eur., USP

Guarantee analysis:

Appearance..... white powder
 Assay (HPLC)..... 98,0-102,0 %
 Identity..... complies
 Melting point..... 115-118 °C
 Appearance of solution (10 % in ethanol 96 %). clear, colourless to yellowish
 Colour of solution (10 % in ethanol 96 %). complies
 Acidity (0,1 M NaOH/0,2 g)..... complies
 Related substances (p-HBA)..... ≤0,5 %
 Related substances (unspecific impurities)..... ≤0,5 %
 Related substances (total)..... ≤1,0 %
 Volatile organic impurities..... complies
 Residual solvents (ethanol)..... ≤0,5 %
 Loss on drying..... ≤0,5 %
 Sulphated ash..... ≤0,1 %

6880.1	100 g	plastic	14,95 €
6880.2	250 g	plastic	26,35 €
6880.3	500 g	plastic	45,70 €
Original pack 6 x 500 g			43,42/500 g
6880.4	1 kg	plastic	69,35 €
Original pack 6 x 1 kg			65,88/1 kg

4-Hydroxybenzoic acid ethyl ester

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %
 Residual solvents (GC)..... ≤1,0 %
 Water (KF)..... ≤4,0 %
 Assay (qNMR)..... ≥90,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE07.1	100 mg	glass	671,90 €

4-Hydroxybenzoic acid ethyl ester

ROTICHRUM® Working Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC07.1	100 mg	glass	89,80 €

4-Hydroxybenzoic acid ethyl ester

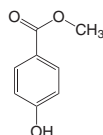
ROTICHRUM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

4746.1	1 g	glass	27,85 €

4-Hydroxybenzoic acid methyl ester

Methyl-p-hydroxybenzoate, Methylparaben
 $C_8H_8O_3$
 M 152,15 g/mol
 D 0,8
 mp 126-127 °C
 [99-76-3] • EC No. 202-785-7
 WGK 1
 H412

4-Hydroxybenzoic acid methyl ester

≥99 %

Type analysis:

Assay (titr.)..... ≥99 %
 Appearance..... white to almost white powder

3646.1	100 g	plastic	14,95 €
3646.2	250 g	plastic	20,35 €
3646.3	500 g	plastic	34,30 €
Original pack 6 x 500 g			32,59/500 g
3646.4	1 kg	plastic	61,20 €
Original pack 6 x 1 kg			58,14/1 kg

4-Hydroxybenzoic acid methyl ester

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥98,0 %
 Residual solvents (GC)..... ≤1,0 %
 Water (KF)..... ≤2,0 %
 Assay (qNMR)..... ≥95,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE10.1	100 mg	glass	671,90 €

4-Hydroxybenzoic acid methyl ester

ROTICHRUM® Working Standard

Type analysis:

Assay (HPLC)..... ≥91,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC10.1	100 mg	glass	89,80 €

4-Hydroxybenzoic acid methyl ester

ROTICHRUM® HPLC

Reference substance for HPLC

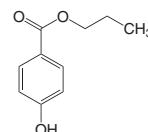
Type analysis:

Purity (HPLC)..... ≥99 %

4748.1	1 g	glass	28,95 €

2-Hydroxybenzoic acid methyl ester

▶ Salicylic acid methyl ester see p. 2118

4-Hydroxybenzoic acid propyl ester

Propylparaben, Propyl 4-hydroxybenzoate
 $C_{10}H_{12}O_3$
 M 180,21 g/mol
 D 1,06 • bp 285-317 °C
 mp 96-99 °C • flp 180 °C
 [94-13-3] • EC No. 202-307-7
 WGK 1

4-Hydroxybenzoic acid propyl ester

≥98 %, Ph.Eur., USP

Guarantee analysis:

Appearance..... white powder
 Assay (HPLC)..... 98,0-102,0 %
 Identity..... complies
 Appearance of solution (10 % in ethanol 96 %). clear
 Colour of solution (10 % in ethanol 96 %). complies
 Acidity (0,1 M NaOH/0,2 g)..... complies
 Related substances (p-HBA)..... complies
 Related substances (unspecific impurities)..... complies
 Related substances (total)..... complies
 Volatile organic impurities..... complies
 Residual solvents (ethanol)..... ≤0,2 %
 Residual solvents (propanol)..... ≤0,5 %
 Loss on drying..... ≤0,5 %
 Sulphated ash..... ≤0,1 %

6882.1	100 g	plastic	17,10 €
6882.2	250 g	plastic	25,30 €
6882.3	500 g	plastic	44,00 €
Original pack 6 x 500 g			41,80/500 g
6882.4	1 kg	plastic	71,95 €
Original pack 6 x 1 kg			68,35/1 kg

4-Hydroxybenzoic acid propyl ester

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥97,0 %
 Residual solvents (GC)..... ≤1,0 %
 Water (KF)..... ≤1,0 %
 Assay (qNMR)..... ≥95,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE13.1	100 mg	glass	671,90 €

4-Hydroxybenzoic acid propyl ester

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC13.1	100 mg	glass	89,80 €

4-Hydroxybenzoic acid propyl ester

ROTICHROM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

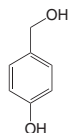
4749.1	1 g	glass	27,85 €

(S)-2-(6-Hydroxy-2-benzothiazolyl)-2-thiazoline-4-carboxylic acid sodium salt

► D-Luciferin sodium salt see p. 1938

10-p-Hydroxybenzoylaucubin

► Agnuside see p. 1619

4-Hydroxybenzyl alcohol**4-Hydroxybenzyl alcohol**

≥98 %

C₇H₈O₂

M 124,14 g/mol

mp 114-122 °C

[623-05-2] • EC No. 210-768-0

Type analysis:

Assay..... ≥98,0 %

6257.1	5 g	glass	34,95 €

2'-Hydroxybenzyl-3-methoxybenzoate-2',4-diglucoside

► Leiocarposide see p. 1929

Hydroxybrasilin

► Hematoxylin (C.I. 75290) see p. 1869

D(+)-Hydroxybutanedioic acid

► D(+)-Malic acid see p. 1947

(2S)-2-Hydroxybut-3-enylglucosinolate

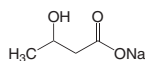
► Epiprogoitrin see p. 1805

2-Hydroxybut-3-enylglucosinolate potassium salt

► Progoitrin see p. 2066

4-Hydroxybutyric acid lactone

► γ-Butyrolactone see p. 1701

DL-3-Hydroxybutyric acid sodium salt**DL-3-Hydroxybutyric acid sodium salt**

≥98 %, for biochemistry

Sodium 3-hydroxybutyrate, Hydroxybutanoic acid sodium salt

C₄H₇NaO₃

M 126,09 g/mol • mp 164 °C

Storage temp.: +4 °C

[150-83-4] • EC No. 205-774-5 • WGK 3

Type analysis:

Appearance..... white to almost white cryst. powder

Assay (perchloric acid titration)..... ≥98,0 %

Appearance of solution (10 %, H₂O)..... colourless

Water (KF)..... ≤10,0 %

8428.1	5 g	plastic	24,65 €

8428.2	10 g	plastic	42,50 €

8428.3	25 g	plastic	90,20 €

3α-Hydroxy-5β-cholanic acid

► Lithocholic acid see p. 1937

trans-p-Hydroxycinnamic acid

► p-Coumaric acid see p. 1748

7-Hydroxycoumarin

► Umbelliferone see p. 2231

2-Hydroxy-p-cymene

► Carvacrol see p. 1718

3-Hydroxy-p-cymene

► Thymol see p. 2209

4-Hydroxy-3,5-dimethoxybenzaldehyde

► Syringaldehyde see p. 2195

7-Hydroxy-5,6-dimethoxycoumarin

► Umckalin see p. 2231

2-(2-Hydroxy-3,6-disulpho-1-naphthylazo-(1))-benzene-arsonic acid sodium salt

► Thorin see p. 2208

Hydroxyethyl agarose

► Agarose Low Melt see p. 1619

Hydroxyethyl mercaptan

► 2-Mercaptoethanol see p. 1955

N-2-Hydroxyethylpiperazine-N'-ethanesulphonic acid

► HEPES see p. 1870

N-2-Hydroxyethyl piperazine-N'-2-ethansulphonic acid 0,5 Na

► HEPES 0,5 Na see p. 1870

N-2-Hydroxyethyl piperazine-N'-2-ethansulphonic acid sodium salt

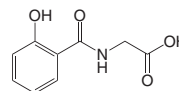
► HEPES sodium salt see p. 1870

4-(2-Hydroxyethyl) piperazine-1-propane sulphonic acid

► HEPPS, EPPS see p. 1871

1-Hydroxyginkgolide A

► Ginkgolide B see p. 1850

o-Hydroxyhippuric acid**o-Hydroxyhippuric acid**

≥95 %, for biochemistry

Salicyluric acid

C₉H₉NO₄

M 195,18 g/mol

mp 164-169 °C

[487-54-7] • EC No. 207-661-6

Type analysis:

Assay..... ≥95,0 %

7511.1	1 g	glass	53,25 €

5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one

► Kojic acid see p. 1918

2-Hydroxy-1-(1-hydroxy-2-naphthalenyl)-azonitro-1-naphthalenesulphonic acid

► Eriochrome black T (C.I. 14645) see p. 1806

2-Hydroxy-1-(2-hydroxy-4-sulfo-1-naphthylazo)-naphthalene-3-carboxylic acid

► Calconcarboxylic acid see p. 1709

(S)-4-Hydroxymandelonitrile-β-D-glucoside

► Dhurrin see p. 1767

4-Hydroxy-2-mercapto-pyrimidine

► 2-Thiouracil see p. 2207

4-Hydroxy-3-methoxy-benzaldehyde

► Vanillin see p. 2236

2-Hydroxy-5-methoxybenzoic acid

► 3-Methoxysalicylic acid see p. 1964

4-Hydroxy-3-methoxy benzoic acid

► Vanillic acid see p. 2236

4-Hydroxy-3-methoxycinnamic acid

► Ferulic acid see p. 1827

7-Hydroxy-6-methoxy-coumarin

► Scopoletin see p. 2122

7-Hydroxy-4'-methoxy-isoflavone

► Formononetin see p. 1840

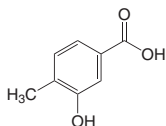
2-Hydroxy-3-methylbenzoic acid

► 3-Methylsalicylic acid see p. 1970

2-Hydroxy-5-methylbenzoic acid

► 5-Methylsalicylic acid see p. 1970

3-Hydroxy-4-methylbenzoic acid



3-Hydroxy-4-methylbenzoic acid

≥98 %, for synthesis

3-Hydroxy-p-toluic acid, 3,4-Cresotic acid

$C_8H_8O_3$

M 152,15 g/mol • mp 207-212 °C

[586-30-1] • EC No. 209-571-2 • WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....white cryst. powder

Assay.....≥98,0 %

4298.1	1 g	glass	28,95 €

4298.2	5 g	plastic	46,80 €

4298.3	25 g	plastic	133,85 €

7-Hydroxy-4-methylcoumarin

► 4-Methylumbelliferone see p. 1971

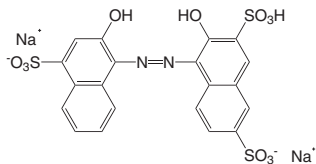
1-Hydroxynaphthalene

► 1-Naphthol see p. 1980

5-Hydroxy-1,4-naphthoquinone

► Juglone see p. 1915

Hydroxy naphthol blue disodium salt



Hydroxy naphthol blue disodium salt

p.a., ACS

Indicator, microscopy

2,2'-Dihydroxy-1,1'-azonaphthalene-

3',4,6'-trisulfonic acid disodium salt

$C_{20}H_{12}N_2Na_2O_{11}S_3$

M 598,50 g/mol

mp 274 °C

Solubility: soluble (H₂O)

[165660-27-5]

WGK 1

Guarantee analysis:

Appearance.....dark blue crystals

Loss on drying.....≤6 %

Suitable for calcium determination.....complies

2556.1	5 g	glass	18,20 €

2556.2	25 g	glass	35,40 €

1-Hydroxy-3-nitrobenzene

► 3-Nitrophenol see p. 1992

1-Hydroxy-4-nitrobenzene

► 4-Nitrophenol see p. 1992

(3α,4β)-3-Hydroxy-olean-12-en-23-acid

► α-Boswellic acid see p. 1686

4-Hydroxyphenylalanine

► D-Tyrosine see p. 2230

► DL-Tyrosine see p. 2230

► L-Tyrosine see p. 2230

2-(4-Hydroxyphenyl)-ethylamine

► Tyramine see p. 2229

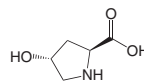
4-Hydroxyphenylethylamine hydrochloride

► Tyramine hydrochloride see p. 2229

3-Hydroxy-2-phenylpropionic acid

► DL-Tropic acid see p. 2226

L-4-Hydroxyproline



L-4-Hydroxyproline

≥99 %, for biochemistry

$C_5H_9NO_3$

M 131,13 g/mol

mp 274 °C

Solubility: 500 g/l (H₂O, 20 °C)

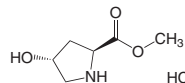
[51-35-4] • EC No. 200-091-9

Type analysis:

Assay.....≥99,0 %

3893.1	5 g	glass	39,70 €

L-Hydroxyproline methylester hydrochloride



L-Hydroxyproline methylester hydrochloride

≥98 %, for biochemistry

H-Hyp-OMe · HCl

$C_6H_{11}NO_3 \cdot HCl$

M 181,62 g/mol

Storage temp.: +4 °C

[40216-83-9]

WGK 3

Type analysis:

Assay (HPLC).....≥98,0 %

Water (KF).....≤1,0 %

6662.1	500 mg	glass	17,10 €

6662.2	1 g	glass	26,80 €

6662.3	5 g	glass	105,25 €

1-Hydroxypropane

► 1-Propanol see p. 2067

2-Hydroxypropane

► 2-Propanol see p. 2067

2-Hydroxypropionic acid

► L-Lactic acid see p. 1920

Hydroxypropionic acid

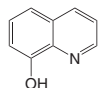
► Lactic acid see p. 1920

6-Hydroxypurin

► Hypoxanthine see p. 1895

1-Hydroxy-2,5-pyrrolidinedione

► N-Hydroxysuccinimide see p. 1893

8-Hydroxyquinoline**8-Hydroxyquinoline**

≥99,5 %, p.a., ACS

Reagent for magnesium.

Oxine, 8-Quinolinol

C₉H₇NO

M 145,16 g/mol

bp 267 °C

mp 72,5-74 °C

Solubility: 0,5 g/l (H₂O, 20 °C)

[148-24-3] • EC No. 205-711-1

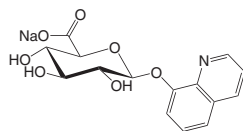
WGK 1

⚠ Warning H302+H332

Guarantee analysis:

Assay	.....	≥99,5 %
In ethanol insoluble parts	.....	≤0,05 %
Melting point	.....	72,5-74 °C
Sulphate (SO ₄)	.....	≤0,02 %
Ash content	.....	≤0,05 %
Suitability for magnesium determination	.....	complies

2557.1	50 g	glass	27,85 €
2557.2	100 g	glass	34,95 €
2557.3	250 g	glass	67,65 €

8-Hydroxyquinoline-β-D-glucuronic acid, sodium salt**8-Hydroxyquinoline-β-D-glucuronic acid, sodium salt**

≥98 %, for biochemistry

8-Hydroxy-1-azanaphthalene-β-D-glucuronide, sodium salt

C₁₅H₁₄NNaO₇

M 343,27 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[207728-71-0]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... white to almost white cryst. powder
 Assay (TLC)..... ≥98,0 %
 Appearance of solution (5 % in H₂O)..... colourless to slightly yellow

8432.1	100 mg	glass	45,05 €
8432.2	250 mg	glass	77,30 €
8432.3	500 mg	glass	132,15 €

12-Hydroxysenecionan-11,16-dione

► Senecionine see p. 2124

12-Hydroxysenecionan-11,16-dione-4-oxide

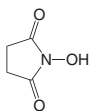
► Senecionine N-oxide see p. 2124

(±)-2-Hydroxysuccinic acid

► DL-Malic acid see p. 1947

S(-)-2-Hydroxysuccinic acid

► L(-)-Malic acid see p. 1947

N-Hydroxysuccinimide

NEW

N-Hydroxysuccinimide

≥99 %, for synthesis

Activation agent for carboxylic acids. Coupling reagent for peptide synthesis.

1-Hydroxy-2,5-pyrrolidinedione, HOSu, NHS

C₄H₅NO₃

M 115,09 g/mol

Solubility: 3 g/l (H₂O, 19 °C)

[6066-82-6] • EC No. 228-001-3

WGK 1

Type analysis:

Appearance..... white cryst. powder
 Assay (HPLC)..... ≥99,0 %
 Water (KF)..... ≤2,0 %
 Melting range..... 93,0-100,0 °C

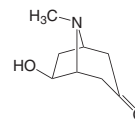
9670.1	25 g	glass	22,50 €
9670.2	100 g	glass	56,90 €
9670.3	500 g	glass	235,45 €
Original pack 6 x 500 g			223,68/500 g

2-[5-(2-Hydroxy-5-sulfophenyl)-3-phenyl-1-formazyl]-benzoic acid-monosodium salt

► Zincon see p. 2252

3-Hydroxy-p-toluic acid

► 3-Hydroxy-4-methylbenzoic acid see p. 1892

6-Hydroxytropinone**6-Hydroxytropinone**

≥98,5 %

C₈H₁₃NO₂

M 155,2 g/mol

mp 122 °C

[5932-53-6] • EC No. 227-677-7

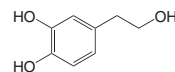
Type analysis:

Appearance..... white powder
 Assay (titr)..... ≥98,5 %

6984.1	50 mg	glass	57,95 €

5-Hydroxytryptamine hydrochloride

► Serotonin hydrochloride see p. 2127

Hydroxytyrosol**Hydroxytyrosol**

ROTICHRON® HPLC

Reference substance for HPLC
From *Olea europaea*.

3,4-Dihydroxyphenylethanol

C₈H₁₀O₃

M 154,17 g/mol

Storage temp.: +4 °C

[10597-60-1]

⚠ Warning H302

Type analysis:

Purity (HPLC)..... >98 %

1153.1	25 mg	glass	241,90 €

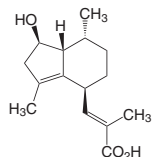
(3α,4β)-3-Hydroxy-urs-12-en-23-acid

► β-Boswellic acid see p. 1686

3α-Hydroxy-urs-12-en-11-keto-23-acid

► 11-keto-β-Boswellic acid see p. 1686

Hydroxyvalerenic acid



$C_{15}H_{22}O_3$
M 250,34 g/mol
mp 164,5-165,5 °C
[1619-16-5]

Hydroxyvalerenic acid

ROTI®STAR Primary Standard

Storage temp.: -20 °C
Transport temp.: cooled

Type analysis:

Assay (HPLC).....≥90,0 %
Residual solvents (GC).....≤2,0 %
Water (KF).....≤10,0 %
Assay (qNMR).....≥80,0 %
Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE48.1	10 mg	glass	467,65 €

Hydroxyvalerenic acid

ROTICHROM® Working Standard

Storage temp.: -20 °C • Transport temp.: cooled

Type analysis:

Assay (HPLC).....≥90,0 %
Identity.....complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC48.1	25 mg	glass	332,20 €

Hydroxyvalerenic acid

with analytical records

From *Valeriana officinalis*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>99 %
Analytical records: HPLC, TLC, ^1H -NMR, ^{13}C -NMR, UV, IR, MS, elementary analysis, melting point

4710.2	50 mg	glass	482,70 €

4710.1	100 mg	glass	912,70 €

Hydroxyvalerenic acid

ROTICHROM® HPLC

Reference substance for HPLC.

From *Valeriana officinalis*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>99 %

4481.1	25 mg	glass	310,70 €

4481.2	50 mg	glass	514,95 €

4481.3	100 mg	glass	805,20 €

Hygromycin B

Hygromycin B

>950 µg/mg, for biochemistry

Aminoglycoside antibiotic.

$C_{20}H_{37}N_3O_{13}$
M 527,53 g/mol
D 1,16

mp 160-180 °C • Storage temp.: +4 °C

[31282-04-9] • EC No. 250-545-5

UN No. 3462 • ADR 6.1 I • WGK 2

Danger

H300+H310+H330-H318-H334-H317

Type analysis:

Assay (HPLC).....>90 %
Activity.....>950 µg/mg
Solubility (50 mg/ml, H_2O).....complies

CP13.1	250 mg	glass	54,30 €

CP13.2	500 mg	glass	94,50 €

CP13.3	1 g	glass	166,65 €

CP13.4	5 g	glass	568,70 €

For further information, please see page 1367

Hygromycin B solution

$C_{20}H_{37}N_3O_{13}$

M 527,53 g/mol

Storage temp.: +4 °C

[31282-04-9] • EC No. 250-545-5

UN No. 3172 • ADR 6.1 II • WGK 2

Danger

H301-H310+H330-H318-H334-H317

Hygromycin B solution

50 mg/ml, CELLPURE®

Aminoglycoside antibiotic. For cell culture, biochemistry, molecular biology and microbiology.

Aqueous hygromycin B solution

Type analysis:

Concentration.....50 mg/ml
Activity (powder).....>900 U/mg
Assay (Hygromycin).....>85 %
Endotoxins.....<10 EU/ml
Sterility.....complies
Suitability for cell culture.....complies

CP12.1	10 ml	plastic	107,40 €

CP12.2	20 ml	plastic	184,90 €

For further information, please see page 1367

Hygromycin B solution

50 mg/ml, BioScience-Grade, sterile

Aminoglycoside antibiotic. For cell culture, biochemistry, molecular biology and microbiology. In a septum bottle.

Hygromycin B solution in PBS

Type analysis:

Appearance.....clear, colourless to yellowish
Solvent.....PBS
Concentration.....50±10 mg/ml
Purity (HPLC).....≥90 %
Sterility.....complies

1287.1	10 ml	glass	92,35 €

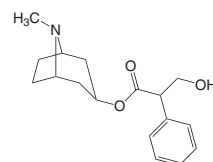
1287.2	20 ml	glass	139,65 €

For further information, please see page 1367

Hymecromone

▶ 4-Methylumbelliferone see p. 1971

L-Hyoscyamine



L-Hyoscyamine

≥98 %, for biochemistry

$C_{17}H_{23}NO_3$

M 289,36 g/mol

mp 108,5 °C

[101-31-5] • EC No. 202-933-0

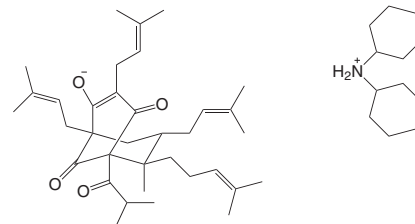
UN No. 1544 • ADR 6.1 I • WGK 3

Danger H300+H330

Type analysis:

Appearance.....white powder
Assay (HPLC).....≥98 %

8914.1	1 g	glass	75,15 €

Hyperforin / Adhyperforin
Dicyclohexylammonium salt,
Mixture 4:1Hyperforin / Adhyperforin
Dicyclohexylammonium salt,
Mixture 4:1

ROTICHROM® HPLC

Reference substance for HPLC.

Natural mixture from *Hypericum perforatum*.

$C_{35}H_{51}O_4 \cdot C_{12}H_{24}N$

M 718,11 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[238074-03-8 / 143183-63-5]

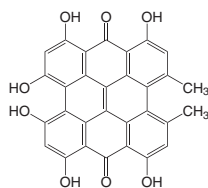
WGK 3

Type analysis:

Purity (HPLC).....≥95 %

6495.1	5 mg	glass	299,95 €

Hypericin

C₃₀H₁₆O₈

M 504,43 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[548-04-9] • EC No. 208-941-0

UN No. 2811 • ADR 6.1 III • WGK 3

⚠ Danger H301-H317

Hypericin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤2,0 %

Water (KF).....≤7,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE22.1 10 mg glass 783,70 €

Hypericin

ROTICHRM® Working Standard

Type analysis:

Assay (HPLC).....≥85,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC22.1 10 mg glass 278,45 €

Hypericin

ROTICHRM® HPLC

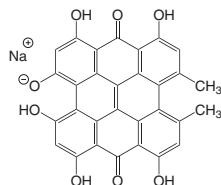
Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥98 %

L543.1 1 mg glass 112,90 €

Hypericin sodium salt



Hypericin sodium salt

ROTICHRM® HPLC

Reference substance for HPLC
From *Hypericum perforatum*.C₃₀H₁₅O₈Na

M 526,45 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

⚠ Warning H302

Type analysis:

Purity (HPLC).....>98 %

1154.1 5 mg glass 335,95 €

Hypericon oil, extra pure

Hypericon oil

extra pure

Fatty red oil, from *Hypericum perforatum* L.

Oleum Hyperici

D 0,92 • flp >250 °C

[68917-49-7] • EC No. 282-026-4 • WGK 1

Type analysis:

Appearance.....dark red, viscous oil

Extracted with oil.....peanut oil refined

Density.....0,913-0,925

Iodine value.....80-105

Acid value.....≤2

Peroxide value.....≤10

Solidification point.....+3 to +10 °C

Refractive index n_D²⁰.....1,468-1,472

Hypericin content.....0,6-10 mg/100 g

Stabilized with.....ascorbic acid palmitate, natural Vitamin E

4501.1 250 ml glass 27,85 €

Hypericon oil, pure

Hypericon oil

pure

Hypericum perforatum

D 0,91 • flp ~200 °C

[68917-49-7] • EC No. 282-026-4 • WGK 1

Type analysis:

Appearance.....red-brown, oil

Solubility in ethanol % vol.....L96: 1:10 v/v turbid

Relative density (20 °C).....0,910-0,915

Refractive index (20 °C).....1,4680-1,4720

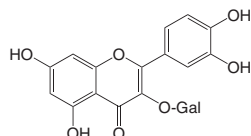
Optical rotation (20 °C).....-1° to 1°

9404.1 250 ml glass 24,20 €

Hyperin

► Hyperoside see p. 1895

Hyperoside



Quercetin-3-galactoside, Hyperin

C₂₁H₂₀O₁₂

M 464,39 g/mol • mp 225-227 °C

[482-36-0] • EC No. 207-580-6 • WGK 2

⚠ Warning H302

Hyperoside

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤2,0 %

Water (KF).....≤7,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE23.1 25 mg glass 590,20 €

Hyperoside

ROTICHRM® Working Standard

Type analysis:

Assay (HPLC).....≥85,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC23.1 50 mg glass 334,35 €

Hyperoside

ROTICHRM® HPLC

Reference substance for HPLC

From *Hypericum perforatum*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>99 %

7932.1 10 mg glass 112,90 €

Hyperoside

ROTICHRM® TLC

Reference substance for thin layer

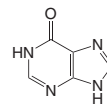
chromatography

From *Hypericum perforatum*.

Storage temp.: +4 °C

4215.1 25 mg glass 44,65 €

Hypoxanthine



Hypoxanthine

≥98 %, for biochemistry

6-Hydroxypurin, Sarcine

C₅H₄N₄O

M 136,11 g/mol

[68-94-0] • EC No. 200-697-3

Type analysis:

Appearance.....white to light yellowish powder

Assay (HPLC).....≥98 %

6416.1 5 g glass 67,65 €

Hypoxanthine-9-β-D-ribofuranoside

► Inosine see p. 1901

IBA

► Indole-3-butyric acid see p. 1899

ICP standards

► Standards for ICP:

(Inductively Coupled Spectroscopy)

Element Standards 1000 mg/l, ready to use
see p. 2170

► Standards for ICP:

(Inductively Coupled Spectroscopy)

Element Standards 10000 mg/l, ready to use
see p. 2174

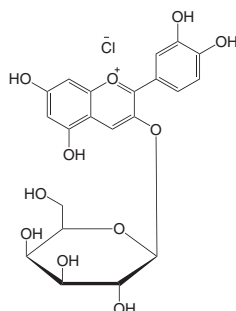
IC standards

- Standards for IC:
Ion Standards (Ion Chromatographie)
1000 mg/l, ready to use see p. 2180
- Standards for IC:
(Ion Chromatographie) Ion Multi-Element
Standards for IC see p. 2181

ICG

- Indocyanine green see p. 1899

Idea in chloride



Idae in chloride

ROTICHRON® HPLC

Reference substance for HPLC
Cyanidin-3-galactoside chloride

$C_{21}H_{21}ClO_{11}$

M 484,86 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[27661-36-5]

Type analysis:

Purity (HPLC)..... ≥98 %

3967.1	5 mg	glass	295,65 €

IMAC columns

- Roti®garose-His/Ni Cartridges see p. 2098
- Roti®garose-His/Ni Columns see p. 2098
- Roti®garose-His/Co Columns see p. 2097

IMAC matrix/cobalt charged

- Roti®garose-His/Co Beads see p. 2097

IMAC matrix/nickel charged

- Roti®garose-His/Ni Beads see p. 2097

IMAC matrix/Protein A conjugated

- Roti®garose-Protein A Beads see p. 2098

IMDM cell culture medium

- Roti®-CELL Iscove's MDM see p. 2092

Imidazole



Glyoxalin, 1,3-Diaza-2,4-cyclopentadiene

$C_3H_4N_2$

M 68,08 g/mol • bp 256 °C

mp 89-91 °C • flp 145 °C

Solubility: 633 g/l (H_2O , 20 °C)

[288-32-4] • EC No. 206-019-2

UN No. 3263 • ADR 8 III • WGK 1

Danger H302-H314-H360D

Imidazole

PUFFERAN® ≥99 %, p.a., ultra quality

Biological buffer substance, molecular biology,
for titration of aspartic acid and glutamic acid.

Guarantee analysis:

Appearance.....	white crystals
Assay (titr.).....	≥99,0 %
Water (KF).....	≤1,0 %
Arsenic (As).....	≤0,0003 %
Barium (Ba).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Calcium (Ca).....	≤0,002 %
Cadmium (Cd).....	≤0,0005 %
Chromium (Cr).....	≤0,0005 %
Iron (Fe).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Magnesium (Mg).....	≤0,0005 %
Manganese (Mn).....	≤0,0005 %
Nickel (Ni).....	≤0,0005 %
Zinc (Zn).....	≤0,0005 %
UV-absorption (0,9 % in H_2O):	
260 nm.....	≤0,02

X998.1	10 g	plastic	15,60 €

X998.2	50 g	plastic	41,85 €

X998.3	100 g	plastic	70,85 €

X998.4	250 g	plastic	161,15 €

For further information, please see page 1214

Imidazole

≥99 %

Type analysis:

Assay (GC).....	≥99 %
Water.....	≤0,2 %
pH value (0,1 M, H_2O).....	9,5-11
Melting point.....	88-91 °C

3899.1	50 g	plastic	16,35 €

3899.2	250 g	plastic	44,00 €

3899.3	500 g	plastic	61,85 €

Original pack 6 x 500 g	58,76/500 g

3899.4	1 kg	plastic	88,05 €

Original pack 6 x 1 kg	83,65/1 kg

3-Imidazol-4-yl-alanine

- D-Histidine see p. 1878
- DL-Histidine see p. 1879
- L-Histidine see p. 1879

2-(4-Imidazolyl) ethylamine dihydrochloride

- Histamine dihydrochloride see p. 1878

4-Imidazolyl-L-alanine

- L-Histidine hydrochloride monohydrate see p. 1879

Immersion oil

Immersion oil

for microscopy, fluorescence tested

D ~1,03

UN No. 3082 • ADR 9 III • WGK 3

H411

Guarantee analysis:

Density (d 20 °C/4 °C).....	1,0245-1,0265
Refractive index (20 °C).....	1,5150-1,5170
Viscosity (20 °C).....	100-120 mPaS
UV-transmission	
450 nm.....	≥90 %
400 nm.....	≥78 %
380 nm.....	≥65 %
Fluorescence (as quinine):	
365 nm.....	≤1,5 ppm

X899.4	15 ml	dropp. bottle	8,10 €

X899.1	50 ml	glass	13,65 €

X899.2	100 ml	glass	20,65 €

X899.3	500 ml	glass	70,85 €

For further information, please see page 1412

Immersion oil

Immersion oil

for microscopy

A viscous solution of natural essential oils based
on oil of cedar wood.

D ~0,99

flp >100 °C

UN No. 3082 • ADR 9 III • WGK 2

Danger H304-H410

Type analysis:

Appearance.....	clear, yellow-brownish, viscous oil
Density (20 °C).....	0,981-0,998
Refractive index (20 °C).....	1,508-1,525

5789.1	50 ml	glass	9,90 €

5789.3	100 ml	glass	12,80 €

5789.2	500 ml	glass	33,25 €

For further information, please see page 1412

Indantrionehydrate

- Ninhydrin see p. 1987

Indicator buffer tablets

Indicator buffer tablets

for determination of water hardness with
EDTA

Dissolve one tablet in 100 ml water sample and
bring to pH 11 with approx. 1 ml ammonia
solution 30 % (art. CP17). Titrate with EDTA
disodium salt volumetric solution
(art. T136 or T137) from red to green.

WGK 1

Danger H302-H317-H319-H334

Type analysis:

Suitability as indicator.....	complies
Disintegration time (25 °C).....	100 s

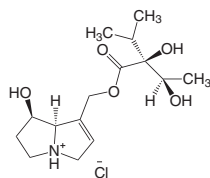
7649.1	100 pieces	16,70 €

7649.2	500 pieces	33,90 €

Art. No.	Description	Page
4002	Acid blue 93 (C.I. 42780)	1611
T128	Acid fuchsin (C.I. 42685)	1612
7690	Acid fuchsin calcium salt (C.I. 42685)	1612
0249	Acridine orange (C.I. 46005)	1613
7632	Acridine orange base (C.I. 46005)	1613
7633	Acridine orange hydrochloride hydrate (C.I. 46005)	1613
3082	Alcian blue 8 GS (C.I. 74240)	1621
4476	Alizarin (C.I. 58000)	1622
7634	Alizarin complexone dihydrate	1623
0348	Alizarin red S (C.I. 58005)	1623
5155	Alkali blue 6B (C.I. 42750)	1623
9590	Amido black 10 B (C.I. 20470)	1628
KK22	Arsenazo III	1656
5165	Astra blue FM (C.I. 48048)	1658
0319	Auramine O (C.I. 41000)	1659
2670	Aurin tricarboxylic acid ammonium salt	1659
7640	Azure II	1664
7642	Azure II eosinat	1664
7636	Azure A (C.I. 52005)	1664
7637	Azure B (C.I. 52010)	1664
7639	Azure C (C.I. 52002)	1664
2674	Barium diphenylamine sulfonate	1666
0316	Bismarck brown R (C.I. 21010)	1678
0313	Bismarck brown Y (C.I. 21000)	1678
9598	Brilliant blue G 250 (C.I. 42655)	1687
3862	Brilliant blue R 250 (C.I. 42660)	1687
5162	Brilliant cresyl blue (C.I. 51010)	1687
0324	Brilliant green (C.I. 42040)	1687
7643	Brilliant black BN (C.I. 28440)	1687
7645	Brilliant yellow (C.I. 24890)	1688
6558	Bromochlorophenol blue sodium salt	1690
T115	Bromocresol green	1690
KK18	Bromocresol green sodium salt	1690
0317	Bromocresol purple	1690
2555	Bromocresol purple sodium salt	1690
T116	Bromophenol blue	1691
A512	Bromophenol blue sodium salt	1691
6573	Bromophenol red free acid	1692
6579	Bromophenol red sodium salt	1692
T117	Bromothymol blue	1692
KK19	Bromothymol blue sodium salt	1692
KK27	Bromoxyleneol blue	1693
7688	Calcein	1704
2676	Calconcarboxylic acid	1709
CN00	Carbol gentian violet solution	1715
6859	Carmine (C.I. 75470)	1717
7646	Celestine blue (C.I. 51050)	1722
0347	Chlorophenol red	1732
7647	Chromotrope® 2B (C.I. 16575)	1735
4937	Chromotrope® 2R (C.I. 16570)	1735
7648	Chromotrope® FB (C.I. 14720)	1735
0322	Congo red (C.I. 22120)	1744
5750	Cotton blue (C.I. 42780)	1748
5160	m-Cresol purple	1749
KK15	o-Cresol red	1750
5534	Cresol red sodium salt	1750
7651	Cresyl violet acetate	1750
7652	Crocein orange G (C.I. 15970)	1750
T123	Crystal violet (C.I. 42555)	1751
9469	Curcumin	1752
6335	DAPI	1758
6843	DAPI	1758
X866	2',7'-Dichlorofluorescein	1770
HN79	2,6-Dichlorophenol-indophenol sodium salt hydrate	1772
7654	Diethyl safranin (C.I. 50206)	1775
2677	Dimethylglyoxim	1784
KK24	Dimethylglyoxime disodium salt octahydrate	1784
2217	Dimidium bromide	1784



Indicine hydrochloride



Indicine hydrochloride

ROTICHROM® HPLC

Reference substance for HPLC
From *Heliotropium indicum* $C_{15}H_{26}ClNO_6$

M 335,83 g/mol • Storage temp.: +4 °C

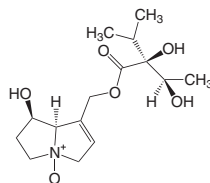
[1195140-94-3] • WGK 3

Type analysis:

Purity (HPLC).....≥97,0 %

1960.1	10 mg	glass	338,65 €

Indicine N-oxide



Indicine N-oxide

ROTICHROM® HPLC

Reference substance for HPLC
From *Heliotropium indicum* $C_{15}H_{25}NO_6$

M 315,36 g/mol • Storage temp.: +4 °C

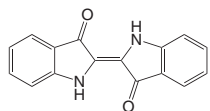
[41708-76-3] • WGK 3

Type analysis:

Purity (HPLC).....≥96,0 %

1961.1	10 mg	glass	364,45 €

Indigo (C.I. 73000)



Indigo (C.I. 73000)

synth.

C.I. 73000

 $C_{16}H_{10}N_2O_2$

M 262,27 g/mol • mp >300 °C

Solubility: <1 g/l (H₂O, 20 °C)

[482-89-3] • EC No. 207-586-9 • WGK 1

Type analysis:

Appearance.....violet powder
Maximum absorption.....590-615 nm
Solubility (water).....complies
Solubility (EtOH).....complies
Loss on drying (110 °C).....≤5,0 %

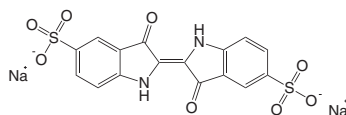
3903.1	50 g	glass	36,05 €

3903.3	100 g	glass	55,80 €

3903.2	500 g	glass	231,15 €

Original pack 6 x 500 g	219,59/500 g

Indigo carmine (C.I. 73015)

 $C_{16}H_8N_2Na_2O_8S_2$

M 466,36 g/mol

mp >300 °C

Solubility: 10 g/l (H₂O, 25 °C)

[860-22-0] • EC No. 212-728-8 • WGK 1

⚠ Warning H302

Indigo carmine (C.I. 73015)

≥80 %, p.a.

for microscopy, Indicator pH 11,5-13,0

Guarantee analysis:

Appearance.....dark blue to purple powder
Dye content.....≥80 %
Solubility (1 g/100 ml H₂O).....complies
Loss on drying.....≤5 %
Heavy metals (as Pb).....≤0,004 %
Arsenic (As).....≤0,0008 %
Cadmium (Cd).....≤0,0001 %
Mercury (Hg).....≤0,0001 %

2700.1	25 g	glass	22,25 €

2700.2	100 g	glass	61,20 €

Indigo carmine (C.I. 73015)

for microscopy

Indicator pH 11,5-13,0

Type analysis:

Absorption max. (in H₂O).....596-626 nm
Loss on drying (110 °C).....≤5 %
Suitability for microscopy.....complies

5156.1	10 g	glass	13,45 €

5156.2	25 g	glass	19,90 €

5156.3	100 g	glass	57,95 €

Indium

In

M 114,82 g/mol

D 7,31 • bp 2072 °C

mp 157 °C

[7440-74-6] • EC No. 231-180-0

Indium shot

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....99,999 %
Particle size.....3-6 mm
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5629.1	5 g	plastic	49,35 €

5629.2	25 g	plastic	170,95 €

Indium

>99,97 %, granulated

Type analysis:

Assay.....>99,97 %

3906.1	10 g	glass	48,30 €

Indium

99,99 % (4N)

Foil 275 mm long, 50 mm wide, 0,1 mm thick.

9803.1	10 g	plastic	213,95 €

Indium Standards

▶ Indium AAS Standard Solution see p. 2168

▶ Indium ICP Standard Solution see p. 2171

▶ Indium ICP Standard Solution see p. 2176

Indium(III) bromide

Indium(III) bromide

ROTI®METIC 99,999 % (5N)

InBr₃

M 354,53 g/mol

D 4,74

mp 420 °C

Solubility: 4140 g/l (H₂O, 20 °C)

[13465-09-3] • EC No. 236-692-8

UN No. 3260 • ADR 8 III • WGK 1

⚠ Danger H314

Type analysis:

Assay (metals basis).....99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5322.1	5 g	plastic	40,35 €

5322.2	25 g	plastic	155,90 €

Indium(III) nitrate pentahydrate

Indium(III) nitrate pentahydrate

ROTI®METIC 99,999 % (5N)

In(NO₃)₃ · 5 H₂O

M 390,91 g/mol

mp ~100 °C (dec.)

[13465-14-0]

UN No. 1477 • ADR 5.1 III • WGK 1

⚠ ⚠ Danger H272-H315-H319

Type analysis:

Assay (metals basis).....99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5384.1	10 g	plastic	82,70 €

Indium(III) oxide

Indium(III) oxide

ROTI®METIC 99,999 % (5N)

 In_2O_3

M 277,64 g/mol

D 7,2

mp 1913 °C

[1312-43-2] • EC No. 215-193-9

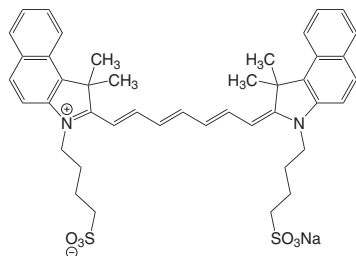
Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5630.1	5 g	plastic	43,55 €
5630.2	25 g	plastic	145,15 €

Indocyanine green



Indocyanine green

p.a.

Cardiogreen, ICG

 $\text{C}_{43}\text{H}_{47}\text{N}_2\text{NaO}_6\text{S}_2$

M 774,98 g/mol

[3599-32-4] • EC No. 222-751-5

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... dark green to black powder

Appearance of solution (1 % in H_2O). clear, dark green

Loss on drying..... ≤6 %

7695.1	1 g	glass	33,25 €
7695.2	5 g	glass	138,70 €
7695.3	10 g	glass	256,95 €

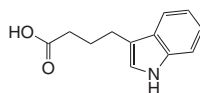
Indol-3-aldehyde

▶ Indole-3-carboxaldehyde see p. 1899

Indole-3-acetic acid

▶ Indolyl 3-acetic acid see p. 1899

Indole-3-butyric acid



Indole-3-butyric acid

≥99 %, for biochemistry

IBA, Hormodin, 4-(3-Indolyl)butyric acid

 $\text{C}_{12}\text{H}_{13}\text{NO}_2$

M 203,24 g/mol

mp ~123 °C

Solubility: 0,25 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[133-32-4] • EC No. 205-101-5

UN No. 2811 • ADR 6.1 III • WGK 1

⚠ Danger H301-H315-H319-H335

Type analysis:

Assay (HPLC)..... ≥99 %

Water (KF)..... ≤1 %

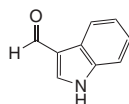
Arsenic (As)..... ≤0,0003 %

Heavy metals (as Pb)..... ≤0,001 %

Sulphated ash..... ≤0,5 %

4143.1	5 g	glass	17,75 €
4143.2	25 g	glass	55,40 €

Indole-3-carboxaldehyde



Indole-3-carboxaldehyde

≥98 %

Indol-3-aldehyde, 3-Formylindole

 $\text{C}_9\text{H}_7\text{NO}$

M 145,16 g/mol

mp 194-198 °C • flp 240 °C

[487-89-8] • EC No. 207-665-8

Type analysis:

Assay (GC)..... ≥98,0 %

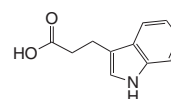
Solution (1 % in ethanol)..... colourless to light brown, clear

Water (KF)..... ≤1,0 %

Melting point..... 194-198 °C

5538.1	25 g	plastic	45,70 €
5538.2	50 g	plastic	81,60 €

Indole-3-propionic acid



Indole-3-propionic acid

≥99 %, for biochemistry

IPA, 3-(3-Indolyl)-propionic acid

 $\text{C}_{11}\text{H}_{11}\text{NO}_2$

M 189,22 g/mol

mp ~134 °C

Storage temp.: +4 °C

[830-96-6] • EC No. 212-600-1

WGK 1

Type analysis:

Assay (titr.)..... ≥99 %

Solution (5 % in ethanol)..... slightly yellowish, clear

Water (KF)..... ≤0,5 %

Sulphated ash..... ≤0,1 %

4144.1	10 g	glass	35,40 €
4144.2	50 g	glass	117,20 €

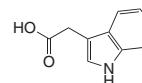
Indole Reagent

▶ Kovacs' Reagent see p. 1918

2,3-Indolinedione

▶ Isatin see p. 1908

Indolyl 3-acetic acid



Indolyl 3-acetic acid

≥99 %, for biochemistry

Heteroauxin, Indole-3-acetic acid

 $\text{C}_{10}\text{H}_9\text{NO}_2$

M 175,19 g/mol

mp 163-170 °C

Storage temp.: +4 °C

[87-51-4] • EC No. 201-748-2

WGK 1

Type analysis:

Appearance..... light red to light brown powder

Assay (HPLC)..... ≥99,0 %

Water (KF)..... ≤0,5 %

Sulphated ash..... ≤0,3 %

7280.1	5 g	plastic	16,70 €
7280.2	25 g	plastic	55,40 €
7280.3	50 g	plastic	96,25 €

3-β-Indolylalanine

▶ DL-Tryptophane see p. 2227

4-(3-Indolyl)butyric acid

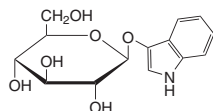
▶ Indole-3-butyric acid see p. 1899

3-Indolylmethylglucosinolate potassium salt

► Glucobrassicin see p. 1852

3-(3-Indolyl)-propionic acid

► Indole-3-propionic acid see p. 1899

3-Indoxyl-β-D-glucopyranoside**3-Indoxyl-β-D-glucopyranoside**

≥99 %, for biochemistry

Glycosidase substrate

Plant Indican

C₁₄H₁₇NO₆

M 295,29 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[487-60-5]

Typ analysis:

Assay (HPLC) ≥99 %
 Solubility (0,5 % in H₂O) colourless, clear
 Water (KF) ≤0,5 %
 Spec. rotation [α]_D²⁰ (c=1 in water) -67,5° to -63,5°

4243.1	250 mg	glass	48,95 €
4243.2	500 mg	glass	79,05 €
4243.3	1 g	glass	141,80 €

Inermin

► (-)-Maackiain see p. 1942

Infusorial earth**Infusorial earth**

natural

For filtration of organic solutions.

Siliceous earth, Diatomaceous earth,

Kieselguhr

[61790-53-2] • EC No. 310-127-6

⚠ **Warning H373****Type analysis:**

SiO₂ ~83,7 %
 CaO ~0,9 %
 Fe₂O₃ ~2,3 %
 Al₂O₃ ~5,6 %
 Loss on ignition ~5,0 %

8019.3	1 kg	plastic	16,05 €
Original pack 6 x 1 kg			15,25/1 kg
8019.1	5 kg	plastic	34,95 €
8019.2	20 kg	plastic	89,15 €

Inhibitor Cocktail Bacteria**Inhibitor Cocktail Bacteria**

for biochemistry

Broad range cocktail of protease inhibitors for extracts from bacteria.

Storage temp.: -20 °C

Transport temp.: room temp.

UN No. 3261 • ADR 8 III • WGK 2

⚠ **Danger H314****Formulation:**

Appearance white powder
 AEBSF hydrochloride complies
 Bestatin complies
 E-64 complies
 EDTA-Na₂ complies
 Pepstatin A complies

3758.1	1 set	plastic	89,15 €

For further information, please see page 1227

Inhibitor Cocktail BroadRange**Inhibitor Cocktail BroadRange**

for biochemistry

Broad range cocktail of protease inhibitors.

Storage temp.: -20 °C

Transport temp.: room temp.

UN No. 3261 • ADR 8 III • WGK 2

⚠ **Danger H314-H332-H373****Formulation:**

Appearance white powder
 AEBSF hydrochloride complies
 Aprotinin complies
 E-64 complies
 EDTA-Na₂ complies
 Leupeptin hemisulphate complies

3749.1	1 vial	plastic	50,00 €

For further information, please see page 1226

Inhibitor Cocktail His-tag**Inhibitor Cocktail His-tag**

ready-to-use, for biochemistry

Broad range cocktail of protease inhibitors for extraction of His-tagged proteins.

Storage temp.: -20 °C

Transport temp.: cooled

WGK 2

⚠ **Danger H318-H315****Formulation:**

Solution colourless to slightly opaque
 AEBSF hydrochloride complies
 Bestatin complies
 E-64 complies
 Pepstatin A complies
 Phosphoramidon complies
 Solvent DMSO

3760.1	1 ml	plastic	87,65 €

For further information, please see page 1227

Inhibitor Cocktail Plus**Inhibitor Cocktail Plus**

ready-to-use, for biochemistry

Broad range cocktail of protease inhibitors for extracts of mammalian cells or tissue.

Storage temp.: -20 °C

Transport temp.: cooled

WGK 1

⚠ **Warning H315-H319****Formulation:**

Solution colourless to slightly opaque
 AEBSF hydrochloride complies
 Aprotinin complies
 Bestatin complies
 E-64 complies
 Leupeptin hemisulphate complies
 Pepstatin A complies
 Solvent DMSO

3751.1	1 ml	plastic	80,10 €

For further information, please see page 1227

Inhibitor Cocktail Standard**Inhibitor Cocktail Standard**

for biochemistry

General cocktail of protease inhibitors.

Storage temp.: -20 °C

Transport temp.: room temp.

UN No. 3261 • ADR 8 III • WGK 2

⚠ **Danger H314-H332-H373****Formulation:**

Appearance white powder
 AEBSF hydrochloride complies
 EDTA-Na₂ complies
 Pepstatin A complies
 Leupeptin hemisulphate complies

3743.1	1 vial	plastic	117,20 €

For further information, please see page 1226

Inhibitor Cocktail Tissue**Inhibitor Cocktail Tissue**

for biochemistry

Cocktail of protease inhibitors for extracts of mammalian cells or tissue.

Storage temp.: -20 °C

Transport temp.: room temp.

UN No. 3261 • ADR 8 III • WGK 3

⚠ **Danger H314****Formulation:**

Appearance white powder
 AEBSF hydrochloride complies
 Aprotinin complies
 E-64 complies
 Leupeptin hemisulphate complies

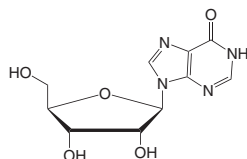
3755.1	1 vial	plastic	42,90 €

For further information, please see page 1227

Inhibitors

Art. No.	Description	Page
2931	AESBF hydrochloride	1616
CN71	4-Aminobenzamidine dihydrochloride	1630
2933	Antipain dihydrochloride	1651
A162	Aprotinin	1652
5655	Bacitracin	1664
CN38	Benzamidine hydrochloride monohydrate	1669
2937	Bestatin hydrochloride	1675
2935	E-64	1796
3054	EGTA	1802
8043	Ethylenediamine tetraacetic acid disodium salt dihydrate	1815
HN71	Geldanamycin	1846
0716	Genistein	1847
6847	β -Glycerophosphate disodium salt pentahydrate	1859
3758	Inhibitor Cocktail Bacteria	1900
3749	Inhibitor Cocktail BroadRange	1900
3760	Inhibitor Cocktail His-tag	1900
3751	Inhibitor Cocktail Plus	1900
3743	Inhibitor Cocktail Standard	1900
3755	Inhibitor Cocktail Tissue	1900
CN33	Leupeptin hemisulphate	1930
0247	Novobiocin sodium salt	1996
A154	Pefabloc® SC-Protease Inhibitor	2022
2936	Pepstatin A	2027
6367	Phenylmethyl sulphonyl fluoride (PMSF)	2037
HN72	Radicicol	2078
2949	Trypsin inhibitor	2226
5279	Trypsin inhibitor	2227

Inosine



Inosine

≥98 %, for biochemistry
 9- β -Ribofuranosylhypoxanthine
 $C_{10}H_{12}N_4O_5$
 M 268,23 g/mol
 mp ~215-220 °C
 [58-63-9] • EC No. 200-390-4

Type analysis:

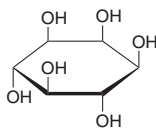
Appearance.....white cryst. powder
 Assay (dry substance).....≥98,0 %
 pH value.....4,8-5,8
 Sulphated ash.....≤0,2 %
 Heavy metals (as Pb).....≤0,001 %
 Arsenic (As).....≤0,0001 %
 Loss on drying (105 °C, 2 h).....≤ 1,0 %

6770.1	5 g	glass	19,05 €

myo-Inositol

► meso-Inositol see p. 1901

meso-Inositol



myo-Inositol, myo-Inositol
 $C_6H_{12}O_6$
 M 180,16 g/mol
 mp 223-225 °C
 Solubility: 140 g/l (H_2O , 25 °C)
 [87-89-8] • EC No. 201-781-2
 WGK 1

meso-Inositol

≥99 %, p.a.

Guarantee analysis:

Assay (HPLC).....≥99,0 %
 Chloride (Cl).....≤0,005 %
 Sulphate (SO_4).....≤0,005 %
 Arsenic (As).....≤0,00001 %
 Lead (Pb).....≤0,0005 %
 Cadmium (Cd).....≤0,0005 %
 Calcium (Ca).....≤0,001 %
 Chromium (Cr).....≤0,0005 %
 Iron (Fe).....≤0,0005 %
 Potassium (K).....≤0,005 %
 Sodium (Na).....≤0,005 %
 Cobalt (Co).....≤0,0005 %
 Copper (Cu).....≤0,0005 %
 Magnesium (Mg).....≤0,0005 %
 Manganese (Mn).....≤0,0005 %
 Zinc (Zn).....≤0,0005 %
 Nickel (Ni).....≤0,0005 %
 Ash content (as SO_4).....≤0,2 %
 Loss on drying (110 °C).....≤0,5 %
 Solubility (0,1 g/ml H_2O).....clear

6329.2	10 g	plastic	22,50 €

6329.1	100 g	plastic	149,45 €

meso-Inositol

≥99 %, for biochemistry

Type analysis:

Assay (HPLC).....≥99,0 %
 Solution (10 % in water).....colourless
 Loss on drying (3 h, 105 °C, vacuum).....≤0,5 %

4191.1	50 g	glass	23,35 €

4191.2	100 g	glass	38,60 €

4191.3	250 g	glass	76,25 €

myo-Inositol

► meso-Inositol see p. 1901

Inositol hexaphosphoric acid

► Phytic acid see p. 2041

Instant-glue CA 221

Instant-glue CA 221

liquid

one component instant glue made on a cyanoacrylate basis
 [7085-85-0]
 WGK 1

⚠ Warning H315-H319-H335

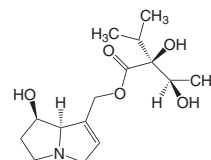
0258.1	Dispenser bottle 10 ml	6,25 €

For further information, please see page 1100

INT

► Iodonitrotetrazolium chloride
 see p. 1903

Intermedine



Intermedine

ROTICHROM® HPLC

Reference substance for HPLC
 From *Symphytum*

$C_{15}H_{25}NO_5$
 M 299,36 g/mol
 Storage temp.: -20 °C
 Transport temp.: room temp.
 [10285-06-0]
 WGK 1

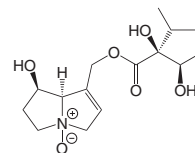
⚠ Warning H302

Type analysis:

Purity (HPLC).....≥95,0 %

1962.1	5 mg	glass	321,45 €

Intermedine N-oxide



Intermedine N-oxide

ROTICHROM® HPLC

Reference substance for HPLC. From
Symphytum officinale.

$C_{15}H_{25}NO_6$
 M 315,36 g/mol
 Storage temp.: -20 °C
 Transport temp.: room temp.
 [95462-14-9] • WGK 1

⚠ Warning H302

Type analysis:

Purity (HPLC).....≥95 %

8018.1	5 mg	glass	349,40 €

Iodide Standards

► Iodide IC Standard Solution see p. 2181

Iodide-iodate solution (1/64 N)

Iodide-iodate solution

1/128 mol I₂/l - 1/64 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C)..... 1/128 mol I₂/l ±0,2 %
 Titer..... 0,998-1,002

KK65.1	1 l	plastic	27,45 €
Original pack 6 x 1 l			26,08/1 l

For further information, please see page 1546

Iodine

I₂
 M 253,81 g/mol
 D 4,93 • bp 184,35 °C
 mp 113,6 °C
 Solubility: 0,34 g/l (H₂O, 20 °C)
 [7553-56-2] • EC No. 231-442-4
 UN No. 3495 • ADR 8 (6.1) III • WGK 1
 **Warning** H312+H332-H400

Iodine

≥99,8 %, p.a., ACS, resublimated

Use in iodometry; for iodine compounds.

Guarantee analysis:

Assay (iodom.)..... ≥99,8 %
 Chloride and bromide (as Cl)..... ≤0,005 %
 Chlorine and bromine (as Cl)..... ≤0,005 %
 Lead (Pb)..... ≤0,0005 %
 Cadmium (Cd)..... ≤0,0005 %
 Calcium (Ca)..... ≤0,001 %
 Chromium (Cr)..... ≤0,0005 %
 Iron (Fe)..... ≤0,005 %
 Potassium (K)..... ≤0,005 %
 Cobalt (Co)..... ≤0,0005 %
 Copper (Cu)..... ≤0,0005 %
 Magnesium (Mg)..... ≤0,0005 %
 Manganese (Mn)..... ≤0,0005 %
 Sodium (Na)..... ≤0,005 %
 Nickel (Ni)..... ≤0,0005 %
 Zinc (Zn)..... ≤0,0005 %
 Non volatile matter..... ≤0,01 %

X864.1	100 g	glass	60,10 €
X864.2	250 g	glass	109,55 €
X864.3	1 kg	glass	382,60 €
Original pack 6 x 1 kg			363,47/1 kg

Iodine

≥99,5 %, Ph.Eur., resublimated

Guarantee analysis:

Assay..... 99,5-100,5 %
 Identity..... complies
 Chloride and bromide..... ≤0,025 %
 Non volatile matter..... ≤0,05 %

7935.3	100 g	glass	45,05 €
7935.1	250 g	glass	103,75 €
7935.2	1 kg	glass	364,45 €
Original pack 6 x 1 kg			346,23/1 kg

Iodine

≥99,5 %, resublimated

Type analysis:

Assay..... ≥99,5 %
 Chloride (Cl)..... ≤0,05 %
 Non volatile matter..... ≤0,1 %

7335.1	250 g	glass	77,30 €
7335.2	500 g	glass	137,10 €
Original pack 6 x 500 g			130,25/500 g
7335.3	1 kg	glass	256,95 €
Original pack 6 x 1 kg			244,10/1 kg
7335.4	2,5 kg	glass	514,95 €

Iodine eosine

► Erythrosine B (C.I. 45430) see p. 1808

Iodine(V) oxide

Iodine(V) oxide

ROTI[®]METIC 99,99 % (4N)

Diiodine pentoxide

I₂O₅
 M 333,81 g/mol
 D 4,98
 mp ~300 °C (dec.)
 [12029-98-0] • EC No. 234-740-2
 UN No. 3085 • ADR 5.1 (8) III • WGK 1
 **Danger** H272-H314

Type analysis:

Assay (metals basis)..... 99,99 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5364.1	5 g	plastic	36,45 €
5364.2	25 g	plastic	138,70 €

Iodine-potassium iodide solution acc. to Lugol

Iodine-potassium iodide solution acc. to Lugol

for microscopy

Lugol solution

D 1,122

WGK 2

 **Warning** H373

N052.1	250 ml	glass	15,80 €
N052.3	500 ml	glass	22,05 €
N052.2	1 l	glass	27,45 €
Original pack 6 x 1 l			26,08/1 l

For further information, please see page 1395

Iodine solution

► Iodine solution (1 N) see p. 1902
 ► Hanus solution (0,2 N) see p. 1866

Iodine solution (0,1 N)

Iodine solution

0,05 mol/l - 0,1 N, volumetric standard solution, Reag. Ph.Eur.

Type analysis:

Amount-of-substance conc. 0,05 mol/l ±0,1 %

6765.1	1 l	glass	33,25 €
Original pack 6 x 1 l			31,59/1 l

Iodine solution (0,1 N)

Iodine solution

0,05 mol I₂/l - 0,1 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,05 mol I₂/l ±0,2 %
 Titer..... 0,998-1,002

K016.1	1 l	glass	31,20 €
Original pack 6 x 1 l			29,64/1 l
K016.2	2,5 l	glass	63,35 €
Original pack 4 x 2,5 l			60,18/2,5 l

For further information, please see page 1546

Iodine solution (1 N)

Iodine solution

0,5 mol/l - 1 N, volumetric standard solution, Reag. Ph.Eur.

WGK 1

Type analysis:

Amount-of-substance conc. 0,5 mol/l ±0,1 %

6769.1	1 l	glass	94,10 €
Original pack 6 x 1 l			89,40/1 l

Iodine solution (1 N)

Iodine solution

0,5 mol I₂/l - 1 N volumetric standard solution

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,5 mol I₂/l ±0,2 %
 Titer..... 0,998-1,002

X868.1	1 l	glass	95,15 €
Original pack 6 x 1 l			90,39/1 l

For further information, please see page 1546

Iodine solution acc. to Wijs

► Wijs-solution (0,2 N) see p. 2242

Iodized activated coal

Iodized activated coal

For absorption of mercury vapours.

Formulation:

Assay (Iodine).....	~5 %
Assay (charcoal).....	~95 %
Bulk density.....	~0,4 g/cm ³

6153.1	250 g	glass	28,95 €

6153.2	1 kg	glass	94,10 €

Original pack 6 x 1 kg 89,40/1 kg

For further information, please see page 675

Iodoform

Iodoform

≥99 %, extra pure

Triiodomethane

CHI₃

M 393,73 g/mol

D 4,01 • bp 218 °C

mp ~120 °C

Solubility: 0,1 g/l (H₂O, 25 °C)

[75-47-8] • EC No. 200-874-5

Warning

H302+H312+H332-H315-H319-H335

Typ analysis:

Assay.....	≥99,0 %
Appearance of solution.....	complies
Chloride (Cl).....	≤0,02 %
Sulphate (SO ₄).....	≤0,02 %
Sulphated ash.....	≤0,1 %
Loss on drying.....	≤0,5 %
Melting point.....	120-122 °C

4534.2	50 g	glass	30,00 €

4534.3	100 g	glass	52,15 €

4534.1	1 kg	glass	471,95 €

Original pack 6 x 1 kg 448,35/1 kg

Iodomethane D3



Iodomethane D3

99,5 Atom%D, stab. with Cu

For nuclear magnetic resonance spectroscopy.

Methyl iodide D3

CD₃I

M 144,96 g/mol

D ~2,329 • bp 42 °C

[865-50-9] • EC No. 212-744-5

UN No. 2644 • ADR 6.1 I • WGK 2

Danger

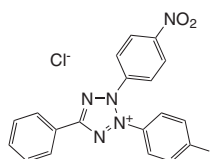
H301+H331-H351-H312-H315-H335

Guarantee analysis:

Deuterising degree.....	≥99,5 %
Water (KF, H ₂ O+D ₂ O).....	≤0,03 %

HN88.1	25 g	glass	130,10 €

Iodonitrotetrazolium chloride



Iodonitrotetrazolium chloride

≥97 %, for biochemistry

For the determination of dehydrogenase.

2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyl-2H-tetrazolium chloride, p-iodonitrotetrazolium Violet, INT

C₁₉H₁₃ClN₅O₂I

M 505,70 g/mol

mp >240 °C (dec.)

Storage temp.: +4 °C

[146-68-9] • EC No. 205-676-2

WGK 2

Typ analysis:

Assay (titr.).....	≥97,0 %
Loss on drying.....	≤3,0 %
Sulphated ash.....	≤0,5 %

5536.1	1 g	glass	88,05 €

p-Iodonitrotetrazolium Violet

► Iodonitrotetrazolium chloride see p. 1903

2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyl-2H-tetrazolium chloride

► Iodonitrotetrazolium chloride see p. 1903

2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyl-2H-tetrazolium chloride

2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyl-2H-tetrazolium chloride

≥97 %, p.a.

For the determination of dehydrogenase.

Iodonitrotetrazolium chloride, INT

C₁₉H₁₃ClN₅O₂I

M 505,71 g/mol

[146-68-9] • EC No. 205-676-2

WGK 2

Typ analysis:

Appearance.....	light yellowish powder
Assay (argentometric).....	≥97 %

5028.1	1 g	glass	153,65 €

Ion Exchanger

► Amberjet™ see p. 1628

► Dowex® Anion exchanger see p. 1794

► Dowex® Cation exchanger see p. 1795

Ion Exchanger

Art. No.	Description	Page
K306	Amberjet™	1628
0302	Dowex® 1 X 2	1794
0303	Dowex® 1 X 2	1794
0304	Dowex® 1 X 2	1794
0309	Dowex® 1 X 8	1794
0310	Dowex® 1 X 8	1794
0311	Dowex® 1 X 8	1794
0312	Dowex® 1 X 8	1795
0334	Dowex® 50 W X 2	1795
N099	Dowex® 50 W X 2	1795
0344	Dowex® 50 W X 8	1795
0345	Dowex® 50 W X 8	1795
0346	Dowex® 50 W X 8	1795
6849	Ion exchange resin Roti®change 1 x 4	1903
6851	Ion exchange resin Roti®change 1 x 4	1903
6852	Ion exchange resin Roti®change 1 x 8	1904
6854	Ion exchange resin Roti®change 1 x 8	1904
6855	Ion exchange resin Roti®change 1 x 8	1904
6856	Ion exchange resin Roti®change 1 x 8	1904
6864	Ion exchange resin Roti®change 50 W x 4	1904
6865	Ion exchange resin Roti®change 50 W x 8	1904
6866	Ion exchange resin Roti®change 50 W x 8	1904
6867	Ion exchange resin Roti®change 50 W x 8	1904

Ion exchange resin Roti®change

Ion exchange resin Roti®change 1 x 4

50-100 mesh, analytical grade, Cl⁻-form

Highly basic anion exchanger

WGK 3

Type analysis:

Appearance.....	white to light yellow grain
Particle size (mesh).....	50-100
Extractables.....	<1 mg/g resin
Capacity (eq/l).....	≥1,0
Counter ion.....	Cl ⁻
Matrix: Polystyrene - DVB; Active group: Quaternary ammonium compound type I	

6849.1	100 g	plastic	138,70 €

6849.2	250 g	plastic	284,80 €

6849.3	500 g	plastic	525,70 €

Original pack 6 x 500 g 499,42/500 g

Ion exchange resin Roti®change 1 x 4

100-200 mesh, analytical grade, Cl⁻-form

Highly basic anion exchanger

WGK 3

Type analysis:

Appearance.....	white to light yellow grain
Particle size (mesh).....	100-200
Extractables.....	<1 mg/g resin
Capacity (eq/l).....	≥1,0
Counter ion.....	Cl ⁻
Matrix: Polystyrene - DVB; Active group: Quaternary ammonium compound type I	

6851.1	100 g	plastic	192,45 €

6851.2	250 g	plastic	396,70 €

6851.3	500 g	plastic	751,45 €

Original pack 6 x 500 g 713,88/500 g

Ion exchange

Ion exchange resin Roti®change 1 x 8

20-50 mesh, analytical grade, Cl⁻-form
Highly basic anion exchanger
WGK 3

Type analysis:

Appearance. white to light yellow grain
Particle size (mesh). 20-50
Extractables. <1 mg/g resin
Capacity (eq/l). ≥1,2
Counter ion. Cl⁻
Matrix: Polystyrene - DVB; Active group: Quaternary ammonium compound type I

6852.1	100 g	plastic	77,30 €
6852.2	250 g	plastic	160,20 €
6852.3	500 g	plastic	289,20 €
Original pack 6 x 500 g			274,74/500 g

Ion exchange resin Roti®change 1 x 8

50-100 mesh, analytical grade, Cl⁻-form
Highly basic anion exchanger
WGK 3

⚠ Warning H319

Type analysis:

Appearance. white to light yellow grain
Particle size (mesh). 50-100
Extractables. <1 mg/g resin
Capacity (eq/l). ≥1,2
Counter ion. Cl⁻
Matrix: Polystyrene - DVB; Active group: Quaternary ammonium compound type I

6854.1	100 g	plastic	160,20 €
6854.2	250 g	plastic	332,20 €
6854.3	500 g	plastic	611,70 €
Original pack 6 x 500 g			581,12/500 g

Ion exchange resin Roti®change 1 x 8

100-200 mesh, analytical grade, Cl⁻-form
Highly basic anion exchanger
WGK 3

Type analysis:

Appearance. white to light yellow grain
Particle size (mesh). 100-200
Extractables. <1 mg/g resin
Capacity (eq/l). ≥1,2
Counter ion. Cl⁻
Matrix: Polystyrene - DVB; Active group: Quaternary ammonium compound type I

6855.1	100 g	plastic	160,20 €
6855.2	250 g	plastic	332,20 €
6855.3	500 g	plastic	611,70 €
Original pack 6 x 500 g			581,12/500 g

Ion exchange resin Roti®change 1 x 8

200-400 mesh, analytical grade, Cl⁻-form
Highly basic anion exchanger
WGK 3

Type analysis:

Appearance. white to light yellow grain
Particle size (mesh). 200-400
Extractables. <1 mg/g resin
Capacity (eq/l). ≥1,2
Counter ion. Cl⁻
Matrix: Polystyrene - DVB; Active group: Quaternary ammonium compound type I

6856.1	100 g	plastic	181,70 €
6856.2	250 g	plastic	364,45 €
6856.3	500 g	plastic	686,95 €
Original pack 6 x 500 g			652,60/500 g

Ion exchange resin Roti®change 50 W x 4

100-200 mesh, analytical grade, H⁺-form
Highly acidic cation exchanger
WGK 1

⚠ Warning H319

Type analysis:

Appearance. tan to orange-brown grain
Particle size (mesh). 100-200
Extractables. <1 mg/g resin
Capacity (eq/l). 1,1
Counter ion. H⁺
Matrix: Polystyrene - DVB; Active group: sulphonate

6864.1	100 g	plastic	160,20 €
6864.2	250 g	plastic	332,20 €
6864.3	500 g	plastic	611,70 €
Original pack 6 x 500 g			581,12/500 g

Ion exchange resin Roti®change 50 W x 8

50-100 mesh, analytical grade, H⁺-form
Highly acidic cation exchanger
WGK 1

⚠ Warning H319

Type analysis:

Appearance. tan to orange-brown grain
Particle size (mesh). 50-100
Extractables. <1 mg/g resin
Capacity (eq/l). 1,7
Counter ion. H⁺
Matrix: Polystyrene - DVB; Active group: sulphonate

6865.1	100 g	plastic	224,70 €
6865.2	250 g	plastic	471,95 €
6865.3	500 g	plastic	869,70 €
Original pack 6 x 500 g			826,22/500 g

Ion exchange resin Roti®change 50 W x 8

100-200 mesh, analytical grade, H⁺-form
Highly acidic cation exchanger
WGK 1

⚠ Warning H319

Type analysis:

Appearance. tan to orange-brown grain
Particle size (mesh). 100-200
Extractables. <1 mg/g resin
Capacity (eq/l). 1,7
Counter ion. H⁺
Matrix: Polystyrene - DVB; Active group: sulphonate

6866.1	100 g	plastic	192,45 €
6866.2	250 g	plastic	407,45 €
6866.3	500 g	plastic	729,95 €
Original pack 6 x 500 g			693,45/500 g

Ion exchange resin Roti®change 50 W x 8

200-400 mesh, analytical grade, H⁺-form
Highly acidic cation exchanger
WGK 1

⚠ Warning H319

Type analysis:

Appearance. tan to orange-brown grain
Particle size (mesh). 200-400
Extractables. <1 mg/g resin
Capacity (eq/l). 1,7
Counter ion. H⁺
Matrix: Polystyrene - DVB; Active group: sulphonate

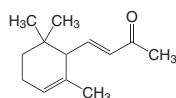
6867.1	100 g	plastic	203,20 €
6867.2	250 g	plastic	428,95 €
6867.3	500 g	plastic	772,95 €
Original pack 6 x 500 g			734,30/500 g

Ionic Liquids

Art. No.	Description	Page
2010	1-Butyl-3-methyl-imidazolium-chloride (BMIM Cl)	1700
2012	1-Butyl-3-methyl-imidazolium-hexafluorophosphate (BMIM PF ₆)	1700
2014	1-Butyl-3-methyl-imidazolium-tetrafluoroborate (BMIM BF ₄)	1700
2015	1-Butyl-3-methyl-imidazolium-trifluoromethanesulphonate (BMIM OTf)	1700
2021	1-Butyl-1-methyl-pyrrolidinium-bis-(trifluoromethylsulphonyl)-imide (BMPyrr BTA)	1700
2022	1-Butyl-1-methyl-pyrrolidinium-dicyanamide (BMPyrr DCA)	1700
2025	Butyl-trimethyl-ammonium-bis-(trifluoromethylsulphonyl)-imide (N1114 BTA)	1701
2028	Choline-dihydrogenphosphate (Choline DHP)	1733
2035	Ethylammonium-nitrate (EAN)	1812
2037	1-Ethyl-3-methyl-imidazolium-bromide (EMIM Br)	1818
2053	1-Ethyl-3-methyl-imidazolium-dicyanamide (EMIM DCA)	1818
2054	1-Ethyl-3-methyl-imidazolium-ethylsulphate (EMIM EtOSO ₃)	1819
2056	1-Ethyl-3-methyl-imidazolium-methanesulphonate (EMIM OMs)	1819

2059	1-Ethyl-3-methyl-imidazolium-thiocyanate (EMIM SCN)	1819
2062	1-Ethyl-3-methyl-imidazolium-trifluoromethansulphonate (EMIM OTf)	1819
2064	1-Hexyl-3-methyl-imidazolium chloride (HMIM Cl)	1878
2069	1-Hexyl-3-methyl-imidazolium-hexafluorophosphate (HMIM PF ₆)	1878
2070	1-Hexyl-3-methyl-imidazolium-tetrafluoroborate (HMIM BF ₄)	1878
2076	1-Methyl-3-octyl-imidazolium-hexafluorophosphate (OMIM PF ₆)	1968
2081	1-Methyl-3-octyl-imidazolium-tetrafluoroborate (OMIM BF ₄)	1968
2091	1-Methyl-3-propyl-imidazolium-iodide (PMIM I)	1969
2095	1-Methyl-1-propyl-piperidinium-bis-(trifluoromethylsulphonyl)-imide (PMPip BTA)	1969
2096	Triethylsulfonium-bis-(trifluoromethylsulphonyl)-imide (S222 BTA)	2220

α-Ionone



α-Ionone

pure

C₁₃H₂₀O

M 192,30 g/mol

D ~0,93

[127-41-3] • EC No. 204-841-6

WGK 2

Type analysis:

Appearance: clear, yellowish oil

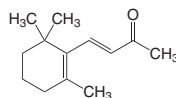
Relative density (20 °C): 0,900-0,950

Refractive index (20 °C): 1,4900-1,5100

Optical rotation (20 °C): +2° to -2°

3950.1	25 ml	glass	30,00 €

β-Ionone



C₁₃H₂₀O

M 192,30 g/mol

D 0,95 • bp 267 °C

mp -35 °C • flp 122 °C

Solubility: insoluble (H₂O, 20 °C)

Storage temp.: +4 °C

[79-77-6] • EC No. 201-224-3

β-Ionone

pure

Type analysis:

Appearance: clear, yellowish liquid

Relative density (20 °C): 0,935-0,955

Refractive index (20 °C): 1,500-1,5300

Optical rotation (20 °C): +1° to -1°

3951.1	25 ml	glass	14,55 €

β-Ionone

ROTICHRON® GC

Reference substance for GC

Type analysis:

Purity (GC): ≥95 %

3713.1	1 g	plastic	75,15 €

Ion Pair Reagents

Art. No.	Description	Page
KK50	Butane-1-sulphonic acid sodium salt	1696
KK51	Decane-1-sulphonic acid sodium salt	1761
KK52	Dodecane-1-sulphonic acid sodium salt	1793
KK53	Heptane-1-sulphonic acid sodium salt	1872
KK54	Hexane-1-sulphonic acid sodium salt	1877
KK55	Octane-1-sulphonic acid sodium salt	1998
KK56	Pentane-1-sulphonic acid sodium salt	2026
KK57	Propane-1-sulphonic acid sodium salt	2067

IPA

► Indole-3-propionic acid see p. 1899

IPA

► 2-Propanol see p. 2067

► 2-Propanol 70 % see p. 2068

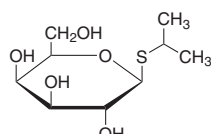
IPE

► Diisopropyl ether see p. 1780

IPM

► Myristic acid isopropyl ester see p. 1979

IPTG



Isopropyl-β-D-thiogalactopyranoside

C₉H₁₈O₅S

M 238,30 g/mol

mp 110-112 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[367-93-1] • EC No. 206-703-0

IPTG

≥99 %, BioScience-Grade, dioxane free,

animal free

For molecular biology.

Guarantee analysis:

Appearance: almost white cryst. powder

Assay (HPLC): ≥99 %

Water (KF): ≤1,0 %

pH value (5 % in H₂O): 5,0-7,0

Solution (5 % in H₂O): almost clear, colourless

Specific rotation [α]_D²⁰ (c=1 in H₂O): -34,5° to -28,5°

Dioxane content: none detected

Animal-free: complies

2316.1	250 mg	glass	18,85 €

2316.2	1 g	glass	40,35 €

2316.3	5 g	glass	113,45 €

2316.4	25 g	plastic	392,40 €

2316.5	100 g	plastic	901,95 €

For further information, please see page 1195

IPTG

≥99 %, for biochemistry

Guarantee analysis:

Assay (HPLC): ≥99 %

pH value (5 % in H₂O): 5,0-7,0

Water (KF): ≤1 %

Specific rotation [α]_D²⁰ (c=1 in H₂O): -34,5° to -28,5°

Dioxane content: none detected

CN08.1	1 g	glass	24,40 €

CN08.2	5 g	glass	65,50 €

CN08.3	50 g	glass	467,65 €

CN08.4	100 g	glass	811,65 €

For further information, please see page 1195

Iridium Standards

► Iridium ICP Standard Solution see p. 2171

► Iridium ICP Standard Solution see p. 2176

Iron granules

Iron granules

ROTI®METIC 99,99 % (4N)

Fe

M 55,8 g/mol

bp 4982 °C

mp 1536 °C

[7439-89-6] • EC No. 231-096-4

Type analysis:

Assay (metals basis): 99,99 %

Chemical analysis (ICP, AAS): up to 60 specified trace

metal impurities in ppm range

5631.1	5 g	plastic	38,60 €

5631.2	25 g	plastic	123,55 €

Iron

Iron

≥99,5 %, p.a., powdered

Fe

M 55,80 g/mol

D 7,86 • bp 2861 °C

mp 1535 °C

[7439-89-6] • EC No. 231-096-4

UN No. 3089 • ADR 4.1 III

Danger H228-H251

Guarantee analysis:

Assay.....	≥99,5 %
Carbon (C).....	≤0,03 %
Oxygen (O ₂).....	≤0,25 %
Nitrogen (N).....	≤0,01 %
Aluminium (Al).....	≤0,001 %
Arsenic (As).....	≤0,0002 %
Lead (Pb).....	≤0,0001 %
Copper (Cu).....	≤0,001 %
Manganese (Mn).....	≤0,001 %
Calcium (Ca).....	≤0,001 %
Chromium (Cr).....	≤0,002 %
Cobalt (Co).....	≤0,001 %
Magnesium (Mg).....	≤0,001 %
Particle size.....	~10 µm

3718.3 100 g plastic 16,70 €

3718.1 250 g plastic 31,10 €

3718.4 1 kg plastic 78,40 €

Original pack 6 x 1 kg 74,48/1 kg

3718.2 2,5 kg plastic 165,05 €

Iron, reduced

Iron, reduced

≥96 %, powdered, extra pure

Fe

M 55,80 g/mol

D 7,86 • bp 2861 °C

mp 1535 °C

[7439-89-6] • EC No. 231-096-4

Type analysis:

Assay.....	≥96,0 %
Insoluble matter in acid.....	≤1,5 %
Arsenic (As).....	≤0,001 %
Lead (Pb).....	≤0,001 %
Mercury (Hg).....	≤0,0005 %

9454.1 250 g plastic 16,05 €

9454.2 1 kg plastic 39,70 €

Original pack 6 x 1 kg 37,72/1 kg

9454.3 2,5 kg plastic 75,15 €

Iron wool

Iron wool

~97 %

Steel wool

Fe

M 55,80 g/mol

bp 2861 °C

mp 1535 °C

[7439-89-6] • EC No. 231-096-4

Type analysis:

Assay.....	~97 %
Chromium (Cr).....	≤0,1 %
Carbon (C).....	≤0,5 %
Copper (Cu).....	≤0,5 %
Manganese (Mn).....	≤1,0 %
Molybdenum (Mo).....	≤0,1 %
Nickel (Ni).....	≤0,1 %
Phosphorus (P).....	≤0,1 %
Sulphur (S).....	≤0,1 %
Silicon (Si).....	≤0,5 %
Nitrogen (N).....	≤0,05 %

9588.1 100 g plastic 10,65 €

9588.2 250 g plastic 18,20 €

Iron Standards

► Iron AAS Standard Solution see p. 2168

► Iron ICP Standard Solution see p. 2171

► Iron ICP Standard Solution see p. 2176

Iron alum

► Ammonium iron(III) sulphate dodecahydrate see p. 1641

Iron ammonium alum

► Ammonium iron(III) sulphate dodecahydrate see p. 1641

Iron(III) ammonium citrate

► Ammonium iron(III) citrate see p. 1640

Iron(II) ammonium sulphate

► Ammonium iron(II) sulphate hexahydrate see p. 1640

Iron(III) ammonium sulphate

► Ammonium iron(III) sulphate dodecahydrate see p. 1641

Iron(III) chloride

Iron(III) chloride

≥98,5 %, extra pure, anhydrous

Catalyst

Ferric chloride, Iron trichloride

FeCl₃

M 162,2 g/mol

mp 306 °C (dec.)

Solubility: 920 g/l (H₂O, 20 °C)

[7705-08-0] • EC No. 231-729-4

UN No. 1773 • ADR 8 III • WGK 1

Danger H290-H302-H315-H318

Type analysis:

Assay.....	≥98,5 %
Insoluble matter.....	≤0,2 %
Arsenic (As).....	≤0,001 %
Chromium (Cr).....	≤0,05 %
Copper (Cu).....	≤0,01 %
Manganese (Mn).....	≤0,2 %
Nickel (Ni).....	≤0,03 %
Lead (Pb).....	≤0,001 %
Zinc (Zn).....	≤0,04 %

5192.1 250 g glass 18,85 €

5192.2 500 g glass 25,30 €

Original pack 6 x 500 g 24,04/500 g

5192.3 1 kg glass 36,80 €

Original pack 6 x 1 kg 34,96/1 kg

Iron(III) chloride hexahydrate

Ferric chloride hexahydrate

FeCl₃ • 6 H₂O

M 270,33 g/mol

D 1,82

mp 37 °C

Solubility: 920 g/l (H₂O, 20 °C)

[10025-77-1] • EC No. 231-729-4

WGK 1

Danger H318-H302-H315

Iron(III) chloride hexahydrate

≥99 %, p.a.

Guarantee analysis:

Assay (iodom.).....	≥99,0 %
Phosphorus compounds (as PO ₄).....	≤0,05 %
Iron II (Fe II).....	≤0,005 %
Arsenic (As).....	≤0,001 %
Copper (Cu).....	≤0,01 %
Potassium (K).....	≤0,05 %
Lead (Pb).....	≤0,004 %
Calcium (Ca).....	≤0,1 %
Sodium (Na).....	≤0,1 %
Zinc (Zn).....	≤0,007 %

P742.1 250 g plastic 25,30 €

P742.2 1 kg plastic 79,45 €

Original pack 6 x 1 kg 75,48/1 kg

P742.5 25 kg plastic 772,95 €

Iron(III) chloride hexahydrate

≥98 %, extra pure

Type analysis:

Assay (titr.)	≥98,0 %
Insoluble matter	≤0,05 %
Phosphate (PO ₄)	≤0,01 %
Iron II (Fe II)	≤0,005 %
Arsenic (As)	≤0,0005 %
Lead (Pb)	≤0,005 %
Calcium (Ca)	≤0,1 %
Potassium (K)	≤0,05 %
Copper (Cu)	≤0,01 %
Sodium (Na)	≤0,1 %
Zinc (Zn)	≤0,01 %

7119.1	1 kg	plastic	20,35 €

Original pack 6 x 1 kg	19,33/1 kg

7119.2	2,5 kg	plastic	37,55 €

7119.5	25 kg	plastic	295,65 €

Iron(III) chloride solution acc. to Weigert

► Hematoxylin solution B acc. to Weigert
see p. 1869

Iron(III) chloride spray solution**Iron(III) chloride spray solution for TLC**

Ready-to-use spray solution for detection of acetylsalicylic acid and paracetamol.
2 g Iron(III) chloride dissolved in 100 ml water.

⚠ Danger H318

Type analysis:

TLC-application: complies

CP34.1	100 ml	glass	34,50 €

Iron(III) chloride solution 40 %**Iron(III) chloride solution 40 %**

40 %

D ~1,42

[1313-13-9]

UN No. 2582 • ADR 8, III • WGK 1

⚠ ⚠ Danger H302-H315-H317-H318

Type analysis:

Assay (as FeCl₃) 39,0-41,0 %
Density 1,39-1,45

7750.1	1 l	plastic	14,55 €

Original pack 6 x 1 l	13,82/1 l

7750.2	5 l	plastic	45,05 €

Original pack 2 x 5 l	42,80/5 l

7750.3	10 l	plastic	68,70 €

7750.4	25 l	plastic	133,85 €

Iron(III) citrate hydrate**Iron(III) citrate hydrate**

pure

Ferric citrate

C₆H₅O₇Fe · x H₂OM 244,94 + x H₂O g/molSolubility: 5 g/l (H₂O, 20 °C)

[3522-50-7] • EC No. 222-536-6

WGK 1

Type analysis:

Assay Fe(III) 16,5-18,5 %

9435.1	100 g	plastic	16,05 €

9435.2	500 g	plastic	42,90 €

Original pack 6 x 500 g	40,76/500 g

9435.3	1 kg	plastic	75,15 €

Original pack 6 x 1 kg	71,39/1 kg

Iron(III) EDTA sodium salt trihydrate

► Ethylenediamine tetraacetic acid iron(III)
sodium salt trihydrate see p. 1815

Iron(III) nitrate nonahydrateFe(NO₃)₃ · 9 H₂O

M 404,0 g/mol

D 1,68 • bp 125 °C (dec.)

mp 47 °C

Solubility: soluble (H₂O, 20 °C)

[7782-61-8] • EC No. 233-899-5

UN No. 3260 • ADR 8 II • WGK 1

⚠ Danger H314

Iron(III) nitrate nonahydrate

ROTI®METIC 99,9995 % (5N5)

Type analysis:

Assay (metals basis) 99,9995 %
Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5632.1	5 g	plastic	72,60 €

5632.2	25 g	plastic	274,15 €

Iron(III) nitrate nonahydrate

≥96 %, pure

Type analysis:

Assay ≥96 %
Chloride (Cl) ≤0,01 %
Sulphate (SO₄) ≤0,03 %

CN84.1	500 g	plastic	18,85 €

Original pack 6 x 500 g	17,91/500 g

CN84.2	1 kg	plastic	30,00 €

Original pack 6 x 1 kg	28,50/1 kg

CN84.3	5 kg	plastic	106,35 €

Iron(II) oxalate dihydrate**Iron(II) oxalate dihydrate**

≥98 %, extra pure

Ferrous oxalate

FeC₂O₄ · 2 H₂O

M 179,89 g/mol

D 2,3

mp 190 °C (dec.)

Solubility: insoluble (H₂O, 20 °C)

[6047-25-2] • EC No. 208-217-4

WGK 1

⚠ Warning H302-H312

Type analysis:

Assay ≥98,0 %
Assay Fe(II) ≥30,5 %
Chloride (Cl) ≤0,05 %
Sulphate (SO₄) ≤0,1 %
Arsenic (As) ≤0,0005 %
Heavy metals (as Pb) ≤0,01 %
Ash content (800 °C) 44,0-45,0 %

9464.1	100 g	plastic	16,05 €

9464.2	500 g	plastic	37,55 €

Original pack 6 x 500 g	35,67/500 g

9464.3	1 kg	plastic	64,40 €

Original pack 6 x 1 kg	61,18/1 kg

Iron(III) oxide

Ferric oxide

Fe₂O₃

M 159,69 g/mol

Solubility: insoluble (H₂O, 20 °C)

[1309-37-1] • EC No. 215-168-2

⚠ Warning H315-H319-H335

Iron(III) oxide

ROTI®METIC 99,98 % (3N8)

Type analysis:

Assay (metals basis) 99,98 %
Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5634.1	5 g	plastic	33,25 €

5634.2	25 g	plastic	102,05 €

Iron(III) oxide

≥96 %, red

Guarantee analysis:

Assay (iodom.) ≥96 %
In H₂O insoluble matter ≤1 %
Loss on ignition ≤0,5 %
Phosphate (PO₄) ≤0,3 %
Sulphate (SO₄) ≤0,5 %
Manganese (Mn) ≤0,25 %

4463.2	100 g	plastic	19,25 €

4463.1	250 g	plastic	27,45 €

Iron(III) phosphate hydrate

Iron(III) phosphate hydrate

extra pure

Ferric phosphate

$\text{FePO}_4 \cdot x \text{H}_2\text{O}$

M 150,83 + x H₂O g/mol

Solubility: insoluble (H₂O, 20 °C)

[10045-86-0] • EC No. 233-149-7

WGK 1

Type analysis:

Assay (Fe).....	26,0-32,0 %
Arsenic (As).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Mercury (Hg).....	≤0,0005 %
Loss on ignition (1 h, 800 °C).....	≤32,5 %

9358.1 100 g plastic 16,05 €

9358.2 500 g plastic 42,90 €

Original pack 6 x 500 g 40,76/500 g

9358.3 1 kg plastic 69,80 €

Original pack 6 x 1 kg 66,31/1 kg

Iron(II) sulphate heptahydrate

Ferrous sulphate heptahydrate

$\text{FeSO}_4 \cdot 7 \text{H}_2\text{O}$

M 278,02 g/mol

D 1,89

mp >60 °C

Solubility: ~400 g/l (H₂O, 20 °C)

[7782-63-0] • EC No. 231-753-5

WGK 1

⚠ Warning H302-H315-H319

Iron(II) sulphate heptahydrate

≥99 %, p.a., ACS

For the detection of nitrites and nitrates, photography.

Guarantee analysis:

Assay (perm.).....	≥99,0 %
pH value (5 % in water).....	3,0-4,0
In H ₂ O insoluble matter.....	≤0,005 %
Total nitrogen (as N).....	≤0,001 %
Chloride (Cl).....	≤0,001 %
Phosphate (PO ₄).....	≤0,0005 %
Arsenic (As).....	≤0,00004 %
Cadmium (Cd).....	≤0,005 %
Calcium (Ca).....	≤0,005 %
Copper (Cu).....	≤0,001 %
Potassium (K).....	≤0,002 %
Manganese (Mn).....	≤0,03 %
Lead (Pb).....	≤0,0005 %
Chromium (Cr).....	≤0,008 %
Iron III (Fe III).....	≤0,1 %
Magnesium (Mg).....	≤0,002 %
Sodium (Na).....	≤0,002 %
Zinc (Zn).....	≤0,002 %

P015.1 500 g plastic 22,05 €

Original pack 6 x 500 g 20,95/500 g

P015.2 1 kg plastic 33,25 €

Original pack 6 x 1 kg 31,59/1 kg

P015.3 2,5 kg plastic 69,80 €

P015.5 25 kg plastic 456,90 €

Iron(II) sulphate heptahydrate

≥99,5 %, Ph.Eur., USP

Guarantee analysis:

Assay.....	99,5-104,5 %
Identity.....	complies
pH value (5 %).....	3,0-4,0
Chloride (Cl).....	≤0,02 %
Arsenic (As).....	≤0,0003 %
Lead (Pb).....	≤0,0002 %
Chromium (Cr).....	≤0,005 %
Iron III (Fe III).....	≤0,3 %
Copper (Cu).....	≤0,005 %
Manganese (Mn).....	≤0,1 %
Nickel (Ni).....	≤0,005 %
Mercury (Hg).....	≤0,0001 %
Zinc (Zn).....	≤0,005 %

3722.1 1 kg plastic 18,50 €

Original pack 6 x 1 kg 17,58/1 kg

3722.2 5 kg plastic 57,55 €

3722.5 25 kg plastic 196,20 €

Iron trichloride

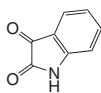
► Iron(III) chloride see p. 1906

► Iron(III) chloride hexahydrate see p. 1906

Isatidine

► Retrorsine-N-oxide see p. 2083

Isatin



Isatin

≥98 %, for biochemistry

Reagent for the spectrophotometric determination of thiophene and proline.

2,3-Indolinedione

$\text{C}_8\text{H}_5\text{NO}_2$

M 147,13 g/mol

mp 198-202 °C (dec.) • flp >210 °C

Solubility: 1,9 g/l (H₂O, 20 °C)

[91-56-5] • EC No. 202-077-8

Type analysis:

Appearance.....	orange to reddish, cryst. powder
Assay (HPLC).....	≥98 %
Solution (1 % in methanol).....	orange to reddish, clear to almost clear
Water (KF).....	≤1,0 %
Sulphated ash.....	≤0,1 %

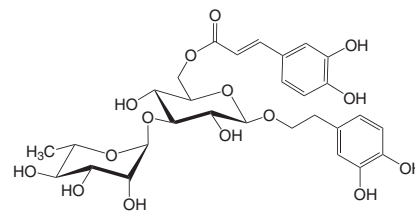
4155.1 25 g glass 11,50 €

4155.2 100 g glass 31,10 €

Iscove's Modified Dulbecco's Medium

► Roti®-CELL Iscove's MDM see p. 2092

Isoacteoside



Isoacteoside

ROTICHRON® HPLC

From *Harpagophytum procumbens*.

$\text{C}_{29}\text{H}_{36}\text{O}_{15}$

M 624,60 g/mol

Storage temp.: +4 °C

[61303-13-7]

Type analysis:

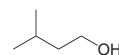
Purity (HPLC).....>99 %

T896.1 20 mg glass 353,70 €

Isoamyl acetate

► Acetic acid isoamyl ester see p. 1602

Isoamyl alcohol



3-Methyl-1-butanol, iso-Amyl alcohol, Isopentyl alcohol

$\text{C}_5\text{H}_{12}\text{O}$

M 88,15 g/mol

D 0,81 • bp 131-132 °C

mp -117,2 °C • flp 42 °C

Solubility: 30 g/l (H₂O, 20 °C)

[123-51-3] • EC No. 204-633-5

UN No. 1105 • ADR 3 III • WGK 1

⚠ ⚠ Danger

H226-H302+H332-H335-EUH066

Isoamyl alcohol

ROTIPURAN® ≥98,5 %, p.a., ACS

Guarantee analysis:

Assay (GC).....	≥98,5 %
Density (d 20 °C/4 °C).....	0,809-0,812
Water.....	≤0,15 %
Acidity.....	≤0,002 meq/g
1-Pentanol (GC).....	≤0,5 %
Acids, ester (as pentyl acetate).....	≤0,2 %
Carbonylic compounds (as HCHO).....	≤0,1 %
Calcium (Ca).....	≤0,00005 %
Cadmium (Cd).....	≤0,000005 %
Cobalt (Co).....	≤0,000002 %
Chromium (Cr).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Lead (Pb).....	≤0,000001 %
Zinc (Zn).....	≤0,00001 %
Evaporation residue.....	≤0,003 %

T870.1 500 ml glass 37,55 €

T870.2 1 l glass 70,65 €

Original pack 6 x 1 l 67,12/1 l

T870.3 2,5 l glass 160,20 €

Original pack 4 x 2,5 l 152,19/2,5 l

Isoamyl alcohol

≥98,5 %, for synthesis

Type analysis:

Assay (GC)..... ≥98,5 %

8930.1	1 l	glass	43,55 €
Original pack 6 x 1 l			
8930.2	2,5 l	glass	79,45 €
Original pack 4 x 2,5 l			
			75,48/2,5 l

Isoamyl alcohol**ROTICHROM® GC**

Reference substance for GC

Storage temp.: +4 °C

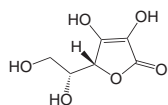
Type analysis:

Purity (GC)..... ≥99 %

4260.1	1 g	plastic	75,15 €

Isoamyl caprate

► Capric acid isoamyl ester see p. 1712

Isoascorbic acid**Isoascorbic acid**

≥98 %, cryst.

 $C_6H_8O_6$

M 176,13 g/mol

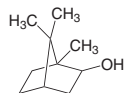
mp 168-172 °C

[89-65-6] • EC No. 201-928-0

⚠ Warning H315-H319-H335

Type analysis:Assay (titr.)..... ≥98 %
Specific rotation $[\alpha]_D^{20}$ (c=10 in H_2O)..... -19° to -16°

6265.1	25 g	plastic	19,90 €

Isoborneol**Isoborneol****ROTICHROM® GC**

Reference substance for GC

 $C_{10}H_{18}O$

M 154,24 g/mol

bp 214 °C

Storage temp.: +4 °C

[124-76-5] • EC No. 204-712-4

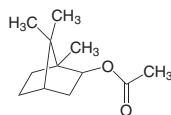
UN No. 1312 • ADR 4.1 III • WGK 2

⚠ ⚠ Warning H228-H315

Type analysis:

Purity (GC)..... ≥95 %

9824.1	1 g	plastic	75,15 €

Isobornyl acetate**Isobornyl acetate****ROTICHROM® GC**

Reference substance for GC

 $C_{12}H_{20}O_2$

M 196,29 g/mol

D 0,98 • bp 215 °C • flp 88 °C

Solubility: 0,16 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[125-12-2] • EC No. 204-727-6 • WGK 1

Type analysis:

Purity (GC)..... ≥97 %

8648.1	1 g	plastic	75,15 €

Isobutanol

► 2-Methyl-1-propanol see p. 1969

Isobutyl acetate

► Acetic acid isobutyl ester see p. 1602

Isobutyl alcohol

► 2-Methyl-1-propanol see p. 1969

Isobutyl methylketone

4-Methyl-2-pentanone, MIBK, Isopropylacetone

 $C_6H_{12}O$

M 100,16 g/mol

D ~0,80 • bp 116-118 °C

mp -83,5 °C • flp 14 °C

[108-10-1] • EC No. 203-550-1

UN No. 1245 • ADR 3 II • WGK 1

⚠ ⚠ Danger

H225-H332-H319-H335-EUH066

Isobutyl methylketone**ROTIPURAN® ≥99 %, p.a., ACS****Guarantee analysis:**

Assay (GC)..... ≥99,0 %
 Density (d 20 °C/4 °C)..... 0,798-0,802
 Colour (APHA)..... ≤15
 Water..... ≤0,1 %
 Acidity..... ≤0,002 meq/g
 Non volatile matter..... ≤0,005 %
 Aluminium (Al)..... ≤0,00005 %
 Barium (Ba)..... ≤0,00001 %
 Calcium (Ca)..... ≤0,00005 %
 Cadmium (Cd)..... ≤0,000005 %
 Cobalt (Co)..... ≤0,000002 %
 Chromium (Cr)..... ≤0,000002 %
 Copper (Cu)..... ≤0,000002 %
 Iron (Fe)..... ≤0,00001 %
 Magnesium (Mg)..... ≤0,00001 %
 Manganese (Mn)..... ≤0,000002 %
 Nickel (Ni)..... ≤0,000002 %
 Lead (Pb)..... ≤0,00001 %
 Zinc (Zn)..... ≤0,00001 %

0338.1	1 l	glass	33,25 €
Original pack 6 x 1 l			
0338.2	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			
			61,18/2,5 l

Isobutyl methylketone

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99 %
 Density (d 20 °C/4 °C)..... 0,798-0,802
 Evaporation residue..... ≤0,005 %
 Water..... ≤0,1 %

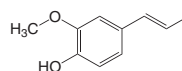
4371.1	1 l	glass	28,95 €
Original pack 6 x 1 l			
4371.2	2,5 l	glass	55,80 €
Original pack 4 x 2,5 l			
			53,01/2,5 l

Isobutyltrimethylmethane

► Isooctane see p. 1911

Isodulcit

► L(+)-Rhamnose monohydrate see p. 2083

Isoeugenol**Isoeugenol****ROTICHROM® GC**

Reference substance for GC

mixture of cis/trans isomers

 $C_{10}H_{12}O_2$

M 164,21 g/mol

D 1,09 • bp 266-268 °C

mp -10 °C • flp 150 °C

Storage temp.: +4 °C

[97-54-1] • EC No. 202-590-7

WGK 2

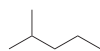
⚠ ⚠ Warning H302+H312-H315-H319-H317

Type analysis:

Purity (GC)..... ≥82 %

3226.1	1 g	plastic	75,15 €

Isohexane



iso-Hexane, 2-Methylpentane
 C_6H_{14} -Isomer
 M 86,18 g/mol
 D 0,653 • bp 60,3 °C
 mp -154 °C • flp -20 °C
 [92112-69-1] • EC No. 295-570-2
 UN No. 1208 • ADR 3 II • WGK 1
Danger
 H225-H304-H315-H336-H411

Isohexane ROTISOLV® HPLC

Guarantee analysis:
 Assay C_6H_{14} -isomers (GC) ≥99,0 %
 Isohexane (GC) ≥70 %
 n-Hexane (GC) ≤0,5 %
 Water (KF) ≤0,005 %
 Non volatile matter ≤0,0002 %
 Transmission:
 245 nm ≥98 %
 220 nm ≥80 %
 210 nm ≥60 %
 Filtered through 0,2 µm membrane and filled under protective gas.

T176.2	1 l	glass	48,95 €
Original pack 6 x 1 l			46,50/1 l
T176.1	2,5 l	glass	96,65 €
Original pack 4 x 2,5 l			91,82/2,5 l

For further information, please see page 1515

Isohexane ROTISOLV® ≥96 %, Pestilyse® plus

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:
 Assay C_6H_{14} -isomers (GC) ≥96,0 %
 Colour (APHA) ≤5
 Water (KF) ≤0,005 %
 Free acid (as CH_3COOH) ≤0,001 %
 Evaporation residue ≤0,0001 %
 GC/FID suitability (as 2-octanol) ≤10 ng/ml
 GC/ECD suitability (as heptachloro epoxide) ≤10 ng/l
 GC/ECD dioxins, furans and PCBs (as lindane) ≤5 ng/l
 GC/ECD pesticides (as lindane) ≤2 ng/l
 GC/NPD pesticides (as parathion) ≤5 ng/l
 GC/ECD volatile impurities (as ethylene dibromide) ≤5 ng/ml
 Oil index (any hydrocarbon C_{10} - C_{40}) ≤0,05 mg/l
 PAH-test (less than 2 ppb, HPLC) complies
 Fluorescence (as quinine):
 254 nm ≤1 ppb
 365 nm ≤1 ppb

7576.1	2,5 l	glass	83,35 €
Original pack 4 x 2,5 l			79,18/2,5 l

Isohexane ROTISOLV® ≥99 %, Pestilyse®

For residue and environmental analysis

Guarantee analysis:
 Assay C_6H_{14} -isomers (GC) ≥99,0 %
 Water (KF) ≤0,005 %
 Free acid (as CH_3COOH) ≤0,002 %
 Evaporation residue ≤0,0002 %
 GC/ECD (individual signal as lindane) ≤5 ng/l
 GC/PND (individual signal as ethylparathion) ≤10 ng/l

T904.1	2,5 l	glass	80,55 €
Original pack 4 x 2,5 l			76,52/2,5 l

Isohexane

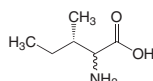
≥98 %, for synthesis

Type analysis:

Assay ≥98,0 %
 Water (KF) ≤0,01 %

2667.1	1 l	glass	28,50 €
Original pack 6 x 1 l			27,08/1 l
2667.2	2,5 l	glass	51,50 €
Original pack 4 x 2,5 l			48,93/2,5 l
2667.3	10 l	tinplate	164,40 €

DL-Isoleucine



DL-Isoleucine

≥98,5 %, for biochemistry

2-Amino-3-methylvaleric acid

$C_6H_{13}NO_2$

M 131,17 g/mol

Storage temp.: +4 °C

[443-79-8] • EC No. 207-139-8

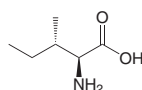
WGK 3

Type analysis:

Appearance white to off-white powder
 Assay ≥98,5 %
 Identity (IR) complies
 Heavy metals (as Pb) ≤0,001 %
 Ash content ≤0,1 %
 Loss on drying ≤0,5 %

8598.1	10 g	plastic	22,50 €
8598.2	50 g	plastic	84,85 €
8598.3	100 g	plastic	153,65 €

L-Isoleucine



(2S,3S)-2-Amino-3-methylvaleric acid

$C_6H_{13}NO_2$

M 131,18 g/mol

mp 168-170 °C (subl.) • flp 284 °C

Solubility: ~40 g/l (H_2O , 20 °C)

[73-32-5] • EC No. 200-798-2

WGK 1

L-Isoleucine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins ≤6,0 E.U./g
 Assay ≥99 %
 Loss on drying ≤0,2 %
 Specific rotation $[\alpha]_D^{25}$ +39,5° to +41,5°
 Foreign amino acids complies
 Ammonium (NH_4) ≤0,02 %
 Chloride (Cl) ≤0,02 %
 Sulphate (SO_4) ≤0,02 %
 Heavy metals (as Pb) ≤0,001 %
 Iron (Fe) ≤0,001 %

1698.1	25 g	plastic	21,40 €
1698.2	100 g	plastic	52,60 €
1698.3	500 g	plastic	209,10 €
Original pack 6 x 500 g			198,65/500 g

L-Isoleucine

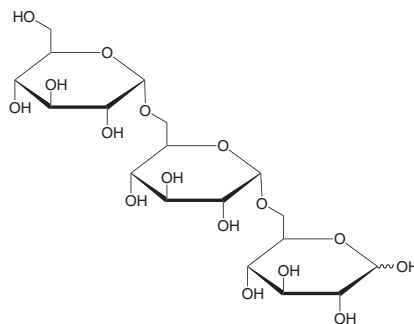
≥98,5 %, USP, for biochemistry

Guarantee analysis:

Appearance white cryst. powder
 Assay (dry substance) ≥98,5-101,0 %
 Identity complies
 Specific rotation $[\alpha]_D^{25}$ +39,5° to +41,5°
 pH value 5,5-6,5
 Ammonium (NH_4) ≤0,02 %
 Chloride (Cl) ≤0,02 %
 Sulphate (SO_4) ≤0,02 %
 Iron (Fe) ≤0,001 %
 Heavy metals (as Pb) ≤0,001 %
 Foreign amino acids complies
 Loss on drying ≤0,2 %
 Sulphated ash ≤0,1 %

3922.1	10 g	glass	13,15 €
3922.2	100 g	plastic	40,75 €
3922.3	1 kg	plastic	327,90 €
Original pack 6 x 1 kg			311,51/1 kg

Isomaltotriose



Isomaltotriose

≥98 %

$C_{18}H_{32}O_{16}$

M 504,44 g/mol

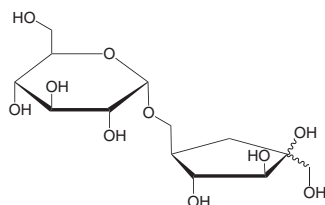
[3371-50-4] • EC No. 222-149-2

Type analysis:

Assay (TLC) ≥98 %

6884.1	25 mg	glass	59,05 €
6884.2	100 mg	glass	177,40 €

Isomaltulose



Isomaltulose

≥99 %, for biochemistry

Palatinose®

C₁₂H₂₂O₁₁ · H₂O

M 350,32 g/mol

mp 122-123 °C

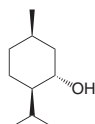
[13718-94-0] • EC No. 237-282-1

Typ analysis:

Assay (HPLC) ≥99,0 %

8400.1	25 g	plastic	26,80 €
8400.2	100 g	plastic	76,25 €

(+) - Isomenthol



(+) - Isomenthol

ROTICHRM® GC

Reference substance for GC

(1R,3S,4R)-p-Menthan-3-ol

C₁₀H₂₀O

M 156,27 g/mol

bp 218-219 °C

mp 77-83 °C

Storage temp.: +4 °C

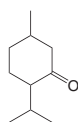
[23283-97-8] • EC No. 245-554-6

Type analysis:

Purity (GC, Isomers) ≥90 %

5422.1	50 mg	glass	428,95 €

Isomenthone



Isomenthone

ROTICHRM® GC

Reference substance for GC

Natural, isolated from oil of peppermint.

C₁₀H₁₈O

M 154,24 g/mol

Storage temp.: +4 °C

[491-07-6] • EC No. 207-727-4

WGK 1

Type analysis:

Purity (GC) ≥75 %

6458.1	1 g	plastic	75,15 €

Isooctane

2,2,4-Trimethylpentane, iso-Octane,
IsobutyltrimethylmethaneC₈H₁₈

M 114,23 g/mol

D 0,69 • bp 99 °C

mp -107 °C • flp -12 °C

[540-84-1] • EC No. 208-759-1

UN No. 1262 • ADR 3 II • WGK 2

Danger

H225-H304-H400-H410-H315-H336

Isooctane

ROTISOLV® HPLC

Guarantee analysis:

Assay (GC) ≥99,9 %
 Water (KF) ≤0,005 %
 Free acid ≤0,002 %
 Non volatile matter ≤0,0002 %
 Layer thickness d = 1 cm water in comparison
 Transmission:
 >250 nm ≥99 %
 235 nm ≥95 %
 225 nm ≥80 %
 215 nm ≥50 %
 205 nm ≥10 %
 Filtered through 0,2 µm membrane and filled under
 protective gas.

7340.1	2,5 l	glass	96,25 €
Original pack 4 x 2,5 l			91,44/2,5 l

For further information, please see page 1515

Isooctane

ROTISOLV® ≥99,7 %, Pestilyse® plus

For determination of dioxins, furans, PCBs,
pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC) ≥99,7 %
 Colour (APHA) ≤5
 Water (KF) ≤0,01 %
 Free acid (as CH₃COOH) ≤0,001 %
 Evaporation residue ≤0,0001 %
 GC/FID suitability (as 2-octanol) ≤10 ng/ml
 GC/ECD suitability (as heptachloro epoxide) ≤10 ng/l
 GC/ECD dioxins, furans and PCBs (as lindane) ≤5 ng/l
 GC/ECD pesticides (as lindane) ≤5 ng/l
 GC/NPD pesticides (as parathion) ≤5 ng/l
 Oil index (any hydrocarbon C₁₀-C₄₀) ≤0,05 mg/l
 GC/ECD volatile impurities (as ethylene dibromide) ≤5 ng/ml
 PAH-test (less than 2 ppb, HPLC) complies
 Fluorescence (as quinine):
 254 nm ≤1 ppb
 365 nm ≤1 ppb

7580.1	2,5 l	glass	98,80 €
Original pack 4 x 2,5 l			93,86/2,5 l

Isooctane

ROTISOLV® ≥99,5 %, Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Assay (GC) ≥99,5 %
 Water (KF) ≤0,02 %
 Acidity ≤0,0005 meq/g
 Evaporation residue ≤0,0005 %
 GC/ECD (individual signal as lindane) ≤5 ng/l
 GC/PND (individual signal as ethylparathion) ≤10 ng/l

T167.1	2,5 l	glass	93,45 €
Original pack 4 x 2,5 l			88,78/2,5 l

Isooctane

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC) ≥99,8 %
 Water (KF) ≤0,005 %
 Acidity ≤0,0005 meq/g
 Evaporation residue ≤0,0005 %
 Fluorescence (as quinine):
 254 nm ≤1,0 ppb
 365 nm ≤1,0 ppb
 Transmission:
 255 nm ≥98 %
 235 nm ≥90 %
 225 nm ≥80 %
 215 nm ≥50 %
 205 nm ≥10 %

CP80.1	2,5 l	glass	97,75 €
Original pack 4 x 2,5 l			92,86/2,5 l

Isooctane

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC) ≥99,5 %
 Colour (APHA) ≤10
 Density (d 20 °C/4 °C) 0,692-0,693
 Acidity ≤0,0003 meq/g
 Water (KF) ≤0,01 %
 Lead (Pb) ≤0,00001 %
 Cadmium (Cd) ≤0,000005 %
 Calcium (Ca) ≤0,00005 %
 Chromium (Cr) ≤0,000002 %
 Iron (Fe) ≤0,00001 %
 Cobalt (Co) ≤0,000002 %
 Copper (Cu) ≤0,000002 %
 Magnesium (Mg) ≤0,00001 %
 Manganese (Mn) ≤0,000002 %
 Nickel (Ni) ≤0,000002 %
 Zinc (Zn) ≤0,00001 %
 Evaporation residue ≤0,001 %
 Sulphur compounds (as S) ≤0,005 %

6889.1	1 l	glass	50,00 €
Original pack 6 x 1 l			47,50/1 l
6889.2	2,5 l	glass	107,40 €
Original pack 4 x 2,5 l			102,03/2,5 l

Isooctane

≥99,5 %, for synthesis

Type analysis:

Assay (GC) ≥99,5 %
 Density (15 °C) 0,694-0,698
 Lead (Pb) ≤0,002 %
 n-Heptane ≤0,1 %

9860.1	1 l	glass	30,00 €
Original pack 6 x 1 l			28,50/1 l
9860.3	2,5 l	glass	60,75 €
Original pack 4 x 2,5 l			57,71/2,5 l
9860.2	10 l	tinplate	192,45 €

Isoorientin

► Homoorientin see p. 1880

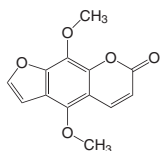
Isopentane

► 2-Methylbutane see p. 1965

Isopentyl alcohol

► Isoamyl alcohol see p. 1908

Isopimpinellin



Isopimpinellin

ROTICHROM® HPLC

Reference substance for HPLC

Dimethylpsoralen

C₁₃H₁₀O₅

M 246,22 g/mol

mp 147-148 °C

Storage temp.: +4 °C

[482-27-9]

UN No. 2811 • ADR 6.1 II

Danger H301+H311-H330

Type analysis:

Purity (HPLC).....≥99 %

8854.1	10 mg	glass	168,80 €

Isopropanol

► 2-Propanol see p. 2067

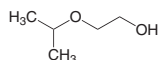
► 2-Propanol 70 % see p. 2068



Isopropenyl acetate

► Acetic acid isopropenyl ester see p. 1603

2-Isopropoxyethanol



2-Isopropoxyethanol

≥99 %, pure



Ethylene glycol monoisopropyl ether,

Isopropylglycol

C₅H₁₂O₂

M 104,15 g/mol

D 0,90 • bp 145 °C

mp -60 °C • flp 46 °C

[109-59-1] • EC No. 203-685-6

UN No. 3271 • ADR 3 III • WGK 1

Warning

H226-H312+H332-H315-H319

Type analysis:

Assay.....≥99,0 %

Colour (Hazen).....≤5

Water.....≤0,15 %

Acid content (as CH₃COOH).....≤0,005 %

8706.1	1 l	glass	21,40 €

Original pack 6 x 1 l	20,33/1 l

8706.2	2,5 l	glass	38,60 €

Original pack 4 x 2,5 l	36,67/2,5 l

Isopropylacetone

► Isobutyl methylketone see p. 1909

Isopropyl alcohol

► 2-Propanol see p. 2067

► 2-Propanol 70 % see p. 2068

Isopropyl ether

► Diisopropyl ether see p. 1780

Isopropylglycol

► 2-Isopropoxyethanol see p. 1912

2-Isopropyl-5-methylphenol

► Thymol see p. 2209

5-Isopropyl-2-methylphenol

► Carvacrol see p. 1718

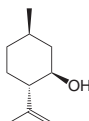
Isopropyl myristate

► Myristic acid isopropyl ester see p. 1979

Isopropyl-β-D-thiogalactopyranoside

► IPTG see p. 1905

Isopulegol



Isopulegol

ROTICHROM® GC

Reference substance for GC

p-Menth-8-en-3-ol

C₁₀H₁₈O

M 154,25 g/mol

D 0,911 • bp 93 °C

flp 78 °C

Storage temp.: +4 °C

[89-79-2] • EC No. 201-940-6

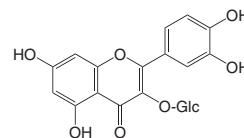
Warning H302-H315-H319-H335

Type analysis:

Purity (GC, Isomers).....≥95 %

8030.1	1 g	plastic	75,15 €

Isoquercitrin



Trifoliin, Quercetin-3-glucoside

C₂₁H₂₀O₁₂

M 464,38 g/mol

mp 220-235 °C

[482-35-9] • EC No. 244-488-5

WGK 1

Isoquercitrin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤1,0 %

Water (KF).....≤10,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE24.1	10 mg	glass	794,45 €

Isoquercitrin

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC).....≥80,0 %

Identity.....complies

Traceable to a primary reference standard. With proof

of identity and batch specific certificate of analysis.

NC24.1	25 mg	glass	310,70 €

Isoquercitrin

ROTICHROM® HPLC

Reference substance for HPLC

From *Tiliae officinalis*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>99 %

7586.1	10 mg	glass	110,20 €

Isoquercitrin

ROTICHROM® TLC

Reference substance for thin layer

chromatography

From *Tiliae officinalis*.

Storage temp.: +4 °C

5573.1	50 mg	glass	55,90 €

Isoquercitrin

ROTICHROM® ~CHR

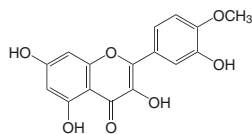
Storage temp.: +4 °C

Type analysis:

Appearance.....yellow powder

Melting point.....220-235 °C

6527.1	250 mg	glass	188,15 €

Isorhamnetin

$C_{16}H_{12}O_7$
 M 316,27 g/mol
 mp ~305 °C
 Storage temp.: +4 °C
 [480-19-3] • EC No. 207-545-5

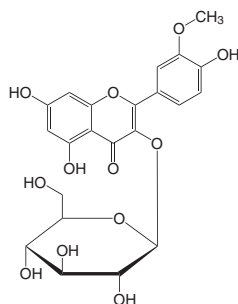
Isorhamnetin
ROTICHROM® HPLC
 Reference substance for HPLC

Type analysis:
 Purity (HPLC)..... ≥98 %

7589.1	10 mg	glass	213,95 €

Isorhamnetin
ROTICHROM® CHR

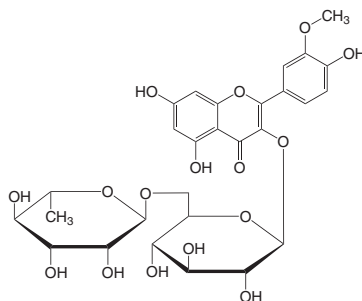
6528.1	100 mg	glass	353,70 €

Isorhamnetin-3-glucoside

Isorhamnetin-3-glucoside
ROTICHROM® ~CHR

$C_{22}H_{22}O_{12}$
 M 478,41 g/mol
 mp 205-207 °C
 [5041-82-7]

9386.1	5 mg	glass	267,70 €

Isorhamnetin-3-rutinoside

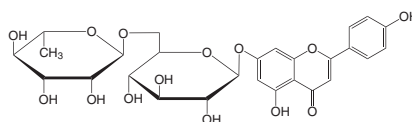
Isorhamnetin-3-rutinoside
ROTICHROM® HPLC

Reference substance for HPLC
 Narcisin

$C_{28}H_{32}O_{16}$
 M 624,56 g/mol
 mp 173-174 °C
 Storage temp.: +4 °C
 [604-80-8]

Type analysis:
 Purity (HPLC)..... ≥99 %

9388.1	5 mg	glass	203,20 €

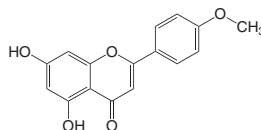
Isorhoifolin

Isorhoifolin
ROTICHROM® HPLC
 Reference substance for HPLC

$C_{27}H_{30}O_{14}$
 M 578,53 g/mol
 Storage temp.: +4 °C
 [552-57-8] • EC No. 209-015-9

Type analysis:
 Purity (HPLC)..... ≥98 %

6989.1	10 mg	glass	360,15 €

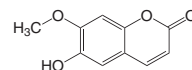
Isosakuranetin

Isosakuranetin
ROTICHROM® HPLC
 Reference substance for HPLC

$C_{16}H_{14}O_5$
 M 286,29 g/mol
 mp 193-194 °C
 Storage temp.: +4 °C
 [480-43-3] • EC No. 207-551-8

Type analysis:
 Purity (HPLC)..... ≥99 %

7498.1	10 mg	glass	160,20 €

Isoscopoletin

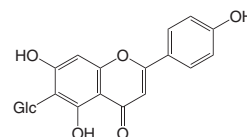
Isoscopoletin
ROTICHROM® CHR

$C_{10}H_8O_4$
 M 192,17 g/mol
 mp 185 °C
 [776-86-3] • EC No. 212-282-4

5883.1	25 mg	plastic	134,40 €

Isothymol

► Carvacrol see p. 1718

Isovitexin

Saponaretin
 $C_{21}H_{20}O_{10}$
 M 432,38 g/mol
 mp 220-221 °C
 [38953-85-4]
 WGK 3

Isovitexin
ROTI®STAR Primary Standard

Type analysis:
 Assay (HPLC)..... ≥95,0 %
 Residual solvents (GC)..... ≤2,0 %
 Water (KF)..... ≤5,0 %
 Assay (qNMR)..... ≥85,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE25.1	10 mg	glass	783,70 €

Isovitexin
ROTICHROM® Working Standard

Type analysis:
 Assay (HPLC)..... ≥80,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC25.1	25 mg	glass	334,35 €

Isovitexin
ROTICHROM® HPLC
 Reference substance for HPLC
 From *Saponaria officinalis*
 Storage temp.: +4 °C

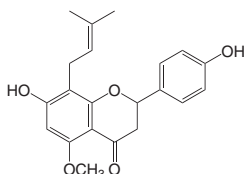
Type analysis:
 Purity (HPLC)..... ≥99 %

6412.1	5 mg	glass	209,65 €

Isovitexin-7-O-glucoside

► Saponarin see p. 2120

Isoxanthohumol



Isoxanthohumol

ROTICHROM® HPLC

Reference substance for HPLC
From *Humulus lupulus*.

$C_{21}H_{22}O_5$

M 354,40 g/mol

Storage temp.: +4 °C

[70872-29-6]

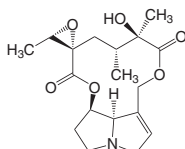
WGK 1

Type analysis:

Purity (HPLC)..... ≥99 %

2824.1	10 mg	glass	209,65 €

Jacobine



Jacobine

ROTICHROM® HPLC

Reference substance for HPLC
From *Senecio jacobea*

$C_{18}H_{25}NO_6$

M 351,39 g/mol

mp 218-222 °C

Storage temp.: +4 °C

[6870-67-3]

WGK 1

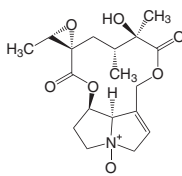
⚠ Warning H302

Type analysis:

Purity (HPLC)..... ≥98,0 %

1963.1	5 mg	glass	284,90 €

Jacobine N-oxide



Jacobine N-oxide

ROTICHROM® HPLC

Reference substance for HPLC
From *Senecio jacobea*

$C_{18}H_{25}NO_7$

M 367,39 g/mol

Storage temp.: +4 °C

WGK 1

⚠ Warning H302

Type analysis:

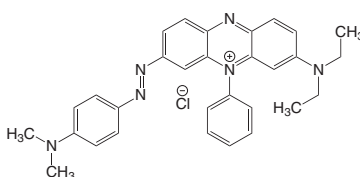
Purity (HPLC)..... ≥96,0 %

1970.1	5 mg	glass	299,95 €

Jacodin

► Seneciphylline see p. 2124

Janus green B (C.I. 11050)



Janus green B (C.I. 11050)

for microscopy

Oxidized indicator blue, reduced indicator pink

Diazin Green S

$C_{30}H_{31}ClN_6$

M 511,07 g/mol

Solubility: 30 g/l (H_2O)

[2869-83-2] • EC No. 220-695-6

WGK 3

Type analysis:

Appearance..... dark green to black powder

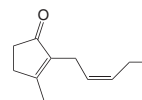
7697.1	5 g	glass	22,50 €

7697.2	25 g	glass	55,80 €

7697.3	100 g	glass	170,95 €

For further information, please see page 1399

cis-Jasmone



cis-Jasmone

ROTICHROM® GC

Reference substance for GC

$C_{11}H_{16}O$

M 164,24 g/mol

D 0,940 • bp 134-135 °C

flp 107 °C

Storage temp.: +4 °C

[488-10-8] • EC No. 207-668-4

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Purity (GC)..... ≥89 %

6519.1	1 g	plastic	75,15 €

Jenner Stain

Jenner Stain

for microscopy

Mixture of eosin, methylene blue, Azure A, B and C

[62851-42-7]

WGK 3

Type analysis:

Appearance..... dark green to black powder

Appearance of solution (0,1 % in MeOH).....

..... clear to opaque, dark blue

7698.1	5 g	glass	13,15 €

7698.2	25 g	glass	22,50 €

7698.3	100 g	glass	55,80 €

For further information, please see page 1399

Jodine

► Iodine see p. 1902

Jojoba oil

Jojoba oil

virgin

D 0,87 • bp 398 °C

mp ~7 °C • flp >295 °C

[61789-91-1] • EC No. 289-964-3

Type analysis:

Appearance.....

..... clear, light yellow to yellowish to brownish oil

Density (20 °C)..... 0,860-0,870 g/cm³

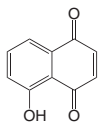
Refractive index (20 °C)..... 1,450-1,470

7526.1	100 ml	glass	21,40 €

7526.2	1 l	glass	132,15 €

Original pack 6 x 1 l 125,54/1 l

Juglone



Juglone

~97 %

5-Hydroxy-1,4-naphthoquinone, Nucin, Regianin

 $C_{10}H_6O_3$

M 174,16 g/mol

mp 161-163 °C

[481-39-0] • EC No. 207-567-5

UN No. 1544 • ADR 6.1 III • WGK 3

⚠️ Danger H301-H315-H319-H335

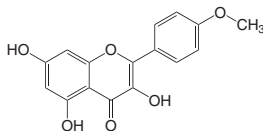
Type analysis:

Appearance..... fine crystals

Assay (HPLC)..... ~97 %

5843.2 5 g glass 342,95 €

Kaempferide



Kaempferide

ROTICHROM® HPLC

Reference substance for HPLC

4'-Methoxy-3,5,7-trihydroxyflavone

 $C_{16}H_{12}O_6$

M 300,27 g/mol

Storage temp.: +4 °C

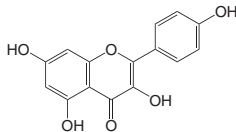
[491-54-3] • EC No. 207-738-4

Type analysis:

Purity (HPLC)..... ≥99 %

7501.1 10 mg glass 160,20 €

Kaempferol



3,4',5,7-Tetrahydroxyflavone, Robigenin, Trifolitin

 $C_{15}H_{10}O_6$

M 286,24 g/mol

mp 250-280 °C (dec.)

[520-18-3] • EC No. 208-287-6

WGK 3

⚠️ Warning H315-H319-H335-H341

Kaempferol

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤2,0 %

Water (KF)..... ≤5,0 %

Assay (qNMR)..... ≥80,0 %

Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV. The certificate includes all results of analytical tests and validations.

NE26.1 25 mg glass 783,70 €

Kaempferol

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC)..... ≥80,0 %

Identity..... complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC26.1 25 mg glass 156,45 €

Kaempferol

ROTICHROM® HPLC

Reference substance for HPLC

From *Aesculus hippocastanum*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... >99 %

7503.1 10 mg glass 102,15 €

Kaempferol

ROTICHROM® ~CHR

Storage temp.: +4 °C

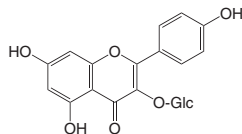
Type analysis:

Appearance..... fine yellow powder

Melting point (dec.)..... 250-280 °C

5859.1 500 mg glass 224,70 €

Kaempferol-3-glucoside



Kaempferol-3-glucoside

ROTICHROM® HPLC

Reference substance for HPLC

From *Aesculus hippocastanum*

Astragalin

 $C_{21}H_{20}O_{11}$

M 448,39 g/mol

Storage temp.: +4 °C

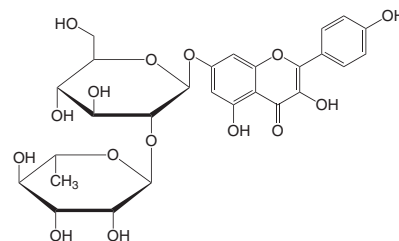
[480-10-4]

Type analysis:

Purity (HPLC)..... ≥99 %

9321.1 5 mg glass 209,65 €

Kaempferol-7-neohesperidoside



Kaempferol-7-neohesperidoside

ROTICHROM® ~CHR

Kaempferol-7-O-α-L-rhamnosido-D-glucoside

 $C_{27}H_{30}O_{15} \cdot x H_2O$ M 594,53 + x H₂O g/mol

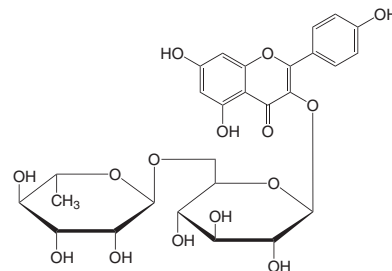
mp 255-257 °C

[17353-03-6]

⚠️ Warning H302

9467.1 10 mg glass 138,70 €

Kaempferol-3-rhamnosido-glucoside



Kaempferol-3-rhamnosido-glucoside

ROTICHROM® HPLC

Reference substance for HPLC

 $C_{27}H_{30}O_{15}$

M 594,5 g/mol

Storage temp.: +4 °C

[17650-84-9]

⚠️ Warning H302

Type analysis:

Purity (HPLC)..... ≥98 %

4526.1 10 mg glass 428,95 €

Kaempferol-7-O-α-L-rhamnosido-D-glucoside

▶ Kaempferol-7-neohesperidoside see p. 1915

Kaiser's glycerol gelatine phenol-free

Kaiser's glycerol gelatine phenol-free

for microscopy

Aqueous mounting medium

D 1,02

WGK 1

Type analysis:

Appearance: light yellowish coloured, solid medium
Glycerol: ~40 %
Gelatine: 7-12 %
Refractive index (20 °C): 1,44-1,47
Density (20 °C): 1,02

6474.1	50 ml	glass	16,05 €

For further information, please see page 1411

Kanamycin

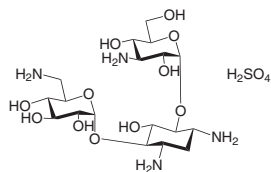
► Kanamycin sulphate see p. 1916

Kanamycin-LB Selective Agar

► LB-Agar (Lennox) / Kana50 see p. 1925

► LB-Agar (Luria/Miller) / Kana50 see p. 1926

Kanamycin sulphate



Kanamycin sulphate

≥750 I.U./mg, for biochemistry

Bacteriostatic antibiotic

Kanamycin

$C_{18}H_{36}N_4O_{11} \cdot H_2SO_4$

M 582,58 g/mol

mp 250 °C

Storage temp.: +20 °C

[25389-94-0] • EC No. 246-933-9

WGK 2

 **Danger** H360D

Typ analysis:

Assay: ≥750 I.U./mg
pH value (1 % in H_2O , 25 °C): 6,5-8,5
Ash content: ≤0,5 %
Specific rotation $[\alpha]_D^{20}$: +112° to +123°

T832.1	5 g	plastic	19,90 €

T832.2	25 g	plastic	54,75 €

T832.3	50 g	plastic	90,20 €

T832.4	100 g	plastic	149,45 €

For further information, please see page 1367

Kantharidin

► Cantharidin see p. 1711

Kaolin

► Bolus see p. 1685

Karl Fischer Roti®hydroquant C2

Karl Fischer Roti®hydroquant C2

2 mg H_2O /ml, free of pyridine

Single-component reagent

D 1,2

UN No. 1760 • ADR 8 (III) • WGK 2

 **Danger**

H314-H332-H360D-H335-H373

Guarantee analysis:

Efficiency: ≥2 mg H_2O /ml
at the time of manufacture

T194.1	1 l	glass	88,70 €

Original pack 6 x 1 l	84,27/1 l

Karl Fischer Roti®hydroquant C5

Karl Fischer Roti®hydroquant C5

5 mg H_2O /ml, free of pyridine

Single-component reagent

D 1,2

UN No. 1760 • ADR 8 III • WGK 2

 **Danger**

H314-H332-H360D-H372

Guarantee analysis:

Efficiency: ≥5 mg H_2O /ml
at the time of manufacture

T190.1	1 l	glass	95,15 €

Original pack 6 x 1 l	90,39/1 l

Karl Fischer Roti®hydroquant C5 K

Karl Fischer Roti®hydroquant C5 K

5 mg H_2O /ml, for aldehydes and ketones

Single component reagent

UN No. 1760 • ADR 8 (III) • WGK 1

 **Danger** H314-H360D-H372

Guarantee analysis:

Efficiency: ≥5 mg H_2O /ml
at the time of manufacture

5211.1	1 l	glass	99,90 €

Original pack 6 x 1 l	94,91/1 l

Karl Fischer methanol

Karl Fischer methanol Roti®hydroquant D

dry, for KF titration

Methanol, Methyl alcohol

CH_4O

M 32,04 g/mol

D 0,79 • bp 64,5 °C

flp 11 °C

[67-56-1] • EC No. 200-659-6

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H301+H311+H331-H370

Guarantee analysis:

Water (H_2O): ≤0,01 %
Application test: complies

T193.1	1 l	glass	22,50 €

Original pack 6 x 1 l	21,38/1 l

T193.2	2,5 l	glass	44,00 €

Original pack 4 x 2,5 l	41,80/2,5 l

Karl Fischer Roti®hydroquant S

Karl Fischer Roti®hydroquant S

for KF titration

Solvent component

D 1,09

flp 11 °C

UN No. 3286 • ADR 3 (6.1) (8) II • WGK 1

 **Danger**

H225-H301+H311+H331-H314-H361d-H370

Guarantee analysis:

Application test: complies

T192.1	1 l	glass	41,40 €

Original pack 6 x 1 l	39,33/1 l

Karl Fischer Roti®hydroquant S CM

Karl Fischer Roti®hydroquant S CM

For KF-titration

Solvent component

For oils and fats

UN No. 1992 • ADR 3 (6.1) III • WGK 3

 **Danger** H226-H301+H311+H331-

H315-H319-H351-H361d-H370-H372

Guarantee analysis:

Application test: complies

5218.1	1 l	glass	34,95 €

Original pack 6 x 1 l	33,20/1 l

Karl Fischer Roti[®]hydroquant T

flp 11 °C

UN No. 1992 • ADR 3 (6.1) II • WGK 1

Danger

H225-H301+H311+H331-H370-H373

Karl Fischer Roti[®]hydroquant T2

2 mg H₂O/ml, free of pyridine

Titrant component

Two-components reagent

Guarantee analysis:

Efficiency. ≥2 mg H₂O/ml at the time of manufacture

X947.1	1 l	glass	47,85 €
Original pack 6 x 1 l			45,46/1 l

Karl Fischer Roti[®]hydroquant T5

5 mg H₂O/ml, free of pyridine

Titrant component

Two-components reagent

Guarantee analysis:

Efficiency. ≥5 mg H₂O/ml at the time of manufacture

T191.1	1 l	glass	42,15 €
Original pack 6 x 1 l			40,04/1 l

Karl Fischer Roti[®]hydroquant Working Medium K

Karl Fischer Roti[®]hydroquant Working Medium K

For KF-titration for aldehydes and ketones
Solvent component.Use with Karl Fischer Roti[®]hydroquant C5 K.

UN No. 2810 • ADR 6.1 (II) • WGK 3

Danger H300+H310+H330-H315-

H319-H351-H361d-H372

Guarantee analysis:

Application test. complies

5215.1	1 l	glass	64,00 €
Original pack 6 x 1 l			60,80/1 l

Karl Fischer Roti[®]hydroquant standard sodium tartrate dihydrate

Karl Fischer Roti[®]hydroquant standard sodium tartrate dihydrate

≥99 %, for KF-titration

Primary standard substance for Karl Fischer titration

C₄H₄Na₂O₆ · 2 H₂O

M 230,08 g/mol

mp 150 °C

Solubility: 290 g/l (H₂O, 20 °C)

[6106-24-7] • EC No. 212-773-3

WGK 1

Guarantee analysis:

Assay (perchloric acidim). 99,0-101,0 %
Loss on drying (150 °C)..... 15,66 ±0,05 %

5229.1	100 g	glass	34,95 €

Karl Fischer Roti[®]hydroquant waterstandard 10,0

Karl Fischer Roti[®]hydroquant waterstandard 10,0

10 mg H₂O/g

Waterstandard

UN No. 1993 • ADR 3 (III) • WGK 1

Danger

H226-H312+H332-H315-H318-H335

Guarantee analysis:

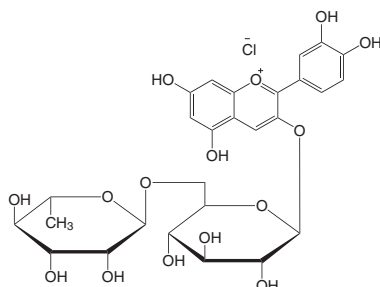
Water content. 10 ±0,1 mg H₂O/g

5219.1	10 x 10 ml	glass	54,30 €

Karmin

► Carmine (C.I. 75470) see p. 1717

Keracyanine chloride



Keracyanine chloride

ROTICHRON[®] HPLC

Reference substance for HPLC

C₂₇H₃₁ClO₁₅

M 630,98 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

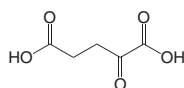
[18719-76-1] • EC No. 242-528-6

Type analysis:

Purity (HPLC). ≥96,5 %

6134.2	10 mg	glass	203,20 €

α-Ketoglutaric acid



α-Ketoglutaric acid

≥99 %, for biochemistry

2-Oxoglutaric acid

C₅H₆O₅

M 146,10 g/mol

mp 113-117 °C

Storage temp.: +4 °C

[328-50-7] • EC No. 206-330-3 • WGK 1

Danger H318

Type analysis:

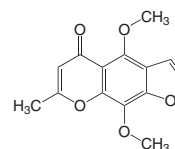
Assay. ≥99,0 %
Heavy metals. ≤0,001 %
Loss on drying. ≤1,0 %

5901.1	100 g	plastic	52,60 €

α-Ketopropionic acid

► Pyruvic acid see p. 2075

Khellin



Khellin

≥98 %, for biochemistry

From *Amni Vishnaga*.C₁₄H₁₂O₅

M 260,24 g/mol

mp 150-153 °C

[82-02-0] • EC No. 201-392-8

UN No. 2811 • ADR 6.1 III

Danger H301-H315

Typ analysis:

Appearance. light yellow powder

Assay (HPLC). ≥98,0 %

Sulphated ash. ≤0,1 %

Heavy metals. ≤0,001 %

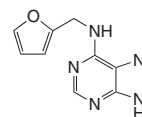
5911.1	10 g	glass	42,50 €

5911.2	50 g	glass	166,65 €

Kieselguhr

► Celite[®] 503 see p. 1722

Kinetin



Kinetin

≥98 %, for biochemistry

N6-Furfuryladenine, 6-Furfurylamino-purine

C₁₀H₉N₅O

M 215,22 g/mol

mp 269-271 °C (dec.)

Storage temp.: +4 °C

[525-79-1] • EC No. 208-382-2

WGK 1

Type analysis:

Assay (HPLC). ≥98 %

Solution (1 % in 1 mol/l NaOH)..... colourless

Solution (1 % in 1 mol/l HCl)..... colourless

Water (KF). ≤0,5 %

4142.1	1 g	glass	18,85 €

4142.2	5 g	glass	47,20 €

King's B Medium (Base)**King's B Medium (Base)**

DEV, EN ISO 16266:2008, for microbiology
For confirmation of *Pseudomonas aeruginosa* in water samples.

Application: Use 38 g for 990 ml agar. Add 10 ml glycerol.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Peptone.....	20 g/l
di-Potassium hydrogen phosphate.....	1,5 g/l
Magnesium sulphate heptahydrate.....	1,5 g/l
Agar.....	15 g/l
pH value.....	7,2 ±0,2

CP64.1	500 g	plastic	141,40 €

Original pack 6 x 500 g 134,33/500 g

For further information, please see page 1324

Kjeldahl tablets (free of mercury and selenium)

UN No. 3077 • ADR 9 III • WGK 2

⚠ H411

Kjeldahl tablets (free of mercury and selenium)

5 g/tablet

For determination of nitrogen.

Type analysis:

Appearance..... light grey tablets
Composition: TiO_2 , CuSO_4 , K_2SO_4 and Na_2SO_4

HN19.1	250 pieces	plastic	121,40 €
HN19.2	1000 pieces	plastic	439,70 €

Kjeldahl tablets (free of mercury and selenium)

2,5 g/tablet

For determination of nitrogen.

Type analysis:

Appearance..... light grey tablets
Composition: TiO_2 , CuSO_4 , K_2SO_4 and Na_2SO_4

HN20.1	250 pieces	plastic	93,00 €

Kjeldahl tablets (Missouri catalyst)**Kjeldahl tablets (Missouri catalyst)**

2,5 g/tablet

For determination of nitrogen.

UN No. 3077 • ADR 9 III • WGK 2

⚠ H411

Type analysis:

Appearance..... blue tablets
Composition: acc. to Missouri (K_2SO_4 , Na_2SO_4 and CuSO_4)

HN22.1	250 pieces	plastic	83,75 €

Kjeldahl tablets (Wieninger catalyst)**Kjeldahl tablets (Wieninger catalyst)**

2,5 g/tablet

For determination of nitrogen.

UN No. 3077 • ADR 9 III • WGK 2

⚠ H411

Type analysis:

Appearance..... grey tablets
Composition: acc. to Wieninger (Na_2SO_4 , CuSO_4 and Se)

HN21.1	250 pieces	plastic	95,60 €

Kligler Iron Agar**Kligler Iron Agar**

for microbiology

For differentiation of gram-negative enterobacteria.

Application: Use 52 g for 1 l agar.

Double Sugar Iron Agar, **KIA**

Storage temp.: +20 °C

WGK 1

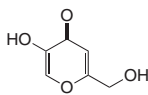
Formulation:

Peptone mixture.....	20 g/l
Lactose.....	10 g/l
Sodium chloride.....	5 g/l
Glucose.....	1 g/l
Ammonium iron(III) citrate.....	0,5 g/l
Sodium thiosulphate.....	0,5 g/l
Phenol red.....	0,025 g/l
Agar.....	15 g/l
pH value.....	7,4 ±0,2

5758.1	500 g	plastic	77,95 €

Original pack 6 x 500 g 74,05/500 g

For further information, please see page 1325

Kojic acid**Kojic acid**

>98 %, for biochemistry

5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one

$\text{C}_6\text{H}_6\text{O}_4$

M 142,11 g/mol

mp 154-156 °C

[501-30-4] • EC No. 207-922-4

WGK 1

Type analysis:

Assay (titr.)..... >98,0 %
Melting point..... 154-158 °C

5927.1	10 g	glass	26,35 €

5927.2	50 g	glass	48,95 €

Komplexon®

► Nitrilotriacetic acid see p. 1990

Koser Citrate Agar (modified)

► Simmons Citrate Agar see p. 2138

Kovacs' Reagent**Kovacs' Reagent**

for microbiology

Media supplement for detection of microbial indole.

100 ml Kovacs' Reagent is sufficient for approx. 2 l medium.

Indole Reagent

Storage temp.: +4 °C

UN No. 2920 • ADR 8 (3) II • WGK 1

⚠ ⚠ ⚠ **Danger** H226-H290-H302-H315-H318-H335-H336

Type analysis:

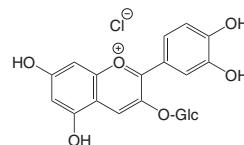
Appearance..... yellowish, clear liquid
4-(Dimethylamino)benzaldehyde..... 50 g/l
1-Butanol..... 75 %
Hydrochloric acid (37 %)... 25 %
pH value..... >1

2950.1	100 ml	glass	41,85 €

For further information, please see page 1348

K-Oxya

► Ethyl cyanoglyxylate-2-oxyme potassium salt (K-Oxya) see p. 1813

Kuromanin chloride**Kuromanin chloride**

ROTICHROM® HPLC

Reference substance for HPLC

Cyanidin-3-O-glucoside

$\text{C}_{21}\text{H}_{21}\text{ClO}_{11}$

M 484,84 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

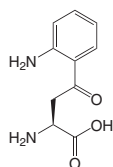
[7084-24-4] • EC No. 230-384-7

Type analysis:

Purity (HPLC)..... ≥97 %

6136.2	10 mg	glass	203,20 €

L-Kynurenine



L-Kynurenine

≥98 %, for biochemistry

(S)-2-Amino-4-(2-aminophenyl)-4-oxo-butanoic acid, (S)-Kynurenine

C₁₀H₁₂N₂O₃

M 208,22 g/mol

[2922-83-0]

WGK 3

Type analysis:

Appearance: slightly yellow to light yellow powder

Assay (titr.): ≥98,0 %

Appearance of solution (50 mg/ml in 0,5 M HCl): dark yellow to yellow orange

Water (KF): ≤5,0 %

8456.1	100 mg	glass	53,25 €
8456.2	250 mg	glass	99,90 €
8456.3	500 mg	glass	177,40 €

(S)-Kynurenine

► L-Kynurenine see p. 1919

Lab

► Rennin see p. 2082

Label remover

Label remover

pure vegetable

Dipentene

D 0,84 • bp 178 °C

flp 52 °C

UN No. 2319 • ADR 3 III • WGK 2

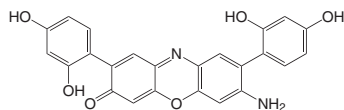
Danger

H226-H315-H317-H304-H400-H410

2958.1	1 l	tinplate	18,20 €

For further information, please see page 1081

Lacmoid



Lacmoid

p.a.

Indicator pH 4,4-6,4

Resorcin blue

C₂₄H₁₆N₂O₆

M 428,39 g/mol

[42249-61-6] • EC No. 255-736-7

WGK 3

Warning H315-H319-H335

Type analysis:

Appearance: dark blue to black powder

Appearance of solution (0,1 % in MeOH): opaque, dark blue

pH-transition range: 4,4 (red)-6,4 (blue)

7699.1	5 g	glass	13,15 €
7699.2	25 g	glass	22,40 €
7699.3	100 g	glass	55,80 €

Lacmus

► Litmus (C.I. 1242) see p. 1937

Lactalbumin

Lactalbumin

for microbiology

Storage temp.: +20 °C

[68458-87-7] • EC No. 270-615-9

WGK 3

Type analysis:

Total nitrogen: ≥10 %

Amino nitrogen: ≥4,8 %

Loss on drying: ≤6 %

Ash: ≤15 %

pH (2 % solution): 6,5-7,5

7597.1	250 g	plastic	68,30 €
7597.2	500 g	plastic	117,75 €
Original pack 6 x 500 g			111,86/500 g

For further information, please see page 1356

γ-Lactame

► 2-Pyrrolidone see p. 2074

Lactate dehydrogenase

Lactate dehydrogenase

≥290 U/mg protein

From porcine heart, freeze-dried

LDH, LD, Lactic dehydrogenase

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-60-9] • EC No. 232-617-8

WGK 1

Type analysis:

Appearance: white powder

Activity: ≥290 U/mg protein

Pyruvate kinase: ≤0,01 %

Alanine aminotransferase (GPT): ≤0,02 %

Malate dehydrogenase: ≤0,05 %

6060.1	0,05 MU	plastic	116,00 €

For further information, please see page 1222

Lactic acid

Lactic acid

80 %, of that ≥95 % L(+)-lactic acid

Hydroxypropionic acid, Lactol

C₃H₆O₃

M 90,1 g/mol

D 1,2

[79-33-4] • EC No. 201-196-2

WGK 1

Danger H318-H315

Type analysis:

Appearance: clear, light, viscous,

..... colourless or pale yellow solution

Assay (GC, isomeres): 79,5-80,5 %, of that ≥95 % L(+)-lactic acid

Colour (APHA): ≤50

Density (20 °C): 1,18-1,20

Sulphated ash: ≤0,1 %

Arsenic (As): ≤0,0001 %

Calcium (Ca): ≤0,002 %

Iron (Fe): ≤0,001 %

Heavy metals: ≤0,001 %

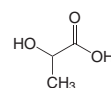
Chloride (Cl): ≤0,001 %

Sulphate (SO₄): ≤0,002 %

Reducing substances: complies

8460.1	1 l	plastic	31,95 €
Original pack 6 x 1 l			30,35/1 l
8460.2	5 l	plastic	90,85 €
Original pack 2 x 5 l			86,31/5 l

DL-Lactic acid



DL-Lactic acid

90 %, Ph.Eur., synthetic

Hydroxypropionic acid

C₃H₆O₃

M 90,08 g/mol

D 1,21

mp 17 °C

[598-82-3] • EC No. 209-954-4

WGK 1

Danger H318-H315

Guarantee analysis:

Appearance: colourless to light yellowish, syrupy liquid

Assay (acidim.): 88,0-92,0 %

Identity: complies

Relative density (20/20 °C): 1,20-1,21

Miscible: water, alcohol, ether

Appearance of the substance: complies

Citric, oxalic and phosphoric acid: complies

Ether insoluble substances: complies

Sulphated ash: ≤0,1 %

Chloride (Cl): complies

Sulphate (SO₄): ≤0,02 %

Calcium (Ca): ≤0,02 %

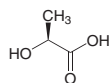
Heavy metals (as Pb): ≤0,001 %

Volatile fatty acids: complies

Sugar and other reducing substances: complies

8994.1	1 l	glass	33,90 €
Original pack 6 x 1 l			32,21/1 l
8994.2	2,5 l	glass	70,45 €
Original pack 4 x 2,5 l			66,93/2,5 l

L-Lactic acid



L-Lactic acid

≥98 %, for biochemistry

2-Hydroxypropionic acid, Sarcosolactic acid, Lactol

$C_3H_6O_3$

M 90,08 g/mol

mp 50-54 °C

Storage temp.: +4 °C

[79-33-4] • EC No. 201-196-2

WGK 1

Danger H315-H318

Type analysis:

Appearance..... white to almost white cryst. powder

Assay (titr.)..... ≥98,0 %

Appearance of solution (20 %, H_2O)..... colourless to almost colourless

Specific rotation $[\alpha]_D^{20}$ (c=2,5 in 1,5 M NaOH)..... -15,0° to -13,0°

Magnesium (Mg)..... ≤0,05 %

Sodium (Na)..... ≤0,05 %

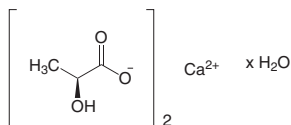
Water (KF)..... ≤0,5 %

8360.1	5 g	plastic	32,80 €

8360.2	10 g	plastic	48,95 €

8360.3	25 g	plastic	99,45 €

L(+)-Lactic acid calcium salt hydrate



L(+)-Lactic acid calcium salt hydrate

≥98 %

Calcium L-lactate hydrate

$C_6H_{10}CaO_6 \cdot x H_2O$

M 218,23 + x H_2O g/mol

[41372-22-9] • EC No. 248-953-3

WGK 1

Type analysis:

Appearance..... white powder

Assay (dry substance)..... ≥98 %

Specific rotation $[\alpha]_D^{20}$ (c=5 in H_2O)..... -3,7° to -4,7°

Contains 4 mol water

8795.1	25 g	plastic	20,35 €

L(+)-Lactic acid calcium salt pentahydrate

L(+)-Lactic acid calcium salt pentahydrate

≥98 %, FCC

Calcium L-lactate pentahydrate

$C_6H_{10}CaO_6 \cdot 5 H_2O$

M 308,30 g/mol

[28305-25-1] • EC No. 248-953-3

WGK 1

Guarantee analysis:

Appearance..... white powder

Assay (dry substance)..... 98,0-101,0 %

pH value (5 % in H_2O)..... 6,0-8,0

Calcium (Ca)..... 13,4-14,5 %

Chloride (Cl)..... ≤0,008 %

Sulphate (SO_4)..... ≤0,04 %

Phosphate (PO_4)..... ≤0,015 %

Heavy metals (as Pb)..... ≤0,001 %

Arsenic (As)..... ≤0,0001 %

Mg and alkali salts..... ≤1,0 %

Reducing sugar..... complies

Loss on drying (125 °C)..... 22,0-27,0 %

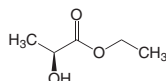
4071.2	500 g	plastic	17,95 €

Original pack 6 x 500 g	17,05/500 g

4071.1	1 kg	plastic	28,20 €

Original pack 6 x 1 kg	26,79/1 kg

L(-)-Lactic acid ethyl ester



L(-)-Lactic acid ethyl ester

≥98 %

Ethyl-(S)-lactate

$C_5H_{10}O_3$

M 118,13 g/mol

D 1,04 • bp 154 °C

mp -25 °C • flp 53 °C

[687-47-8] • EC No. 211-694-1

UN No. 1192 • ADR 3 III • WGK 1

Danger H318-H226-H335

Type analysis:

Assay..... ≥98 %

Density (20 °C)..... 1,029-1,031

Refractive index n_D^{20} 1,410-1,420

Free acid..... ≤0,1 %

Water (KF)..... ≤0,3 %

Colour (APHA)..... ≤50

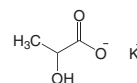
5016.1	1 l	plastic	41,40 €

Original pack 6 x 1 l	39,33/1 l

5016.2	5 l	plastic	160,20 €

Original pack 2 x 5 l	152,19/5 l

Lactic acid potassium salt



Lactic acid potassium salt

50 %, extra pure

50 % aqueous solution

$C_3H_5KO_3$

M 128,18 g/mol

[996-31-6] • EC No. 213-631-3

WGK 1

Type analysis:

Appearance..... clear, almost colourless liquid

Assay..... 49,0-51,0 %

pH value (10 % solution)..... 5,0-7,0

Relative density (20 °C)..... 1,270-1,282

Chloride (Cl)..... ≤0,005 %

Sulphate (SO_4)..... ≤0,01 %

Heavy metals (as Pb)..... ≤0,0005 %

Calcium (Ca)..... ≤0,01 %

Iron (Fe)..... ≤0,0005 %

7989.2	500 g	plastic	22,50 €

Original pack 6 x 500 g	21,38/500 g

7989.1	1 kg	plastic	34,95 €

Original pack 6 x 1 kg	33,20/1 kg

7989.3	5 kg	plastic	107,40 €

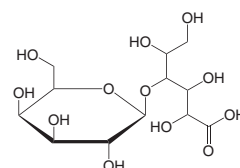
Lactic dehydrogenase

► Lactate dehydrogenase see p. 4000

Lactobacillus Selective Agar acc. to Rogosa

► Rogosa Agar see p. 2086

Lactobionic acid



Lactobionic acid

≥98 %

$C_{12}H_{22}O_{12}$

M 358,30 g/mol

mp 113-118 °C

[96-82-2] • EC No. 202-538-3

Type analysis:

Assay..... ≥98 %

9242.1	10 g	plastic	32,80 €

Lactobiose

► Lactose monohydrate see p. 1921

Lactoflavine

► Riboflavine see p. 2085

Lactol

► Lactic acid see p. 1919

Lactophenol blue solution**Lactophenol blue solution
for microscopy**Fungal stain for bacteriological material.
UN No. 2821 • ADR 6.1 II • WGK 2 **Danger**

H301+H311+H331-H314-H341-H373

3097.1	100 ml	glass	23,90 €

For further information, please see page 1400

Lactose Broth**Lactose Broth****Ph.Eur., for microbiology**For detection and enumeration of coliform bacteria and for enrichment of *Salmonellae*.

Application: Use 13 g for 1 l broth.

Broth medium D (Ph.Eur. 6.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Gelatin peptone (Pancreas hydrolysate).....	5 g/l
Lactose monohydrate.....	5 g/l
Beef extract.....	3 g/l
pH value.....	6,9 ±0,2

X921.1	500 g	plastic	64,00 €
Original pack 6 x 500 g			60,80/500 g

For further information, please see page 1329

Lactose-Broth (DEV)**Lactose-Broth (DEV)****DEV, for microbiology**For confirmation of *Escherichia coli* in water samples by lactose fermentation.

Application: Use 28 g for 1 l broth.

Storage temp.: +20 °C

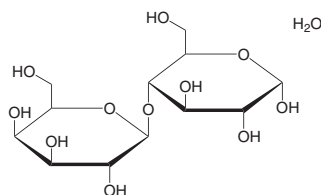
WGK 1

Guarantee analysis:

Meat peptone.....	10 g/l
Meat extract.....	3 g/l
Sodium chloride (NaCl).....	5 g/l
Lactose.....	10 g/l
Bromocresol purple.....	0,02 g/l
pH value.....	7,2 ±0,2

CL76.1	500 g	plastic	82,70 €
Original pack 6 x 500 g			78,57/500 g

For further information, please see page 1329

Lactose monohydrate

Lactobiose

 $C_{12}H_{22}O_{11} \cdot H_2O$

M 360,32 g/mol

D 1,525

mp 202 °C

Solubility: 161 g/l (H_2O , 20 °C)

[10039-26-6] • EC No. 200-559-2

Lactose monohydrate**Ph.Eur., for biochemistry****Guarantee analysis:**

Appearance of solution.....	complies
Identity.....	complies
Acid or alkaline react. substances.....	complies
Specific rotation $[\alpha]_D^{20}$	+54,4° to +55,9°
Water.....	4,5-5,5 %
Loss on drying.....	≤0,5 %
Sulphated ash.....	≤0,1 %
Heavy metals.....	≤0,0005 %
Absorption:	
400 nm.....	≤0,04
270-300 nm.....	≤0,07
210-220 nm.....	≤0,25

8921.1	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg
8921.2	5 kg	plastic	72,60 €
8921.3	10 kg	plastic	123,55 €
8921.5	25 kg	plastic	289,20 €

Lactose monohydrate**for microbiology****Guarantee analysis:**

Appearance.....	white to almost white powder
Heavy metals.....	≤0,0005 %
Specific rotation $[\alpha]_D^{20}$	+54,4° to +55,9°
Loss on drying.....	≤0,5 %
Sulphated ash.....	≤0,1 %
Water.....	4,5-5,5 %
Absorption:	
400 nm.....	≤0,04
270-300 nm.....	≤0,07
210-220 nm.....	≤0,25

6868.1	1 kg	plastic	23,35 €
Original pack 6 x 1 kg			22,18/1 kg
6868.2	5 kg	plastic	78,40 €
6868.4	10 kg	plastic	134,40 €
6868.3	50 kg	plastic	499,90 €

Lactose Peptone Broth (DEV)**Lactose Peptone Broth (DEV)****DEV, for microbiology**

For enrichment and enumeration of coliform bacteria in water samples.

Application: Use 35 g for 1 l broth.

Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Meat peptone.....	17 g/l
Soy peptone.....	3 g/l
Sodium chloride (NaCl).....	5 g/l
Lactose.....	10 g/l
Bromocresol purple.....	0,02 g/l
pH value.....	7,2 ±0,2

CL77.1	500 g	plastic	102,70 €
Original pack 6 x 500 g			97,57/500 g
CL77.2	1 kg	plastic	176,20 €
Original pack 6 x 1 kg			167,39/1 kg

For further information, please see page 1329

Lactose Sulphite Broth (Base)**Lactose Sulphite Broth (Base)****Ph.Eur., for microbiology**For selective detection and enumeration of *C. perfringens*.

Application: Use 20,3 g for 1 l broth. Prior to use add sodium bisulphite solution and iron(III) ammonium citrate solution (Art. No. 3130.1).

Medium R (Ph.Eur. 6.0)

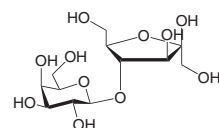
Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Casein peptone (Pancreas hydrolysate).....	5 g/l
Yeast extract.....	2,5 g/l
Sodium chloride (NaCl).....	2,5 g/l
Lactose monohydrate.....	10 g/l
Cystein hydrochloride.....	0,3 g/l
pH value.....	7,1 ±0,2

AE46.1	500 g	plastic	74,75 €
Original pack 6 x 500 g			71,01/500 g

For further information, please see page 1329

Lactulose**Lactulose****≥99 %, for biochemistry**

4-O-β-D-Galactopyranosyl-D-fructose

 $C_{12}H_{22}O_{11}$

M 342,20 g/mol

mp ~169 °C

[4618-18-2] • EC No. 225-027-7

Type analysis:

Assay.....	≥98 %
Loss on drying.....	≤1,0 %
Specific rotation $[\alpha]_D^{20}$	-50° to -46°

CN98.1	10 g	plastic	23,55 €
CN98.2	25 g	glass	46,15 €
CN98.3	50 g	plastic	83,35 €

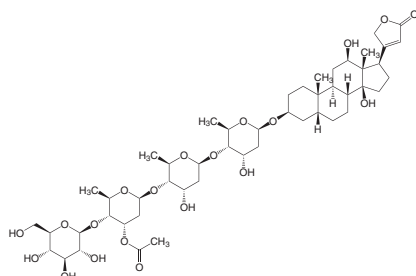
Laevulose

► D(-)-Fructose see p. 1842

Lambda DNA-Marker

► DNA-Marker, not prestained see p. 1791

Lanatoside C



Lanatoside C

ROTICHROM® HPLC

From *Digitalis lanata*.

$C_{49}H_{76}O_{20}$

M 985,14 g/mol

mp 245-250 °C (dec.)

Storage temp.: +4 °C

[17575-22-3] • EC No. 241-546-1

UN No. 2811 • ADR 6.1 I • WGK 3

Danger H301+H311+H331-H373

Type analysis:

Purity (HPLC).....>99 %

7321.1	50 mg	glass	123,65 €

For further information, please see page 1472

Lanolin

► Lanolin see p. 1922

Lanolin

Adeps Lanae anhydricum

D ~0,94

mp 38-50 °C • flp 238 °C

[8006-54-0] • EC No. 232-348-6

WGK 1

Lanolin

Ph.Eur., low in pesticides

Wool fat

Guarantee analysis:

Appearance.....light yellow to brownish-yellow, viscous matter
 Identity.....complies
 Acid value.....≤1
 Saponification value.....90-105
 Drop point.....38-44 °C
 Water absorption.....≥20 g
 Peroxide value.....≤10
 Butylated hydroxytoluene.....≤0,01 %
 Loss on drying.....≤0,5 %
 Sulphated ash.....≤0,15 %
 Chloride (Cl).....≤0,015 %
 Colour (Gardner).....6-8
 Acid or alkaline react. substances.....complies
 Paraffine.....≤1,0 %
 Water soluble, oxidising substances.....complies
 Organochlorine pesticides (each pesticide).....≤0,000005 %
 Other pesticides (each pesticide).....≤0,00005 %
 Pesticide residues total.....≤0,0001 %

5314.2	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
5314.1	1 kg	plastic	45,05 €
Original pack 6 x 1 kg			42,80/1 kg

Lanolin

techn.

Type analysis:

Melting point.....38-50 °C
 Loss on drying.....≤0,5 %

5313.2	500 g	plastic	18,20 €
Original pack 6 x 500 g			17,29/500 g
5313.1	1 kg	plastic	28,95 €
Original pack 6 x 1 kg			27,50/1 kg

Lanolin alcohols

Lanolin alcohols

Ph.Eur.

Lanae alcoholes

D ~0,93

mp ≥56 °C

[8027-33-6] • EC No. 232-430-1

WGK 1

Guarantee analysis:

Appearance of solution.....complies
 Identity.....complies
 Alkaline reacting substances.....complies
 Melting temperature.....≥56 °C
 Acid value.....≤2,0 mg KOH/g
 Hydroxyl value.....120-180 mg KOH/g
 Peroxide value.....≤15 meq O₂/kg
 Saponification value.....≤12 mg KOH/g
 Loss on drying.....≤0,5 %
 BHT.....≤0,02 %
 Ash.....≤0,1 %
 Content of cholesterol.....≥30 %
 Water capacity.....complies

5085.2	500 g	plastic	81,60 €
Original pack 6 x 500 g			77,52/500 g
5085.1	1 kg	plastic	145,70 €
Original pack 6 x 1 kg			138,42/1 kg

Lanoxin

► Digoxin see p. 1776

Lanthanum trichloride

► Lanthanum(III) chloride hydrate see p. 1923

Lanthanum Standards

► Lanthanum ICP Standard Solution
 see p. 2171
 ► Lanthanum ICP Standard Solution
 see p. 2176

Lanthanum(III) acetate hydrate

Lanthanum(III) acetate hydrate

ROTI®REMETIC 99,9 %

$La(CH_3CO_2)_3 \cdot x H_2O$

M 316,04 + x H₂O g/mol

[25721-92-0] • EC No. 213-034-8

WGK 3

Type analysis:

Assay (TREO*).....99,9 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7031.1	100 g	plastic	67,65 €
7031.2	250 g	plastic	155,90 €

Lanthanum(III) carbonate hydrate

$La_2(CO_3)_3 \cdot x H_2O$

M 457,84 + x H₂O g/mol

Solubility: insoluble (H₂O, 20 °C)

[54451-24-0] • EC No. 209-599-5

WGK 3

Lanthanum(III) carbonate hydrate

ROTI®REMETIC 99,99 %

Type analysis:

Assay (TREO*).....99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7182.1	25 g	plastic	55,80 €
7182.2	100 g	plastic	188,15 €

Lanthanum(III) carbonate hydrate

ROTI®REMETIC 99,9 %

Type analysis:

Assay (TREO*).....99,9 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace
 impurities in ppm range

7026.1	50 g	plastic	32,15 €
7026.2	250 g	plastic	127,95 €

Lanthanum(III) chloride hydrate

Lanthanum trichloride
 $\text{LaCl}_3 \cdot x \text{H}_2\text{O}$
 M 245,26 + x H_2O g/mol
 mp 91 °C (dec.)
 Solubility: ~957 g (H_2O , 25 °C)
 [20211-76-1] • EC No. 233-237-5
 WGK 3

Lanthanum(III) chloride hydrate
ROTI®REMETIC 99,999 %**Type analysis:**

Assay (TREO*) 99,999 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7184.1	25 g	plastic	67,65 €
7184.2	100 g	plastic	177,40 €

Lanthanum(III) chloride hydrate
ROTI®REMETIC 99,99 %**Type analysis:**

Assay (TREO*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7030.1	50 g	plastic	55,80 €
7030.2	250 g	plastic	235,45 €

Lanthanum(III) chloride heptahydrate**Lanthanum(III) chloride heptahydrate**

≥99,9 % cryst.

$\text{LaCl}_3 \cdot 7 \text{H}_2\text{O}$
 M 371,37 g/mol
 mp 91 °C
 [10025-84-0] • EC No. 233-237-5
 WGK 1

Type analysis:

Assay La_2O_3 (TREO) ≥99,9 %
 Assay (TREO*) ~43,0 %
 Calcium oxide (CaO) ≤0,01 %
 Ferric oxide (Fe_2O_3) ≤0,002 %
 Sodiumoxide (Na_2O) ≤0,005 %
 Total REO impurities ≤0,1 %
 *Total rare earth oxide

3979.1	100 g	glass	59,05 €

Lanthanum(III) fluoride**Lanthanum(III) fluoride****ROTI®REMETIC 99,9 %**

Lanthanum trifluoride
 LaF_3
 M 195,90 g/mol
 bp 2327 °C
 mp 1493 °C
 Solubility: insoluble (H_2O , 20 °C)
 [13709-38-1] • EC No. 237-252-8
 WGK 3

Type analysis:

Assay (TREO*) 99,9 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7028.1	10 g	plastic	30,00 €
7028.2	50 g	plastic	100,95 €

Lanthanum(III) nitrate hexahydrate

$\text{La}(\text{NO}_3)_3 \cdot 6 \text{H}_2\text{O}$
 M 433,01 g/mol
 bp 126 °C
 Solubility: 1580 g/l (H_2O , 25 °C)
 [10277-43-7] • EC No. 233-238-0
 UN No. 1477 • ADR 5.1 II • WGK 1
 ⚠ ⚠ ⚠ Danger H272-H318-H335-H315

Lanthanum(III) nitrate hexahydrate**ROTI®METIC 99,995 % (4N5)****Type analysis:**

Assay (metals basis) 99,995 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5366.1	25 g	plastic	88,05 €
5366.2	100 g	plastic	220,40 €

Lanthanum(III) nitrate hexahydrate**ROTI®REMETIC 99,999 %****Type analysis:**

Assay (TREO*) 99,999 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7019.1	25 g	plastic	50,45 €
7019.2	100 g	plastic	155,35 €

Lanthanum(III) nitrate hexahydrate**ROTI®REMETIC 99,99 %****Type analysis:**

Assay (TREO*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7180.1	50 g	plastic	55,80 €
7180.2	250 g	plastic	220,40 €

Lanthanum(III) nitrate hexahydrate

≥99,99 %, p.a.

Type analysis:

Assay La_2O_3 (TREO) ≥99,99 %
 Assay (TREO*) ~37,0 %
 Total REO impurities ≤0,01 %
 Chloride (Cl) ≤0,002 %
 Ferric oxide (Fe_2O_3) ≤0,0005 %
 Sodiumoxide (Na_2O) ≤0,001 %
 *Total rare earth oxide

8358.2	50 g	plastic	47,10 €
8358.1	100 g	plastic	84,85 €
8358.3	250 g	plastic	182,65 €

Lanthanum(III) oxalate**Lanthanum(III) oxalate****ROTI®REMETIC 99,999 %**

$\text{La}_2(\text{C}_2\text{O}_4)_3$
 M 541,87 g/mol
 [537-03-1] • EC No. 208-656-1
 WGK 3

⚠ Warning H302-H312

Type analysis:

Assay (TREO*) 99,999 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7191.1	25 g	plastic	50,45 €
7191.2	100 g	plastic	144,60 €

Lanthanum(III) oxide

Dilanthanum trioxide

La_2O_3
 M 325,81 g/mol
 bp 3620 °C
 mp 2304 °C
 [1312-81-8] • EC No. 215-200-5
 WGK 1

Lanthanum(III) oxide**ROTI®REMETIC 99,999 %****Type analysis:**

Assay (TREO*) 99,999 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7410.1	25 g	plastic	61,20 €
7410.2	100 g	plastic	198,90 €

Lanthanum(III) oxide

≥99,99 %, p.a.

Type analysis:

Assay La_2O_3 (TREO).....	≥99,99 %
Assay (TREO)*.....	~99,0 %
Calcium oxide (CaO).....	≤0,006 %
Chromium oxide (Cr_2O_3).....	≤0,001 %
Ferric oxide (Fe_2O_3).....	≤0,0005 %
Cobalt oxide (Co_3O_4).....	≤0,001 %
Copper oxide (CuO).....	≤0,001 %
Nickel oxide (NiO).....	≤0,001 %
Total REO impurities.....	≤0,005 %
Loss on ignition.....	≤1,0 %
*Total rare earth oxide	

8373.2	50 g	plastic	28,95 €
8373.1	100 g	plastic	48,30 €
8373.3	250 g	plastic	96,25 €

Lanthanum(III) oxide

for atomic absorption spectroscopy

3045.1	5 g	plastic	30,85 €

Lanthanum(III) phosphate hydrate**Lanthanum(III) phosphate hydrate**

ROTI®REMETIC 99,99 %

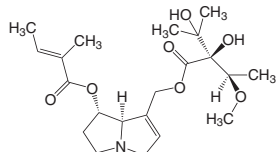
 $\text{LaPO}_4 \cdot x \text{H}_2\text{O}$ M 233,88 + x H_2O g/mol

[14913-14-5] • EC No. 237-419-5 • WGK 1

Type analysis:

Assay (TREO)*.....	99,99 %
*Total rare earth oxide	
Chemical analysis (ICP, AAS): specified trace impurities in ppm range	

7203.1	5 g	plastic	55,80 €
7203.2	25 g	plastic	155,90 €

Lasiocarpine**Lasiocarpine**

ROTICHROM® HPLC

Reference substance for HPLC
From *Heliotropium*

7-Angelyleupine

 $\text{C}_{21}\text{H}_{33}\text{NO}_7$

M 441,49 g/mol • mp 90-95 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[303-34-4]

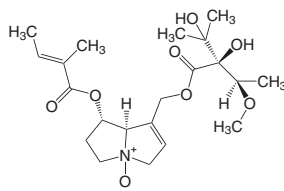
UN No. 1544 • ADR 6.1 III • WGK 1

⚠ Danger H301

Type analysis:

Purity (HPLC)..... ≥96,0 %

2090.1	10 mg	glass	295,65 €

Lasiocarpine N-oxide**Lasiocarpine N-oxide**

ROTICHROM® HPLC

Reference substance for HPLC
From *Heliotropium*

7-Angelyleupine N-oxide

 $\text{C}_{21}\text{H}_{33}\text{NO}_8$

M 427,49 g/mol

mp 116-118 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[127-30-0] • WGK 1

⚠ Warning H302

Type analysis:

Purity (HPLC)..... ≥96,0 %

2202.1	10 mg	glass	295,65 €

Lauraldehyde

► Dodecyl aldehyde see p. 1793

Laurel oil, natural**Laurel oil**

essential, natural

Oleum Lauri aetherum

D 0,92

[8002-41-3]

UN No. 1169 • ADR 3 III • WGK 2

⚠ ⚠ ⚠ ⚠ Danger

H304-H341-H351-H226-H317-H411

Type analysis:

Appearance.....	clear yellow to brown oil
Density (20 °C).....	0,905-0,929 g/cm ³
Refractive index (20 °C).....	1,465-1,470
Optical rotation (20 °C).....	-19° to -10°

6609.1	100 ml	glass	60,10 €

Laurel oil, artificial**Laurel oil**

artificial

Oleum Lauri

D ~0,91

UN No. 1169 • ADR 3 III • WGK 2

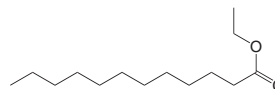
⚠ ⚠ ⚠ ⚠ Danger H226-H315-

H317-H318-H341-H351-H304-H411

Type analysis:

Appearance.....	clear, light yellow brownish oil
Relative density (20 °C).....	0,890-0,930
Refractive index (20 °C).....	1,4650-1,4750
Optical rotation (20 °C).....	-15° to 0°

3314.1	250 ml	glass	43,55 €

Lauric acid ethyl ester**Lauric acid ethyl ester**

ROTICHROM® GC

Reference substance for GC

Ethyl laurate, Dodecanoic acid ethyl ester

 $\text{C}_{14}\text{H}_{28}\text{O}_2$

M 228,39 g/mol

D 0,86 • bp 269 °C

mp -10 °C • flp 138 °C

Storage temp.: +4 °C

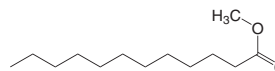
[106-33-2] • EC No. 203-386-0

WGK 2

Type analysis:

Purity (GC)..... ≥97,5 %

4410.1	1 g	plastic	75,15 €

Lauric acid methyl ester**Lauric acid methyl ester**

ROTICHROM® GC

Reference substance for GC

Methyl laurate, Dodecanoic acid methyl ester

 $\text{C}_{13}\text{H}_{26}\text{O}_2$

M 214,35 g/mol

D 0,87 • bp 267 °C

mp 4,8 °C • flp 125 °C

Storage temp.: +4 °C

[111-82-0] • EC No. 203-911-3

WGK 1

Type analysis:

Purity (GC)..... ≥98,5 %

6787.1	1 g	plastic	75,15 €

Lauryl Sulphate Broth**Lauryl Sulphate Broth**

ISO 4831:2006, for microbiology

For enrichment and detection of coliform bacteria in waters.

Application: Use 35,6 g for 1 l broth.

Flu Broth

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Tryptose.....	20 g/l
Lactose.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Potassium phosphate.....	2,75 g/l
di-Potassium phosphate.....	2,75 g/l
Sodium lauryl sulphate.....	0,1 g/l
pH value.....	6,8 ± 0,2

CL80.1	500 g	plastic	93,45 €

Original pack 6 x 500 g

88,78/500 g

For further information, please see page 1330

Lauryl sulphate sodium salt

► SDS see p. 2122

LB Agar (Lennox)Storage temp.: +20 °C
WGK 1**LB Agar (Lennox)****for molecular biology**

Application: Use 35 g for 1 l agar.

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 5 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2
Granulation..... complies

X965.1	500 g	plastic	58,60 €
Original pack 6 x 500 g			55,67/500 g
X965.2	1 kg	plastic	109,55 €
Original pack 6 x 1 kg			104,07/1 kg
X965.3	2,5 kg	plastic	256,95 €

For further information, please see page 1360

**LB-Agar (Lennox), granulated
granulated, for molecular biology**

Application: Use 35 g for 1 l agar.

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 5 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2
Granulation..... complies

6671.1	500 g	plastic	87,65 €
Original pack 6 x 500 g			83,27/500 g
6671.2	1 kg	plastic	166,10 €
Original pack 6 x 1 kg			157,80/1 kg
6671.3	2,5 kg	plastic	356,80 €

For further information, please see page 1359

**LB Agar (Lennox) vegetal
for molecular biology, animal-free**

Application: Use 35 g for 1 l agar.

Formulation:

Vegetable peptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 5 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2

0159.1	500 g	plastic	74,10 €
Original pack 6 x 500 g			70,40/500 g
0159.2	1 kg	plastic	134,95 €
Original pack 6 x 1 kg			128,20/1 kg

For further information, please see page 1362

LB-Agar (Lennox) / Amp100**LB-Agar (Lennox) /
Amp100****NEW****for molecular biology**

For preparation of LB agar with 100 µg/ml ampicillin.

Application: Use 35 g for 1 l agar. Boil for 1 min, do not autoclave.

Ampicillin-LB Selective Agar

Storage temp.: +20 °C • WGK 1
EUH208**Formulation:**

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 5 g/l
Ampicillin..... 0,1 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2

8852.1	500 g	plastic	79,05 €
Original pack 6 x 500 g			75,10/500 g
8852.2	1 kg	plastic	150,00 €
Original pack 6 x 1 kg			142,50/1 kg
8852.3	2,5 kg	plastic	345,10 €

For further information, please see page 1357

LB-Agar (Lennox) / Kana50**LB-Agar (Lennox) /
Kana50****NEW****for molecular biology**

For preparation of LB agar with 50 µg/ml kanamycin.

Application: Use 35 g for 1 l agar. Autoclavable (118 °C, 10 min).

Kanamycin-LB Selective Agar

Storage temp.: +20 °C • WGK 1

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 5 g/l
Kanamycin..... 0,05 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2

8853.1	500 g	plastic	125,25 €
Original pack 6 x 500 g			118,99/500 g
8853.2	1 kg	plastic	241,90 €
Original pack 6 x 1 kg			229,81/1 kg

For further information, please see page 1357

LB Agar (Luria/Miller)

Storage temp.: +20 °C

LB Agar (Luria/Miller)**for molecular biology**

Application: Use 40 g for 1 l agar.

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 10 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2

X969.1	500 g	plastic	50,00 €
Original pack 6 x 500 g			47,50/500 g
X969.2	1 kg	plastic	93,00 €
Original pack 6 x 1 kg			88,35/1 kg
X969.3	2,5 kg	plastic	206,95 €

For further information, please see page 1360

**LB Agar (Luria/Miller),
granulated****granulated, for molecular biology**

Application: Use 40 g for 1 l agar.

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 10 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2
Granulation..... complies

6675.1	500 g	plastic	75,80 €
Original pack 6 x 500 g			72,01/500 g
6675.2	1 kg	plastic	138,70 €
Original pack 6 x 1 kg			131,77/1 kg
6675.3	2,5 kg	plastic	299,95 €

For further information, please see page 1359

LB-Agar (Luria/Miller) / Amp100**LB-Agar (Luria/Miller) /
Amp100****NEW****for molecular biology**

For preparation of LB agar with 100 µg/ml ampicillin.

Application: Use 40 g for 1 l agar. Boil for 1 min, do not autoclave.

Ampicillin-LB Selective Agar

Storage temp.: +20 °C • WGK 1

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 10 g/l
Ampicillin..... 0,1 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2

8855.1	500 g	plastic	68,30 €
Original pack 6 x 500 g			64,89/500 g
8855.2	1 kg	plastic	127,40 €
Original pack 6 x 1 kg			121,03/1 kg
8855.3	2,5 kg	plastic	295,65 €

For further information, please see page 1358

LB-Agar (Luria/Miller) / Amp50**LB-Agar (Luria/Miller) /
Amp50****NEW****for molecular biology**

For preparation of LB agar with 50 µg/ml ampicillin.

Application: Use 40 g for 1 l agar. Boil for 1 min, do not autoclave.

Ampicillin-LB Selective Agar

Storage temp.: +20 °C • WGK 1

Formulation:

Tryptone..... 10 g/l
Yeast extract..... 5 g/l
Sodium chloride (NaCl)..... 10 g/l
Ampicillin..... 0,05 g/l
Agar-Agar..... 15 g/l
pH value..... 7,0 ±0,2

8858.1	500 g	plastic	71,50 €
Original pack 6 x 500 g			67,93/500 g
8858.2	1 kg	plastic	134,40 €
Original pack 6 x 1 kg			127,68/1 kg
8858.3	2,5 kg	plastic	310,70 €

For further information, please see page 1358

LB-Agar (Luria/Miller) / Chloramph34**LB-Agar (Luria/Miller) / Chloramph34****NEW****for molecular biology**

For preparation of LB agar with 34 µg/ml chloramphenicol.

Application: Use 40 g for 1 l agar. Autoclavable (118 °C, 10 min).

Chloramphenicol-LB Selective Agar

Storage temp.: +20 °C

WGK 1

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	10 g/l
Chloramphenicol.....	0,034 g/l
Agar-Agar.....	15 g/l
pH value.....	7,0 ±0,2

8861.1	500 g	plastic	66,15 €
Original pack 6 x 500 g			62,84/500 g
8861.2	1 kg	plastic	123,65 €
Original pack 6 x 1 kg			117,47/1 kg
8861.3	2,5 kg	plastic	284,90 €

For further information, please see page 1358

LB-Agar (Luria/Miller) / Kana50**LB-Agar (Luria/Miller) / Kana50****NEW****for molecular biology**

For preparation of LB agar with 50 µg/ml kanamycin.

Application: Use 40 g for 1 l agar. Autoclavable (118 °C, 10 min).

Kanamycin-LB Selective Agar

Storage temp.: +20 °C

WGK 11

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	10 g/l
Kanamycin.....	0,05 g/l
Agar-Agar.....	15 g/l
pH value.....	7,0 ±0,2

8860.1	500 g	plastic	112,90 €
Original pack 6 x 500 g			107,26/500 g
8860.2	1 kg	plastic	215,00 €
Original pack 6 x 1 kg			204,25/1 kg

For further information, please see page 1357

LB Broth Autoinduct**LB Broth Autoinduct****NEW****for molecular biology**

Autoinduction broth for IPTG free protein expression in recombinant *E. coli*. Induces *lac* promoter driven expression.

Application: Use 39,85 g for 1 l broth.

Autoclavable (115 °C, 20 min).

Autoinduction broth

Storage temp.: +20 °C

WGK 1

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Lactose.....	2 g/l
Glucose.....	0,5 g/l
Salts acc. to Studier.....	17,35 g/l
pH value.....	7,0 ±0,1

9188.1	100 g	plastic	23,55 €

9188.2	250 g	plastic	46,80 €

9188.3	500 g	plastic	84,40 €

Original pack 6 x 500 g			80,18/500 g

9188.4	1 kg	plastic	156,85 €

Original pack 6 x 1 kg			149,01/1 kg

9188.5	2,5 kg	plastic	370,90 €

For further information, please see page 1356

LB Broth (Lennox)

Storage temp.: +20 °C

WGK 1

LB Broth (Lennox)**for molecular biology**

Application: Use 20 g for 1 l broth.

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
pH value.....	7,0 ±0,2

X964.1	500 g	plastic	53,25 €

Original pack 6 x 500 g			50,59/500 g

X964.2	1 kg	plastic	95,15 €

Original pack 6 x 1 kg			90,39/1 kg

X964.3	2,5 kg	plastic	216,65 €

X964.4	5 kg	plastic	370,90 €

For further information, please see page 1360

LB Broth (Lennox), granulated**granulated, for molecular biology**

Application: Use 20 g for 1 l broth.

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
pH value.....	7,0 ±0,2
Granulation.....	complies

6669.1	500 g	plastic	80,10 €

Original pack 6 x 500 g			76,10/500 g

6669.2	1 kg	plastic	141,40 €

Original pack 6 x 1 kg			134,33/1 kg

6669.3	2,5 kg	plastic	314,45 €

6669.4	5 kg	plastic	564,40 €

For further information, please see page 1359

LB Broth (Lennox) vegetal**for molecular biology, animal-free**

Application: Use 20 g for 1 l broth.

Formulation:

Vegetable peptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
pH value.....	7,0 ±0,2

0155.1	500 g	plastic	64,00 €

Original pack 6 x 500 g			60,80/500 g

0155.2	1 kg	plastic	114,50 €

Original pack 6 x 1 kg			108,78/1 kg

For further information, please see page 1362

LB Broth (Luria/Miller)

Storage temp.: +20 °C

WGK 1

LB Broth (Luria/Miller)**for molecular biology**

Application: Use 25 g for 1 l broth.

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	10 g/l
pH value.....	7,0 ±0,2

X968.1	500 g	plastic	46,80 €

Original pack 6 x 500 g			44,46/500 g

X968.2	1 kg	plastic	87,65 €

Original pack 6 x 1 kg			83,27/1 kg

X968.3	2,5 kg	plastic	188,70 €

X968.4	5 kg	plastic	342,95 €

For further information, please see page 1360

LB Broth (Luria/Miller), granulated**granulated, for molecular biology**

Application: Use 25 g for 1 l broth.

Formulation:

Tryptone.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	10 g/l
pH value.....	7,0 ±0,2
Granulation.....	complies

6673.1	500 g	plastic	72,60 €

Original pack 6 x 500 g			68,97/500 g

6673.2	1 kg	plastic	134,95 €

Original pack 6 x 1 kg			128,20/1 kg

6673.3	2,5 kg	plastic	295,65 €

6673.4	5 kg	plastic	532,15 €

6673.4	5 kg	plastic	532,15 €

For further information, please see page 1359

LCV

▶ Leuco crystal violet see p. 1930

LD

▶ Lactate dehydrogenase see p. 4000

LDH

▶ Lactate dehydrogenase see p. 4000

Lead

Lead

≥99,9 %, granules

Pb

M 207,21 g/mol

bp 1620 °C

mp 327 °C

[7439-92-1] • EC No. 231-100-4

UN No. 3077 • ADR 9 III

 **Danger**

H360Df-H373-H400-H410-H302+H332

Type analysis:

Assay ≥99,9 %
Particle size ~20 mesh

2734.1	50 g	plastic	37,55 €
2734.2	100 g	plastic	64,00 €

Lead Standards

- ▶ Lead AAS Standard Solution see p. 2168
- ▶ Lead ICP Standard Solution see p. 2171
- ▶ Lead ICP Standard Solution see p. 2176

Lead(II) acetate, basic

Lead(II) acetate, basic

≥33 %, p.a., ACS

For the analysis of sugar acc. Horne.

Lead subacetate, Lead(II) hydroxide acetate

 $\text{Pb}(\text{CH}_3\text{COO})_2 \cdot 2 \text{Pb}(\text{OH})_2$

M 807,72 g/mol

Solubility: soluble (H_2O , 20 °C)

[1335-32-6] • EC No. 215-630-3

UN No. 1616 • ADR 6.1 III • WGK 3

 **Danger** H351-H360Df-H373-H410

Guarantee analysis:

Lead oxide (PbO) ≥33,0 %
Loss on drying ≤1,5 %
In dilute CH_3COOH insoluble matter ≤0,02 %
In H_2O insoluble matter ≤1,0 %
Chloride (Cl) ≤0,003 %
Nitrate (NO_3) ≤0,003 %
Calcium (Ca) ≤0,01 %
Iron (Fe) ≤0,002 %
Potassium (K) ≤0,02 %
Copper (Cu) ≤0,002 %
Sodium (Na) ≤0,05 %

2559.1	500 g	plastic	34,95 €
Original pack 6 x 500 g 33,20/500 g			
2559.2	1 kg	plastic	52,15 €
Original pack 6 x 1 kg 49,54/1 kg			

Lead(II) acetate trihydrate

Lead(II) acetate trihydrate

≥99,5 %, p.a., ACS, ISO

Reagent for detection of H_2S and preparation of lead acetate paper.

Sugar of lead

 $\text{Pb}(\text{CH}_3\text{COO})_2 \cdot 3 \text{H}_2\text{O}$

M 379,33 g/mol

D 2,55

Solubility: 443 g/l (H_2O , 20 °C)

[6080-56-4] • EC No. 206-104-4

UN No. 1616 • ADR 6.1 III • WGK 3

 **Danger** H360Df-H373-H400-H410

Guarantee analysis:

Assay (compl.) ≥99,5 %
In CH_3COOH insoluble matter ≤0,005 %
Nitrate and nitrite (as NO_3) ≤0,002 %
Chloride (Cl) ≤0,0005 %
Cadmium (Cd) ≤0,001 %
Calcium (Ca) ≤0,005 %
Iron (Fe) ≤0,001 %
Potassium (K) ≤0,005 %
Copper (Cu) ≤0,001 %
Magnesium (Mg) ≤0,005 %
Sodium (Na) ≤0,005 %
Zinc (Zn) ≤0,001 %

P739.1	500 g	plastic	73,00 €
Original pack 6 x 500 g 69,35/500 g			
P739.2	1 kg	plastic	124,60 €
Original pack 6 x 1 kg 118,37/1 kg			
P739.3	2,5 kg	plastic	263,40 €

Lead(II) carbonate

Lead(II) carbonate

≥98 %, p.a., ACS

 PbCO_3

M 267,20 g/mol

D 6,6

mp 315 °C (dec.)

Solubility: insoluble (H_2O)

[598-63-0] • EC No. 209-943-4

UN No. 2291 • ADR 6.1 III • WGK 3

 **Danger** H360Df-H302+H332-H373-H400-H410-EUH201

Guarantee analysis:

Assay (compl.) ≥98,0 %
In dilute CH_3COOH insoluble matter ≤0,02 %
Chloride (Cl) ≤0,002 %
Nitrate and nitrite (as NO_3) complies
Cadmium (Cd) ≤0,002 %
Calcium (Ca) ≤0,01 %
Iron (Fe) ≤0,005 %
Potassium (K) ≤0,02 %
Sodium (Na) ≤0,05 %
Zinc (Zn) ≤0,003 %

2558.1	100 g	plastic	35,40 €
2558.2	250 g	plastic	53,65 €
2558.3	500 g	plastic	84,85 €
Original pack 6 x 500 g 80,61/500 g			

Lead(II) chloride

 PbCl_2

M 278,1 g/mol

D 5,85 • bp 950 °C

mp 500 °C

Solubility: 10 g/l (H_2O , 20 °C)

[7758-95-4] • EC No. 231-845-5

UN No. 2291 • ADR 6.1 III • WGK 3

 **Danger** H302+H332-H360Df-H373-H400-H410-EUH201

Lead(II) chloride

≥99 %, extra pure

Type analysis:

Appearance very slightly beige powder
Assay ≥99 %
Iron (Fe) ≤0,005 %
Copper (Cu) ≤0,0005 %
Water ≤1 %

4454.1	100 g	plastic	21,00 €
4454.2	500 g	plastic	61,85 €
Original pack 6 x 500 g 58,76/500 g			
4454.3	1 kg	plastic	111,30 €
Original pack 6 x 1 kg 105,74/1 kg			

Lead(II) chloride

≥98 %

Type analysis:

Appearance very slightly beige powder
Assay ≥98 %
Water ≤1 %

5299.1	100 g	plastic	12,80 €
5299.2	500 g	plastic	38,60 €
Original pack 6 x 500 g 36,67/500 g			
5299.3	1 kg	plastic	69,80 €
Original pack 6 x 1 kg 66,31/1 kg			

Lead(II) hydroxide acetate

- ▶ Lead(II) acetate, basic see p. 1927

Lead(II) nitrate

Lead(II) nitrate

≥99 %, p.a., ACS

Pb(NO₃)₂

M 331,21 g/mol

D 4,49

mp 458-459 °C

Solubility: 486 g/l (H₂O, 20 °C)

[10099-74-8] • EC No. 233-245-9

UN No. 1469 • ADR 5.1 (6.1) II • WGK 3


Danger H360Df-H373-H400-H410-H302+H332-EUH201
Guarantee analysis:

Assay (compl.)	≥99,0 %
In H ₂ O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,001 %
Aluminium (Al)	≤0,0005 %
Arsenic (As)	≤0,0005 %
Calcium (Ca)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Cobalt (Co)	≤0,0005 %
Chromium (Cr)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,002 %
Sodium (Na)	≤0,002 %
Nickel (Ni)	≤0,0005 %
Tin (Sn)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

HN32.1	100 g	plastic	16,90 €
HN32.2	250 g	plastic	32,80 €

Lead(II) oxide

Lead(II) oxide

≥99 %, extra pure

PbO

M 223,20 g/mol

bp 1470 °C

mp 888 °C

Solubility: 0,017 g/l (H₂O, 20 °C)

[1317-36-8] • EC No. 215-267-0

UN No. 2291 • ADR 6.1 III • WGK 3


Danger H360Df-H373-H400-H410-H302+H332-EUH201
Type analysis:

Assay (compl.)	99,0-100,5 %
Chloride (Cl)	≤0,05 %
Nitrate (NO ₃)	≤0,05 %
Copper (Cu)	≤0,005 %
Iron (Fe)	≤0,005 %
Loss on ignition (700 °C)	≤0,2 %
Insoluble in CH ₃ COOH	≤0,2 %

4456.1	250 g	plastic	22,05 €

Lead(IV) oxide

Lead(IV) oxide

≥97 %, p.a.

PbO₂

M 239,20 g/mol

D 9,4

mp 290 °C (dec.)

Solubility: 0,14 mg/l (H₂O, 25 °C)

[1309-60-0] • EC No. 215-174-5

UN No. 1872 • ADR 5.1 (6.1) III • WGK 3


Danger H272-H360Df-H373-H400-H410-H302+H332-EUH201
Type analysis:

Assay (titr.)	≥97 %
Insoluble matter in acid	≤0,05 %
Loss on drying (105 °C)	≤0,5 %
Chloride (Cl)	≤0,02 %
Sulphate (SO ₄)	≤0,1 %
Manganese (Mn)	≤0,002 %

4479.1	100 g	plastic	57,55 €

Lead subacetate

► Lead(II) acetate, basic see p. 1927

Lead(II) sulphate

Lead(II) sulphate

≥98 %, extra pure

PbSO₄

M 303,25 g/mol

D 6,2

mp 1170 °C

[7446-14-2] • EC No. 231-198-9

UN No. 1794 • ADR 8 II • WGK 3


Danger H360Df-H302+H332-H373-H400-H410-EUH201
Type analysis:

Assay	≥98,0 %
Nitrate (NO ₃)	≤0,005 %
Copper (Cu)	≤0,005 %

2560.1	100 g	plastic	22,50 €

2560.2	500 g	plastic	51,50 €

Original pack 6 x 500 g	48,93/500 g

2560.3	1 kg	plastic	84,85 €

Original pack 6 x 1 kg	80,61/1 kg

Leaf aldehyde

► trans-Hexen-2-al see p. 1877

Lecithin

Phosphatidylcholine

[8002-43-5] • EC No. 232-307-2

WGK 1

Lecithin

≥97 %, for biochemistry

Fat-free soy-lecithin, made from genetically unmodified plants.

Guarantee analysis:

Appearance	light brownish to brown powder
Phospholipids (Px31,5)	≥97,0 %
Lysophosphatidylcholine	≤10 %
Water	≤2,0 %
Acid value	≤35
Peroxide value	≤5,0
Free fatty acid	≤0,5 %

AE81.1	100 g	plastic	13,80 €

AE81.2	250 g	plastic	22,50 €

AE81.3	1 kg	plastic	59,05 €

Original pack 6 x 1 kg	56,10/1 kg

Lecithin

≥97 %, for biochemistry

Made from soybeans.

Guarantee analysis:

Appearance	pale yellow to light brownish powder
Phospholipids (Px31,5)	≥97,0 %
Lysophosphatidylcholine	≤3,0 %
Water (KF)	≤2,0 %
Peroxide value	≤3

9812.1	250 g	plastic	19,05 €

9812.3	1 kg	plastic	47,85 €

Original pack 6 x 1 kg	45,46/1 kg

9812.2	2,5 kg	plastic	107,00 €

Lecithin

from eggs, for biochemistry

Storage temp.: +4 °C

Guarantee analysis:

Phosphatidylcholine	≥57 %
Phosphatidylethanolamine	≥6 %
Water	≤2 %
Cholesterol	≤8 %
Peroxide value	≤3 meq/kg
Acid value	≤25 mg KOH/g
Iodine value	≥65
Iodine colour number	≤60

7514.1	25 g	plastic	38,20 €

7514.2	100 g	plastic	106,35 €

Legionella Agar (Base)**Legionella Agar (Base)**

EN ISO 11731-2, for microbiology

For selective cultivation of *Legionella*.

Application: Use 2,5 g for 90 ml agar. After autoclaving add 1 vial (10 ml) reconstituted *Legionella* Growth Supplement (Art. No. CL49.1). If required also add 1 ml reconstituted *Legionella* GVCP Supplement (Art. No. CL50.1).

BCYE Agar (Base), GVCP Agar (Base)

Storage temp.: +20 °C

Guarantee analysis:

Yeast extract.....	10,0 g/l
Charcoal activated.....	2,0 g/l
Agar.....	13,0 g/l
pH value.....	6,9 ±0,2

CL48.1	500 g	plastic	115,60 €

Original pack 6 x 500 g 109,82/500 g

For further information, please see page 1330

Legionella Growth Supplement**Legionella Growth Supplement lyophilised**Growth supplement for isolation of *Legionella*.

One box of 10 vials Legionella Growth Supplement is sufficient for 10 x 100 ml Legionella Agar.

BCYE additive

Storage temp.: +4 °C

UN No. 1759 • ADR 8 II • WGK 1

 **Danger** H314-H302
Formulation:

ACES Buffer.....	1,0 g
Potassium hydroxide (KOH).....	0,2 g
alpha-Ketoglutarate.....	0,1 g
L-Cysteine.....	0,04 g
Ferric pyrophosphate.....	0,025 g per vial

CL49.1	10 vials	glass	177,40 €

For further information, please see page 1350

Legionella GVPC Supplement**Legionella GVPC Supplement lyophilised**Media supplement for selective isolation of *Legionella*.

One box of 10 vials Legionella GVPC Supplement is sufficient for 10 x 500 ml Legionella Agar.

Storage temp.: +4 °C

UN No. 2811 • ADR 6.1 III • WGK 2

 **Danger** H301-H360D-H341-H412-EUH208
Formulation:

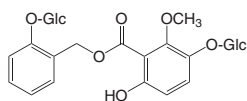
Glycine.....	1,5 g
Polymyxin B.....	~39 600 IU
Cycloheximide.....	0,04 g
Vancomycin.....	0,5 mg per vial

CL50.1	10 vials	glass	169,35 €

For further information, please see page 1350

Leibovitz's cell culture medium

▶ Roti®-CELL Leibovitz's L15 see p. 2092

Leiocarposide**Leiocarposide****ROTICHRON® HPLC**

Reference substance for HPLC

From *Solidago virgaurea*.

2'-Hydroxybenzyl-3-methoxybenzoate-2',4'-diglucoside

C₂₇H₃₄O₁₆

M 614,56 g/mol

Storage temp.: +4 °C

[71953-77-0] • WGK 1

Type analysis:

Purity (HPLC)..... ≥99 %

2825.1	5 mg	glass	239,20 €

Leishman stain**Leishman stain****for microscopy**

Mixture of methylen blue, Azure A, B and C

Eosin methylene blue acc. to Leishman

mp 79-81 °C

[12627-53-1] • EC No. 235-732-1 • WGK 3

Type analysis:

Appearance..... dark green to black powder

Appearance of solution (0,1 % in MeOH)..... clear, blue

Loss on drying..... ≤8 %

7702.1	5 g	glass	13,15 €

7702.2	25 g	glass	22,40 €

7702.3	100 g	glass	55,80 €

For further information, please see page 1403

Lethen Agar modified**Lethen Agar modified****for microbiology**

For microbiological analyses of cosmetics, and samples containing disinfectants or preservatives.

Application: Use 59,1 g for 1 l agar.

Storage temp.: +20 °C • WGK 1

Formulation:

Meat peptone.....	10 g/l
Casein peptone.....	10 g/l
Polysorbate 80.....	7 g/l
Sodium chloride.....	5 g/l
Beef extract.....	3 g/l
Yeast extract.....	2 g/l
Glucose.....	1 g/l
Lecithin.....	1 g/l
Sodium bisulfite.....	0,1 g/l
Agar.....	20 g/l
pH value.....	7,2 ±0,2

5759.1	500 g	plastic	107,00 €

Original pack 6 x 500 g 101,65/500 g

For further information, please see page 1331

Lethen Broth modified**Lethen Broth modified for microbiology**

For microbiological analyses of cosmetics, and samples containing disinfectants or preservatives.

Application: Use 43,8 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

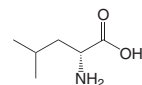
Formulation:

Meat peptone.....	20 g/l
Casein peptone.....	5 g/l
Polysorbate 80.....	5 g/l
Sodium chloride.....	5 g/l
Beef extract.....	5 g/l
Yeast extract.....	2 g/l
Glucose.....	1 g/l
Lecithin.....	0,7 g/l
Sodium bisulfite.....	0,1 g/l
pH value.....	7,2 ±0,2

5761.1	500 g	plastic	95,15 €

Original pack 6 x 500 g 90,39/500 g

For further information, please see page 1330

D-Leucine**D-Leucine**

≥99 %, for biochemistry

(R)-2-Amino-4-methylpentanoic acid, H-D-Leu-OH

C₆H₁₃NO₂

M 131,2 g/mol

Storage temp.: +4 °C

[328-38-1] • EC No. 206-327-7

WGK 1

Type analysis:

Appearance..... white to off-white powder

Assay..... 99,0-100,5 %

Specific rotation [α]_D²⁰ (c=4 in 6 N HCl)..... -16,9° to -14,9°

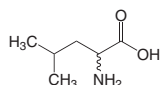
Loss on drying..... ≤0,2 %

7882.1	5 g	plastic	27,85 €

7882.2	25 g	plastic	83,75 €

7882.3	100 g	plastic	252,65 €

DL-Leucine



DL-Leucine

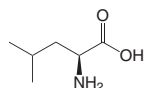
≥98,5 %, for biochemistry
2-Amino-4-methylpentanoic acid
C₆H₁₃NO₂
M 131,17 g/mol
Storage temp.: +4 °C
[328-39-2] • EC No. 206-328-2
WGK 1

Type analysis:

Appearance.....white cryst. powder
Assay.....≥98,5 %
Identity (IR).....complies
Heavy metals (as Pb).....≤0,001 %
Ash content.....≤0,1 %
Loss on drying.....≤0,5 %

8599.1	25 g	plastic	21,00 €
8599.2	50 g	plastic	36,05 €
8599.3	250 g	plastic	142,45 €

L-Leucine



(S)-2-Amino-4-methylpentanoic acid, H-L-Leu-OH
C₆H₁₃NO₂
M 131,18 g/mol
D 1,29
mp 145-148 °C (subl.)
Solubility: ~24 g/l (H₂O, 20 °C)
[61-90-5] • EC No. 200-522-0
WGK 1

L-Leucine

≥99 %, CELLPURE®
For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....≤6,0 E.U./g
Assay.....≥99 %
Loss on drying.....≤0,2 %
Specific rotation [α]_D²⁰.....+14,9° to +16,0°
Foreign amino acids.....complies
Ammonium (NH₄).....≤0,02 %
Chloride (Cl).....≤0,02 %
Sulphate (SO₄).....≤0,03 %
Heavy metals (as Pb).....≤0,001 %
Iron (Fe).....≤0,001 %

1699.1	25 g	plastic	17,95 €
1699.2	100 g	plastic	40,35 €
1699.3	500 g	plastic	139,25 €
Original pack 6 x 500 g			132,29/500 g

L-Leucine

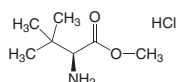
≥98,5 %, Ph.Eur., USP, for biochemistry

Guarantee analysis:

Appearance.....white cryst. powder
Assay.....98,5-101,0 %
Identity.....complies
Specific rotation [α]_D²⁰.....+14,5° to +16,5°
Sulphated ash.....≤0,1 %
Loss on drying.....≤0,5 %
Foreign amino acids.....≤0,2 %
Ammonium (NH₄).....≤0,02 %
Iron (Fe).....≤0,001 %
Heavy metals (as Pb).....≤0,001 %
Chloride (Cl).....≤0,02 %
Sulphate (SO₄).....≤0,03 %

3984.1	100 g	plastic	32,15 €
3984.3	250 g	plastic	59,05 €
3984.4	500 g	plastic	105,25 €
Original pack 6 x 500 g			99,99/500 g
3984.2	1 kg	plastic	196,20 €
Original pack 6 x 1 kg			186,39/1 kg

L-tert-Leucine methylester hydrochloride



L-tert-Leucine methylester hydrochloride

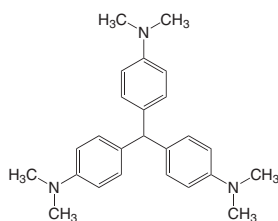
≥98 %, for biochemistry
H-L-Tle-OMe · HCl
C₇H₁₅NO₂ · HCl
M 181,66 g/mol
mp 183 °C
Storage temp.: +4 °C
[63038-27-7]
WGK 3

Type analysis:

Assay (HPLC).....≥98,0 %
Water (KF).....≤1,0 %

6664.1	500 mg	glass	30,00 €
6664.2	1 g	glass	46,15 €

Leuco crystal violet



Leuco crystal violet

≥98 %, p.a.
LCV
C₂₅H₃₁N₃
M 373,53 g/mol
mp 175-180 °C
[603-48-5] • EC No. 210-043-9
WGK 3

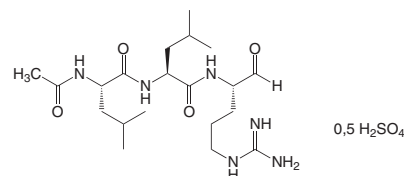
⚠ Warning H315-H319-H335

Type analysis:

Appearance.....white to pale lavender powder
Assay.....≥98 %
Loss on drying.....≤2 %
Sulphated ash.....≤1 %

7703.1	5 g	glass	13,15 €
7703.2	25 g	glass	22,40 €
7703.3	100 g	glass	55,80 €

Leupeptin hemisulphate



Leupeptin hemisulphate

≥96,5 %, for biochemistry
Reversible inhibitor of serine- and cysteine proteases.
Acetyl-Leu-Leu-argininal
C₂₀H₃₈N₆O₄ · 0,5 H₂SO₄
M 475,99 g/mol
Storage temp.: -20 °C
Transport temp.: room temp.
[103476-89-7]
WGK 1

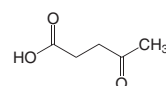
Type analysis:

Assay (HPLC).....≥96,5 %
Solution (1 % in H₂O).....clear

CN33.1	10 mg	glass	42,50 €
CN33.2	25 mg	glass	89,15 €
CN33.3	50 mg	glass	158,60 €
CN33.4	100 mg	glass	295,65 €

For further information, please see page 1231

Levulinic acid



Levulinic acid

98 %
4-Oxopentanoic acid, 3-Acetopropionic acid
C₅H₈O₃
M 116,12 g/mol
D 1,15 • bp 245-246 °C
mp 30-33 °C • flp 98 °C
[123-76-2] • EC No. 204-649-2
WGK 1

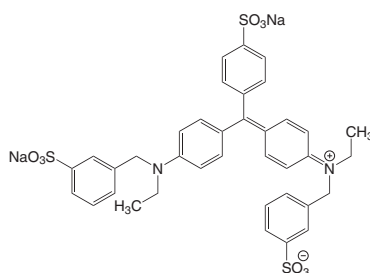
⚠ Warning H302-H315-H319-H335

Type analysis:

Appearance.....colourless to yellow-brown
Assay (titr. NaOH).....97,5-102,5 %
Assay (GC).....97,5-100,0 %
IR-spectrum.....complies

3976.1	50 g	glass	21,40 €
3976.2	500 g	plastic	107,40 €
Original pack 6 x 500 g			102,03/500 g

Light green SF (C.I. 42095)



Light green SF (C.I. 42095)

for microscopy

Acid Green 5

C₃₇H₃₄N₂Na₂O₉S₃

M 792,86 g/mol

mp 288 °C (dec.)

[5141-20-8] • EC No. 225-906-5

WGK 2

Type analysis:

Appearance.....dark purple powder
 Assay.....≥80 %
 Appearance of solution (H₂O).....clear, green

7706.1	5 g	glass	17,75 €

7706.2	25 g	glass	40,35 €

7706.3	100 g	glass	124,60 €

For further information, please see page 1403

Light green SF yellowish solution

► Goldner's staining I see p. 1862

Lignoceryl alcohol



Lignoceryl alcohol

>98 %, for biochemistry

1-Tetracosanol

C₂₄H₅₀O

M 354,64 g/mol

mp 75-77 °C • flp >110 °C

[506-51-4] • EC No. 208-043-9

Type analysis:

Assay (GC).....>98 %

6029.1	250 mg	glass	327,90 €

Lignosulphonic acid calcium salt

Lignosulphonic acid calcium salt

≥93 %, powdered

Calcium lignosulphonate

[8061-52-7] • WGK 1

Type analysis:

Assay (dry substance).....≥93 %
 pH value (10 % solution).....4,5 ±0,5
 Insoluble matter.....≤0,3 %
 Calcium (Ca).....~5 %
 Reducing sugar.....~6 %
 Total sulphur.....~7 %

8208.1	1 kg	plastic	25,30 €

Original pack 6 x 1 kg 24,04/1 kg

Lignosulphonic acid sodium salt

Lignosulphonic acid sodium salt

≥93 %, powdered

Sodium lignosulphonate

[8061-51-6]

WGK 1

Type analysis:

Assay (dry substance).....≥93 %
 pH value (10 % solution).....8,0 ±1,0
 Insoluble (v/v).....≤0,3 %

8999.1	1 kg	plastic	26,80 €

Original pack 6 x 1 kg 25,46/1 kg

Ligroin

► Petroleum benzine 50-70 see p. 2031

Lime caustic

► Calcium oxide see p. 1708

Lime saltpetre

► Calcium nitrate tetrahydrate see p. 1708

Limonene

Limonene

supra

Dipentene

C₁₀H₁₆

M 136,24 g/mol

D ~0,84 • flp 50 °C

Storage temp.: +4 °C

[68647-72-3]

UN No. 2319 • ADR 3 III • WGK 1

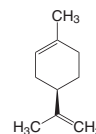
H226-H315-H317-H304-H410

Type analysis:

Appearance.....colourless oil
 Density (20 °C).....0,836-0,848
 Refractive index n_D²⁰.....1,468-1,478
 Specific rotation [α]_D²⁰.....+96° to +108°

6722.1	500 ml	glass	31,75 €

(+) -Limonene



(+) -Limonene

ROTICHRON® GC

Reference substance for GC

Dipentene

C₁₀H₁₆

M 136,24 g/mol

D 0,84 • bp 175-178 °C

mp -89 °C • flp 50 °C

Solubility: 14 mg/l (H₂O, 25 °C)

Storage temp.: +4 °C

[5989-27-5] • EC No. 227-813-5

UN No. 2052 • ADR 3 III • WGK 2

H226-H400-H410-H315-H317

Type analysis:

Purity (GC).....≥98 %

5198.1	1 g	plastic	75,15 €

DL-Limonene

DL-Limonene

≥95 %

Mixture of terpenes

DL-p-Mentha-1,8-diene, Dipentene

C₁₀H₁₆

M 136,24 g/mol

D 0,84 • bp 177,6 °C

mp -89 °C • flp 43 °C

Storage temp.: +4 °C

[138-86-3] • EC No. 205-341-0

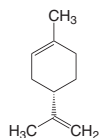
UN No. 2052 • ADR 3 III • WGK 2

Type analysis:

Appearance.....clear, colourless liquid
 Assay (GC).....≥95 %
 Density (d 20 °C/4 °C).....0,841-0,843

7516.1	250 ml	glass	36,80 €

L-(-)-Limonene



L-(-)-Limonene

ROTICHRON® GC

Reference substance for GC

(-)-p-Mentha-1,8-diene

$C_{10}H_{16}$

M 136,24 g/mol

D 0,84 • bp 175-178 °C

mp -74 °C • flp 43 °C

Storage temp.: +4 °C

[5989-54-8] • EC No. 227-815-6

UN No. 2052 • ADR 3 III • WGK 2

Warning

H226-H400-H410-H315-H317

Type analysis:

Purity (GC)..... ≥94,5 %

3223.1	1 g	plastic	75,15 €

cis+trans-1,2-(-)-Limonene oxide

cis+trans-1,2-(-)-Limonene oxide

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{16}O$

M 152,24 g/mol

D 0,929 • bp ₅₀ 113-114 °C

flp 65 °C

Storage temp.: +4 °C

[1195-92-2] • EC No. 214-805-1

Warning H315-H319

Type analysis:

Purity (GC)..... ≥95 %

3711.1	1 g	plastic	75,15 €

cis+trans-1,2-(+)-Limonene oxide

cis+trans-1,2-(+)-Limonene oxide

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{16}O$

M 152,24 g/mol

D 0,929 • bp ₅₀ 113-117 °C

flp 65 °C

Storage temp.: +4 °C

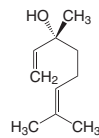
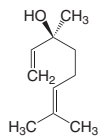
Warning H315-H319

Type analysis:

Purity (GC)..... ≥96 %

3712.1	1 g	plastic	75,15 €

Linalool



$C_{10}H_{18}O$

M 154,25 g/mol

D 0,86 • bp 199 °C

flp 75 °C

Storage temp.: +4 °C

[78-70-6] • EC No. 201-134-4

WGK 1

Warning H315-H319-H335

Linalool

pure

Type analysis:

Appearance. clear, almost colourless to pale yellow oil

Solubility (in ethanol 96 %). complies

Relative density (20 °C)..... 0,855-0,868

Refractive index (20 °C). 1,457-1,468

Optical rotation (20 °C)..... -1° to +1°

3992.1	100 ml	glass	19,90 €

Linalool

ROTICHRON® GC

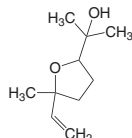
Reference substance for GC

Type analysis:

Purity (GC). ≥95 %

5201.1	1 g	plastic	75,15 €

Linalool oxide (cis+trans)



Linalool oxide (cis+trans)

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{18}O_2$

M 170,24 g/mol

D 0,945

flp 73 °C

Storage temp.: +4 °C

[60047-17-8] • EC No. 262-038-6

WGK 2

Warning H302

Type analysis:

Purity (GC). ≥95 %

3358.1	1 g	plastic	75,15 €

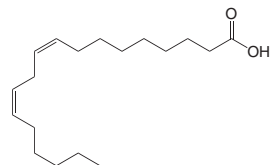
Linalylacetate

► Acetic acid linalyl ester see p. 1603

Linarigenin

► Acacetin see p. 1596

Linoleic acid



Linoleic acid

ROTICHRON® GC

Reference substance for GC

$C_{18}H_{32}O_2$

M 280,45 g/mol

D 0,902 • bp ₁₆ 229-230 °C

mp -12 °C • flp 113 °C

Storage temp.: +4 °C

[60-33-3]

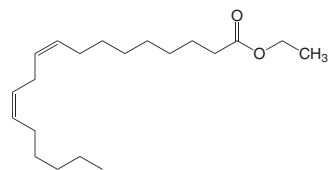
WGK 1

Type analysis:

Purity (GC). ≥99 %

5315.1	1 g	glass	56,45 €

Linoleic acid ethyl ester



Linoleic acid ethyl ester

ROTICHRON® GC

Reference substance for GC

$C_{20}H_{36}O_2$

M 308,51 g/mol

D ~0,876 • bp 193 °C

flp 110 °C

Storage temp.: +4 °C

[544-35-4]

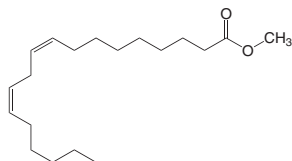
WGK 1

Type analysis:

Purity (GC). ≥98,5 %

3198.1	1 g	glass	31,10 €

Linoleic acid methyl ester



$C_{19}H_{34}O_2$
 M 294,48 g/mol
 D 0,89
 mp -35 °C
 Storage temp.: +4 °C
 [112-63-0] • EC No. 203-993-0
 WGK 1

Linoleic acid methyl ester

≥99 %

Type analysis:

Assay (GC): ≥99,0 %

7217.1	5 ml	glass	46,80 €
7217.2	50 ml	glass	385,95 €

Linoleic acid methyl ester

ROTICHRM® GC

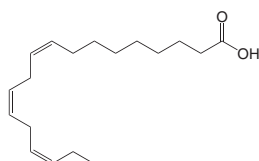
Reference substance for GC

Type analysis:

Purity (GC): ≥99 %

3199.1	1 g	glass	32,80 €

Linolenic acid



9,12,15-Octadecatrienoic acid
 $C_{18}H_{30}O_2$
 M 278,44 g/mol
 D 0,916 • bp 1 230-232 °C
 mp -10 °C • flp >110 °C
 Storage temp.: +4 °C
 [463-40-1] • EC No. 207-334-8 • WGK 1

Linolenic acid

~94 %

Mixture of isomers.

Type analysis:

Assay (GC): ~94 %

6039.1	5 ml	glass	89,80 €

Linolenic acid

ROTICHRM® GC

Reference substance for GC

Mixture of isomers.

Type analysis:

Purity (GC): ≥99 %

5320.1	1 g	glass	182,25 €

Linseed oil

D 0,93
 [8001-26-1] • EC No. 232-278-6

Linseed oil

native, cold pressed

Oleum lini

Type analysis:

Appearance:
 ... clear, gold-yellow or brownish to greenish-yellow oil
 Density (20 °C): ~0,931
 Water: 0,1 %
 Cadmium (Cd): ≤0,00005 %
 Refractive index n_D^{20} : ~1,480
 Acid value: ≤4,5
 Peroxide value: ≤15
 Iodine value: 160-200
 Saponification value: 188-195
 Unsaponifiable matter: ≤1,5 %
 Fatty acid compound: complies

9338.2	500 ml	glass	24,65 €
9338.1	1 l	glass	37,55 €
Original pack 6 x 1 l			35,67/1 l
9338.3	2,5 l	glass	69,80 €
Original pack 4 x 2,5 l			66,31/2,5 l

Linseed oil

crude oil

Type analysis:

Density (20 °C): 0,924-0,931
 Refractive index n_D^{20} : 1,478-1,483
 Iodine value: 175-195
 Saponification value: 188-195

8196.1	1 l	glass	38,60 €
Original pack 6 x 1 l			36,67/1 l
8196.3	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l
8196.2	10 l	tinplate	188,15 €

α-Lipoic acid

► DL-6,8-Dithiooctanoic acid see p. 1789

Lipoxidase

► Lipoxygenase see p. 1933

Lipoxygenase

Lipoxygenase

≥50000 U/mg, for biochemistry

Made from soy beans. For oxidation of arachidonic acid.

Lipoxidase

M ~108 000 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[9029-60-1] • EC No. 232-853-1

WGK 1

Type analysis:

Activity: ≥50 000 U/mg

CN73.1	100 mg	glass	17,75 €
CN73.2	500 mg	glass	42,90 €
CN73.3	1 g	glass	66,55 €

For further information, please see page 1223

Liquid medium A

► CASO Broth see p. 1720

Liquid medium D

► Lactose Broth see p. 1921

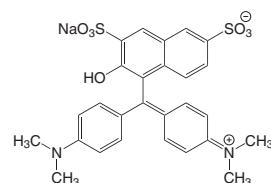
Liquid medium G

► MacConkey Broth see p. 1942

Liquid medium I

► Brilliant Green Tetrathionate Bile Broth see p. 1688

Lissamine green B (C.I. 44090)



Lissamine green B (C.I. 44090)

p.a.

Woolgreen S, Acid Green 50

$C_{27}H_{25}N_2NaO_7S_2$

M 576,62 g/mol

[3087-16-9] • EC No. 221-409-2

WGK 3

⚠ Warning H302-H315-H319-H335

Type analysis:

Appearance: dark red to black powder

Assay: ≥80 %

Appearance of solution (0,1 % in H_2O): clear, dark blue to dark green

Arsenic (As): ≤0,0005 %

Lead (Pb): ≤0,0005 %

Cadmium (Cd): ≤0,0001 %

Mercury (Hg): ≤0,0001 %

7707.1	5 g	glass	13,15 €
7707.2	25 g	glass	22,40 €
7707.3	100 g	glass	55,80 €

Listeria chromogenic Agar (Base)

Listeria chromogenic Agar (Base)

ISO 11290:2004, for microbiology

Selective medium for detection and enumeration of *Listeria monocytogenes*.

Application: Use 70,55 g for 1 l agar. After cooling add 2 vials (10 ml reconstituted) Listeria Chromo Selective Supplement (Art. No. 2947.1) and 2 vials (10 ml each) Listeria Chromo Lipase C Supplement (Art. No. 2948.1).

Storage temp.: +4 °C

WGK 1

 **Warning** H315-H319

Guarantee analysis:

Meat peptone.....	18 g/l
Lithium chloride.....	10 g/l
Yeast extract.....	10 g/l
Tryptone.....	6 g/l
Sodium chloride.....	5 g/l
di-Sodium hydrogen phosphate.....	2,5 g/l
Glucose.....	2 g/l
Sodium pyruvate.....	2 g/l
Magnesium glycerophosphate.....	1 g/l
Magnesium sulphate.....	0,5 g/l
Chromogene Mixture.....	0,05 g/l
Agar.....	13,5 g/l
pH value.....	7,2 ±0,2

3008.1	100 g	plastic	59,70 €

For further information, please see page 1331

Listeria Chromo Lipase C Supplement

Listeria Chromo Lipase C Supplement

0,1 g/ml, sterile, ready-to-use

Media supplement for selective isolation of *Listeria*.

One box of 10 vials Listeria Chromo Lipase C Supplement is sufficient for 10 x 500 ml Listeria chromogenic Agar.

Storage temp.: +4 °C

Formulation:

Phospholipase C substrate..... 1 g per vial

2948.1	10 x 10 ml	glass	96,65 €

For further information, please see page 1351

Listeria Chromo Selective Supplement

Listeria Chromo Selective Supplement

lyophilised

Media supplement for selective isolation of *Listeria*.

One box of 10 vials Listeria Chromo Selective Supplement is sufficient for 10 x 500 ml Listeria chromogenic Agar.

Storage temp.: +4 °C

UN No. 2811 • ADR 6.1 I • WGK 3

 **Danger**

H300-H334-H317-H341-H360D-H411

Formulation:

Cycloheximide.....	0,025 g
Polymyxin B sulphate.....	38500 I.E.
Nalidixic acid sodium salt.....	0,01 g
Ceftazidime (Fortam).....	0,01 g per vial

2947.1	10 vials	glass	96,65 €

For further information, please see page 1351

Listeria Oxford Supplement

Listeria Oxford Supplement

lyophilised

Media supplement for selective isolation of *Listeria monocytogenes*.

One box of 10 vials Listeria Oxford Supplement is sufficient for 10 x 500 ml Oxford Listeria Agar.

Oxford Supplement

Storage temp.: +4 °C

UN No. 2811 • ADR 6.1 I • WGK 3

 **Danger** H300-H341-H360D-H411

Formulation:

Cycloheximide.....	200 mg
Colistinsulphate.....	10 mg
Fosfomycin.....	5 mg
Acryflavine.....	2,5 mg
Cefotetan.....	1 mg per vial
Acridinium hydrochloride.....	2,5 mg

5801.1	10 vials	glass	126,35 €

For further information, please see page 1351

Listeria Palcam Supplement

Listeria Palcam Supplement

lyophilised

Media supplement for selective isolation of *Listeria monocytogenes*.

One box of 10 vials Listeria Palcam Supplement is sufficient for 10 x 500 ml Palcam Listeria Agar.

Palcam Supplement

Storage temp.: +4 °C

WGK 1

 **Danger** H334-H317

Formulation:

Ceftazidime (Fortam).....	10 mg
Polymyxin B.....	5 mg
Acryflavine.....	2,5 mg per vial

5803.1	10 vials	glass	91,95 €

For further information, please see page 1351

Lithium Standards

- ▶ Lithium AAS Standard Solution see p. 2168
- ▶ Lithium ICP Standard Solution see p. 2171
- ▶ Lithium ICP Standard Solution see p. 2176

Lithium ethanoate

- ▶ Lithium acetate see p. 1934
- ▶ Lithium acetate dihydrate see p. 1934

Lithium acetate

Lithium acetate

>99 %, cryst.

Lithium ethanoate

Li CH₃COO

M 65,98 g/mol

D 1,25

mp 280-285 °C

[546-89-4] • EC No. 208-914-3

WGK 1

Type analysis:

Assay.....	>99,0 %
Water (KF).....	<0,3 %
Chloride (Cl).....	<0,02 %
Sulphate (SO ₄).....	<0,02 %
Sodium (Na).....	<0,01 %
Potassium (K).....	<0,005 %
Calcium (Ca).....	<0,02 %
Magnesium (Mg).....	<0,001 %
Heavy metals.....	<0,002 %
Iron (Fe).....	<0,001 %

5447.2	100 g	plastic	26,80 €

5447.1	500 g	plastic	105,25 €

Original pack 6 x 500 g 99,99/500 g

Lithium acetate dihydrate

Lithium acetate dihydrate

≥98 %

Lithiummethanoat

LiCH₃COO · 2 H₂O

M 102,02 g/mol

mp 49-58 °C

Solubility: 290 g/l (H₂O, 20 °C)

[6108-17-4] • EC No. 612-081-5

WGK 1

Type analysis:

Appearance.....	white cryst. powder
Assay.....	≥98,0 %
Calcium (Ca).....	≤0,01 %
Chloride (Cl).....	≤0,05 %
Iron (Fe).....	≤0,005 %
Sodium (Na).....	≤0,05 %
In water insoluble matter.....	≤0,1 %

6713.1	50 g	plastic	13,80 €

6713.2	100 g	plastic	18,20 €

6713.3	500 g	plastic	64,00 €

Original pack 6 x 500 g 60,80/500 g

Lithium bromide

LiBr
M 86,85 g/mol
D 3,46 • bp ~1300 °C
mp 552 °C
Solubility: 1810 g/l (H₂O, 25 °C)
[7550-35-8] • EC No. 231-439-8
WGK 1

⚠ Warning H302

Lithium bromide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5062.1	25 g	plastic	115,60 €
5062.2	50 g	plastic	177,40 €

Lithium bromide

≥99 %, anhydrous

Type analysis:

Appearance..... white fine powder
Assay..... ≥99,0 %
Chlorine (Cl)..... ≤0,1 %
Sulphate (SO₄)..... ≤0,05 %
Calcium (Ca)..... ≤0,01 %
Iron (Fe)..... ≤0,001 %
Sodium (Na)..... ≤0,1 %
Insoluble matter in acid..... ≤0,01 %
Water..... ≤0,5 %

6712.1	25 g	plastic	17,10 €
6712.2	100 g	plastic	28,50 €
6712.3	500 g	plastic	91,95 €
Original pack 6 x 500 g			87,35/500 g

Lithium carbonate

Li₂CO₃
M 73,89 g/mol
D 2,11 • bp 1300 °C
mp 720 °C
Solubility: 13 g/l (H₂O, 20 °C)
[554-13-2] • EC No. 209-062-5
WGK 1

⚠ Warning H302-H319

Lithium carbonate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5635.1	10 g	plastic	38,20 €
5635.2	25 g	plastic	66,55 €
5635.3	100 g	plastic	209,65 €

Lithium carbonate

≥99 %, p.a., ACS

Reagent for microscopy; starting material for other lithium compounds.

Guarantee analysis:

Assay (acidim.)..... ≥99,0 %
In diluted HCl insoluble matter..... ≤0,01 %
Chloride (Cl)..... ≤0,005 %
Nitrate (NO₃)..... ≤0,0005 %
Sulphur compounds (as SO₄)..... ≤0,2 %
Heavy metals (as Pb)..... ≤0,002 %
Iron (Fe)..... ≤0,002 %
Sodium (Na)..... ≤0,1 %
Potassium (K)..... ≤0,01 %
Calcium (Ca)..... ≤0,01 %
Magnesium (Mg)..... ≤0,01 %
Ammonium (NH₄)..... ≤0,0005 %

3995.1	250 g	plastic	60,75 €
3995.2	500 g	plastic	107,40 €
Original pack 6 x 500 g			102,03/500 g

Lithium carbonate

≥99 %, extra pure

Type analysis:

Assay..... ≥99,0 %
Chloride (Cl)..... ≤0,05 %
Sulphate (SO₄)..... ≤0,1 %
Ferric oxide (Fe₂O₃)..... ≤0,005 %
Insoluble matter..... ≤0,05 %
Water..... ≤0,5 %
Loss on ignition..... ≤1,0 %

7324.1	100 g	plastic	14,55 €
7324.2	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g
7324.3	1 kg	plastic	52,60 €
Original pack 6 x 1 kg			49,97/1 kg
7324.4	2,5 kg	plastic	104,20 €
7324.5	5 kg	plastic	192,45 €

Lithium chloride

LiCl
M 42,40 g/mol
D 2,07 • bp 1360 °C
mp 615 °C
Solubility: 830 g/l (H₂O, 20 °C)
[7447-41-8] • EC No. 231-212-3
WGK 1

⚠ Warning H302-H315-H319

Lithium chloride

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5079.1	25 g	plastic	110,65 €
5079.2	50 g	plastic	177,40 €

Lithium chloride

≥99,5 %, p.a., ultra quality

For molecular biology: used for salt-precipitation of DNA.

Guarantee analysis:

Assay..... ≥99,5 %
Solubility (8M, solution)..... clear, colourless
Sulphate (SO₄)..... ≤0,006 %
Nitrate (NO₃)..... ≤0,001 %
Heavy metals (as Pb)..... ≤0,002 %
Barium (Ba)..... ≤0,003 %
Calcium (Ca)..... ≤0,01 %
Iron (Fe)..... ≤0,001 %
Potassium (K)..... ≤0,01 %
Sodium (Na)..... ≤0,006 %
Loss on drying (105 °C)..... ≤0,6 %

3739.1	250 g	plastic	45,70 €
3739.2	1 kg	plastic	131,70 €
Original pack 6 x 1 kg			125,12/1 kg

Lithium chloride

≥99 %, p.a., ACS

Guarantee analysis:

Appearance..... white cryst. powder
Assay..... ≥99,0 %
Titrable base..... 0,008 meq/g
Nitrate (NO₃)..... ≤0,001 %
Sulphate (SO₄)..... ≤0,01 %
Barium (Ba)..... ≤0,003 %
Calcium (Ca)..... ≤0,001 %
Iron (Fe)..... ≤0,001 %
Potassium (K)..... ≤0,01 %
Sodium (Na)..... ≤0,2 %
Heavy metals (as Pb)..... ≤0,002 %
Insoluble matter..... ≤0,01 %
Loss on drying (105 °C)..... ≤1,0 %

6698.1	50 g	plastic	14,95 €
6698.2	100 g	plastic	20,65 €
6698.3	500 g	plastic	64,40 €
Original pack 6 x 500 g			61,18/500 g
6698.4	1 kg	plastic	117,20 €
Original pack 6 x 1 kg			111,34/1 kg

Lithium chloride

≥99 %

Type analysis:

Assay..... ≥99,0 %
Aluminium (Al)..... ~0,001 %
Barium (Ba)..... ~0,02 %
Calcium (Ca)..... ~0,007 %
Iron (Fe)..... ~0,001 %
Potassium (K)..... ~0,02 %
Sodium (Na)..... ~0,1 %
Sulphate (SO₄)..... ~0,005 %
Lithium carbonate (Li₂CO₃)..... ~0,015 %
Loss on ignition (400 °C)..... ≤0,5 %

P007.1	250 g	plastic	20,35 €
P007.2	1 kg	plastic	70,45 €
Original pack 6 x 1 kg			66,93/1 kg
P007.3	2,5 kg	plastic	142,45 €

tri-Lithium citrate tetrahydrate

tri-Lithium citrate tetrahydrate

≥98 %, Ph.Eur.

$C_6H_5Li_3O_7 \cdot 4 H_2O$

M 282,00 g/mol

mp 105 °C

Solubility: 745 g/l (H_2O , 25 °C)

[6080-58-6] • EC No. 213-045-8

WGK 1

Guarantee analysis:

Appearance: white to off-white powder
 Assay (titr. dry substance): 98,0-102,0 %
 Identity: complies
 Appearance of solution (10 %, water): complies
 Acidity/alkalinity: complies
 Reaction with H_2SO_4 : complies
 Chloride (Cl): ≤0,01 %
 Oxalate (as $C_2H_2O_4$): ≤0,03 %
 Sulphate (SO_4): ≤0,05 %
 Heavy metals (as Pb): ≤0,001 %
 Water: 24,0-27,0 %

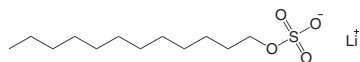
9443.1 50 g plastic 21,40 €

9443.2 100 g plastic 32,15 €

9443.3 500 g plastic 85,90 €

Original pack 6 x 500 g 81,61/500 g

Lithiumdodecyl sulphate



Lithiumdodecyl sulphate

≥99 %, for biochemistry

Anionic detergent

LDS, Lithium lauryl sulphate

$C_{12}H_{25}LiO_4S$

M 272,33 g/mol

[2044-56-6] • EC No. 218-058-2

UN No. 1325 • ADR 4.1 III • WGK 3

Danger H228-H318-H315-H335

Type analysis:

Assay: ≥99,0 %
 Chloride (Cl): ≤0,01 %
 Loss on drying: ≤1,0 %
 UV-absorption (3 %, H_2O):
 260 nm: ≤0,1 %
 280 nm: ≤0,075 %

CN25.1 10 g plastic 25,30 €

CN25.2 25 g plastic 49,35 €

CN25.3 50 g plastic 89,80 €

For further information, please see page 1218

Lithium fluoride

LiF

M 25,94 g/mol

D 2,64 • bp 1673 °C

mp 848 °C

Solubility: 1,3 g/l (H_2O , 25 °C)

[7789-24-4] • EC No. 232-152-0

UN No. 3288 • ADR 6.1 III • WGK 2

Danger H301-H315-H319-H335

Lithium fluoride

ROTI®METIC 99,99 % (4N)

Type analysis:

Assay (metals basis): 99,99 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5082.1 5 g plastic 50,45 €

5082.2 25 g plastic 155,90 €

Lithium fluoride

≥99 %, p.a.

Type analysis:

Appearance: white powder
 Assay: ≥99,0 %
 Chloride (Cl): ≤0,1 %
 Sulphate (SO_4): ≤0,1 %
 Aluminium (Al): ≤0,05 %
 Barium (Ba): ≤0,005 %
 Lead (Pb): ≤0,005 %
 Calcium (Ca): ≤0,05 %
 Iron (Fe): ≤0,005 %
 Potassium (K): ≤0,01 %
 Copper (Cu): ≤0,005 %
 Magnesium (Mg): ≤0,01 %
 Sodium (Na): ≤0,05 %
 Zinc (Zn): ≤0,001 %

6715.1 25 g plastic 18,20 €

6715.2 100 g plastic 32,15 €

6715.3 250 g plastic 61,20 €

Lithium fluoride

≥98,5 %

Type analysis:

Appearance: white powder
 Assay: ≥98,5 %
 Chloride (Cl): ≤0,1 %
 Sulphate (SO_4): ≤0,1 %
 Iron (Fe): ≤0,01 %
 Lead (Pb): ≤0,005 %

6702.1 25 g plastic 12,60 €

6702.2 100 g plastic 23,15 €

6702.3 250 g plastic 47,20 €

Lithium hydroxide

Lithium hydroxide

≥95 %, anhydrous

LiOH

M 23,95 g/mol

mp 462 °C

Solubility: 71 g/l (H_2O , 20 °C)

[1310-65-2] • EC No. 215-183-4

UN No. 2680 • ADR 8 II • WGK 1

Danger H301-H314

Type analysis:

Appearance: white powder
 Assay (LiOH): ≥95,0 %
 Carbonate (as Li_2CO_3): ≤3,0 %
 Chloride (Cl): ≤0,005 %
 Sulphate (SO_4): ≤0,1 %
 Calcium oxide (CaO): ≤0,1 %
 Ferric oxide (Fe_2O_3): ≤0,01 %
 Sodium hydroxide (NaOH): ≤0,1 %
 In water insoluble matter: ≤0,01 %

6705.1 25 g plastic 13,80 €

6705.2 100 g plastic 27,45 €

6705.3 250 g plastic 55,40 €

Lithium hydroxide monohydrate

Lithium hydroxide monohydrate

≥55 % LiOH

LiOH · H_2O

M 41,96 g/mol

D 1,51

mp 462 °C

Solubility: 124 g/l (H_2O , 20 °C)

[1310-66-3] • EC No. 215-183-4

UN No. 2680 • ADR 8 II • WGK 1

Danger H314-H301+H331

Type analysis:

Assay (LiOH): ≥55,0 %
 Carbonate (as Li_2CO_3): ≤1,0 %
 Aluminium (Al): ≤0,03 %
 Chloride (Cl): ≤0,05 %
 Potassium (K): ≤0,3 %
 Iron (Fe): ≤0,001 %
 Sodium (Na): ≤0,3 %
 Sulphate (SO_4): ≤0,05 %

3997.1 250 g plastic 39,70 €

3997.2 1 kg plastic 118,80 €

Original pack 6 x 1 kg 112,86/1 kg

Lithium nitrate

LiNO₃

M 68,95 g/mol

D 2,38 • bp 600 °C (dec.)

mp 253 °C

Solubility: 522 g/l (H₂O, 20 °C)

[7790-69-4] • EC No. 232-218-9

UN No. 2722 • ADR 5.1 III • WGK 1

⚠ Danger H272-H302-H319

Lithium nitrate

ROTI[®]METIC 99,999 % (5N), anhydrous

Type analysis:

Assay (metals basis)..... 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5281.1	10 g	plastic	67,20 €
5281.2	25 g	plastic	133,85 €

Lithium nitrate

≥99,5 %, anhydrous

Type analysis:

Appearance..... white hygroscopic powder
 Assay..... ≥99,5 %
 Chlorine (Cl)..... ≤0,01 %
 Sulphate (SO₄)..... ≤0,02 %
 Calcium (Ca)..... ≤0,01 %
 Lead (Pb)..... ≤0,001 %
 Iron (Fe)..... ≤0,001 %
 Sodium (Na)..... ≤0,02 %
 Water..... ≤0,5 %

6699.1	10 g	plastic	12,80 €
6699.2	50 g	plastic	21,75 €
6699.3	250 g	plastic	55,80 €
6699.4	500 g	plastic	90,20 €
Original pack 6 x 500 g			85,69/500 g

Lithium stearate

▶ Stearic acid lithium salt see p. 2183

Lithium sulphate

Lithium sulphate

≥99 %, anhydrous

Li₂SO₄

M 109,94 g/mol

mp 859 °C

[10377-48-7] • EC No. 233-820-4 • WGK 1

⚠ Warning H302

Type analysis:

Appearance..... white cryst. powder
 Assay..... ≥99,0 %
 Calcium (Ca)..... ≤0,1 %
 Lead (Pb)..... ≤0,001 %
 Iron (Fe)..... ≤0,001 %
 Sodium (Na)..... ≤0,1 %
 Water..... ≤0,5 %

6700.1	50 g	plastic	16,05 €
6700.2	100 g	plastic	23,15 €
6700.3	250 g	plastic	45,05 €
6700.4	500 g	plastic	69,80 €
Original pack 6 x 500 g			66,31/500 g

Lithium sulphate monohydrate

Lithium sulphate monohydrate

≥99 %, p.a.

Li₂SO₄ · H₂O

M 127,95 g/mol

D 2,06

mp 130 °C (dec.)

Solubility: 340 g/l (H₂O, 25 °C)

[10102-25-7] • EC No. 233-820-4 • WGK 1

⚠ Warning H302

Guarantee analysis:

Assay..... ≥99 %
 In HCl insoluble matter..... ≤0,01 %
 Loss on drying..... ≤16,0 %
 Fe₂O₃..... ≤0,005 %
 Calcium (Ca)..... ≤0,02 %
 Sodium (Na)..... ≤0,02 %
 Nickel (Ni)..... ≤0,02 %

4393.1	250 g	plastic	39,25 €
4393.2	500 g	plastic	69,35 €
Original pack 6 x 500 g			65,88/500 g
4393.3	1 kg	plastic	117,75 €
Original pack 6 x 1 kg			111,86/1 kg

Lithium tetraborate

Lithium tetraborate

≥99 %

Li₂B₄O₇

M 169,12 g/mol

mp 915-919 °C

Solubility: 50 g/l (H₂O, 20 °C)

[12007-60-2] • EC No. 234-514-3

WGK 3

Type analysis:

Appearance..... white cryst. powder
 Assay..... ≥99,0 %
 Sulphate (SO₄)..... ≤0,1 %
 Calcium (Ca)..... ≤0,1 %
 Lead (Pb)..... ≤0,01 %
 Iron (Fe)..... ≤0,01 %
 Sodium (Na)..... ≤0,1 %

6706.1	25 g	plastic	14,95 €
6706.2	100 g	plastic	34,30 €
6706.3	250 g	plastic	73,65 €
6706.4	500 g	plastic	136,00 €
Original pack 6 x 500 g			129,20/500 g

Lithocholic acid

Lithocholic acid

≥98 %

3α-Hydroxy-5β-cholanic acid

C₂₄H₄₀O₃

M 376,58 g/mol

mp ~184 °C

[434-13-9] • EC No. 207-099-1

Type analysis:

Appearance..... white to almost white powder
 Assay (dry substance)..... ≥98 %
 Deoxycholic acid (TLC)..... ≤2 %
 Melting point..... 182-188 °C
 Sulphated ash..... ≤0,2 %
 Loss on drying..... ≤1,0 %

8147.1	5 g	glass	33,90 €
8147.2	10 g	glass	46,80 €
8147.3	25 g	glass	91,95 €

Litmus (C.I. 1242)

Litmus (C.I. 1242)

p.a.

Indicator pH 4,8-8,3

Lacmus

[1393-92-6] • EC No. 215-739-6

Type analysis:

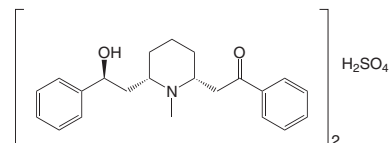
Appearance..... bluish-black powder
 pH-transition range..... 4,8 (red)-8,3 (blue)

0248.1	5 g	glass	12,05 €
0248.2	25 g	glass	30,65 €

Litsea

▶ Oil of cubeb see p. 2003

Lobeline sulphate



Lobeline sulphate

ROTICHRON[®] CHR(C₂₂H₂₇NO₂)₂ · H₂SO₄

M 773,02 g/mol

mp ~140 °C

[134-64-5] • EC No. 205-151-8

UN No. 1544 • ADR 6.1 II

⚠ Danger H301

8997.1	100 mg	glass	16,70 €

LOEFFLER's methylene blue solution

LOEFFLER's methylene blue solution

for microscopy and cell counting

Methylene blue solution 0,5 %

WGK 1

⚠ Warning H371

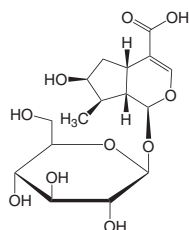
Type analysis:

Suitability for microscopy..... complies

AE64.1	500 ml	glass	22,80 €
AE64.2	1 l	glass	28,50 €
Original pack 6 x 1 l			27,08/1 l
AE64.3	2,5 l	plastic	59,05 €
Original pack 4 x 2,5 l			56,10/2,5 l

For further information, please see page 1281

Loganic acid



Loganic acid

ROTICHRON® HPLC

Reference substance for HPLC

$C_{16}H_{24}O_{10}$

M 376,35 g/mol

Storage temp.: +4 °C

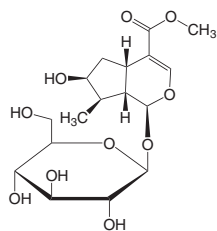
[22255-40-9] • EC No. 244-875-9

Type analysis:

Purity (HPLC)..... ≥99 %

4158.1	25 mg	glass	332,20 €

Loganin



Loganin

ROTICHRON® HPLC

Reference substance for HPLC

$C_{17}H_{26}O_{10}$

M 390,40 g/mol

mp ~222 °C

Storage temp.: +4 °C

[18524-94-2] • EC No. 242-398-0

Type analysis:

Purity (HPLC)..... ≥99 %

4162.1	10 mg	glass	170,95 €

β-Longilobin

▶ Retrorsin see p. 2083

Longilobin

▶ Seneciphylline see p. 2124

α-Longilobine

▶ Seneciphylline see p. 2124

D-Luciferin

D-Luciferin

≥99 %, for biochemistry

Substrate of Luciferase

(S)-2-(6-Hydroxy-2-benzothiazolyl)-2-thiazolin-4-carboxylic acid,
D-Luciferin free acid

$C_{11}H_8N_2O_3S_2$

mp ~202-204 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[2591-17-5]

WGK 1

Type analysis:

Assay..... ≥99 %

Water..... ≤2 %

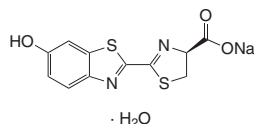
CN24.1	10 mg	glass	50,00 €

CN24.2	25 mg	glass	105,25 €

CN24.3	50 mg	glass	185,45 €

For further information, please see page 1239

D-Luciferin sodium salt



D-Luciferin sodium salt

≥99 %, for biochemistry

Luciferase substrate

(S)-2-(6-Hydroxy-2-benzothiazolyl)-2-thiazoline-4-carboxylic acid sodium salt

$C_{11}H_7N_2O_3S_2Na \cdot H_2O$

M 320,32 g/mol

Solubility: in H_2O soluble

Storage temp.: -20 °C

Transport temp.: room temp.

[103404-75-7]

WGK 1

Type analysis:

Assay (HPLC)..... ≥99 %

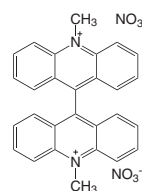
Solution (1 % in water)..... yellowish, clear

Water (KF)..... ≤8 %

4096.1	10 mg	glass	30,00 €

4096.2	25 mg	glass	53,65 €

Lucigenin



Lucigenin

≥97 %, p.a., for chemiluminescence assays

N,N'-Dimethyl-9,9'-biacridinium dinitrate,
Bis-N-methylacridinium nitrate

$C_{28}H_{22}N_4O_6$

M 510,51 g/mol

mp ~250 °C

[2315-97-1] • EC No. 219-023-4

WGK 2

Guarantee analysis:

Assay (HPLC)..... ≥97,0 %

6272.1	500 mg	glass	94,50 €

LuciPac® Pen

LuciPac® Pen

Kikkoman for hygiene control

For testing for the contamination of surfaces by ATP/AMP measurement using Lumitester PD20 and PD30.

Storage temp.: +4 °C

WGK 1

Guarantee analysis:

Sterility..... complies

Luminescence control..... complies

NC59.1	20 pieces	Aluminium bag	89,80 €

NC59.2	100 pieces	Aluminium bag	385,95 €

For further information, please see page 1296

LuciPac® Pen Aqua

LuciPac® Pen Aqua

Kikkoman for hygiene control

For testing for the contamination of liquids by ATP/AMP measurement using Lumitester PD20 and PD30.

Storage temp.: +4 °C

WGK 1

Guarantee analysis:

Sterility..... complies

Luminescence control..... complies

NC58.1	20 pieces	Aluminium bag	89,80 €

NC58.2	100 pieces	Aluminium bag	385,95 €

For further information, please see page 1296

Luff-Schoorl's solution

Luff-Schoorl's solution

for sugar determination

UN No. 3082 • ADR 9 III • WGK 2

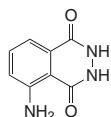
⚠ Warning H319-H411

X874.1	1 l	glass	29,60 €
Original pack 6 x 1 l			28,12/1 l

Lugol solution

► Iodine-potassium iodide solution acc. to
Lugol see p. 1902

Luminol



Luminol

≥95 %, for synthesis

Fluorescence indicator, peroxidase reagent
3-Aminophthalic hydrazide, 5-Amino-2,3-
dihydro-phthalazine-1,4-dione

C₈H₇N₃O₂

M 177,16 g/mol

mp ~320 °C

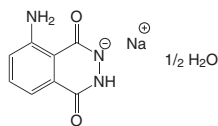
[521-31-3] • EC No. 208-309-4 • WGK 1

⚠ Warning H302

Type analysis:

Appearance: yellow-green powder
Assay (titr.): ≥95 %
Water (KF): <1 %
Solubility (0,1 % in 0,1 N NaOH): complies

4203.1	5 g	glass	45,05 €
4203.2	25 g	plastic	179,00 €

Luminol sodium salt
hemihydrateLuminol sodium salt
hemihydrate

≥98 %, p.a.

C₈H₆N₃NaO₂ · ½ H₂OM 199,14 + ½ H₂O g/mol

[206658-90-4] • WGK 3

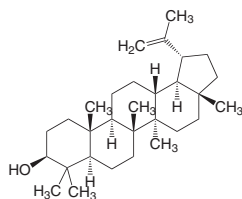
⚠ Warning H315-H319-H335

Type analysis:

Appearance: off-white powder
Assay: ≥98 %
Appearance of solution (5 % in H₂O): clear, yellow

7708.1	1 g	glass	17,75 €
7708.2	5 g	glass	40,35 €
7708.3	10 g	glass	73,65 €

Lupeol



Lupeol

ROTICHRON® HPLC

Reference substance for HPLC

β-Viscol

C₃₀H₅₀O

M 426,70 g/mol

Storage temp.: +4 °C

[545-47-1] • EC No. 208-889-9

⚠ Warning H302

Type analysis:

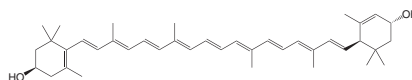
Purity (HPLC): ≥99 %

8863.1	25 mg	glass	203,20 €

Lupeose

► Stachyose Hydrate see p. 2166

Lutein



Lutein

ROTICHRON® TLC

Reference substance for thin layer
chromatography

Xanthophyll

C₄₀H₅₆O₂

M 568,88 g/mol

mp 190 °C

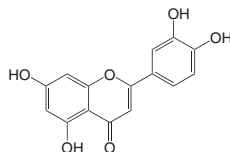
Storage temp.: -20 °C

Transport temp.: room temp.

[127-40-2] • EC No. 204-840-0

5671.1	5 mg	glass	299,95 €

Luteolin



3',4',5',7-Tetrahydroxyflavone

C₁₅H₁₀O₆

M 286,23 g/mol

mp 326-330 °C

[491-70-3] • EC No. 207-741-0

WGK 1

⚠ Warning H315-H319-H335

Luteolin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC): ≥90,0 %
Residual solvents (GC): ≤3,0 %
Water (KF): ≤10,0 %
Assay (qNMR): ≥80,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests
and validations.

NE49.1	25 mg	glass	783,70 €

Luteolin

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC): ≥80,0 %
Identity: complies
Traceable to a primary reference standard. With proof
of identity and batch specific certificate of analysis.

NC49.1	50 mg	glass	143,55 €

Luteolin

ROTICHRON® HPLC

Reference substance for HPLC

From *Reseda luteola*.

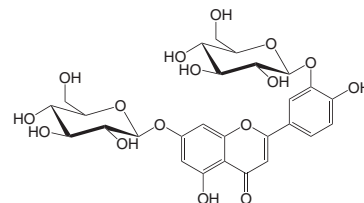
Storage temp.: +4 °C

Type analysis:

Purity (HPLC): >99 %

4546.1	10 mg	glass	123,65 €

Luteolin-3',7-diglucoside



Luteolin-3',7-diglucoside

ROTICHRON® HPLC

Reference substance for HPLC

C₂₇H₃₀O₁₆

M 610,51 g/mol

Storage temp.: +4 °C

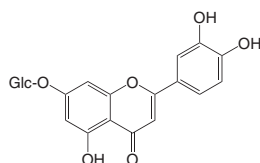
[52187-80-1] • EC No. 257-724-7

Type analysis:

Purity (HPLC): ≥96 %

6760.2	10 mg	glass	364,45 €

Luteolin-7-glucoside



Luteolin-7-glucoside

ROTICHRON® HPLC

Reference substance for HPLC

Cynaroside

$C_{21}H_{20}O_{11}$

M 448,39 g/mol

Storage temp.: +4 °C

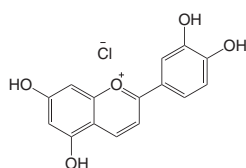
[5373-11-5] • EC No. 226-365-8

Type analysis:

Purity (HPLC)..... ≥98 %

4164.1	10 mg	glass	177,40 €

Luteolinidin chloride



Luteolinidin chloride

ROTICHRON® HPLC

Reference substance for HPLC

3',4',5,7-Tetrahydroxyflavylium chloride

$C_{15}H_{11}O_5Cl$

M 306,68 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1154-78-5]

Type analysis:

Purity (HPLC)..... ≥91 %

9325.2	5 mg	plastic	364,45 €

Lutetium Standards

► Lutetium ICP Standard Solution see p. 2171

► Lutetium ICP Standard Solution see p. 2176

Lutetium(III) nitrate hydrate

Lutetium(III) nitrate hydrate

ROTI®REMATIC 99,99 %

$Lu(NO_3)_3 \cdot x H_2O$

M 360,98 + x H₂O g/mol

[100641-16-5] • EC No. 233-241-7

UN No. 1477 • ADR 5.1 II • WGK 3

Danger H272-H315-H319

Type analysis:

Assay (TREC*)..... 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7265.1	1 g	plastic	78,40 €

Lutetium(III) oxide

Lu_2O_3

M 397,93 g/mol

D 9,41 • bp 3980 °C

mp 2427 °C

[12032-20-1] • EC No. 234-764-3

WGK 3

Warning H315-H319-H335

Lutetium(III) oxide

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5296.1	1 g	plastic	78,40 €

Lutetium(III) oxide

ROTI®REMATIC 99,99 %

Type analysis:

Assay (TREC*)..... 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7177.1	1 g	plastic	90,20 €

7177.2	5 g	plastic	407,45 €

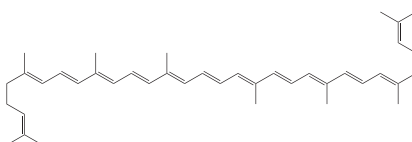
Lutrol®

► Polyethylene glycol see p. 2046

Luxol® Fast Blue MBSN

► Solvent Blue 38 (C.I. 74180) see p. 2161

Lycopene



ψ, ψ-Carotene, all-trans-Lycopene

$C_{40}H_{56}$

M 536,87 g/mol

mp 173 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[502-65-8] • EC No. 207-949-1

Lycopene

ROTICHRON® HPLC

Reference substance for HPLC

From *Solanum lycopersicum*.

Type analysis:

Purity (HPLC)..... >90 %

1180.1	5 mg	glass	239,20 €

Lycopene

ROTICHRON® TLC

Reference substance for thin layer chromatography

5670.1	5 mg	glass	353,70 €

Lycopodium

Lycopodium

extra pure

Spores of *Lycopodium clavatum* L.

Club-moss spores

[84082-56-4] • EC No. 282-002-3

Type analysis:

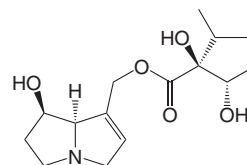
Appearance..... fine, yellow powder

Identity..... complies

Ash content..... ≤3 %

8253.1	250 g	plastic	47,85 €

Lycopsamine



Lycopsamine

ROTICHRON® HPLC

Reference substance for HPLC

From *Symphytum*

$C_{15}H_{25}NO_5$

M 299,36 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

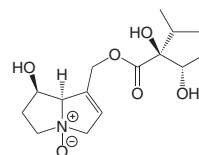
[10285-07-1] • WGK 1

Type analysis:

Purity (HPLC)..... ≥95,0 %

2208.1	5 mg	glass	306,40 €

Lycopsamine N-oxide



Lycopsamine N-oxide

ROTICHRON® HPLC

Reference substance for HPLC. From *Symphytum*.

$C_{15}H_{25}NO_6$

M 315,36 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[95462-15-0] • WGK 1

Warning H302

Type analysis:

Purity (HPLC)..... ≥95 %

8022.1	5 mg	glass	349,40 €

Lycoricidinol

► Narciclasine see p. 1981

Lymphocyte separation medium

► Roti®-Sep 1077 see p. 2111

Lysine Iron Agar**Lysine Iron Agar**

for microbiology

For rapid differentiation of *Enterobacteriaceae*, particularly *Salmonella arizonae*.

Application: Use 33 g for 1 l agar.

Storage temp.: +20 °C

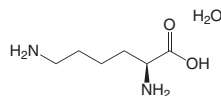
WGK 1

Formulation:

L-Lysin.....	10 g/l
Gelatine peptone.....	5 g/l
Yeast extract.....	3 g/l
Dextrose.....	1 g/l
Ammonium iron(III)citrate.....	0,5 g/l
Sodium thiosulphate.....	0,04 g/l
Bromocresol purple.....	0,02 g/l
Agar.....	13,5 g/l
pH value.....	6,7 ±0,2

8322.1	500 g	plastic	160,20 €
Original pack 6 x 500 g			152,19/500 g

For further information, please see page 1331

L-Lysine monohydrate $C_6H_{14}N_2O_2 \cdot H_2O$

M 164,21 g/mol

Solubility: 300 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[39665-12-8] • EC No. 200-294-2

WGK 1

L-Lysine monohydrate≥98,5 %, **CELLPURE®**

For cell culture and biochemistry.

Type analysis:

Assay (dry substance).....	≥98,5 %
Endotoxins.....	≤6 I.U./g
Specific rotation $[\alpha]_D^{20}$	+25,5° to +27,0°
Water (KF).....	10,5-11,5 %
Ammonium (NH_4).....	≤0,02 %
Chloride (Cl).....	≤0,05 %
Sulphate (SO_4).....	≤0,02 %
Heavy metals (as Pb).....	≤0,001 %
Iron (Fe).....	≤0,001 %
Sulphated ash.....	≤0,1 %

6829.1	25 g	plastic	46,15 €
6829.2	100 g	plastic	84,40 €
6829.3	250 g	plastic	360,15 €

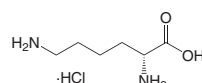
L-Lysine monohydrate

≥98,5 %, for biochemistry

Type analysis:

Assay (dry substance).....	98,5-101,5 %
Specific rotation $[\alpha]_D^{20}$	+25,5° to +27,0°
Water (KF).....	10,0-11,5 %
Chloride (Cl).....	≤0,03 %
Sulphate (SO_4).....	≤0,02 %
Iron (Fe).....	≤0,001 %
Heavy metals.....	≤0,001 %

4207.1	25 g	plastic	42,50 €
4207.2	100 g	plastic	79,05 €

D-Lysine hydrochloride**NEW****D-Lysine hydrochloride**

≥99 %, for biochemistry

(R)-2,6-Diaminohexanoic acid hydrochloride, H-D-Lys-OH · HCl

 $C_6H_{14}N_2O_2 \cdot HCl$

M 182,7 g/mol

Storage temp.: +4 °C

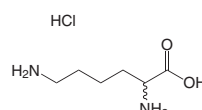
[7274-88-6] • EC No. 230-691-6

WGK 1

Type analysis:

Appearance.....	white to off-white powder
Assay.....	99,0-100,5 %
Specific rotation $[\alpha]_D^{20}$ (c=8 in 6 N HCl).....	-21,4° to -20,6°
Loss on drying.....	≤0,4 %

7883.1	1 g	glass	22,50 €
7883.2	5 g	plastic	50,45 €
7883.3	25 g	plastic	123,55 €

DL-Lysine hydrochloride**DL-Lysine hydrochloride**

≥98 %, for biochemistry

2,6-Diaminohexanoic acid hydrochloride

 $C_6H_{14}N_2O_2 \cdot HCl$

M 182,65 g/mol

mp 170 °C

Storage temp.: +4 °C

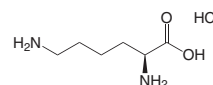
[70-53-1] • EC No. 200-739-0

WGK 1

Type analysis:

Appearance.....	white to off-white powder
Assay.....	≥98 %
Identity (IR).....	complies
Heavy metals (as Pb).....	≤0,005 %

8600.1	500 mg	glass	18,85 €
8600.2	1 g	glass	28,95 €
8600.3	5 g	plastic	51,50 €

L-Lysine hydrochloride

α,ε-Diamino-N-caproic acid hydrochloride, (S)-2,6-Diaminohexanoic acid hydrochloride, H-L-Lys-OH · HCl

 $C_6H_{15}ClN_2O_2$

M 182,65 g/mol

mp 250-260 °C

Solubility: ~420 g/l (H_2O , 20 °C)

[657-27-2] • EC No. 211-519-9

WGK 1

L-Lysine hydrochloride≥99 %, **CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤6,0 E.U./g
Assay.....	≥99 %
Loss on drying.....	≤0,3 %
Specific rotation $[\alpha]_D^{20}$	+21,0° to +22,5°
Ammonium (NH_4).....	≤0,02 %
Chloride (Cl).....	19,2-19,6 %
Sulphate (SO_4).....	≤0,02 %
Heavy metals (as Pb).....	≤0,0005 %
Arsenic (As_2O_3).....	≤0,0001 %
Iron (Fe).....	≤0,003 %

1700.1	25 g	plastic	14,55 €
1700.2	100 g	plastic	26,35 €
1700.3	500 g	plastic	89,15 €
Original pack 6 x 500 g			84,69/500 g

L-Lysine hydrochloride≥98,5 %, **USP**, for biochemistry**Guarantee analysis:**

Assay (dry substance).....	98,5-101,0 %
Identity.....	complies
Specific rotation $[\alpha]_D^{20}$	+21,0° to +22,5°
pH value.....	5,0-6,0
Ammonium (NH_4).....	≤0,02 %
Chloride (Cl).....	19,2-19,6 %
Sulphate (SO_4).....	≤0,02 %
Arsenic (As_2O_3).....	≤0,0001 %
Iron (Fe).....	≤0,003 %
Heavy metals (as Pb).....	≤0,0005 %
Foreign amino acids.....	≤0,5 %
Loss on drying.....	≤0,3 %
Sulphated ash.....	≤0,1 %

9357.1	100 g	plastic	16,70 €
9357.3	250 g	plastic	34,30 €
9357.4	500 g	plastic	60,10 €
Original pack 6 x 500 g			57,10/500 g
9357.2	1 kg	plastic	107,40 €
Original pack 6 x 1 kg			102,03/1 kg

H-L-Lys(N3)-OH · HCl

► L-Azidolysine hydrochloride see p. 1662

Lysozyme

Lysozyme

~20 000 U/mg, 3x cryst., lyophilised
From chicken egg white, free from albumin.
M ~14000 g/mol
Storage temp.: -20 °C
Transport temp.: room temp.
[12650-88-3] • EC No. 235-747-3
 **Danger H334**

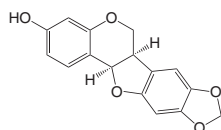
Type analysis:

Activity.....~20000 U/mg

8259.1	1 g	glass	24,95 €
8259.2	10 g	glass	153,20 €
8259.3	25 g	glass	290,80 €

For further information, please see page 1223

(-)-Maackiain



(-)-Maackiain

ROTICHRON® HPLC

Reference substance for HPLC.
From *Baptisia tinctoria*.
Inermin
C₁₆H₁₂O₅
M 284,27 g/mol
mp 175-180 °C
Storage temp.: +4 °C
[2035-15-6] • WGK 3

Type analysis:

Purity (HPLC).....≥98 %

6496.1	10 mg	glass	252,65 €

MacConkey Agar

MacConkey Agar

Ph.Eur., EN ISO 21567, for microbiology

For selective isolation and identification of enterobacteria from waste water, foods and other samples.
Application: Use 50 g for 1 l agar.
Agar medium H (Ph.Eur. 6.0), MacConkey Agar (Ph.Eur. 6.3, 7.0 and 8.0)
Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Gelatin peptone (Pancreas hydrolysate)..... 17 g/l
Meat and casein peptone..... 3 g/l
Lactose monohydrate..... 10 g/l
Bile salt (Cholate)..... 1,5 g/l
Sodium chloride (NaCl)..... 5 g/l
Neutral red..... 0,03 g/l
Crystal violet..... 0,001 g/l
Agar..... 13,5 g/l
pH value..... 7,1 ±0,2

X922.1	500 g	plastic	75,80 €
Original pack 6 x 500 g			72,01/500 g
X922.2	1 kg	plastic	137,10 €
Original pack 6 x 1 kg			130,25/1 kg

For further information, please see page 1331

MacConkey Agar with sorbitol

► Sorbitol MacConkey Agar see p. 2164

MacConkey Broth

MacConkey Broth

Ph.Eur., for microbiology

For detection of coliform bacteria in water, milk and other liquids.
Application: Use 35 g for 1 l broth.
Broth medium G (Ph.Eur. 6.0), MacConkey Broth (Ph.Eur. 6.3, 7.0 and 8.0)
Storage temp.: +20 °C

Guarantee analysis:

Gelatin peptone (Pancreas hydrolysate).....20 g/l
Lactose monohydrate.....10 g/l
Dehydrated ox bile.....5 g/l
Bromocresol purple.....0,01 g/l
pH value.....7,3 ±0,2

AE47.1	500 g	plastic	74,75 €
Original pack 6 x 500 g			71,01/500 g

For further information, please see page 1331

Macleyine

► Protopine see p. 2070

Macrogol

► Polyethylene glycol see p. 2046

Madecassoside

Madecassoside

ROTICHRON® HPLC

Reference substance for HPLC
C₄₈H₇₈O₂₀
M 975,17 g/mol
Storage temp.: +4 °C
[34540-22-2] • EC No. 252-076-1

Type analysis:

Purity (HPLC).....≥97 %

6138.1	10 mg	glass	321,45 €

Magenta

► Fuchsin basic (C.I. 42510) see p. 1842

Magnesia burnt

► Magnesium oxide see p. 1945

Magnesia rods

Magnesia rods

Ideal for flame analysis of sodium etc., for borax bead analysis of cobalt and for bead tests.
Ø 1,5 mm x l 140 mm.

6543.1	25 pieces	cardboard	21,45 €

Magnesia scoops

Magnesia scoops

For the preparation of the oxidizing melt upon detection of chromium, manganese etc.
For bead tests.
W 9 mm x l 100 mm.

6537.1	25 pieces	cardboard	20,40 €

Magnesium ribbon

Magnesium ribbon

≥99,5 %, tape

For the detection of sodium.
A coil with about 25 g, band ~0,2 mm thick, 3 mm wide

Mg

M 24,31 g/mol
D 1,738 • bp 1090 °C
mp 649,5 °C • flp 500 °C
[7439-95-4] • EC No. 231-104-6
UN No. 1869 • ADR 4.1 III

 **Danger H261-H228**

Type analysis:

Assay (Mg).....≥99,5 %
In HCl insoluble matter.....≤0,05 %
Lead (Pb).....≤0,01 %
Iron (Fe).....≤0,05 %
Copper (Cu).....≤0,005 %

4468.1	1 roll	Box	93,45 €

Magnesium powder

Magnesium powder

≥99,8 %, <75 µm

Mg

M 24,31 g/mol
D 1,75 • bp 1107 °C
mp 651 °C
[7439-95-4] • EC No. 231-104-6
UN No. 1418 • ADR 4.3 (4.2) II

 **Danger H228-H261-H252**

Type analysis:

Assay (Mg).....≥99,8 %

CP20.1	100 g	plastic	12,70 €

CP20.2	500 g	plastic	35,40 €

Original pack 6 x 500 g 33,63/500 g

Magnesium filings

Magnesium filings

≥99,9 %, acc. to Grignard, for synthesis

For synthesis of organometallic compounds.
Application in Grignard reaction.

Mg

M 24,31 g/mol

D 1,75 • bp 1107 °C • mp 651 °C

[7439-95-4] • EC No. 231-104-6

UN No. 1869 • ADR 4.1 III

 Danger H261-H228

Type analysis:

Assay (Mg)	≥99,9 %
Aluminium (Al)	≤0,05 %
Manganese (Mn)	≤0,05 %
Iron (Fe)	≤0,05 %
Nickel (Ni)	≤0,001 %
Silicon (Si)	≤0,05 %

AE61.1	250 g	tin	16,35 €

AE61.2	500 g	tin	24,95 €

Original pack 6 x 500 g	23,70/500 g

AE61.3	1 kg	tin	40,75 €

Original pack 6 x 1 kg	38,71/1 kg

Magnesium Standards

- ▶ Magnesium AAS Standard Solution
see p. 2168
- ▶ Magnesium ICP Standard Solution
see p. 2171
- ▶ Magnesium ICP Standard Solution
see p. 2176
- ▶ Magnesium IC Standard Solution
see p. 2181

Magnesium acetate tetrahydrate

Mg(CH₃COO)₂ · 4 H₂O

M 214,46 g/mol

D 1,454 • mp 80 °C

Solubility: 1200 g/l (H₂O, 15 °C)

[16674-78-5] • EC No. 205-554-9 • WGK 1

Magnesium acetate tetrahydrate

≥99,5 %, p.a., ACS

For the detection of sodium.

Guarantee analysis:

Assay (compl.)	≥99,5 %
pH value (5 % solution)	8-9
In CH ₃ COOH insoluble matter	≤0,005 %
Chloride (Cl)	≤0,001 %
Sulphate (SO ₄)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Barium (Ba)	≤0,001 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %
Manganese (Mn)	≤0,001 %
Strontium (Sr)	≤0,005 %
Cadmium (Cd)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Potassium (K)	≤0,005 %
Sodium (Na)	≤0,005 %
Lead (Pb)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

P026.1	500 g	plastic	48,30 €

Original pack 6 x 500 g	45,89/500 g

P026.2	1 kg	plastic	81,20 €

Original pack 6 x 1 kg	77,14/1 kg

Magnesium acetate tetrahydrate

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins	≤6,0 E.U./g
Assay (dry substance)	≥99 %
pH value (5 % solution)	7,5-8,5
Chloride (Cl)	≤0,033 %
Sulphate (SO ₄)	≤0,06 %
Nitrate (NO ₃)	complies
Heavy metals (as Pb)	≤0,004 %
Aluminium (Al)	≤0,0001 %
Calcium (Ca)	≤0,01 %
Potassium (K)	≤0,1 %
Sodium (Na)	≤0,5 %
Easily oxidizable substance	complies

HN11.1	100 g	plastic	16,05 €

HN11.2	500 g	plastic	42,90 €

Original pack 6 x 500 g	40,76/500 g

HN11.3	1 kg	plastic	67,65 €

Original pack 6 x 1 kg	64,27/1 kg

Magnesium acetate tetrahydrate

≥98 %, Ph.Eur., extra pure

For biochemistry.

Guarantee analysis:

Assay	98,0-101,0 %
Identity	complies
pH value (5 % solution)	7,5-8,5
Water	33,0-35,0 %
Chloride (Cl)	≤0,033 %
Sulphate (SO ₄)	≤0,06 %
Nitrate (NO ₃)	≤0,0003 %
Aluminium (Al)	≤0,0001 %
Calcium (Ca)	≤0,01 %
Potassium (K)	≤0,1 %
Sodium (Na)	≤0,5 %
Heavy metals (as Pb)	≤0,004 %
Easily oxidizable substance	complies

0275.1	500 g	plastic	20,35 €

Original pack 6 x 500 g	19,33/500 g

0275.2	1 kg	plastic	34,95 €

Original pack 6 x 1 kg	33,20/1 kg

0275.3	5 kg	plastic	129,55 €

Magnesium carbonate

Magnesium carbonate

Ph.Eur., light

Magnesia alba

(MgCO₃)₄ Mg(OH)₂ · 5 H₂O

D 2,16

mp 600 °C (dec.)

[12125-28-9] • EC No. 235-192-7

Guarantee analysis:

Appearance	white powder
Appearance of solution	complies
Assay (compl.)	40,0-45,0 %
Identity	complies
Water-soluble content	≤1,0 %
Substances insoluble in acetic acid	≤0,05 %
Chloride (Cl)	≤0,07 %
Sulphate (SO ₄)	≤0,3 %
Arsenic (As)	≤0,0002 %
Calcium (Ca)	≤0,75 %
Iron (Fe)	≤0,04 %
Heavy metals (as Pb)	≤0,002 %

3530.2	1 kg	plastic	26,35 €

Original pack 6 x 1 kg	25,03/1 kg

3530.1	2,5 kg	cardboard	36,05 €

Magnesium chloride

Magnesium chloride

≥98,5 %, anhydrous

MgCl₂

M 95,22 g/mol

D ~2,32 • bp 1412 °C

mp 708 °C

Solubility: 542 g/l (H₂O, 20 °C)

[7786-30-3] • EC No. 232-094-6

WGK 1

Type analysis:

Assay	≥98,5 %

KK36.1	100 g	plastic	12,60 €

KK36.2	500 g	plastic	27,85 €

Original pack 6 x 500 g	26,46/500 g

KK36.3	1 kg	plastic	45,70 €

Original pack 6 x 1 kg	43,42/1 kg

Magnesium chloride hexahydrate

MgCl₂ · 6 H₂O

M 203,3 g/mol

D 1,57

mp 117 °C (dec.)

Solubility: 1670 g/l (H₂O, 20 °C)

[7791-18-6] • EC No. 232-094-6

WGK 1

Magnesium chloride hexahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5347.1	25 g	plastic	177,40 €

5347.2	100 g	plastic	536,45 €

Magnesium chloride hexahydrate

≥99 %, p.a., ACS

Reagent for the detection of phosphate, molecular biology.

Guarantee analysis:

Assay (compl.)	≥99,0 %
pH value (5 % in water)	5,0-6,5
In H ₂ O insoluble matter	≤0,005 %
Total nitrogen (as N)	≤0,002 %
Phosphate (PO ₄)	≤0,0005 %
Nitrate (NO ₃)	≤0,001 %
Sulphate (SO ₄)	≤0,002 %
Ammonium (NH ₄)	≤0,002 %
Barium (Ba)	≤0,005 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,005 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Strontium (Sr)	≤0,005 %
Zinc (Zn)	≤0,001 %

2189.2	250 g	plastic	14,55 €
2189.1	1 kg	plastic	27,85 €
Original pack 6 x 1 kg			26,46/1 kg
2189.3	2,5 kg	plastic	51,50 €
2189.5	25 kg	plastic	407,45 €

Magnesium chloride hexahydrate

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins	≤3,0 I.U./g
Assay	≥99 %
Appearance of solution	clear, colourless
In H ₂ O insoluble matter	≤0,05 %
Sulphate (SO ₄)	≤0,01 %
Heavy metals (as Pb)	≤0,0005 %
Aluminium (Al)	≤0,00005 %
Arsenic (As)	≤0,0002 %
Cadmium (Cd)	≤0,0001 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,05 %
Mercury (Hg)	≤0,0001 %

HN03.1	250 g	plastic	18,50 €
HN03.2	500 g	plastic	27,10 €
Original pack 6 x 500 g			25,75/500 g
HN03.3	1 kg	plastic	41,40 €
Original pack 6 x 1 kg			39,33/1 kg

Magnesium chloride hexahydrate

≥98 %, Ph.Eur.

Guarantee analysis:

Appearance	fine, white crystals
Assay	98,0-101,0 %
Identity	complies
Water	51,0-55,0 %
Appearance of solution (10 %)	clear, colourless
In H ₂ O insoluble matter	≤0,005 %
Acidity (0,01 M NaOH/0,5 g)	≤0,30 ml
Alkalinity (0,01 M HCl/0,5 g)	≤0,30 ml
Ammonium (NH ₄)	≤0,005 %
Sulphate (SO ₄)	≤0,01 %
Bromide (Br)	≤0,05 %
Heavy metals (as Pb)	≤0,001 %
Aluminium (Al)	≤0,0001 %
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,001 %
Calcium (Ca)	≤0,1 %
Barium (Ba)	complies
Potassium (K)	≤0,05 %
Mercury (Hg)	≤0,0001 %

A537.4	500 g	plastic	17,45 €
Original pack 6 x 500 g			16,58/500 g
A537.1	1 kg	plastic	23,55 €
Original pack 6 x 1 kg			22,37/1 kg
A537.5	2,5 kg	plastic	44,85 €
A537.2	10 kg	plastic	142,45 €
A537.3	50 kg	cardboard	622,45 €

Magnesium chloride hexahydrate

techn., flakes

Type analysis:

Appearance	white-yellowish flakes
MgCl ₂	≥46,5 %
MgSO ₄	≤0,6 %
pH value (10 % solution)	5,5-9,0
Potassium chloride (KCl)	≤0,8 %
Sodium chloride (NaCl)	≤0,9 %
Iron (Fe)	≤0,0025 %

3532.1	1 kg	plastic	16,05 €
Original pack 6 x 1 kg			15,25/1 kg
3532.2	10 kg	plastic	53,65 €
3532.3	50 kg	cardboard	115,60 €

Magnesium citrate

Magnesium citrate pure

Citric acid magnesium salt

C₆H₆MgO₇

M 214,43 g/mol

Solubility: 250 g/l (H₂O, 100 °C)

[7779-25-1] • EC No. 231-923-9

WGK 1

Type analysis:

Assay (Mg)	6,0-8,0 %
pH value (5 %)	3,5-4,0
Sulphate (SO ₄)	≤1,0 %
Heavy metals (as Pb)	≤0,001 %

9361.1	100 g	plastic	13,90 €
9361.2	500 g	plastic	32,15 €
Original pack 6 x 500 g			30,54/500 g
9361.3	1 kg	plastic	48,30 €
Original pack 6 x 1 kg			45,89/1 kg

Magnesium EDTA disodium salt dihydrate

► Ethylenediamine tetraacetic acid magnesium disodium salt dihydrate see p. 1816

Magnesium hydroxide

Magnesium hydroxide

≥95 %, Ph.Eur.

Mg(OH)₂

M 58,32 g/mol

D 2,4

mp 350 °C (dec.)

Solubility: 0,009 g/l (H₂O, 18 °C)

[1309-42-8] • EC No. 215-170-3

Guarantee analysis:

Appearance	white powder
Assay (titr.)	95,0-100,5 %
Identity	complies
Appearance of solution	complies
Substances soluble in H ₂ O	≤2,0 %
In CH ₃ COOH insoluble matter	≤0,1 %
Chloride (Cl)	≤0,1 %
Sulphate (SO ₄)	≤1,0 %
Arsenic (As)	≤0,0004 %
Calcium (Ca)	≤1,5 %
Iron (Fe)	≤0,07 %
Heavy metals (as Pb)	≤0,003 %
Loss on ignition (900 °C)	29,0-32,5 %

9453.1	100 g	plastic	13,90 €
9453.2	500 g	plastic	26,80 €
Original pack 6 x 500 g			25,46/500 g
9453.3	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg

Magnesium matrix modifier

► Matrix modifier solution
Magnesium nitrate see p. 1952

Magnesium nitrate hexahydrate

Mg(NO₃)₂ · 6 H₂O

M 256,41 g/mol

D 1,46

mp ~89 °C

Solubility: 420 g/l (H₂O, 20 °C)

[13446-18-9] • EC No. 233-826-7

UN No. 1474 • ADR 5.1 III • WGK 1

⚠ Danger H272

Magnesium nitrate hexahydrate ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5420.1	10 g	plastic	45,05 €
5420.2	50 g	plastic	92,35 €

Magnesium nitrate hexahydrate

≥98 %, p.a., ACS

Oxidant

Guarantee analysis:

Assay (compl.)	98,0-102,0 %
pH value (5 % solution)	5,0-8,2
In H ₂ O insoluble matter	≤0,003 %
Chloride (Cl)	≤0,001 %
Phosphate (PO ₄)	≤0,0005 %
Sulphate (SO ₄)	≤0,002 %
Ammonium (NH ₄)	≤0,003 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,0001 %
Aluminium (Al)	≤0,0005 %
Barium (Ba)	≤0,002 %
Calcium (Ca)	≤0,01 %
Cobalt (Co)	≤0,0005 %
Chromium (Cr)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Iron (Fe)	≤0,0002 %
Potassium (K)	≤0,005 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,005 %
Strontium (Sr)	≤0,002 %
Nickel (Ni)	≤0,001 %

HN31.1	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g
HN31.2	1 kg	plastic	56,45 €
Original pack 6 x 1 kg			53,63/1 kg
HN31.3	2,5 kg	plastic	126,35 €

Magnesium nitrate matrix modifier solution

- Matrix modifier solution
Magnesium nitrate see p. 1952

Magnesium oxide

Magnesia, burnt

MgO

M 40,30 g/mol

D 3,60 • bp 2800 °C

mp 2826 °C

[1309-48-4] • EC No. 215-171-9

WGK 1

Magnesium oxide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5639.1	10 g	plastic	96,65 €
5639.2	50 g	plastic	407,45 €

Magnesium oxide

≥98 %, Ph.Eur., light

Guarantee analysis:

Appearance..... white, fine powder
Assay (based on calcinated substance). 98,0-100,5 %
Identity..... complies
Appearance of solution..... complies
Soluble substances..... ≤2,0 %
Substances insoluble in acetic acid..... ≤0,1 %
Chloride (Cl)..... ≤0,15 %
Sulphate (SO₄)..... ≤1,0 %
Arsenic (As)..... ≤0,0004 %
Calcium (Ca)..... ≤1,5 %
Iron (Fe)..... ≤0,1 %
Heavy metals (as Pb)..... ≤0,003 %
Loss on ignition (900 °C)..... ≤8,0 %

8280.2	500 g	plastic	18,50 €
Original pack 6 x 500 g			17,58/500 g
8280.1	1 kg	plastic	25,30 €
Original pack 6 x 1 kg			24,04/1 kg
8280.3	5 kg	plastic	105,90 €

Magnesium reagent acc. to Mann and Yoe

- Xylidyl blue sodium salt see p. 2247

Magnesium silicate

- Florisil® see p. 1829
► Talcum see p. 2195

Magnesium sulphate hydrate**Magnesium sulphate hydrate**

≥99 %, dried, extra pure, DAC

MgSO₄ · x H₂OM 120,4 + x H₂O g/mol

D ~2,45

Solubility: 300 g/l (H₂O, 20 °C)

[22189-08-8] • EC No. 231-298-2

WGK 1

Guarantee analysis:

Assay (in annealed substances)..... 99,0-101,0 %
Appearance of solution..... complies
Acidity/alkalinity..... complies
Chloride (Cl)..... ≤0,022 %
Arsenic (As)..... ≤0,0002 %
Calcium (Ca)..... ≤0,033 %
Iron (Fe)..... ≤0,0014 %
Heavy metals (as Pb)..... ≤0,0015 %
Loss on ignition (400 °C)..... 26,0-32,0 %

0261.1	500 g	plastic	14,20 €
Original pack 6 x 500 g			13,49/500 g
0261.2	1 kg	plastic	18,20 €
Original pack 6 x 1 kg			17,29/1 kg
0261.3	2,5 kg	plastic	33,25 €

Magnesium sulphate heptahydrate

Bitter salt

MgSO₄ · 7 H₂O

M 246,48 g/mol

D 1,67

Solubility: 710 g/l (H₂O, 20 °C)

[10034-98-8] • EC No. 231-298-2

WGK 1

Magnesium sulphate heptahydrate

≥99 %, p.a., ACS

Guarantee analysis:

Assay (compl.)..... 99,0-102,0 %
pH value..... 5,0-8,2
In H₂O insoluble matter..... ≤0,005 %
Chloride (Cl)..... ≤0,0005 %
Phosphate (PO₄)..... ≤0,001 %
Nitrate (NO₃)..... ≤0,001 %
Ammonium (NH₄)..... ≤0,002 %
Heavy metals (as Pb)..... ≤0,0005 %
Arsenic (As)..... ≤0,00005 %
Copper (Cu)..... ≤0,0005 %
Potassium (K)..... ≤0,005 %
Sodium (Na)..... ≤0,005 %
Lead (Pb)..... ≤0,0005 %
Strontium (Sr)..... ≤0,005 %
Calcium (Ca)..... ≤0,004 %
Iron (Fe)..... ≤0,0005 %
Manganese (Mn)..... ≤0,0005 %
Nickel (Ni)..... ≤0,0005 %
Silicon (Si)..... ≤0,0005 %
Zinc (Zn)..... ≤0,0005 %

P027.1	500 g	plastic	22,05 €
Original pack 6 x 500 g			20,95/500 g
P027.2	1 kg	plastic	35,40 €
Original pack 6 x 1 kg			33,63/1 kg
P027.3	2,5 kg	plastic	66,15 €

Magnesium sulphate heptahydrate

≥99 %, Ph.Eur., USP, BP

Guarantee analysis:

Assay (compl., dry substance)..... 99,0-100,5 %
Identity..... complies
pH value (5 % solution)..... 5,0-9,2
In H₂O insoluble matter..... ≤0,025 %
Appearance of solution..... complies
Loss on drying (450 °C)..... 48,0-52,0 %
Acid and alkaline reacting substances..... complies
Chloride (Cl)..... ≤0,014 %
Phosphate (PO₄)..... ≤0,002 %
Ammonium (NH₄)..... ≤0,005 %
Arsenic (As)..... ≤0,0002 %
Iron (Fe)..... ≤0,002 %
Heavy metals (as Pb)..... ≤0,001 %
Selenium (Se)..... ≤0,003 %
Loss on drying (450 °C)..... 48,0-52,0 %
Residual solvents..... complies

T888.1	500 g	plastic	16,70 €
Original pack 6 x 500 g			15,87/500 g
T888.2	1 kg	plastic	22,80 €
Original pack 6 x 1 kg			21,66/1 kg
T888.3	5 kg	plastic	75,15 €
T888.5	25 kg	plastic	268,25 €

Magnesium sulphate heptahydrate

extra pure

Type analysis:

Appearance.....	cryst. powder
Assay (MgSO ₄).....	≥48 %
KCl, NaCl.....	≤0,1 %
K ₂ SO ₄ , CaSO ₄	≤0,1 %
Water.....	≥51 %

8283.2	1 kg	plastic	15,60 €
Original pack 6 x 1 kg			
8283.1	2,5 kg	plastic	24,20 €
8283.3	10 kg	plastic	59,05 €

Magneson

► 4-(4-Nitrophenylazo)-resorcinol see p. 1992

Magnetic beads

► Roti®-MagBeads see p. 2103

Mairin

► Betulinic acid see p. 1675

Maize oil

Maize oil

Ph.Eur., refined

Oleum Maydis

D 0,92 • bp 321 °C

[8001-30-7] • EC No. 232-281-2

Guarantee analysis:

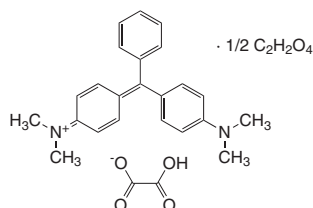
Relative density (20 °C).....	~0,920
Refractive index n _D ²⁰	~1,474
Acid value.....	≤0,5 mg KOH/g
Peroxide value.....	≤10 meq O ₂ /kg
Water.....	≤0,1 %
Alkaline reacting substances.....	complies
Unsaponifiable matter.....	≤2,8 %
Brassicasterol.....	≤0,3 %
GC-fatty acid constituents:	
<C 16:0.....	≤0,6 %
C 16:0 Palmitic acid.....	8,6-16,5 %
C 18:0 Stearic acid.....	≤3,3 %
C 18:1 Oleic acid.....	20,0-42,2 %
C 18:2 Linoleic acid.....	39,4-65,6 %
C 18:3 Linolenic acid.....	0,5-1,5 %
C 20:0 Arachidic acid.....	≤0,8 %
C 20:1 Gadoleic acid.....	≤0,5 %
C 22:0 Behenic acid.....	≤0,5 %
Other fatty acids.....	≤0,5 %

6212.1	1 l	glass	32,15 €
Original pack 6 x 1 l			
6212.2	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			
6212.3	5 l	plastic	80,55 €
Original pack 2 x 5 l			
6212.4	10 l	plastic	134,30 €

Malachite green G

► Brilliant Green (C.I. 42040) see p. 1687

Malachite green oxalate (C.I. 42000)



Malachite green oxalate (C.I. 42000)

for microscopy

Indicator pH 0,0-2,0, for protein analysis.

Basic green 4

C₂₂H₁₆N₄O₄

M 322,32 g/mol

mp ~159 °C

Solubility: 110 g/l (H₂O, 24 °C)

[2437-29-8] • EC No. 219-441-7

UN No. 2811 • ADR 6.1 III • WGK 2

⚠ ⚠ ⚠ ⚠ Danger

H318-H361d-H400-H410-H302

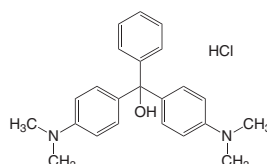
Type analysis:

Dye content.....	≥90,0 %
Absorption max. (in H ₂ O).....	~614 nm
Suitability for microscopy.....	complies

5895.2	25 g	glass	14,95 €
5895.1	100 g	glass	30,00 €
5895.3	250 g	glass	42,90 €

For further information, please see page 1404

Malachite green hydrochloride



Malachite green hydrochloride

p.a.

Basic Green 4

C₂₃H₂₆N₄O • HCl

M 382,94 g/mol

[123333-61-9]

UN No. 2811 • ADR 6.1 III • WGK 3

⚠ ⚠ ⚠ ⚠ Danger

H301-H318-H361-H410

Type analysis:

Appearance.....	green to brownish powder
Appearance of solution (0,1 % in H ₂ O).....	dark blue
Loss on drying.....	≤6 %

7710.1	5 g	glass	13,15 €
7710.2	25 g	glass	22,50 €
7710.3	100 g	glass	44,00 €

DL-Malat

► DL-Malic acid see p. 1947

Malate dehydrogenase

Malate dehydrogenase

≥1250 U/mg protein

From porcine heart, freeze-dried

MDH

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-64-3] • EC No. 232-622-5

WGK 1

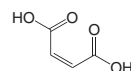
Type analysis:

Appearance.....	white powder
Activity.....	≥1250 U/mg protein
Alanine aminotransferase (GPT).....	<0,005 %
Lactate dehydrogenase (LDH).....	<0,005 %
Aspartate aminotransferase (GOT).....	<0,005 %

6062.1	0,05 MU	glass	130,65 €

For further information, please see page 1223

Maleic acid



cis-Butenedioic acid, Toxilic acid

C₄H₄O₄

M 116,07 g/mol

D 1,59 • bp 160 °C

mp 139-140 °C • flp 127 °C

Solubility: 788 g/l (H₂O, 20 °C)

[110-16-7] • EC No. 203-742-5

WGK 1

⚠ Warning H302-H315-H319-H317-H335

Maleic acid

≥99 %, Ph.Eur., BP

Guarantee analysis:

Assay (acidim., dry substance).....	99,0-101,0 %
Identity.....	complies
Appearance of solution.....	complies
In H ₂ O insoluble matter.....	complies
Ash content (as SO ₄).....	≤0,1 %
Fumaric acid.....	complies
Water.....	≤1,5 %
Heavy metals (as Pb).....	≤0,001 %
Iron (Fe).....	≤0,0005 %

K304.1	500 g	plastic	34,30 €
Original pack 6 x 500 g			
K304.2	1 kg	plastic	55,80 €
Original pack 6 x 1 kg			
			53,01/1 kg

Maleic acid

≥99 %, for synthesis

Type analysis:

Assay (acidim.).....	≥99 %
Water.....	≤0,5 %
Heavy metals (as Pb).....	≤0,05 %
Iron (Fe).....	≤0,005 %
Sulphated ash.....	≤0,05 %

3538.1	500 g	plastic	30,00 €
Original pack 6 x 500 g			
			28,50/500 g

D(+)-Malic acid**D(+)-Malic acid**

≥99 %, for biochemistry

R(+)-2-Hydroxysuccinic acid,
D(+)-Hydroxybutanedioic acidC₄H₆O₅

M 134,09 g/mol

mp 101-104 °C

[636-61-3] • EC No. 211-262-2 • WGK 1

⚠ Warning H319

Type analysis:

Assay ≥99,0 %

Melting point 101-104 °C

8633.1	1 g	plastic	44,85 €

8633.2	5 g	plastic	178,35 €

DL-Malic acid**DL-Malic acid**

≥99 %, for biochemistry

(±)-2-Hydroxysuccinic acid

C₄H₆O₅

M 134,09 g/mol

D 1,60

mp ~130 °C • flp 200 °C

Solubility: ~550 g/l (H₂O, 20 °C)

[6915-15-7] • EC No. 230-022-8 • WGK 1

⚠ Warning H319

Type analysis:

Assay ≥99,0 %

In H₂O insoluble matter ≤0,1 %

Arsenic (As) ≤0,0002 %

Mercury (Hg) ≤0,0001 %

Heavy metals (as Pb) ≤0,001 %

Fumaric acid ≤1,0 %

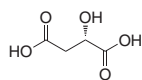
Maleic acid ≤0,05 %

Melting point 127-132 °C

3034.1	250 g	plastic	13,15 €

3034.2	1 kg	plastic	29,60 €

Original pack 6 x 1 kg 28,12/1 kg

L(-)-Malic acid**L(-)-Malic acid**

≥99 %, for biochemistry

S(-)-2-Hydroxysuccinic acid

C₄H₆O₅

M 134,09 g/mol

mp ~103 °C

Solubility: ~160 g/l (H₂O, 20 °C)

[97-67-6] • EC No. 202-601-5 • WGK 1

⚠ Warning H319

Type analysis:

Appearance white powder

Assay (titr.) ≥99 %

Specific rotation [α]_D²⁰ (c=5 in pyridine) -27° to -31°

Melting point 102-106 °C

Heavy metals (as Pb) ≤0,001 %

8684.1	10 g	plastic	20,65 €

8684.2	50 g	plastic	58,60 €

Malt extract

Storage temp.: +20 °C

[8002-48-0]

Malt extract, standard

powdered, for culture media

Type analysis:

Colour beige

Loss on drying ≤6,0 %

Reducing sugar ≥60,0 %

Ash ≤4,5 %

pH value (3 % aqueous solution) 4,8-5,8

X976.1	500 g	plastic	31,10 €

Original pack 6 x 500 g 29,55/500 g

X976.2	1 kg	plastic	53,65 €

Original pack 6 x 1 kg 50,97/1 kg

For further information, please see page 1364

Malt extract, bacteriological

powdered, for microbiology

Additive to malt containing culture media and agars.

Type analysis:

Colour beige

Loss on drying ≤6 %

Maltose ~70 %

Total nitrogen (TN) ~1,3 %

Amino nitrogen ~0,4 %

Sulphated ash ≤3 %

pH value (1,5 % sol.) 4,5-5,5

AE68.1	500 g	plastic	53,65 €

Original pack 6 x 500 g 50,97/500 g

For further information, please see page 1365

Malt Extract Agar**Malt Extract Agar**

for microbiology

For cultivation of fungi and yeasts.

Application: Use 33,6 g for 1 l agar.

Storage temp.: +20 °C

Formulation:

Malt extract 12,75 g/l

Gelatine peptone 0,78 g/l

Glycerol 2,35 g/l

Dextrine 2,75 g/l

Agar 15 g/l

pH value 4,7 ±0,2

X923.1	500 g	plastic	74,75 €

Original pack 6 x 500 g 71,01/500 g

X923.2	1 kg	plastic	136,00 €

Original pack 6 x 1 kg 129,20/1 kg

For further information, please see page 1332

Malt Extract Broth**Malt Extract Broth**

for microbiology

For isolation and enumeration of yeasts and moulds, as well as for sterility testing.

Application: Use 19 g for 1 l broth.

Storage temp.: +20 °C

Formulation:

Malt extract 13,0 g/l

Gelatine peptone 5,5 g/l

Yeast extract 0,5 g/l

pH value 4,7 ±0,2

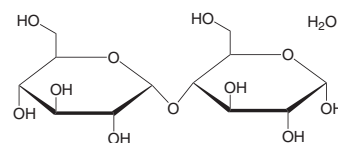
CP75.1	500 g	plastic	81,20 €

Original pack 6 x 500 g 77,14/500 g

For further information, please see page 1332

Maltobiose

▶ D(+)-Maltose monohydrate see p. 1947

D(+)-Maltose monohydrate**D(+)-Maltose monohydrate**

≥95 %, for biochemistry

Maltobiose

C₁₂H₂₂O₁₁ · H₂O

M 360,32 g/mol

mp ~120 °C (dec.)

Solubility: 1080 g/l (H₂O, 20 °C)

[6363-53-7] • EC No. 200-716-5

Type analysis:

Assay (HPLC) ≥95 %

pH value 4,0-6,0

Water 4,0-7,0 %

Heavy metals (as Pb) ≤0,002 %

Sulphated ash ≤0,1 %

8951.1	100 g	plastic	19,90 €

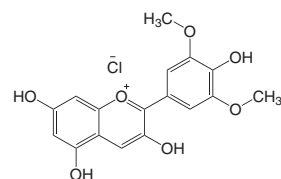
8951.2	250 g	plastic	33,90 €

8951.3	500 g	plastic	62,90 €

Original pack 6 x 500 g 59,76/500 g

8951.4	1 kg	plastic	90,20 €

Original pack 6 x 1 kg 85,69/1 kg

Malvidin chloride**Malvidin chloride**

ROTICHRON® HPLC

Reference substance for HPLC

From *Malva sylvestris*C₁₇H₁₅ClO₇

M 366,75 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

[643-84-5] • EC No. 211-403-8

Type analysis:

Purity (HPLC) ≥97 %

6140.1	10 mg	glass	289,20 €

Malvidin-3,5-diglucosid chloride

▶ Malvin chloride see p. 1948

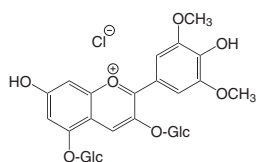
Malvidin 3-galactoside chloride

▶ Primulin chloride see p. 2065

Malvidin 3-glucoside chloride

► Oenin chloride see p. 2000

Malvin chloride



Malvin chloride

ROTICHROM® HPLC

Reference substance for HPLC

Malvidin 3,5-diglucoside chloride

$C_{29}H_{35}O_{17}Cl$

M 691,04 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

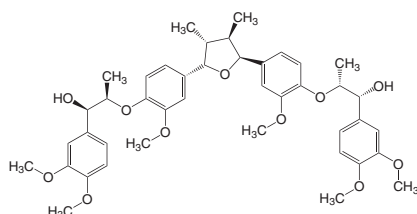
[16727-30-3]

Type analysis:

Purity (HPLC)..... ≥95 %

K013.1	10 mg	glass	231,15 €

Manassantin A



Manassantin A

ROTICHROM® HPLC

Reference substance for HPLC.
From *Saururus chinensis*.

$C_{42}H_{52}O_{11}$

M 732,34 g/mol

Storage temp.: +4 °C

[88497-87-4]

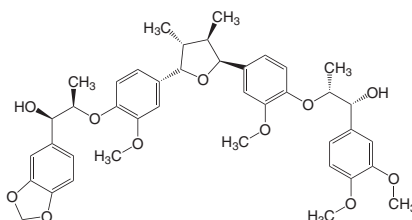
WGK 3

Type analysis:

Purity (HPLC)..... ≥98 %

6497.1	10 mg	glass	364,45 €

Manassantin B



Manassantin B

ROTICHROM® HPLC

Reference substance for HPLC.

From *Saururus chinensis*.

$C_{41}H_{48}O_{11}$

M 716,30 g/mol

Storage temp.: +4 °C

[88497-88-5]

WGK 3

Type analysis:

Purity (HPLC)..... ≥98 %

6684.1	10 mg	glass	321,45 €

Manchester yellow

► Martius yellow (C.I. 10315) see p. 1951

Manganese flakes

Manganese flakes

ROTI®METIC 99,99 % (4N)

Mn

M 54,94 g/mol

D 7,3 • bp 2097 °C

mp 1246 °C

[7439-96-5] • EC No. 231-105-1

Type analysis:

Assay (metals basis)..... 99,99 %

Thickness..... <1,5 mm

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4509.1	25 g	plastic	80,55 €

4509.2	50 g	plastic	117,20 €

Manganese Standards

► Manganese AAS Standard Solution

see p. 2168

► Manganese ICP Standard Solution

see p. 2172

► Manganese ICP Standard Solution

see p. 2176

Manganese dioxide

► Manganese(IV) oxide see p. 1949

Manganese(II) acetate tetrahydrate

$Mn(CH_3COO)_2 \cdot 4 H_2O$

M 245,08 g/mol

D 1,59

mp 80 °C

[6156-78-1] • EC No. 211-334-3

WGK 1

⚠ Warning H315-H319-H335

Manganese(II) acetate tetrahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5641.1	5 g	plastic	53,65 €

5641.2	25 g	plastic	138,70 €

Manganese(II) acetate tetrahydrate

≥99 %, pure

Type analysis:

Assay..... ≥99,0 %

pH value (5 % solution)..... 6,0-8,0

Chloride (Cl)..... ≤0,002 %

Sulphate (SO₄)..... ≤0,01 %

Lead (Pb)..... ≤0,001 %

Iron (Fe)..... ≤0,001 %

Zinc (Zn)..... ≤0,001 %

0277.1	500 g	plastic	19,25 €

Original pack 6 x 500 g	18,29/500 g

0277.2	1 kg	plastic	30,85 €

Original pack 6 x 1 kg	29,31/1 kg

0277.3	2,5 kg	plastic	61,20 €

Manganese(II) chloride monohydrate

Manganese(II) chloride monohydrate

≥99 %, p.a

$MnCl_2 \cdot H_2O$

M 143,86 g/mol

[64333-01-3] • EC No. 231-869-6

WGK 2

⚠ Warning H302

Guarantee analysis:

Assay..... ≥99,0 %

Insoluble matter..... ≤0,005 %

pH value..... 4,5-6,0

Water..... 12,5-13,5 %

Sulphate (SO₄)..... ≤0,05 %

Barium (Ba)..... ≤0,05 %

Lead (Pb)..... ≤0,001 %

Calcium (Ca)..... ≤0,025 %

Cadmium (Cd)..... ≤0,0005 %

Chromium (Cr)..... ≤0,00005 %

Iron (Fe)..... ≤0,001 %

Magnesium (Mg)..... ≤0,01 %

Nickel (Ni)..... ≤0,035 %

Mercury (Hg)..... ≤0,000001 %

Zinc (Zn)..... ≤0,02 %

4320.1	100 g	plastic	13,15 €
4320.2	500 g	plastic	26,55 €
Original pack 6 x 500 g			25,22/500 g
4320.3	1 kg	plastic	42,50 €
Original pack 6 x 1 kg			40,38/1 kg
4320.4	2,5 kg	plastic	83,75 €

Manganese(II) chloride tetrahydrate

MnCl₂ · 4 H₂O
M 197,91 g/mol

D 2,01
mp 58 °C

Solubility: 1980 g/l (H₂O, 20 °C)
[13446-34-9] • EC No. 231-869-6
UN No. 3077 • ADR 9 III • WGK 1

⚠ ⚠ Warning H302-H411

Manganese(II) chloride tetrahydrate

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5304.1	25 g	plastic	100,95 €
5304.2	100 g	plastic	310,70 €

Manganese(II) chloride tetrahydrate

≥99 %, p.a.

Analytical reagent

Guarantee analysis:

Assay (compl.)..... ≥99,0 %
pH value (5 % solution)..... 4,0-6,0
In H₂O insoluble matter..... ≤0,005 %
Sulphate (SO₄)..... ≤0,02 %
Lead (Pb)..... ≤0,0005 %
Calcium (Ca)..... ≤0,001 %
Copper (Cu)..... ≤0,0005 %
Iron (Fe)..... ≤0,0005 %
Potassium (K)..... ≤0,001 %
Magnesium (Mg)..... ≤0,005 %
Sodium (Na)..... ≤0,005 %
Nickel (Ni)..... ≤0,0005 %
Heavy metals (as Pb)..... ≤0,0005 %
Zinc (Zn)..... ≤0,001 %
KMnO₄ reducing substances (as O)..... ≤0,0005 %

T881.3	100 g	plastic	14,95 €
T881.1	500 g	plastic	36,05 €
Original pack 6 x 500 g			34,25/500 g
T881.2	1 kg	plastic	56,90 €
Original pack 6 x 1 kg			54,06/1 kg

Manganese(II) chloride tetrahydrate

≥98 %, extra pure

Type analysis:

Assay..... ≥98,0 %
In H₂O insoluble matter..... ≤0,01 %
Sulphate (SO₄)..... ≤0,01 %
Iron (Fe)..... ≤0,005 %
Heavy metals (as Pb)..... ≤0,005 %

0276.1	500 g	plastic	21,20 €
Original pack 6 x 500 g			20,14/500 g
0276.2	1 kg	plastic	32,80 €
Original pack 6 x 1 kg			31,16/1 kg
0276.3	2,5 kg	plastic	69,35 €

Manganese EDTA disodium salt dihydrate

► Ethylenediamine tetraacetic acid manganese disodium salt dihydrate see p. 1816

Manganese(II) nitrate hydrate

Manganese(II) nitrate hydrate

ROTI®METIC 99,995 % (4N5)

Mn(NO₃)₂ · x H₂O

M 178,95 + x H₂O g/mol

Solubility: 1610 g/l (H₂O, 20 °C)

[15710-66-4]

UN No. 2724 • ADR 5.1 III

⚠ ⚠ Danger H272-H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5392.1	10 g	plastic	91,30 €
5392.2	25 g	plastic	192,45 €

Manganese(II) nitrate tetrahydrate

Manganese(II) nitrate tetrahydrate

≥98 %, p.a.

For preparation of manganese oxides.

Mn(NO₃)₂ · 4 H₂O

M 251,01 g/mol

D 1,82 • bp 129 °C • mp 37 °C

Solubility: ~3800 g/l (H₂O, 20 °C)

[20694-39-7] • EC No. 233-828-8

UN No. 2724 • ADR 5.1 III • WGK 1

⚠ ⚠ Danger H272

Guarantee analysis:

Assay (compl.)..... ≥98 %
In H₂O insoluble matter..... ≤0,005 %
Chloride (Cl)..... ≤0,005 %
Sulphate (SO₄)..... ≤0,005 %
Ammonium (NH₄)..... ≤0,05 %
Calcium (Ca)..... ≤0,005 %
Cadmium (Cd)..... ≤0,0005 %
Copper (Cu)..... ≤0,0005 %
Iron (Fe)..... ≤0,001 %
Potassium (K)..... ≤0,01 %
Magnesium (Mg)..... ≤0,005 %
Sodium (Na)..... ≤0,05 %
Nickel (Ni)..... ≤0,002 %
Lead (Pb)..... ≤0,001 %
Zinc (Zn)..... ≤0,005 %

HN26.1	250 g	plastic	21,40 €
HN26.2	500 g	plastic	36,05 €
Original pack 6 x 500 g			34,25/500 g
HN26.3	1 kg	plastic	62,05 €
Original pack 6 x 1 kg			58,95/1 kg
HN26.4	2,5 kg	plastic	132,80 €

Manganese(IV) oxide

Manganese dioxide

MnO₂

M 86,94 g/mol

D 5,08

mp 535 °C (dec.)

[1313-13-9] • EC No. 215-202-6

UN No. 1479 • ADR 5.1 II • WGK 1

⚠ ⚠ Danger H272-H302-H332

Manganese(IV) oxide

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5383.1	5 g	plastic	40,35 €
5383.2	25 g	plastic	138,70 €

Manganese(IV) oxide

≥98 %, extra pure

Type analysis:

Assay (compl.)..... ≥98,0 %
Sulphate (SO₄)..... ≤0,5 %
Iron (Fe)..... ≤0,5 %
Heavy metals (as Pb)..... ≤0,005 %

7751.1	100 g	glass	18,50 €
7751.2	250 g	glass	33,55 €
7751.3	1 kg	glass	55,80 €
Original pack 6 x 1 kg			53,01/1 kg
7751.4	2,5 kg	glass	122,45 €

Manganese(IV) oxide

>90 %, precipitated, active

Type analysis:

Assay (iodom., dry substance)..... >90 %
Oxidation activity..... complies

4486.1	250 g	glass	29,60 €

Manganese(II) sulphate monohydrateMnSO₄ · H₂O

M 169,02 g/mol

D 2,95

Solubility: 762 g/l (H₂O, 20 °C)

[10034-96-5] • EC No. 232-089-9

UN No. 3077 • ADR 9 III • WGK 1

Warning H373-H411**Manganese(II) sulphate monohydrate**

≥99 %, p.a., ACS

Guarantee analysis:

Assay (compl.)	≥99 %
In H ₂ O insoluble matter	≤0,005 %
Loss on ignition	10,0-12,0 %
Chloride (Cl)	≤0,005 %
Heavy metals (as Pb)	≤0,002 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,002 %
Potassium (K)	≤0,01 %
Magnesium (Mg)	≤0,005 %
Copper (Cu)	≤0,0005 %
Sodium (Na)	≤0,05 %
Nickel (Ni)	≤0,02 %
Lead (Pb)	≤0,001 %
Zinc (Zn)	≤0,005 %
KMnO ₄ reducing substances (as O)	≤0,0005 %

4487.1	250 g	plastic	26,55 €

4487.2	500 g	plastic	46,15 €

Original pack 6 x 500 g 43,84/500 g

Manganese(II) sulphate monohydrate

≥99 %, Ph.Eur.

Guarantee analysis:

Appearance	light pink cryst. powder
Assay (based on calcinated substance)	99,0-101,0 %
Identity	complies
Appearance of solution	complies
Chloride (Cl)	≤0,01 %
Heavy metals (as Pb)	≤0,002 %
Iron (Fe)	≤0,001 %
Zinc (Zn)	≤0,005 %
Loss on ignition (500 °C)	10,0-12,0 %

X890.1	500 g	plastic	46,05 €

Original pack 6 x 500 g 43,75/500 g

X890.2	1 kg	plastic	82,70 €

Original pack 6 x 1 kg 78,57/1 kg

X890.3	2,5 kg	plastic	192,45 €

Manganese(II) sulphate monohydrate

≥97 %, extra pure

Type analysis:

Assay	≥97,0 %
Arsenic (As)	≤0,0005 %
Cadmium (Cd)	≤0,002 %
Mercury (Hg)	≤0,0001 %
Lead (Pb)	≤0,002 %

7347.1	100 g	plastic	11,75 €

7347.2	500 g	plastic	21,00 €

Original pack 6 x 500 g 19,95/500 g

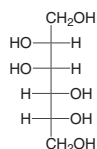
7347.3	1 kg	plastic	31,10 €

Original pack 6 x 1 kg 29,55/1 kg

7347.4	2,5 kg	plastic	66,15 €

ManNAc

► N-Acetyl-D-mannosamine see p. 1611

D(-)-Mannitol**D(-)-Mannitol**

≥98 %, Ph.Eur., USP, BP, for biochemistry

For biochemistry.

D-Mannitol

C₆H₁₄O₆

M 182,18 g/mol

mp 164-169 °C

Solubility: ~213 g/l (H₂O, 20 °C)

[69-65-8] • EC No. 200-711-8

Guarantee analysis:

Appearance	white, fine powder
Assay (HPLC, dry substance)	98,0-101,0 %
Identity	complies
Appearance of solution (10 %, H ₂ O)	complies
Acid and alkaline reacting substances	complies
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,00005 %
Nickel (Ni)	≤0,0001 %
Heavy metals (as Pb)	≤0,0005 %
Chloride (Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,01 %
Sulphated ash	≤0,1 %
Reducing sugar	≤0,1 %
Related substances	≤2,0 %
Loss on drying (105 °C)	≤0,3 %
Melting range	165-169 °C
Conductivity	≤20 µS/cm
Water	≤0,5 %
[α] _D ²⁰ (1 %, molybdate complex, dry substance)	+137° to +145°
Residual solvents (acc. to Ph.Eur./USP): excluded by manufacturing process	
Microbiological assay	complies
Melting range	165-169 °C

4175.1	1 kg	plastic	64,40 €

Original pack 6 x 1 kg 61,18/1 kg

4175.2	5 kg	plastic	255,35 €

D-Mannitol

► D(-)-Mannitol see p. 1950

Mannitol Egg Yolk Polymyxin Agar (Base)**Mannitol Egg Yolk Polymyxin Agar (Base)****for microbiology**For enumeration and isolation of *Bacillus cereus* in food, acc. to Mossel.Application: Use 43 g for 1 l agar. After cooling add 100 ml Egg Yolk Emulsion (Art. No. 2977.1) and 2 vials (2x5 ml) reconstituted *Bacillus cereus* Supplement (Art. No. 4856.1).*Bacillus cereus* Selective Agar, **MYP Agar**

Storage temp.: +20 °C

WGK 1

Formulation:

Meat peptone	10 g/l
Sodium chloride	10 g/l
D-Mannitol	10 g/l
Beef extract	1 g/l
Phenol red	0,025 g/l
Agar	12 g/l
pH value	7,1 ±0,2

5765.1	500 g	plastic	86,55 €

Original pack 6 x 500 g 82,22/500 g

For further information, please see page 1333

Mannitol Salt Agar**Mannitol Salt Agar****Ph.Eur., for microbiology**For isolation of pathogenic *Staphylococci*.

Application: Use 111 g for 1 l agar. Optional:

Add egg yolk emulsion (Art. No. 2977.1)

to 5 % final concentration.

Chapman Agar, Mannitol Salt Agar

(Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Pancreatic digest of casein	5 g/l
Peptone (peptic digest of animal tissue)	5 g/l
Beef extract	1 g/l
Sodium chloride	75 g/l
D-Mannitol	10 g/l
Phenol red	0,025 g/l
Agar	15 g/l
pH value	7,4 ±0,2

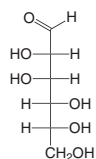
CL81.1	500 g	plastic	57,95 €

Original pack 6 x 500 g 55,05/500 g

For further information, please see page 1333

L-Mannomethylose

► L(+)-Rhamnose monohydrate see p. 2083

D(+)-Mannose**D(+)-Mannose**

≥99,5 %, for biochemistry

C₆H₁₂O₆

M 180,16 g/mol

mp ~133 °C

[3458-28-4] • EC No. 222-392-4

WGK 1

Type analysis:

Appearance..... white to whitish powder
 Assay (HPLC)..... ≥99,5 %
 Specific rotation [α]_D²⁰ (1 % in H₂O, 24 h)..... +13° to +15°
 Water (KF)..... ≤1,0 %
 Melting point..... 125-129 °C

4220.1	10 g	plastic	23,15 €
4220.2	50 g	plastic	73,00 €

Marble**Marble**

pieces, ca. 12-16 mm

CaCO₃

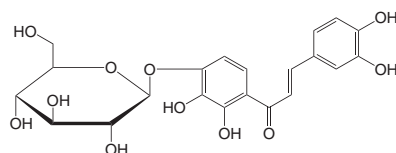
M 100,09 g/mol

[471-34-1] • EC No. 207-439-9

Type analysis:

Appearance..... coarse, white pieces
 Granulation..... ~12-16 mm

7098.1	2,5 kg	plastic	17,10 €

Marein**Marein**

ROTICHRON® HPLC

Reference substance for HPLC

Okanin-4'-glucoside

C₂₁H₂₂O₁₁

M 450,40 g/mol

mp 130-132 °C

Storage temp.: +4 °C

[595-96-6]

Type analysis:

Purity (HPLC)..... ≥99 %

4171.1	5 mg	glass	263,40 €

Marine Broth**Marine Broth**

for microbiology

For enumeration and isolation of heterotrophic marine bacteria.

Application: Use 40,1 g for 1 l broth. May be slightly opalescent and may present a light precipitation.

Storage temp.: +20 °C

WGK 1

Formulation:

Sodium chloride (NaCl).....	19,4 g/l
Magnesium chloride.....	8,8 g/l
Peptone.....	5 g/l
Sodium sulphate (Na ₂ SO ₄).....	3,24 g/l
Calcium chloride.....	1,8 g/l
Yeast extract.....	1 g/l
Potassium chloride (KCl).....	0,55 g/l
Sodium bicarbonate.....	0,16 g/l
Ferric citrate.....	0,1 g/l
Potassium bromide.....	0,08 g/l
Strontium chloride.....	0,034 g/l
Boric acid.....	0,022 g/l
Sodium silicate.....	0,004 g/l
Sodium fluoride.....	0,0024 g/l
Ammonium nitrate.....	0,0016 g/l
Sodium phosphate.....	0,008 g/l
pH value.....	7,6 ±0,2

CP73.1	500 g	plastic	84,40 €

Original pack 6 x 500 g 80,18/500 g

For further information, please see page 1333

Maritimein**Maritimein**

ROTICHRON® HPLC

Reference substance for HPLC

C₂₁H₂₀O₁₁

M 448,39 g/mol

mp 208-214 °C

Storage temp.: +4 °C

[490-54-0] • EC No. 207-712-2

Type analysis:

Purity (HPLC)..... ≥98 %

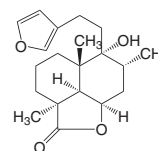
4172.1	5 mg	plastic	364,45 €

Markers (DNA-gels)

► DNA-Marker, not prestained see p. 1791

Markers (protein gels)

► Roti®-Mark, prestained see p. 2104

Marrubiin**Marrubiin**

ROTICHRON® HPLC

C₂₀H₂₈O₄

M 332,42 g/mol

Storage temp.: +4 °C

[465-92-9]

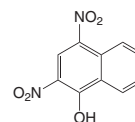
WGK 1

⚠ Warning H302

Type analysis:

Purity (HPLC)..... ≥98 %

3448.2	10 mg	glass	278,45 €

Martius yellow (C.I. 10315)**Martius yellow (C.I. 10315)**

extra pure

Manchester yellow, Saffron yellow, 2,4-Dinitro-1-naphthol sodium salt

C₁₀H₅N₂NaO₅ · H₂O

M 274,16 g/mol

bp 130-133 °C (dec.)

[605-69-6]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... yellow to orange powder
 Appearance of solution (0,1 % in MeOH). clear, yellow
 Loss on drying (1 h, 110 °C)..... ≤8,0 %

7713.1	5 g	glass	17,75 €

7713.2	25 g	glass	33,25 €

7713.3	100 g	glass	77,95 €

Masson-Goldner's trichrome staining kit

Masson-Goldner's trichrome staining kit

for microscopy

Staining kit for visualising connective tissue (Masson-Goldner trichrome staining), incl. instructions for use.

UN No. 1219 • ADR 3 II • WGK 1

Danger H225-H315-H318-H336

Formulation:

Hematoxylin solution A acc. to Weigert (Art. No. X906). 500 ml
Hematoxylin solution B acc. to Weigert (Art. No. X907). 500 ml
Goldner's stain I (Art. No. 3469)..... 500 ml
Goldner's stain II (Art. No. 3470)..... 500 ml
Goldner's stain III (Art. No. 3473)..... 500 ml

3459.1	1 kit	glass	144,05 €

For further information, please see page 1396

Matrix modifier solution Ammonium dihydrogen phosphate

UN No. 2031 • ADR 8 II • WGK 1

Warning H315-H319

Ammonium dihydrogen phosphate matrix modifier solution

20 g/l $\text{NH}_4\text{H}_2\text{PO}_4$ (99,999 %) in 1 % HNO_3

For graphite furnace AAS

Type analysis:

c ($\text{NH}_4\text{H}_2\text{PO}_4$) in 1 % HNO_3 20 g/l ± 1 %

5150.1	50 ml	plastic	56,90 €

M

Ammonium dihydrogen phosphate matrix modifier solution

100 g/l $\text{NH}_4\text{H}_2\text{PO}_4$ (99,999 %) in 1 % HNO_3

For graphite furnace AAS

Type analysis:

c ($\text{NH}_4\text{H}_2\text{PO}_4$) in 1 % HNO_3 100 g/l ± 1 %

5148.1	50 ml	plastic	109,55 €

Matrix modifier solution Ammonium nitrate

Ammonium nitrate matrix modifier solution

50 g/l NH_4NO_3 (99,999 %) in H_2O

For graphite furnace AAS

WGK 1

Type analysis:

c (NH_4NO_3) in H_2O 50 g/l ± 1 %

5145.1	50 ml	plastic	106,35 €

Matrix modifier solution Magnesium nitrate

Magnesium nitrate matrix modifier solution

10 g/l $\text{Mg}(\text{NO}_3)_2$ (99,999 %) in H_2O

For graphite furnace AAS

Type analysis:

c ($\text{Mg}(\text{NO}_3)_2$) in H_2O 10 g/l ± 1 %

5140.1	50 ml	plastic	56,90 €

Magnesium nitrate matrix modifier solution

20 g/l $\text{Mg}(\text{NO}_3)_2$ (99,999 %) in H_2O

For graphite furnace AAS

Type analysis:

c ($\text{Mg}(\text{NO}_3)_2$) in H_2O 20 g/l ± 1 %

5142.1	50 ml	plastic	74,10 €

Matrix modifier solution Nickel nitrate

Nickel nitrate matrix modifier solution

10 g/l $\text{Ni}(\text{NO}_3)_2$ (99,999 %) in 1 % HNO_3

UN No. 2031 • ADR 8 II • WGK 2

Danger H315-H319-H334-H341-

H350i-H360D-H372-H412

Type analysis:

c ($\text{Ni}(\text{NO}_3)_2$) in 1 % HNO_3 10 g/l ± 1 %

c ($\text{Mg}(\text{NO}_3)_2$) in 1 % HNO_3 10 g/l ± 1 %

5146.1	50 ml	plastic	56,90 €

Matrix modifier solution Palladium nitrate & Magnesium nitrate

Palladium nitrate & Magnesium nitrate matrix modifier solution

2 g/l $\text{Pd}(\text{NO}_3)_2$ (99,999 %) and 10 g/l

$\text{Mg}(\text{NO}_3)_2$ (99,999 %) in 1 % HNO_3

For graphite furnace AAS

UN No. 2031 • ADR 8 II • WGK 1

Warning H315-H319

Type analysis:

c ($\text{Pd}(\text{NO}_3)_2$) in 1 % HNO_3 2 g/l ± 1 %

c ($\text{Mg}(\text{NO}_3)_2$) in 1 % HNO_3 10 g/l ± 1 %

5139.1	50 ml	plastic	109,55 €

Matrix modifier solution Palladium nitrate

WGK 2

Warning H315-H319

Palladium nitrate matrix modifier solution

2 g/l $\text{Pd}(\text{NO}_3)_2$ (99,999 %) in 1 % HNO_3

For graphite furnace AAS

Type analysis:

c ($\text{Pd}(\text{NO}_3)_2$) in 1 % HNO_3 2 g/l ± 1 %

5143.1	50 ml	plastic	74,10 €

Palladium nitrate matrix modifier solution

5 g/l $\text{Pd}(\text{NO}_3)_2$ (99,999 %) in 1 % HNO_3

For graphite furnace AAS

Type analysis:

c ($\text{Pd}(\text{NO}_3)_2$) in 1 % HNO_3 5 g/l ± 1 %

5144.1	50 ml	plastic	109,55 €

Palladium nitrate matrix modifier solution

10 g/l $\text{Pd}(\text{NO}_3)_2$ (99,999 %) in 1 % HNO_3

For graphite furnace AAS

Type analysis:

c ($\text{Pd}(\text{NO}_3)_2$) in 1 % HNO_3 10 g/l ± 1 %

4842.1	50 ml	plastic	167,60 €

NEW

Maximum Recovery Solution

Maximum Recovery Solution

DIN 10162, LMBG, DIN EN ISO 6887-1, for microbiology

For homogenization and dilution of microbiological samples.

Application: Use 9,5 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Sodium chloride..... 8,5 g/l

Casein peptone..... 1 g/l

pH value..... 7,0 $\pm 0,2$

5766.1	500 g	plastic	50,00 €

Original pack 6 x 500 g 47,50/500 g

For further information, please see page 1333

Mayer's Hem alum solution

► Hemalum solution acid acc. to Mayer see p. 1869

May-Gruenwald's solution

May-Gruenwald's solution

for microscopy

Eosine methylene blue solution

UN No. 1230 • ADR 3 (6.1) II • WGK 1



Danger

H225-H370-H301+H311+H331

Type analysis:

Suitability for microscopy (blood smear).....complies

T863.1	500 ml	plastic	21,75 €

T863.2	1 l	glass	25,30 €

Original pack 6 x 1 l 24,04/1 l

T863.3	2,5 l	plastic	54,65 €

Original pack 4 x 2,5 l 51,92/2,5 l

For further information, please see page 1394

MBTH

- 3-Methyl-2-benzothiazolinone hydrazone hydrochloride hydrate see p. 1964

McCoys 5A cell culture medium

- Roti®-CELL McCoy's 5A see p. 2092

MCP

- m-Cresol purple see p. 1749

m-CP Agar

m-CP Agar

acc. to TWVO 2001, for microbiology

For isolation and enumeration of *Clostridium perfringens*.

Application: Use 71,1 g for 1 l agar. After autoclaving add 2 vials (4 ml) reconstituted *Clostridium perfringens* Supplement (Art. No. CL52.1) and other supplements.

Storage temp.: +20 °C

Guarantee analysis:

Tryptose.....	30 g/l
Yeast extract.....	20 g/l
Saccharose.....	5 g/l
L-Cysteine hydrochloride.....	1 g/l
Magnesium sulphate heptahydrate.....	0,1 g/l
Bromocresol purple.....	0,04 g/l
Agar.....	15 g/l
pH value.....	7,6 ±0,2

CL55.1	500 g	plastic	156,45 €

Original pack 6 x 500 g 148,63/500 g

For further information, please see page 1333

MDH

- Malate dehydrogenase see p. 1946

Meat extract

Solubility: 570 g/l (H₂O, 20 °C)

Storage temp.: +20 °C

[68990-09-0] • EC No. 273-578-7

WGK 1

Meat extract

powder, for nutrient media

Equates Lab-Lemco™

Guarantee analysis:

Total nitrogen (as N).....	≥10 %
Loss on drying.....	≤6 %
Ash.....	≤16 %
pH (2 % solution).....	7,0 ±0,5

X975.1	500 g	plastic	115,60 €

Original pack 6 x 500 g 109,82/500 g

X975.2	1 kg	plastic	213,95 €

Original pack 6 x 1 kg 203,25/1 kg

For further information, please see page 1365

Meat extract paste

paste, for nutrient media

Guarantee analysis:

Dry substance.....	≥78 %
Ash (dry substance).....	≤30 %
Creatinine content.....	6,5-6,9 %
In H ₂ O insoluble matter.....	≤1,5 %
NaCl.....	≤7 %
Copper (Cu).....	≤0,0006 %
Zinc (Zn).....	≤0,0001 %
Microbiological assay.....	complies

5770.1	250 g	plastic	60,10 €

5770.2	1 kg	plastic	192,45 €

Original pack 6 x 1 kg 182,83/1 kg

For further information, please see page 1365

Media plates

- Roti®-Aquatest Plates see p. 2087

- Roti®-ContiPlates see p. 2094

Medium P

- Reinforced Clostridial Medium see p. 2082

Medium Q

- Columbia Agar (Base) see p. 1742

Medium R

- Lactose Sulphite Broth (Base) see p. 1921

Medium 199 with Earle's salts

- Roti®-CELL Medium 199 / Earle's see p. 2092

m-El-chromogenic Agar (Base)

m-El-chromogenic Agar (Base)

for microbiology

For detection and enumeration of *Enterococcus* in water via single step membrane filtration.

Application: Use 71,95 g for 1 l agar. After autoclaving add 0,24 g nalidixic acid

(Art. No. CN32.1) solubilised in water.

Storage temp.: +4 °C

WGK 1



Warning H302

Formulation:

Yeast extract.....	30 g/l
Sodium chloride.....	15 g/l
Peptone.....	10 g/l
Esculin.....	1 g/l
Chromogene Mixture.....	0,75 g/l
Sodium azide.....	0,15 g/l
Cycloheximide.....	0,05 g/l
Agar.....	15 g/l
pH value.....	7,1 ±0,2

3014.1	100 g	plastic	81,20 €

For further information, please see page 1338

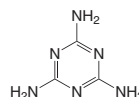
MEK

- 2-Butanone see p. 1697

Melaleucin

- Betulinic acid see p. 1675

Melamine



Melamine

>99 %, for biochemistry

sym-Triaminotriazine

C₃H₆N₆

M 126,12 g/mol

D ~1,57

mp >300 °C (dec.) • flp >280 °C

Solubility: ~3 g/l (H₂O, 20 °C)

[108-78-1] • EC No. 203-615-4

WGK 1

Type analysis:

Assay.....>99 %

6034.1	1 kg	plastic	28,95 €

Original pack 6 x 1 kg 27,50/1 kg

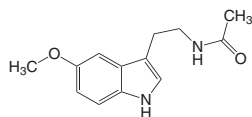
Melampyrit

- Dulcitol see p. 1796

Melanthigenin

- Hederagenin see p. 1868

Melatonin



Melatonin

97 %, for biochemistry

N-Acetyl-5-methoxytryptamine

 $C_{13}H_{16}N_2O_2$

M 232,28 g/mol

mp ~117 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[73-31-4] • EC No. 200-797-7

WGK 2

Type analysis:

Appearance: white to light yellowish cryst. powder

Assay (TLC): ≥ 97 %

Carbon (C): 65,9-68,6 %

Nitrogen (N): 11,8-12,4 %

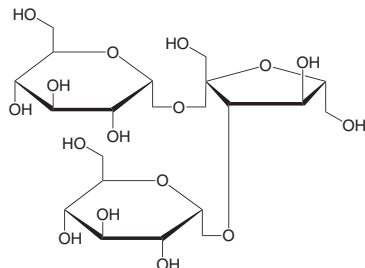
6956.1	250 mg	glass	56,90 €

Meletin

► Quercetin see p. 2076

► Quercetin dihydrate see p. 2076

D(+)-Melezitose monohydrate



D(+)-Melezitose monohydrate

 ≥ 99 %, for biochemistry $C_{18}H_{32}O_{16} \cdot H_2O$

M 522,48 g/mol

mp ~155 °C

[597-12-6] • EC No. 209-894-9

Type analysis:

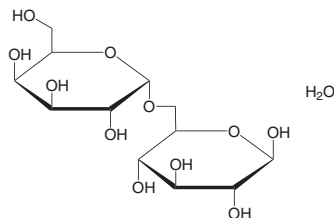
Assay (HPLC): $\geq 99,0$ %Loss on drying: $\leq 3,5$ %Sulphated ash: $< 0,1$ %

4222.1	2,5 g	glass	20,65 €

4222.2	25 g	plastic	76,25 €

4222.3	50 g	plastic	138,70 €

D(+)-Melibiose monohydrate



D(+)-Melibiose monohydrate

 ≥ 99 %, for biochemistry $C_{12}H_{22}O_{11} \cdot H_2O$

M 360,32 g/mol

mp 175-185 °C

Solubility: 2500 g/l (H_2O , 25 °C)

[66009-10-7] • EC No. 209-568-6

Type analysis:

Appearance: white to yellowish crystals

Assay (HPLC): $\geq 99,0$ %

pH value: 4,0-7,0

Water (KF): $\leq 6,0$ %Heavy metals (as Pb): $\leq 0,0001$ %

4223.1	2,5 g	glass	27,45 €

4223.3	10 g	plastic	67,20 €

4223.2	50 g	plastic	241,35 €

Melitose

► D(+)-Raffinose pentahydrate see p. 2078

Melitriose

► D(+)-Raffinose pentahydrate see p. 2078

Melting point standards

Art. No.	Description	Page
9754	Anthraquinone	1566
9722	Benzoic acid	1566
9709	Benzophenone	1566
9739	Caffeine	1566
9752	Carbazole	1566
9712	p-Nitrotoluene	1994
9728	Phenacetin	2033
9731	Salicylic acid	2117
9734	Sulphanilamide	2189
9714	Vanillin	2236

MEM-NEAA solution

► Roti®-CELL MEM-NEAA solution
see p. 2093

(-)-p-Mentha-1,8-diene

► Limonene see p. 1931

► L-(-)-Limonene see p. 1932

DL-p-Mentha-1,8-diene

► Limonene see p. 1931

p-Mentha-6,8-dien-2-ol

► (-)-Carveol see p. 1718

(-)-p-Mentha-1,8-dien-7-ol

► (-)-Perillaldehyde see p. 2029

(1R,3S,4R)-p-Menthan-3-ol

► (+)-Isomenthol see p. 1911

p-Menthan-3-one

► (-)-Menthone see p. 1955

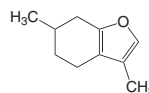
p-Menth-1-en-8-ol

► α -Terpineol see p. 2200

p-Menth-8-en-3-ol

► Isopulegol see p. 1912

Menthofuran



Menthofuran

ROTICHROM® GC

Reference substance for GC

 $C_{10}H_{14}O$

M 150,22 g/mol

D 0,96

flp 76 °C

Storage temp.: +4 °C

[494-90-6] • EC No. 207-795-5

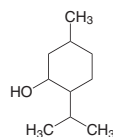
WGK 2

Type analysis:

Purity (GC): ≥ 91 %

5188.1	1 g	plastic	75,15 €

Menthol



Menthol

chinese

Hexahydrothymol

 $C_{10}H_{20}O$

M 156,27 g/mol

flp >62 °C

[89-78-1] • EC No. 201-939-0

WGK 1

⚠️ ⚠️ Danger H318-H335-H315

Type analysis:

Appearance: white crystals

Specific rotation $[\alpha]_D^{20}$: -46° to -38°

6725.1	250 g	glass	63,35 €

DL-Menthol

Hexahydrothymol
 $C_{10}H_{20}O$
 M 156,3 g/mol
 D 0,89 • bp 216 °C
 mp 30-32 °C • flp 93 °C
 [89-78-1] • EC No. 201-939-0
 WGK 1

 **Danger** H318-H335-H315

DL-Menthol

≥99 %, synth.

Type analysis:

Appearance..... colourless to white cryst. mass
 Assay (GLC)..... ≥99 %
 Melting point..... 30,5-32,0 °C
 Specific rotation $[\alpha]_D^{20}$ (in ethanol)..... -2° to +2°

8391.1	100 g	glass	26,55 €

DL-Menthol

ROTICHRON® GC

Reference substance for GC

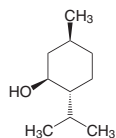
Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥96 %

4967.1	1 g	plastic	75,15 €

(+) -Menthol



(+) -Menthol

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{20}O$

M 156,27 g/mol

bp ~212 °C

mp 43-44 °C • flp +91 °C

Storage temp.: +4 °C

[15356-60-2] • EC No. 239-387-8

WGK 1

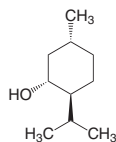
 **Danger** H318-H335-H315

Type analysis:

Purity (GC)..... ≥96 %

3855.1	1 g	plastic	75,15 €

(-) -Menthol



(-) -Menthol

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{20}O$

M 156,27 g/mol

D 0,89 • bp 212 °C

mp 43-45 °C • flp 93 °C

Solubility: 490 mg/l (H_2O , 25 °C)

Storage temp.: +4 °C

[2216-51-5] • EC No. 218-690-9

WGK 1

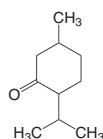
 **Danger** H318-H315-H335

Type analysis:

Purity (GC)..... ≥95 %

9061.1	1 g	plastic	75,15 €

Menthone



Menthone

≥96 %, isomers

$C_{10}H_{18}O$

M 154,25 g/mol

D 0,90 • bp 207-210 °C

mp -6 °C • flp 69 °C

[10458-14-7] • EC No. 233-944-9

WGK 3

 **Warning** H302-H319-H317-H412

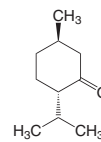
Type analysis:

Appearance..... clear, very light yellow liquid
 Assay (GC)..... ≥96,0 %

4226.1	50 ml	glass	33,25 €

4226.2	250 ml	glass	103,10 €

(-) -Menthone



(-) -Menthone

≥88 %

p-Menthane-3-one

$C_{10}H_{18}O$

M 154,25 g/mol

D 0,89 • bp 207-210 °C

mp -6 °C • flp 72 °C

Storage temp.: +4 °C

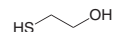
[14073-97-3] • EC No. 237-926-1

Type analysis:

Appearance..... colourless liquid
 Assay (GC)..... ≥88,0 %
 Optical rotation (20 °C)..... -30° to -20°

6930.1	25 ml	glass	79,05 €

2-Mercaptoethanol



2-Mercaptoethanol

≥99 %, p.a.

Reducing agent.

Hydroxyethyl mercaptan, Thioglycol

C_2H_6OS

M 78,13 g/mol

D 1,12 • bp 154-161 °C

mp -50 °C • flp 73 °C

Storage temp.: +4 °C

[60-24-2] • EC No. 200-464-6

UN No. 2966 • ADR 6.1 II • WGK 3

  **Danger**

H301-H310+H330-H400-H410-H315-H318

Type analysis:

Appearance..... colourless to slightly pink liquid
 Assay..... ≥99 %

4227.3	100 ml	glass	13,45 €

4227.1	250 ml	glass	18,85 €

4227.2	1 l	glass	42,90 €

Original pack 6 x 1 l	40,76/1 l

β-Mercaptoethanol

▶ 2-Mercaptoethanol see p. 1955

2-Mercaptoethylamine hydrochloride

▶ Cysteamine hydrochloride see p. 1756

Mercurisorb-ROTH®

Mercurisorb-ROTH®

contains silver nitrate

Emergency kit for absorbing and disposing spilled mercury.

UN No. 3260 • ADR 8 II • WGK 3

Danger H314-H411

9461.1	1 Emergency kit in plastic case	80,10 €
9461.4	1 Emergency kit in carton	62,25 €
9461.2	1 Refill pack Mercurisorb-ROTH® 250 g, plastic	107,40 €
9461.3	1 Refill pack Mercurisorb-ROTH® 1 kg, plastic	418,20 €

For further information, please see page 676

Mercury

Hg

M 200,59 g/mol

D 13,54 • bp 356,7 °C

mp -38,9 °C

[7439-97-6] • EC No. 231-106-7

UN No. 2809 • ADR 8 (6.1) III • WGK 3

Danger H330-H360D-H372-H410

Mercury

≥99,9995 %, p.a.

Guarantee analysis:

Assay.....	≥99,9995 %
Aluminium (Al).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Silver (Ag).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Copper (Cu).....	≤0,00001 %
Tin (Sn).....	≤0,00005 %
Nickel (Ni).....	≤0,00001 %
Iron (Fe).....	≤0,00002 %
Cadmium (Cd).....	≤0,00001 %
Zinc (Zn).....	≤0,00005 %

8530.1	100 g	glass	38,60 €
8530.2	1 kg	plastic	185,90 €
Original pack 6 x 1 kg			176,61/1 kg

Mercury

≥99,999 %

Type analysis:

Assay.....	≥99,999 %		
7593.1	100 g	glass	28,95 €
7593.3	500 g	glass	105,90 €
Original pack 6 x 500 g			100,61/500 g
7593.2	1 kg	plastic	175,15 €
Original pack 6 x 1 kg			166,39/1 kg

Mercury

≥99,9 %

Type analysis:

Assay.....	≥99,9 %		
7594.2	100 g	glass	25,30 €
7594.1	1 kg	plastic	166,10 €
Original pack 6 x 1 kg			157,80/1 kg

Mercury standards

- ▶ Mercury AAS Standard Solution see p. 2168
- ▶ Mercury ICP Standard Solution see p. 2172
- ▶ Mercury ICP Standard Solution see p. 2176

Mercury(II) acetate

Mercury(II) acetate

≥99 %, p.a., ACS

Catalyst in org. synthesis.

Mercuric acetate

Hg(CH₃COO)₂

M 318,68 g/mol

D 3,27

mp 178-180 °C

Solubility: 400 g/l (H₂O, 20 °C)

[1600-27-7] • EC No. 216-491-1

UN No. 1629 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Guarantee analysis:

Assay.....	≥99,0 %
In H ₂ O insoluble matter.....	≤0,01 %
Residue after reduction.....	≤0,02 %
Chloride (Cl).....	≤0,005 %
Nitrate (NO ₃).....	≤0,005 %
Sulphate (SO ₄).....	≤0,005 %
Heavy metals (different from Pb).....	≤0,002 %
Lead (Pb).....	≤0,001 %
Cadmium (Cd).....	≤0,0005 %
Iron (Fe).....	≤0,001 %
Copper (Cu).....	≤0,0005 %
Sodium (Na).....	≤0,005 %
Nickel (Ni).....	≤0,0005 %
Mercury I (Hg I).....	≤0,4 %
Silver (Ag).....	≤0,0005 %
Zinc (Zn).....	≤0,0005 %

KK05.1	50 g	glass	52,15 €
KK05.2	100 g	glass	95,15 €

Mercury(II) bromide

Mercury(II) bromide

≥98 %, p.a., ACS

Mercuric bromide

HgBr₂

M 360,4 g/mol

bp 322 °C

mp 237 °C

Solubility: 6 g/l (H₂O, 20 °C)

[7789-47-1] • EC No. 232-169-3

UN No. 1634 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Guarantee analysis:

Appearance.....	white to very faint yellow powder
Assay.....	≥98,0 %
Chloride (Cl).....	≤0,25 %
Residue after reduction.....	≤0,02 %
Insoluble in methanol.....	≤0,05 %

6581.1	50 g	plastic	48,30 €
6581.2	250 g	plastic	189,10 €

Mercury(I) chloride

Mercury(I) chloride

≥99,5 %, p.a., ACS

Calomel, Dimercury dichloride, Mercurous chloride

Hg₂Cl₂

M 472,09 g/mol

Solubility: 2,3 mg/l (H₂O, 20 °C)

[10112-91-1] • EC No. 233-307-5

UN No. 3077 • ADR 9 III • WGK 3

Warning

H302-H315-H319-H335-H400-H410

Guarantee analysis:

Appearance.....	white to off-white powder
Assay.....	≥99,5 %
Residue after reduction.....	≤0,02 %
Mercuric chloride (HgCl ₂).....	≤0,01 %
Sulphate (SO ₄).....	≤0,01 %

6601.1	50 g	glass	50,00 €
6601.2	100 g	glass	81,60 €
6601.3	500 g	glass	321,45 €
Original pack 6 x 500 g			305,38/500 g

Mercury(II) chloride

Sublimate, Mercuric chloride

HgCl₂

M 271,50 g/mol

D 5,44 • bp 304 °C

mp 277 °C

Solubility: 550 g/l (H₂O, 20 °C)

[7487-94-7] • EC No. 231-299-8

UN No. 1624 • ADR 6.1 II • WGK 3

Danger

H300-H372-H341-H361F-H314-H400-H410

Mercury(II) chloride

≥99,5 %, p.a., ACS

Catalyst

Guarantee analysis:

Assay (compl.).....	≥99,5 %
In H ₂ O insoluble matter.....	≤0,01 %
In C ₂ H ₅ OC ₂ H ₅ insoluble matter.....	≤0,01 %
Residue after reduction.....	≤0,02 %
Nitrate (NO ₃).....	≤0,0005 %
Lead (Pb).....	≤0,001 %
Iron (Fe).....	≤0,002 %
Potassium (K).....	≤0,005 %
Copper (Cu).....	≤0,001 %
Magnesium (Mg).....	≤0,001 %
Sodium (Na).....	≤0,005 %

KK04.1	50 g	glass	42,50 €
KK04.2	100 g	glass	76,25 €

Mercury(II) chloride

≥99,5 %, pure

Type analysis:

Appearance.....	white, cryst. powder
Assay.....	≥99,5 %
Iron (Fe).....	≤0,002 %
Residue after reduction.....	≤0,02 %

7904.1	100 g	plastic	73,65 €
7904.3	500 g	plastic	299,95 €
Original pack 6 x 500 g			284,95/500 g
7904.2	1 kg	plastic	553,65 €
Original pack 6 x 1 kg			525,97/1 kg

Mercury(II) iodide**Mercury(II) iodide**

≥99 %, p.a., ACS, red

Mercuric iodide

HgI₂

M 454,4 g/mol

bp 350 °C

mp 259 °C

[7774-29-0] • EC No. 231-873-8

UN No. 1638 • ADR 6.1 (II) • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Guarantee analysis:

Appearance..... red powder

Assay (dry substance)..... ≥99,0 %

Mercury I (Hg I)..... ≤0,1 %

Solubility in KI solution..... complies

Soluble mercury salts (as Hg)..... ≤0,05 %

6590.1	50 g	plastic	46,15 €

6590.2	100 g	plastic	76,90 €

6590.3	500 g	plastic	299,95 €

Original pack 6 x 500 g	284,95/500 g

Mercury(I) nitrate dihydrate**Mercury(I) nitrate dihydrate**

≥97 %, p.a.

Mercurous nitrate

Hg₂(NO₃)₂ · 2 H₂O

M 561,22 g/mol

mp 70 °C (dec.)

[14836-60-3] • EC No. 223-886-4

UN No. 1627 • ADR 6.1 (II) • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Guarantee analysis:

Appearance..... white to yellow cryst. powder

Assay..... ≥97,0 %

Insoluble matter..... ≤0,005 %

Residue after reduction..... ≤0,01 %

Chloride (Cl)..... ≤0,005 %

Sulphate (SO₄)..... ≤0,005 %

Iron (Fe)..... ≤0,001 %

Mercury (Hg)..... ≤0,5 %

6605.1	50 g	plastic	36,05 €

6605.2	100 g	plastic	59,05 €

6605.3	500 g	plastic	263,40 €

Original pack 6 x 500 g	250,23/500 g

Mercury(II) nitrate monohydrate**Mercury(II) nitrate monohydrate**

≥98 %, p.a., ACS

Mercuric nitrate

Hg(NO₃)₂ · H₂O

M 342,62 g/mol

mp 77-79 °C

[7783-34-8] • EC No. 233-152-3

UN No. 1625 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Guarantee analysis:

Appearance..... white to light yellowish powder

Assay..... ≥98,0 %

Residue after reduction..... ≤0,01 %

Chloride (Cl)..... ≤0,002 %

Sulphate (SO₄)..... ≤0,002 %

Iron (Fe)..... ≤0,001 %

Mercury (Hg)..... ≤0,2 %

6595.1	50 g	plastic	36,45 €

6595.2	250 g	plastic	127,95 €

6595.3	1 kg	plastic	450,45 €

Original pack 6 x 1 kg	427,93/1 kg

Mercury(II) nitrate solution (0,1 N)**Mercury(II) nitrate solution**

0,05 mol/l - 0,1 N volumetric standard solution

Mercuric nitrate solution

UN No. 1625 • ADR 6.1 II • WGK 2

Danger

H301+H311-H330-H373-H412

Type analysis:

Amount-of-substance conc. (20 °C).....

..... 0,05 mol/l ±0,2 %

KK72.1	1 l	plastic	29,60 €

Original pack 6 x 1 l	28,12/1 l

For further information, please see page 1546

Mercury(II) oxide**Mercury(II) oxide**

≥99 %, p.a., red

Mercuric oxide

HgO

M 216,59 g/mol

D 11,14

mp 500 °C (dec.)

[21908-53-2] • EC No. 244-654-7

UN No. 1641 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Guarantee analysis:

Assay..... ≥99 %

Chloride (Cl)..... ≤0,025 %

Sulphate (SO₄)..... ≤0,015 %

Insoluble matter..... ≤0,03 %

Total nitrogen (as N)..... ≤0,005 %

Iron (Fe)..... ≤0,005 %

4470.2	25 g	plastic	40,35 €

4470.1	50 g	plastic	70,85 €

Mercury(II) sulphate**Mercury(II) sulphate**

≥98 %, p.a., ACS

For determination of COD, catalyst in Kjeldahl determination.

Mercuric sulphate

HgSO₄

M 296,65 g/mol

D 6,47

Solubility: 50 mg/l (H₂O, 20 °C)

[7783-35-9] • EC No. 231-992-5

UN No. 1645 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Type analysis:

Assay (compl.)..... ≥98,0 %

Chloride (Cl)..... ≤0,003 %

Nitrate (NO₃)..... ≤0,005 %

Iron (Fe)..... ≤0,005 %

Mercury I (Hg I)..... ≤0,15 %

Residue after reduction..... ≤0,02 %

For the preparation of solutions for COD-determination acc. DIN 38403.

T112.1	100 g	plastic	68,30 €

T112.2	500 g	plastic	245,65 €

Original pack 6 x 500 g	233,37/500 g

Mercury(II) sulphate solution 80 g/l**Mercury(II) sulphate solution 80 g/l**

in sulphuric acid potassium dichromate solution.

0,02 mol/l volumetric solution

For determination of COD according to DIN 38409 H41-1.

Mercuric sulphate solution

UN No. 3289 • ADR 6.1 (8) II • WGK 3

Danger H290-

H300+H310+H330-H314-H340-H350-

H360FD-H373-H411-EUH203

Type analysis:

Titer..... 0,998-1,002

X871.1	1 l	glass	56,90 €

Original pack 6 x 1 l	54,06/1 l

X871.2	2,5 l	glass	144,60 €

Original pack 4 x 2,5 l	137,37/2,5 l

For further information, please see page 1546

Mercury(II) thiocyanate

Mercury(II) thiocyanate

≥99 %, p.a.

Mercuric sulphocyanate, Mercuric thiocyanate

Hg(SCN)₂

M 316,75 g/mol

mp 165 °C (dec.)

Solubility: 0,7 g/l (H₂O, 25 °C)

[592-85-8] • EC No. 209-773-0

UN No. 1646 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410-EUH032

Guarantee analysis:

Appearance..... white to slightly yellow powder

Assay..... ≥99,0 %

Assay (Hg)..... 61,7-64,9 %

Sodium (Na)..... ≤0,01 %

Iron (Fe)..... ≤0,002 %

6600.1	25 g	plastic	31,75 €

6600.2	100 g	plastic	95,60 €

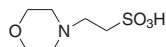
6600.3	500 g	plastic	418,20 €

Original pack 6 x 500 g 397,29/500 g

Merthiolate

► Sodium ethylmercurithiosalicylate
see p. 2146

MES



2-(N-Morpholino)-ethane sulphonic acid

C₆H₁₃NO₄S

M 195,20 g/mol

mp 300 °C

[4432-31-9] • EC No. 224-632-3

WGK 1

MES

PUFFERAN® ≥99 %

Guarantee analysis:

Appearance..... white powder

Assay (titr. dry substance)..... ≥99,0 %

pH value..... 2,5-4,0

Loss on drying..... ≤1,0 %

Chloride (Cl)..... ≤0,005 %

Sulphate (SO₄)..... ≤0,001 %

Heavy metals (as Pb)..... ≤0,001 %

UV-absorption (0,1 M in H₂O):

280 nm..... ≤0,02

260 nm..... ≤0,02

4256.2	100 g	plastic	59,05 €

4256.5	250 g	plastic	127,95 €

4256.3	500 g	plastic	242,45 €

Original pack 6 x 500 g 230,33/500 g

4256.4	1 kg	plastic	428,95 €

Original pack 6 x 1 kg 407,50/1 kg

For further information, please see page 1214

MES

≥99 %, for biochemistry

Type analysis:

Assay..... ≥99 %

pH value..... 2,5-4,0

Chloride (Cl)..... ≤0,01 %

Sulphate (SO₄)..... ≤0,05 %

Loss on drying..... ≤1,0 %

Heavy metals (as Pb)..... ≤0,001 %

UV (0,1 M in H₂O) A280 nm..... ≤0,02

4259.1	50 g	plastic	31,10 €

4259.2	100 g	plastic	45,05 €

4259.3	250 g	plastic	90,20 €

4259.4	500 g	plastic	158,60 €

Original pack 6 x 500 g 150,67/500 g

4259.5	1 kg	plastic	289,20 €

Original pack 6 x 1 kg 274,74/1 kg

For further information, please see page 1214

MES monohydrate

MES monohydrate

PUFFERAN® ≥99,5 %

2-(N-Morpholino)-ethane sulphonic acid

monohydrate

C₆H₁₃NO₄S · H₂O

M 213,2 g/mol

mp >300 °C

[145224-94-8] • EC No. 224-632-3

WGK 1

Guarantee analysis:

Appearance..... white powder

Assay (titr.)..... ≥99,5 %

pH value (1 % in H₂O)..... 3,5-4,1

Loss on drying..... 7,9-8,9 %

Solubility (0,1 M in H₂O)..... clear colourless solution

UV-absorption (0,1 M in H₂O):

260 nm..... ≤0,04

280 nm..... ≤0,02

6066.1	50 g	plastic	24,20 €

6066.2	100 g	plastic	40,35 €

6066.3	500 g	plastic	155,80 €

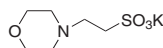
Original pack 6 x 500 g 148,01/500 g

6066.4	1 kg	plastic	267,70 €

Original pack 6 x 1 kg 254,32/1 kg

For further information, please see page 1214

MES potassium salt



MES potassium salt

PUFFERAN® ≥99 %

2-(N-Morpholino)-ethanesulphonic acid

potassium salt

C₆H₁₂KNO₄S

M 233,3 g/mol

[39946-25-3] • EC No. 224-632-3

WGK 1

Guarantee analysis:

Appearance..... white crystals

Assay..... ≥99 %

pH value (1 % solution)..... 8,5-9,5

Water (KF)..... ≤1,0 %

UV-absorption (0,1 M in H₂O):

280 nm..... ≤0,04

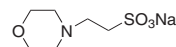
260 nm..... ≤0,05

7033.1	25 g	plastic	28,95 €

7033.2	100 g	plastic	100,95 €

For further information, please see page 1214

MES sodium salt



MES sodium salt

PUFFERAN® ≥91 %

2-(N-Morpholino)-ethanesulphonic acid sodium

salt

C₆H₁₂NaNO₄S

M 217,2 g/mol

[71119-23-8] • EC No. 275-203-2

WGK 1

Guarantee analysis:

Assay (titr.)..... ≥91 %

Water (KF)..... ≤10,0 %

pH value (1 % solution)..... 8,9-10,1

UV-absorption (10 % in H₂O):

280 nm..... ≤0,03

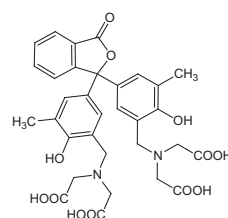
260 nm..... ≤0,05

6922.1	25 g	plastic	21,20 €

6922.2	100 g	plastic	77,95 €

For further information, please see page 1214

Metal phthaleine



Metal phthaleine

p.a.

Indicator for complexometry.

Phthalein purple, o-Cresolphthalexon,

o-Cresolphthalein complexone

C₃₂H₃₂N₂O₁₂

M 636,62 g/mol

Solubility: insoluble (H₂O, 20 °C)

[2411-89-4] • EC No. 219-318-8

WGK 2

Type analysis:

Water content..... ≤10 %

Suitability as indicator for complexometry..... complies

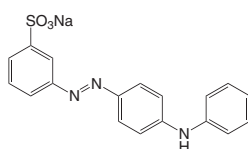
4231.1	1 g	glass	21,40 €

4231.2	5 g	glass	42,90 €

Metals

Art. No.	Description	Page
1980	Alloy acc. to Wood	1624
5577	Aluminium granulate (ROTI®METIC)	1626
5280	Aluminium granulate	1626
5285	Aluminium powder	1626
9258	Antimony	1651
5103	Arsenic pieces (ROTI®METIC)	1656
2735	Bismuth	1678
2729	Calcium	1704
5620	Cobalt powder (ROTI®METIC)	1740
5621	Copper shot (ROTI®METIC)	1744
2728	Copper beads	1744
8540	Copper sheet	1744
9597	Copper wool	1745
5386	Copper powder (ROTI®METIC)	1745
CP21	Copper powder	1745
4507	Gallium (ROTI®METIC)	1845
3761	Gallium	1845
5622	Gold shot (ROTI®METIC)	1862
5629	Indium shot (ROTI®METIC)	1898
3906	Indium shot	1898
9803	Indium foil	1898
5631	Iron granules (ROTI®METIC)	1905
3718	Iron	1906
9454	Iron, reduced	1906
9588	Iron wool	1906
2734	Lead	1927
AE61	Magnesium filings	1943
CP20	Magnesium powder	1942
4468	Magnesium ribbon	1942
4509	Manganese flakes (ROTI®METIC)	1948
8530	Mercury	1956
7593	Mercury	1956
7594	Mercury	1956
5643	Nickel powder (ROTI®METIC)	1985
CP22	Nickel powder	1985
5648	Palladium powder (ROTI®METIC)	2018
8408	Platinum black	2044
5654	Platinum powder (ROTI®METIC)	2044
8415	Platinum wire	2044
4547	Selenium pellets (ROTI®METIC)	2123
7605	Sheets of gold	2127
9367	Sheets of silver	2127
8816	Silver sheet	2135
8819	Silver wire	2135
8821	Silver wire	2135
9373	Silver wool	2135
4469	Sodium	2140
2731	Tin beads	2210
9296	Tin foil	2211
4016	Tin granules	2211
5097	Tin shot (ROTI®METIC)	2210
9524	Zinc dust	2251
AE99	Zinc granule	2251
5345	Zinc shot (ROTI®METIC)	2250

Metanil yellow (C.I. 13065)



Metanil yellow (C.I. 13065)

p.a.

Indicator pH 1,2-2,7

Acid Yellow 36

C₁₈H₁₄N₃NaO₃S

M 375,38 g/mol

[587-98-4] • EC No. 209-608-2

WGK 3

Danger H318-H412

Type analysis:

Appearance..... yellow to orange powder

Appearance of solution (0,1 % in MeOH).....

..... clear, yellow orange

pH-transition range..... 1,2 (dark red)-2,7 (yellow)

7714.1	5 g	glass	13,15 €
7714.2	25 g	glass	22,50 €
7714.3	100 g	glass	44,00 €

Methacrylic acid methyl ester



Methacrylic acid methyl ester

≥99 %, extra pure

For electron microscopy.

Methyl methacrylate

C₅H₈O₂

M 100,12 g/mol

D 0,94 • bp ~101 °C

mp -48 °C • flp 10 °C

[80-62-6] • EC No. 201-297-1

UN No. 1247 • ADR 3 II • WGK 1

Danger H225-H315-H317-H335

Type analysis:

Appearance..... clear, colourless liquid

Assay (GC)..... ≥99 %

Odour..... ester like

Acid content..... ≤0,005 %

Water (KF)..... ≤0,01 %

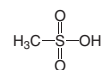
Stabilisation (HPLC)..... 100 ±10 ppm HQ

4233.1	1 l	glass	25,30 €
	Original pack 6 x 1 l		24,04/1 l
4233.2	2,5 l	glass	49,35 €
	Original pack 4 x 2,5 l		46,88/2,5 l

Methanecarboxylic acid

► Acetic acid 100 % see p. 1598

Methanesulphonic acid



Methylsulphonic acid, MSA

CH₄O₃S

M 96,10 g/mol

D 1,48 • bp 167 °C (13 mbar)

mp 20 °C • flp 189 °C

[75-75-2] • EC No. 200-898-6

UN No. 2586 • ADR 8 III • WGK 1

Danger H290-H314

Methanesulphonic acid

≥99,5 %, for synthesis

Type analysis:

Assay..... ≥99,5 %

Chloride (Cl)..... ≤0,001 %

Sulphate (SO₄)..... ≤0,005 %

Colour (APHA)..... ≤150

Heavy metals..... ≤0,0001 %

4090.1	100 ml	glass	18,50 €
4090.2	250 ml	glass	27,85 €
4090.3	1 l	glass	72,60 €
	Original pack 6 x 1 l		68,97/1 l
4090.4	2,5 l	glass	150,00 €
	Original pack 4 x 2,5 l		142,50/2,5 l

Methanesulphonic acid

70 %, for synthesis

Type analysis:

Assay..... 69,5-70,5 %

Colour (APHA)..... ≤10

Chloride (Cl)..... ≤0,001 %

Sulphate (SO₄)..... ≤0,005 %

Heavy metals..... ≤0,0001 %

4236.1	100 ml	glass	14,75 €
4236.2	1 l	glass	35,70 €
	Original pack 6 x 1 l		33,92/1 l
4236.3	2,5 l	glass	70,85 €
	Original pack 4 x 2,5 l		67,31/2,5 l

Methanoic acid

► Formic acid 98 % see p. 1839

Methanol

Methyl alcohol, Carbinol

CH₃OH

M 32,04 g/mol

D 0,79 • bp 64,7 °C

mp -98 °C • flp 11 °C

[67-56-1] • EC No. 200-659-6

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H301+H311+H331-H370

Methanol**ROTISOLV® ≥99,98 %, Ultra LC-MS****Guarantee analysis:**

Assay (GC).....	≥99,98 %
Colour (APHA).....	≤5
Water (KF).....	≤0,03 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Free alkali (as NH ₃).....	≤0,0001 %
Non volatile matter.....	≤0,0001 %
Transmission:	
260 nm.....	≥99 %
230 nm.....	≥80 %
220 nm.....	≥65 %
210 nm.....	≥30 %
Gradient test:	
UV-absorption of the greatest eluted peak.	
220 nm.....	≤0,004 AU
235 nm.....	≤0,002 AU
Fluorescence (as quinine):	
254 nm.....	≤0,5 ppb
365 nm.....	≤0,3 ppb
Trace impurities:	
Aluminium (Al).....	≤20 ppb
Calcium (Ca).....	≤100 ppb
Iron (Fe).....	≤20 ppb
Potassium (K).....	≤50 ppb
Magnesium (Mg).....	≤20 ppb
Sodium (Na).....	≤100 ppb
Filtered through 0,1 µm membrane and filled under protective gas.	

HN41.1	1 l	glass	31,10 €
Original pack 6 x 1 l			29,55/1 l
HN41.2	2,5 l	glass	70,85 €
Original pack 4 x 2,5 l			67,31/2,5 l

M**Methanol****ROTISOLV® ≥99,95 %, LC-MS-Grade****Guarantee analysis:**

Assay (GC).....	≥99,95 %
Colour (APHA).....	≤5
Water (KF).....	≤0,03 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Free alkali (as NH ₃).....	≤0,0001 %
Non volatile matter.....	≤0,0001 %
Transmission:	
260 nm.....	≥98 %
235 nm.....	≥85 %
220 nm.....	≥60 %
210 nm.....	≥40 %
Gradient test:	
UV absorption of the greatest eluted peak	
235 nm.....	≤0,002 AU
254 nm.....	≤0,001 AU
Fluorescence (as quinine):	
254 nm.....	≤0,5 ppb
365 nm.....	≤0,5 ppb
Trace impurities:	
Aluminium (Al).....	≤0,05 ppm
Calcium (Ca).....	≤0,05 ppm
Iron (Fe).....	≤0,05 ppm
Potassium (K).....	≤0,05 ppm
Magnesium (Mg).....	≤0,05 ppm
Sodium (Na).....	≤0,05 ppm
LC-MS suitability test.....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

AE71.1	1 l	glass	26,80 €
Original pack 6 x 1 l			25,46/1 l
AE71.2	2,5 l	glass	57,95 €
Original pack 4 x 2,5 l			55,05/2,5 l

Methanol**ROTISOLV® HPLC Ultra Gradient Grade****Guarantee analysis:**

Assay (GC).....	≥99,95 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,03 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Non volatile matter.....	≤0,0001 %
Layer thickness d = 1 cm water in comparison	
Transmission:	
> 260 nm.....	≥99 %
230 nm.....	≥80 %
220 nm.....	≥60 %
210 nm.....	≥40 %
Gradient test:	
UV absorption of the greatest eluted peak	
220 nm.....	≤0,004 AU
235 nm.....	≤0,002 AU
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤0,5 ppb
Suitability for PAH analysis (HPLC fluorescence detection).....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

X948.1	1 l	glass	22,80 €
Original pack 6 x 1 l			21,66/1 l
X948.2	2,5 l	glass	40,75 €
Original pack 4 x 2,5 l			38,71/2,5 l

For further information, please see page 1515

Methanol**ROTISOLV® HPLC Gradient Grade****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,02 %
Free acid.....	≤0,001 %
Non volatile matter.....	≤0,0002 %
Transmission:	
> 260 nm.....	≥99 %
235 nm.....	≥85 %
220 nm.....	≥60 %
210 nm.....	≥40 %
Gradient test: UV-absorption of the greatest eluted peak	
235 nm.....	≤2,0 mAU
254 nm.....	≤1,0 mAU
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤0,5 ppb
Filtered through 0,2 µm membrane and filled under protective gas.	

7342.2	1 l	glass	20,35 €
Original pack 6 x 1 l			19,33/1 l
7342.1	2,5 l	glass	34,95 €
Original pack 4 x 2,5 l			33,20/2,5 l

For further information, please see page 1515

Methanol**ROTISOLV® HPLC Gradient****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,05 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Non volatile matter.....	≤0,0003 %
Transmission:	
260 nm.....	≥98 %
235 nm.....	≥85 %
210 nm.....	≥30 %
Gradient test:	
UV-absorption of the greatest eluted peak.	
254 nm.....	≤0,005 AU
Filtered through 0,2 µm membrane and filled under protective gas.	

KK39.2	2,5 l	glass	28,50 €
Original pack 4 x 2,5 l			27,08/2,5 l

For further information, please see page 1515

Methanol**ROTISOLV® HPLC****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,05 %
Free acid.....	≤0,002 %
Non volatile matter.....	≤0,0003 %
Transmission:	
260 nm.....	≥99 %
235 nm.....	≥85 %
220 nm.....	≥60 %
210 nm.....	≥30 %
Filtered through 0,2 µm membrane and filled under protective gas.	

P717.2	1 l	glass	17,10 €
Original pack 6 x 1 l			16,25/1 l
P717.1	2,5 l	glass	27,65 €
Original pack 4 x 2,5 l			26,27/2,5 l

For further information, please see page 1515

Methanol**ROTISOLV® ≥99,9 %, GC Ultra Grade**

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,05 %
Free acid (as CH ₃ COOH).....	≤0,003 %
Evaporation residue.....	≤0,0002 %
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
PAH-test (less than 2 ppb, HPLC).....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

KK44.1	2,5 l	glass	44,30 €
Original pack 4 x 2,5 l			42,09/2,5 l

Methanol**ROTISOLV® ≥99,9 %, Pestilyse® plus**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,05 %
Free acid (as CH ₃ COOH).....	≤0,002 %
Free alkali (as NH ₃).....	≤0,0002 %
Evaporation residue.....	≤0,0002 %
GC/FID suitability (as 2-octanol).....	≤10 ng/ml
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤10 ng/l
Oil index (any hydrocarbon C ₁₀ -C ₄₀).....	≤0,1 mg/l
GC/ECD volatile impurities (as ethylene dibromide).....	≤5 ng/ml
PAH-test (less than 2 ppb, HPLC).....	complies
Fluorescence (as quinine):	
254 nm.....	≤0,5 ppb
365 nm.....	≤0,5 ppb

7583.1	2,5 l	glass	39,70 €
Original pack 4 x 2,5 l			37,72/2,5 l

Methanol**ROTISOLV® ≥99,9 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,1 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l

T169.2	1 l	glass	19,60 €
Original pack 6 x 1 l			18,62/1 l
T169.1	2,5 l	glass	30,35 €
Original pack 4 x 2,5 l			28,83/2,5 l
T169.3	4 l	glass	44,00 €

Methanol**ROTISOLV® ≥99,9 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,02 %
Acidity.....	≤0,005 meq/g
Evaporation residue.....	≤0,005 %
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤1,0 ppb
Transmission:	
260 nm.....	≥98 %
242 nm.....	≥90 %
232 nm.....	≥80 %
220 nm.....	≥50 %
207 nm.....	≥10 %

T909.1	2,5 l	glass	31,75 €
Original pack 4 x 2,5 l			30,16/2,5 l

Methanol**ROTIDRY®Sept ≥99,9 % (≤50 ppm H₂O)**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,005 %
Acidity (as CH ₃ COOH).....	≤0,002 %
Evaporation residue.....	≤0,0005 %

5181.1	250 ml	glass	32,80 €

Methanol**ROTIDRY® ≥99,9 % (≤50 ppm H₂O)**

Dried; for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,005 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Filtered through a membrane and filled under protective gas.	

AE01.1	1 l	glass	27,65 €
Original pack 6 x 1 l			26,27/1 l
AE01.2	2,5 l	glass	48,95 €
Original pack 4 x 2,5 l			46,50/2,5 l

Methanol**≥99,9 %, Blotting-Grade**

For Western blotting

Type analysis:

Appearance.....	clear
Assay (GC).....	≥99,9 %
Colour (Hazen).....	≤10
Water.....	≤0,1 %
Evaporation residue.....	≤0,0005 %
Benzene (GC).....	≤0,0002 %
Ethanol (GC).....	≤0,05 %
Acetone.....	≤0,001 %
Sulphate (SO ₄).....	≤0,0001 %
Chloride (Cl).....	≤0,00005 %
Bismuth (Bi).....	≤0,000002 %
Lead (Pb).....	≤0,00001 %
Gold (Au).....	≤0,000002 %
Molybdenum (Mo).....	≤0,000002 %
Silver (Ag).....	≤0,000002 %
Platinum (Pt).....	≤0,000005 %
Thallium (Tl).....	≤0,000002 %

0082.1	500 ml	glass	21,00 €
0082.2	1 l	glass	27,65 €
Original pack 6 x 1 l			26,27/1 l
0082.3	2,5 l	glass	56,90 €
Original pack 4 x 2,5 l			54,06/2,5 l

Methanol**ROTIPURAN® ≥99,9 %, p.a., ACS, ISO****Guarantee analysis:**

Assay (GC).....	≥99,9 %
Colour (Hazen).....	≤10
Solubility in H ₂ O.....	complies
Evaporation residue.....	≤0,0005 %
Acidity.....	≤0,0002 meq/g
Alkalinity.....	≤0,0002 meq/g
Water.....	≤0,05 %
Density (d 20 °C/20 °C).....	0,791-0,793
Ethanol (GC).....	≤0,05 %
Acetone.....	≤0,001 %
Acetaldehyde.....	≤0,001 %
Formaldehyde.....	≤0,001 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Tin (Sn).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %
Carbonylic compounds (as CO).....	≤0,001 %
KMnO ₄ reducing substances (as O).....	≤0,00025 %
Matter discoloured by H ₂ SO ₄ (Hazen).....	complies

4627.1	1 l	glass	23,90 €
Original pack 6 x 1 l			22,71/1 l
4627.4	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l
4627.2	2,5 l	glass	41,85 €
Original pack 4 x 2,5 l			39,76/2,5 l
4627.5	2,5 l	plastic	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
4627.6	5 l	plastic	70,85 €
Original pack 2 x 5 l			67,31/5 l
4627.3	25 l	tinplate	149,45 €

Methanol**≥99,5 %, Ph.Eur., extra pure****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Identity.....	complies
Absorption.....	complies
Appearance of solution.....	complies
Acid react. substances.....	complies
Density (d 20 °C/20 °C).....	0,791-0,793
Refractive index n _D ²⁰	1,328-1,330
Reducing substances.....	complies
Water.....	≤0,1 %
Benzene (GC).....	≤0,0002 %
Related substances (GC).....	complies
Non volatile matter.....	≤0,001 %

CP43.1	1 l	glass	18,85 €
Original pack 6 x 1 l			17,91/1 l
CP43.2	2,5 l	glass	31,75 €
Original pack 4 x 2,5 l			30,16/2,5 l
CP43.3	2,5 l	plastic	27,65 €
Original pack 4 x 2,5 l			26,27/2,5 l
CP43.4	5 l	plastic	44,00 €
Original pack 2 x 5 l			41,80/5 l
CP43.5	10 l	tinplate	70,45 €
CP43.6	25 l	tinplate	128,90 €

Methanol**≥99 %, for synthesis****Type analysis:**

Assay (GC).....	≥99 %
Water.....	≤0,1 %
Density (20 °C).....	0,791-0,793
Evaporation residue.....	≤0,001 %

8388.1	1 l	glass	14,20 €
Original pack 6 x 1 l			13,49/1 l
8388.2	2,5 l	glass	28,50 €
Original pack 4 x 2,5 l			27,08/2,5 l
8388.5	2,5 l	plastic	23,90 €
Original pack 4 x 2,5 l			22,71/2,5 l
8388.6	5 l	plastic	37,55 €
Original pack 2 x 5 l			35,67/5 l
8388.3	10 l	tinplate	61,20 €
8388.4	25 l	tinplate	96,65 €

Methanol D1

Methanol D1

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

Methyl alcohol deuterated

CH₃OD

M 33,05 g/mol

D 0,813 • bp 65,5 °C

mp -98 °C • flp 11 °C

[1455-13-6] • EC No. 215-933-0

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H301+H311+H331-H370

Guarantee analysis:

Deuterising degree. ≥99,5 %
Water (KF, H₂O+D₂O). ≤0,1 %

HN86.1	25 ml	glass	45,05 €
HN86.2	100 ml	glass	156,85 €

Methanol D4

Methyl alcohol deuterated

CD₃OD

M 36,07 g/mol

D 0,89 • bp 65,5 °C

mp -99 °C • flp 12 °C

[811-98-3] • EC No. 212-378-6

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H301+H311+H331-H370

Methanol D4

100 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree. ≥99,95 %
Water (KF, H₂O+D₂O). ≤0,02 %

7918.1	10 ml	glass	109,55 €
7918.2	10 x 0,75 ml	glass ampoule	111,70 €

Methanol D4

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,8 %
Water (KF, H₂O+D₂O). ≤0,03 %

AE57.1	10 ml	glass	56,90 €
AE57.4	10 ml	septum bottle	59,05 €
AE57.5	25 ml	glass	130,00 €
AE57.2	50 ml	glass	263,30 €
AE57.3	10 x 0,75 ml	glass ampoule	60,10 €

Methanol D4 with TMS
(0,03 vol.%)Methanol D4 with TMS
(0,03 vol.%)

NEW

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

CD₃OD

M 36,07 g/mol

D 0,89 • bp 65,5 °C

mp -99 °C • flp 12 °C

[811-98-3] • EC No. 212-378-6

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H301+H311+H331-H370

Type analysis:

Deuterising degree. ≥99,8 %
Water (KF, H₂O+D₂O). ≤0,03 %
Trimethylsilane (TMS). 0,03 %

7919.1	10 ml	glass	52,60 €
7919.2	25 ml	glass	125,70 €
7919.3	10 x 0,75 ml	glass ampoule	54,75 €

Methanol for water analysis

► Karl Fischer methanol see p. 1916

Methanol with 0,1 %
trifluoroacetic acidMethanol with 0,1 %
trifluoroacetic acid

ROTISOLV® ≥99,95 %, LC-MS Grade

Eluent mixture for high performance liquid chromatography.

Methanol mixture

CH₃OH

M 32,04 g/mol

[67-56-1] • EC No. 200-659-6

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H370-H301+H311+H331

Guarantee analysis:

Assay (GC). ≥99,9 %
Trifluoroacetic acid (v/v). 0,095-0,105 %
Transmission:254 nm. ≥90 %
230 nm. ≥35 %
210 nm. ≥5 %

Trace impurities:

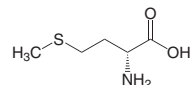
Aluminium (Al). ≤0,05 ppm
Calcium (Ca). ≤0,05 ppm
Iron (Fe). ≤0,05 ppm
Potassium (K). ≤0,05 ppm
Magnesium (Mg). ≤0,05 ppm
Sodium (Na). ≤0,05 ppm
LC-MS suitability test. complies
Filtered through 0,2 µm membrane and filled under protective gas.

CP06.1	1 l	glass	40,00 €
Original pack 6 x 1 l			38,00/1 l

Methenamine

► Hexamethylene tetramine see p. 1875

D-Methionine



NEW

D-Methionine

≥98 %, for biochemistry

(R)-2-Amino-4-methyl-mercapto butyric acid,
H-D-Met-OHC₅H₁₁NO₂S

M 149,2 g/mol

Storage temp.: +4 °C

[348-67-4] • EC No. 206-483-6

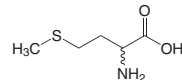
WGK 1

Type analysis:

Appearance. white to off-white powder
Assay. ≥98,0-101,0 %
Specific rotation [α]_D²⁰ (c= 2 in 6 N HCl). -24° to -22°
Loss on drying. ≤0,5 %

7885.1	5 g	plastic	17,75 €
7885.2	25 g	plastic	53,65 €
7885.3	100 g	plastic	133,85 €

DL-Methionine



DL-Methionine

≥98 %, for biochemistry

2-Amino-4-methyl-mercapto butyric acid

C₅H₁₁NO₂S

M 149,21 g/mol

Storage temp.: +4 °C

[59-51-8] • EC No. 200-432-1

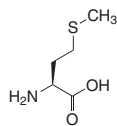
WGK 1

Type analysis:

Appearance. white to off-white powder
Assay. ≥98,0 %
Identity (IR). complies
Heavy metals (as Pb). ≤0,001 %
Ash content. ≤0,1 %
Loss on drying. ≤0,5 %

8602.1	100 g	plastic	27,45 €
8602.2	500 g	plastic	107,40 €
Original pack 6 x 500 g			102,03/500 g

L-Methionine



(S)-2-Amino-4-methyl-mercapto butyric acid,
H-L-Met-OH
C₅H₁₁NO₂S
M 149,21 g/mol
mp ~284 °C
Solubility: ~48 g/l (H₂O, 20 °C)
[63-68-3] • EC No. 200-562-9
WGK 1

L-Methionine

≥99 %, **CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤6,0 E.U./g
Assay.....	≥99 %
Loss on drying.....	≤0,2 %
Specific rotation [α] _D ²⁰	+23,0° to +24,0°
Foreign amino acids.....	complies
Ammonium (NH ₄).....	≤0,02 %
Chloride (Cl).....	≤0,02 %
Sulphate (SO ₄).....	≤0,02 %
Heavy metals (as Pb).....	≤0,001 %
Arsenic (As ₂ O ₃).....	≤0,0001 %
Iron (Fe).....	≤0,001 %

1702.1	25 g	plastic	15,95 €

1702.2	100 g	plastic	33,25 €

1702.3	500 g	plastic	128,50 €

Original pack 6 x 500 g	122,08/500 g

L-Methionine

≥99 %, for biochemistry

Type analysis:

Appearance.....	white cryst. powder
Assay (dry substance).....	99,0-101,0 %
Specific rotation [α] _D ²⁰	+23,0° to +24,0°
pH value.....	5,6-6,1
Chloride (Cl).....	≤0,02 %
Sulphate (SO ₄).....	≤0,02 %
Ammonium (NH ₄).....	≤0,02 %
Arsenic (As ₂ O ₃).....	≤0,0001 %
Iron (Fe).....	≤0,001 %
Heavy metals (as Pb).....	≤0,001 %
Foreign amino acids.....	complies
Loss on drying.....	≤0,2 %
Sulphated ash.....	≤0,1 %

9359.1	100 g	plastic	26,80 €

9359.3	250 g	plastic	54,75 €

9359.4	500 g	plastic	104,20 €

Original pack 6 x 500 g	98,99/500 g

9359.2	1 kg	plastic	192,45 €

Original pack 6 x 1 kg	182,83/1 kg

Methoxsalen

► Xanthotoxin see p. 2244

4-Methoxybenzaldehyde

► 4-Anisaldehyde see p. 1647

Methoxybenzene

► Anisole see p. 1647

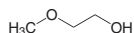
4-Methoxybenzoic acid

► 4-Anisic acid see p. 1647

7-Methoxycoumarin

► Herniarin see p. 1872

2-Methoxyethanol



Ethylene glycol monomethyl ether
C₃H₈O₂
M 76,10 g/mol
D 0,96 • bp 123,5-125,5 °C
mp -85,1 °C • flp 37 °C
[109-86-4] • EC No. 203-713-7
UN No. 1188 • ADR 3 III • WGK 1
 **Danger**
H360FD-H226-H302+H312+H332

2-Methoxyethanol

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC).....	≥99,5 %
Density (d 20 °C/4 °C).....	0,964-0,968
Colour (APHA).....	≤10
Water.....	≤0,1 %
Acidity.....	≤0,001 meq/g
Calcium (Ca).....	≤0,00005 %
Cadmium (Cd).....	≤0,000005 %
Cobalt (Co).....	≤0,000002 %
Chromium (Cr).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Lead (Pb).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %
Evaporation residue.....	≤0,005 %

CP08.1	500 ml	glass	31,75 €

CP08.2	1 l	glass	54,75 €

Original pack 6 x 1 l	52,01/1 l

CP08.3	2,5 l	glass	121,40 €

Original pack 4 x 2,5 l	115,33/2,5 l

2-Methoxyethanol

≥99 %, for synthesis

Type analysis:

Assay (GC).....	≥99 %
Water (KF).....	≤0,2 %
Density (d 20 °C/4 °C).....	0,964-0,968

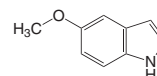
8892.1	1 l	glass	37,55 €

Original pack 6 x 1 l	35,67/1 l

8892.2	2,5 l	glass	66,15 €

Original pack 4 x 2,5 l	62,84/2,5 l

5-Methoxyindole



5-Methoxyindole

≥98 %, for synthesis

C₉H₉NO
M 147,18 g/mol
bp 176-178 °C
mp 55-58 °C
[1006-94-6] • EC No. 213-745-3
WGK 1

Type analysis:

Appearance.....	white to off-white cryst. powder
Assay.....	≥98,0 %
Loss on drying (105 °C).....	≤0,5 %

6546.1	1 g	glass	26,80 €

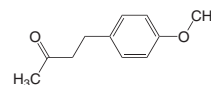
6546.2	5 g	glass	48,30 €

6546.3	25 g	glass	160,20 €

(2-Methoxymethylethoxy)-propanol

► Dipropylene glycol monomethyl ether
see p. 1788

4-(p-Methoxyphenyl)-2-butanone



4-(p-Methoxyphenyl)-2-butanone

ROTICHRON® GC

Reference substance for GC

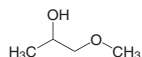
C₁₁H₁₄O₂
M 178,23 g/mol
mp 8 °C • flp 113 °C
Storage temp.: +4 °C
[104-20-1] • EC No. 203-184-2
WGK 2

Type analysis:

Purity (GC).....	≥98,5 %

5059.1	1 g	plastic	75,15 €

1-Methoxy-2-propanol



1-Methoxy-2-propanol

≥99 %, for synthesis

Propylene glycol methyl ether

C₄H₁₀O₂

M 90,12 g/mol

D 0,92 • bp 117-125 °C

mp -97 °C • flp 32 °C

[107-98-2] • EC No. 203-539-1

UN No. 3092 • ADR 3 III • WGK 1

Warning H226-H336

Type analysis:

Appearance.....colourless liquid

Assay (GC).....≥99 %

Water.....≤0,1 %

Density (20 °C).....0,921-0,927

Refractive index n_D²⁰.....1,4020-1,4040

3123.1	1 l	glass	25,30 €

Original pack 6 x 1 l	24,04/1 l

3123.2	2,5 l	glass	42,50 €

Original pack 4 x 2,5 l	40,38/2,5 l

1-Methoxy-4-propenylbenzene

▶ Anethole see p. 1646

1-Methoxy-2-propyl acetate

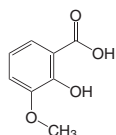
▶ Propylene glycol methyl ether acetate see p. 2070

8-Methoxypsoralen

▶ Xanthotoxin see p. 2244

3-Methoxysalicylic acid

M



3-Methoxysalicylic acid

≥97 %, for synthesis

2-Hydroxy-5-methoxybenzoic acid

C₈H₈O₄

M 168,15 g/mol

mp 147-152 °C

[877-22-5] • EC No. 212-888-9

WGK 3

Type analysis:

Appearance.....white to brown powder

Assay (titr.).....≥97,0 %

4504.1	5 g	glass	18,20 €

4504.2	25 g	glass	45,70 €

4'-Methoxy-3,5,7-trihydroxy-flavone

▶ Kaempferide see p. 1915

Methyl acetate

▶ Acetic acid methyl ester see p. 1603

Methylacetic acid

▶ Propionic acid see p. 2069

2-Methyl-2-adamantanol



2-Methyl-2-adamantanol

≥98 %, for synthesis

C₁₁H₁₈O

M 166,26 g/mol

mp 208-215 °C

[702-98-7]

WGK 3

Type analysis:

Appearance.....white to off-white cryst. powder

Assay.....≥98,0 %

Identity.....complies

Sulphated ash.....≤0,1 %

7630.1	1 g	glass	14,20 €

7630.2	5 g	glass	33,25 €

2-Methylalanine

▶ 2-Aminoisobutyric acid see p. 1632

Methyl alcohol

▶ Methanol see p. 1960

▶ Karl Fischer methanol see p. 1916

Methyl alcohol deuterated

▶ Methanol D1 see p. 1962

▶ Methanol D4 see p. 1962

4-(Methylamino)-phenol sulphate

▶ Metol see p. 1972

2-Methylaniline

▶ o-Toluidine see p. 2215

Methyl anthranilate

▶ Anthranilic acid methyl ester see p. 1647

Methylarecadin hydrobromide

▶ Arecoline hydrobromide see p. 1654

Methylated spirit

Methylated spirit

ethanol-denatured

For use as a detergent, as fuel additive or as antifreeze agent

UN No. 1170 • ADR 3 II

Danger H225-H319

AL30.1	1 l bottle	7,35 €

AL30.2	10 l canister	50,45 €

AL30.3	20 l canister	90,20 €

For further information, please see page 1081

Methylbenzene

▶ Toluene see p. 2213

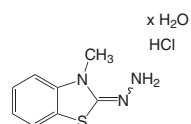
Methylbenzene deuterated

▶ Toluene D8 see p. 2214

Methylbenzoate

▶ Benzoic acid methyl ester see p. 1671

3-Methyl-2-benzothiazolinone hydrazone hydrochloride hydrate



3-Methyl-2-benzothiazolinone hydrazone hydrochloride hydrate

≥96,5 %, p.a.

Analytical reagent for the qualitative determination of aldehydes.

MBTH

C₈H₉N₃S · HCl · x H₂OM 215,71 + x H₂O g/mol

mp 276-278 °C

[149022-15-1] • EC No. 238-428-7

UN No. 2811 • ADR 6.1 III • WGK 3

Danger H301-H319

Type analysis:

Assay (HPLC).....≥96,5 %

8413.1	10 g	glass	132,80 €

Methyl blue

▶ Acid blue 93 (C.I. 42780) see p. 1611

▶ Cotton blue (C.I. 42780) see p. 1748

2-Methylbutane



Isopentane, iso-Pentane
 C_5H_{12}
 M 72,15 g/mol
 D 0,62 • bp 27,95 °C
 mp -158,5 °C • flp -20 °C
 [78-78-4] • EC No. 201-142-8
 UN No. 1265 • ADR 3 I • WGK 2
Danger
 H224-H304-H336-H411-EUH066

2-Methylbutane

ROTIPURAN® ≥99,5 %, p.a.

Guarantee analysis:

Assay (GC).....	≥99,5 %
Water.....	≤0,05 %
Refractive index n_D^{20}	1,354
Evaporation residue.....	≤0,001 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Calcium (Ca).....	≤0,00005 %
Cadmium (Cd).....	≤0,000005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Cobalt (Co).....	≤0,000002 %
Potassium (K).....	≤0,00005 %
Bismuth (Bi).....	≤0,00001 %
Copper (Cu).....	≤0,000002 %
Lithium (Li).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Molybdenum (Mo).....	≤0,00001 %
Sodium (Na).....	≤0,00005 %
Nickel (Ni).....	≤0,000002 %
Strontium (Sr).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %

3926.1	250 ml	glass	65,50 €

3926.2	1 l	glass	182,25 €

Original pack 6 x 1 l	173,14/1 l

2-Methylbutane

≥99 %, for synthesis

Type analysis:

Assay (GC).....	≥99 %
Density (15 °C).....	0,623-0,627
Aromatic compounds.....	≤0,001 %

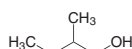
3927.1	1 l	glass	34,95 €

Original pack 6 x 1 l	33,20/1 l

3927.2	2,5 l	glass	70,45 €

Original pack 4 x 2,5 l	66,93/2,5 l

2-Methyl-1-butanol



2-Methylbutyl alcohol, sec-Butyl carbinol
 $C_5H_{12}O$
 M 88,15 g/mol
 D ~0,82 • bp 127-130 °C
 mp -70 °C • flp 42,5 °C
 Solubility: 36 g/l (H_2O , 20 °C)
 [137-32-6] • EC No. 205-289-9
 UN No. 1105 • ADR 3 III • WGK 1
Warning H226-H332-H335-EUH066

2-Methyl-1-butanol

≥97,5 %, for synthesis

Type analysis:

Assay (GC).....	≥97,5 %
Density (d 20 °C/4 °C).....	0,816-0,821

4379.1	100 ml	glass	14,20 €

4379.2	500 ml	glass	45,70 €

4379.3	1 l	glass	76,90 €

Original pack 6 x 1 l	73,06/1 l

2-Methyl-1-butanol

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

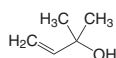
Purity (GC).....	≥99 %

9074.1	1 g	plastic	75,15 €

3-Methyl-1-butanol

► Isoamyl alcohol see p. 1908

2-Methyl-3-buten-2-ol



2-Methyl-3-buten-2-ol

ROTICHRON® GC

Reference substance for GC

$C_5H_{10}O$

M 86,14 g/mol

D 0,824 • bp 98-99 °C

mp -43 °C • flp 10 °C

Storage temp.: +4 °C

[115-18-4] • EC No. 204-068-4

UN No. 1993 • ADR 3 II • WGK 1

Danger H225-H302-H319

Type analysis:

Purity (GC).....	≥97 %

9406.1	1 g	plastic	75,15 €

3-Methylbutyl acetate

► Acetic acid isoamyl ester see p. 1602

2-Methylbutyl alcohol

► 2-Methyl-1-butanol see p. 1965

Methyl tert-butyl ether

► tert-Butyl methyl ether see p. 1699

3-Methylbutyl hexanoate

► iso-Amyl capronate see p. 1645

Methyl butyrate

► Butyric acid methyl ester see p. 1701

Methyl caproate

► Caproic acid methyl ester see p. 1713

Methyl caprylate

► Caprylic acid methyl ester see p. 1713

Methyl carbonate

► Dimethyl carbonate see p. 1783

Methylcellulose

Methylcellulose

powdered

Tylose® 3000 P, MHB,

Methylhydroxyethylcellulose

M ~160.000 g/mol

[9004-67-5]

WGK 1

Type analysis:

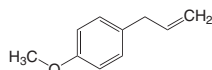
Appearance.....	powder
Viscosity (Brookfield, 1,9 % sol., 20 °C).....	3300-4500 mPa s
Moisture.....	≤7,0 %
NaCl.....	≤1,5 %
Particle size:	
<0,180 mm.....	≥90 %
<0,100 mm.....	≥25 %

8421.1	250 g	plastic	29,60 €

8421.2	1 kg	plastic	96,25 €

Original pack 6 x 1 kg	91,44/1 kg

Methylchavicol



Methylchavicol

ROTICHROM® GC

Reference substance for GC

Allylanisole, Chavicol methyl ether, Estragole

C₁₀H₁₂O

M 148,21 g/mol

D 0,965 • bp 215-216 °C

flp 81 °C

Storage temp.: +4 °C

[140-67-0] • EC No. 205-427-8

WGK 3

⚠ Warning H302-H315

Type analysis:

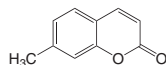
Purity (GC)..... ≥98 %

9413.1	1 g	plastic	75,15 €

Methyl cinnamate

► Cinnamic acid methyl ester see p. 1737

7-Methylcoumarin



7-Methylcoumarin

>98 %

C₁₀H₈O₂

M 160,17 g/mol

mp 128-130 °C

[2445-83-2] • EC No. 219-499-3

WGK 1

Type analysis:

Appearance..... white crystals

6149.1	1 g	glass	17,75 €

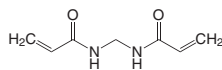
Methyl cyanide

► Acetonitrile see p. 1605

Methyl cyanide deuterated

► Acetonitrile D3 see p. 1607

N,N'-Methylene bisacrylamide



N,N'-Methylene bisacrylamide

≥98 %, for gel electrophoresis

Bis, Bisacrylamide

C₇H₁₀N₂O₂

M 154,17 g/mol

D ~1,23

mp 185 °C (dec.)

Solubility: 3 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[110-26-9] • EC No. 203-750-9

WGK 2

⚠ Warning H302

Type analysis:

Assay..... ≥98 %

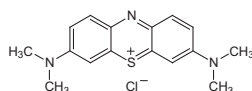
Water..... ≤1,0 %

7867.1	50 g	plastic	28,50 €

7867.2	100 g	plastic	44,65 €

For further information, please see page 1114

Methylene blue (C.I. 52015)



Methylene blue (C.I. 52015)

For microscopy and staining of nucleic acids in polyacrylamide gels.

Basic Blue 9

C₁₆H₁₈ClN₃S

M 319,9 g/mol

Solubility: 40 g/l (H₂O, 20 °C)

[61-73-4] • EC No. 200-515-2

WGK 2

⚠ Warning H302-H412

Type analysis:

Maximum absorption..... 655-670 nm

Loss on drying (110 °C)..... 5,0-15,0 %

A514.1	10 g	glass	18,20 €

A514.2	50 g	glass	42,90 €

A514.3	100 g	glass	69,80 €

For further information, please see page 1404

Methylene blue solution

► Neisser's solution I see p. 1982

► LOEFFLER's methylene blue solution see p. 1937

Methylene blue staining concentrate

► Roti®-Methylene blue staining concentrate see p. 2104

Methylene chloride

► Dichloromethane see p. 1770

Methylene chloride D2

► Dichloromethane D2 see p. 1772

Methylene violet 3RAX

► Diethyl safranin (C.I. 50206) see p. 1775

β-Methylesculetin

► Scopoletin see p. 2122

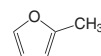
Methyl ethyl glycol

► 1,2-Propanediol see p. 2066

Methyl ethyl ketone

► 2-Butanone see p. 1697

2-Methylfuran



2-Methylfuran

≥99 %, for synthesis

Silvan

C₅H₆O

M 82,10 g/mol

D 0,91 • bp ~65 °C

mp -89 °C

Solubility: 3 g/l (H₂O, 20 °C)

[534-22-5] • EC No. 208-594-5

UN No. 2301 • ADR 3 II • WGK 1

⚠ ⚠ Danger H225-H330-H301+H311

Type analysis:

Assay..... ≥99,0 %

Identity (IR)..... complies

Density (d 20 °C/4 °C)..... 0,913-0,916

Furfural..... ≤0,5 %

Water..... ≤0,1 %

7470.1	100 ml	glass	18,85 €

7470.2	500 ml	glass	50,00 €

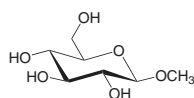
7470.3	1 l	glass	79,45 €

Original pack 6 x 1 l	75,48/1 l

7470.4	2,5 l	glass	166,65 €

Original pack 4 x 2,5 l	158,32/2,5 l

1-O-Methyl- β -D-glucopyranoside



1-O-Methyl- β -D-glucopyranoside

≥99 %, for biochemistry

1-O-Methyl-glucoside

$C_7H_{14}O_6$

M 194,19 g/mol

Storage temp.: +4 °C

[709-50-2] • EC No. 211-909-9

WGK 3

Type analysis:

Appearance.....white to off-white powder

Assay (HPLC).....≥99,0 %

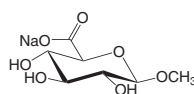
Appearance of solution (1 % in H_2O).....colourless

Specific rotation $[\alpha]_D^{20}$ (1 % in H_2O , dry substance).....-35,0° to -31,0°

Water (KF).....≤6,0 %

8356.1	1 g	glass	24,20 €
8356.2	5 g	plastic	85,90 €

1-O-Methyl- β -D-glucuronic acid, sodium salt



1-O-Methyl- β -D-glucuronic acid, sodium salt

≥99 %, for biochemistry

1-OMe- β -D-GlcA, 1-O-Methylglucuronic acid sodium salt

$C_7H_{11}NaO_7$

M 230,15 g/mol

Storage temp.: +4 °C

WGK 3

Type analysis:

Assay (perchloric acid titration).....≥99,0 %

Appearance.....white to brownish cryst. powder

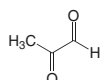
Appearance of solution (5 % in H_2O).....colourless to light brown

Specific rotation $[\alpha]_D^{20}$ (c=1 in H_2O).....-62,0° to -58,0°

Water (KF).....≤1,0 %

8407.1	250 mg	glass	44,85 €
8407.2	500 mg	glass	73,65 €
8407.3	1 g	glass	127,95 €

Methylglyoxal



Methylglyoxal

40 % in water

Pyruvaldehyde

$C_3H_4O_2$

M 72,06 g/mol

D 1,11 • bp 72 °C

mp -20 °C

Storage temp.: +4 °C

[78-98-8] • EC No. 201-164-8

WGK 1

⚠ Warning H302-H315-H319-H335

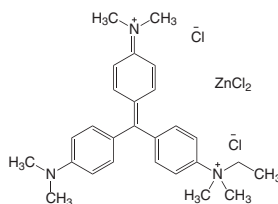
Type analysis:

Appearance.....yellow to brown liquid

Assay.....35-45 %

6399.1	100 ml	glass	134,40 €
6399.2	500 ml	glass	590,20 €

Methyl green (C.I. 42590)



Methyl green (C.I. 42590)

for microscopy

Indicator pH 0,2-1,8

Methyl green zinc chloride double salt, Ethyl green zinc chloride double salt

$C_{27}H_{35}Cl_2N_3 \cdot ZnCl_2$

M 608,78 g/mol

mp >300 °C

Solubility: 60 g/l (H_2O , 20 °C)

[7114-03-6] • EC No. 230-415-4

UN No. 1759 • ADR 8 II • WGK 3

⚠ ⚠ ⚠ Danger H314-H351-H411

Type analysis:

Absorption max. (in H_2O).....625-635 nm

Loss on drying (110 °C).....≤5 %

5159.1	5 g	glass	19,90 €
5159.2	10 g	glass	31,75 €
5159.3	25 g	glass	62,90 €

For further information, please see page 1404

Methyl green zinc chloride double salt

▶ Methyl green (C.I. 42590) see p. 1967

1-Methyl hexane

▶ n-Heptane see p. 1871

Methyl hexane

▶ n-Heptane see p. 1871

2-Methyl hydroquinone

▶ Toluhydroquinone see p. 2215

Methyl-p-hydroxybenzoate

▶ 4-Hydroxybenzoic acid methyl ester see p. 1890

1-Methylimidazole



1-Methylimidazole

≥99 %, for synthesis

N-Methylimidazole

$C_4H_6N_2$

M 82,11 g/mol

D ~1,04 • bp 198 °C

[616-47-7]

UN No. 2922 • ADR 8 (6.1) II • WGK 1

⚠ ⚠ ⚠ Danger H311-H314-H302

Type analysis:

Assay (GC).....≥99,0 %

Water.....≤0,5 %

N353.1	100 ml	glass	18,10 €
N353.2	1 l	glass	91,95 €
Original pack 6 x 1 l			87,35/1 l

3-Methyl-indol

▶ Skatole see p. 2139

Methyl isobutyl ketone

▶ Isobutyl methylketone see p. 1909

Methyl iodide D3

▶ Iodomethane D3 see p. 1903

Methyl laurate

▶ Lauric acid methyl ester see p. 1924

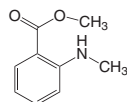
Methyl methacrylate

▶ Methacrylic acid methyl ester see p. 1959

2-Methyl-2-methoxypropane

▶ tert-Butyl methyl ether see p. 1699

Methyl-N-methyl anthranilate



Methyl-N-methyl anthranilate

ROTICHRON® GC

Reference substance for GC

C₉H₁₁NO₂

M 165,19 g/mol

D 1,126 • bp 256-258 °C

mp 17-19 °C • flp 110 °C

Storage temp.: +4 °C

[85-91-6] • EC No. 201-642-6

WGK 1

⚠ **Warning** H315-H319-H335

Type analysis:

Purity (GC).....≥95 %

3845.1	1 g	glass	75,15 €

7-Methyl-3-methylene-1,6-octadiene

► Myrcene see p. 1978

N-Methylmorpholine



NEW

N-Methylmorpholine

≥99 %, for synthesis

NMM

C₅H₁₁NO

M 101,15 g/mol

D 0,92 • bp 115 °C

mp -65 °C • flp 12,5 °C

[109-02-4] • EC No. 203-640-0

UN No. 2535 • ADR 3 (8) II • WGK 1

⚠ **Danger** H225-H302-H314

Type analysis:

Assay (GC).....≥99,0 %

Colour number (APHA).....≤50

Water (KF).....≤0,5 %

9672.1	100 ml	plastic	11,75 €

9672.2	250 ml	plastic	19,25 €

9672.3	1 l	plastic	31,10 €

Original pack 6 x 1 l 29,55/1 l

9672.4	2,5 l	plastic	59,05 €

Original pack 4 x 2,5 l 56,10/2,5 l

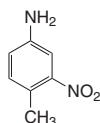
Methyl myristate

► Myristic acid methyl ester see p. 1979

Methyl nadic anhydride

► Glycidether Hardener MNA see p. 1860

4-Methyl-3-nitroaniline



4-Methyl-3-nitroaniline

≥99 %

3-Nitro-p-toluidine, 3-Nitro-4-methylaniline,

4-Amino-2-nitro-toluene

C₇H₈N₂O₂

M 152,15 g/mol

mp 77-79 °C

[119-32-4] • EC No. 204-314-0

UN No. 2660 • ADR 6.1 III • WGK 3

⚠ **Danger** H311+H331-H373-H411

Type analysis:

Assay (HPLC).....≥99,0 %

Melting point.....77-79 °C

Loss on drying.....≤2,0 %

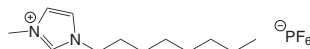
5532.1	25 g	plastic	26,55 €

5532.2	50 g	plastic	43,75 €

1-Methyl-4-nitrobenzene

► p-Nitrotoluene see p. 1994

1-Methyl-3-octyl-imidazolium-hexafluorophosphate (OMIM PF₆)



1-Methyl-3-octyl-imidazolium-hexafluorophosphate (OMIM PF₆)

≥99 %

Ionic liquid

OMIM PF₆

C₁₂H₂₃F₆N₂P

M 340,29 g/mol

D 1,237

mp -70 °C

[304680-36-2]

WGK 3

⚠ **Warning** H315-H319-H335

Type analysis:

Appearance.....yellow to orange liquid

Assay.....≥99 %

Water (KF).....<0,025 %

Halogens.....<0,01 %

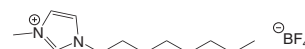
2076.1	25 g	glass	170,95 €

2076.2	100 g	glass	375,20 €

Lit.: "Use of 1-alkyl-3-methylimidazolium hexafluorophosphate room temperature ionic liquids as chelate extraction solvent with 4,4-trifluoro-1-(2-thienyl)-1,3-butanedione" I. Naoki; D. Mika; K. Hitomi; H. Takaharu, *Talanta* **2005**, 65, 255-260.

"On the solubilization of water with ethanol in hydrophobic hexafluoro-phosphate ionic liquids" R. P. Swatoski, A. E. Visser, W. M. Reichert, G. A. Broker, L. M. Farina, J. D. Holbrey, R. D. Rogers, *Green Chem.* **2002**, 4, 81-87. For further information, please see page 1459

1-Methyl-3-octyl-imidazolium-tetrafluoroborate (OMIM BF₄)



1-Methyl-3-octyl-imidazolium-tetrafluoroborate (OMIM BF₄)

>99 %

Ionic liquid

OMIM BF₄

C₁₂H₂₃BF₄N₂

M 282,13 g/mol

D 1,106

mp -81 °C

[244193-52-0]

WGK 3

⚠ **Warning** H315-H319-H335

Type analysis:

Appearance.....yellow to orange liquid

Assay.....>99 %

Water (KF).....<0,025 %

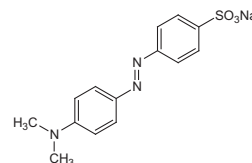
Halogens.....<0,01 %

2081.1	25 g	glass	160,20 €

2081.2	100 g	glass	338,65 €

Lit.: "Tribological behavior of sialon ceramics sliding against steel lubricated by fluorine-containing oils" W. Liu, C. Ye, Y. Chen, Z. Ou, D. C. Sun, *Tribology International* **2002**, 35, 503-509. "High-pressure phase behavior of the binary ionic liquid system 1-octyl-3-methyl-imidazolium tetrafluoroborate plus carbon dioxide" K. I. Gutkowski, A. Shariati, C. J. Peters, *J. Supercritical Fluids* **2006**, 39, 187-191. For further information, please see page 1459

Methyl orange (C.I. 13025)



Methyl orange (C.I. 13025)

ACS, for microscopy

Indicator pH 3,2-4,4

4-(Dimethylamino)-azobenzene -4'-sulphonic

acid sodium salt, Orange III

C₁₄H₁₄N₃NaO₃S

M 327,4 g/mol

mp >300 °C

Solubility: 5 g/l (H₂O, 20 °C)

[547-58-0] • EC No. 208-925-3

UN No. 3143 • ADR 6.1 III • WGK 2

⚠ **Danger** H301

Guarantee analysis:

Appearance.....orange powder

Appearance of solution.....complies

pH-transition range.....3.2 (pink)-4.4 (yellow)

Loss on drying (110 °C).....≤3,0 %

T118.1	50 g	glass	23,90 €

T118.2	100 g	glass	36,05 €

T118.3	250 g	glass	53,65 €

For further information, please see page 1404

Methyl orange indicator solution

Methyl orange indicator solution

0,1 % in water

T119.1	500 ml	plastic	17,75 €

Methylparaben

► 4-Hydroxybenzoic acid methyl ester
see p. 1890

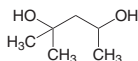
1-Methylpentane

► n-Hexane see p. 1875

2-Methylpentane

► Isohexane see p. 1910

2-Methyl-2,4-pentanediol



2-Methyl-2,4-pentanediol

≥99 %, for synthesis

Hexyleneglycol

$C_6H_{14}O_2$

M 118,18 g/mol

D ~0,92 • bp ~196 °C

mp -40 °C • flp ~93 °C

[107-41-5] • EC No. 203-489-0

WGK 1

⚠ Warning H315-H319

Type analysis:

Assay (GC).....	≥99 %
Density (20 °C).....	0,919-0,925
Colour (Hazen).....	≤15
Water (KF).....	≤0,2 %
Refractive index (20 °C).....	1,4240-1,4300

CN17.1	100 ml	plastic	11,50 €

CN17.2	1 l	plastic	19,05 €

Original pack 6 x 1 l	18,10/1 l

CN17.3	2,5 l	plastic	34,95 €

Original pack 4 x 2,5 l	33,20/2,5 l

CN17.4	10 l	plastic	95,15 €

4-Methyl-2-pentanone

► Isobutyl methylketone see p. 1909

3-Methyl-2-pentyl-2-cyclopentenone

► Dihydrojasnone see p. 1777

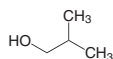
3-Methylphenol

► m-Cresol see p. 1749

3-(4-Methylpiperazinyl-iminomethyl)rifamycin SV

► Rifampicin see p. 2086

2-Methyl-1-propanol



Isobutanol, Isobutyl alcohol, iso-Butyl alcohol

$C_4H_{10}O$

M 74,12 g/mol

D 0,80 • bp 108 °C

mp -108 °C • flp 28 °C

Solubility: 100 g/l (H_2O , 20 °C)

[78-83-1] • EC No. 201-148-0

UN No. 1212 • ADR 3 III • WGK 1

⚠ ⚠ ⚠ Danger

H318-H226-H335-H336-H315

2-Methyl-1-propanol

ROTIPURAN® ≥99 %, p.a., ACS

Guarantee analysis:

Assay (GC).....	≥99 %
Acidity.....	≤0,0005 meq/g
Alkalinity.....	≤0,0005 meq/g
Colour (APHA).....	≤10
In H_2O insoluble matter.....	complies
Non volatile matter.....	≤0,001 %
Matter discoloured by H_2SO_4	complies
Water.....	≤0,1 %
Butanal (GC).....	≤0,01 %
iso-Butanal (GC).....	≤0,05 %
Butanone (GC).....	≤0,02 %
Peroxides (as H_2O_2).....	≤0,001 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,000005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %

6772.1	1 l	glass	44,85 €

Original pack 6 x 1 l	42,61/1 l

6772.2	2,5 l	glass	88,70 €

Original pack 4 x 2,5 l	84,27/2,5 l

2-Methyl-1-propanol

≥99 %, for synthesis

Type analysis:

Assay (GC).....	≥99,0 %
Density (d 20 °C/4 °C).....	0,801-0,802
Water.....	≤0,5 %

CP09.1	1 l	plastic	24,95 €

Original pack 6 x 1 l	23,70/1 l

CP09.2	2,5 l	plastic	45,70 €

Original pack 4 x 2,5 l	43,42/2,5 l

CP09.3	5 l	plastic	78,40 €

Original pack 2 x 5 l	74,48/5 l

2-Methyl-1-propanol

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

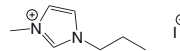
Purity (GC).....	≥97 %

9075.1	1 g	plastic	75,15 €

2-Methyl-2-propanol

► tert-Butanol see p. 1697

1-Methyl-3-propyl-imidazolium-iodide (PMIM I)



1-Methyl-3-propyl-imidazolium-iodide (PMIM I)

≥98 %

Ionic liquid

PMIM I

$C_7H_{13}N_2I$

M 252,10 g/mol

D 1,542

[119171-18-5]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....yellow to orange liquid

Assay.....≥98 %

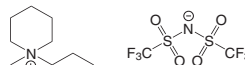
2091.1	25 g	glass	145,15 €

2091.2	100 g	glass	295,65 €

Lit.: "A Quasi-Solid-State Dye-Sensitized Solar Cell Based on a Sol-Gel Nanocomposite Electrolyte Containing Ionic Liquid" E. Stathatos, P. Lianos, S. M. Zakeeruddin, P. Liska, M. Graetzel, *Chemistry of Materials* 2003, 15, 1825-1829.

For further information, please see page 1459

1-Methyl-1-propyl-piperidinium-bis-(trifluoromethylsulphonyl)-imide (PMPip BTA)



1-Methyl-1-propyl-piperidinium-bis-(trifluoromethylsulphonyl)-imide (PMPip BTA)

≥99 %

Ionic liquid

PMPip BTA

$C_{11}H_{20}F_6N_2O_4S_2$

M 422,41 g/mol

D 1,413

mp 9 °C

[608140-12-1]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....colourless to yellowish liquid

Assay.....≥99 %

Water (KF).....≤0,01 %

Halogens.....≤0,01 %

2095.1	25 g	glass	188,15 €

2095.2	100 g	glass	385,95 €

Lit.: "Electrochemical Magnesium Deposition and Dissolution with High Efficiency in Ionic Liquid" Y. NuLi, J. Yang, J. Wang, J. Xu, P. Wang, *Electrochem. Solid-State Lett.* 2005, 8, C166-C169.

For further information, please see page 1459

Methyl 3-pyridyl ketone

▶ 3-Acetylpyridine see p. 1611

N-Methyl-2-pyrrolidone (NMP)

NMP

C₅H₉NO

M 99,13 g/mol

D 1,03 • bp 202 °C

mp -24 °C • flp 86 °C

Solubility: 1000 g/l (H₂O, 25 °C)

[872-50-4] • EC No. 212-828-1

WGK 1

Danger H360D-H315-H319-H335**N-Methyl-2-pyrrolidone (NMP)**

≥99,8 %, for synthesis

Type analysis:

Assay (GC) ≥99,8 %

Colour (APHA) ≤50

Water ≤0,05 %

Butyrolactone ≤0,05 %

Monomethylamine ≤0,005 %

Dimethyl pyrrolidones, mixture of isomers ≤0,4 %

4306.1	500 ml	glass	20,10 €

4306.3	1 l	glass	30,00 €

Original pack 6 x 1 l 28,50/1 l

4306.2	2,5 l	glass	56,45 €

Original pack 4 x 2,5 l 53,63/2,5 l

4306.5	25 l	tinplate	439,70 €

N-Methyl-2-pyrrolidone (NMP)

≥99,8 %, for peptide synthesis

Type analysis:

Assay (GC) ≥99,8 %

Water (KF) ≤0,03 %

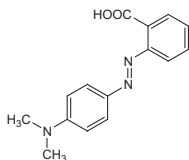
Non volatile matter ≤0,005 %

Free amines ≤0,001 %

Free acid (as CH₃COOH) ≤0,0006 %

P052.1	2,5 l	glass	108,05 €

Original pack 4 x 2,5 l 102,65/2,5 l

Methyl red (C.I. 13020)**Methyl red (C.I. 13020)**

p.a., ACS

Indicator pH 4,2-6,2

2-[(4-Dimethylamino)-phenylazo]-benzoic acid

C₁₅H₁₅N₃O₂

M 269,31 g/mol

mp 178-182 °C

Solubility: hardly soluble (H₂O, 20 °C)

[493-52-7] • EC No. 207-776-1

WGK 2

Guarantee analysis:

Appearance reddish powder

Appearance of solution complies

Melting point 179-182 °C

pH-transition range 4,2 (pink)-6,2 (yellow)

Loss on drying (110 °C) ≤3,0 %

T120.1	10 g	glass	13,90 €

T120.2	25 g	glass	22,50 €

Methyl red hydrochloride (C.I. 13020)**Methyl red hydrochloride (C.I. 13020)**

p.a.

Indicator pH 4,2-6,2

2-[(4-Dimethylamino)-phenylazo]-benzoic acid hydrochloride

C₁₅H₁₅N₃O₂ · HCl

M 305,77 g/mol

mp 179-182 °C (dec.)

[63451-28-5] • EC No. 264-190-9

WGK 1

Guarantee analysis:

Appearance dark purple cryst. powder

Appearance of solution complies

pH transition range 4,2 (red)-6,2 (yellow)

2562.1	25 g	glass	23,90 €

2562.2	100 g	glass	55,40 €

Methyl red indicator solution**Methyl red indicator solution**

0,1% in ethanol

UN No. 1170 • ADR 3 II • WGK 1

Danger H225

T121.1	250 ml	glass	24,20 €

Methyl red sodium salt (C.I. 13020)**Methyl red sodium salt (C.I. 13020)**

p.a., soluble in water

Indicator pH 4,2-6,2

2-[(4-Dimethylamino)-phenylazo]-benzoic acid sodium salt

C₁₅H₁₄N₃NaO₂

M 291,29 g/mol

mp 275-281 °C

Solubility: 800 g/l (H₂O, 25 °C)

[845-10-3] • EC No. 212-682-9

WGK 2

Type analysis:

pH-transition range 4,2 (red)-6,2 (yellow)

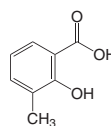
Solubility water-soluble

5003.1	25 g	glass	21,40 €

5003.2	100 g	glass	59,70 €

Methyl salicylate

▶ Salicylic acid methyl ester see p. 2118

3-Methylsalicylic acid**3-Methylsalicylic acid**

≥98,5 %, for synthesis

2-Hydroxy-3-methylbenzoic acid

C₈H₈O₃

M 152,15 g/mol

mp 164-167 °C

[83-40-9] • EC No. 201-473-8

WGK 1

Danger H302-H315-H318-H335**Type analysis:**

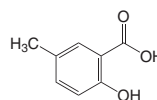
Appearance white to pale pink cryst. powder

Assay ≥98,5 %

4525.1	100 g	glass	22,50 €

4525.2	500 g	glass	73,00 €

Original pack 6 x 500 g 69,35/500 g

5-Methylsalicylic acid**5-Methylsalicylic acid**

≥98 %, for synthesis

2-Hydroxy-5-methylbenzoic acid

C₈H₈O₃

M 152,15 g/mol

mp 150-155 °C

[89-56-5] • EC No. 201-981-6

WGK 1

Type analysis:

Appearance white to off-white cryst. powder

Assay ≥98,0 %

Ash content ≤0,1 %

6547.1	1 g	glass	31,10 €

6547.2	5 g	plastic	41,40 €

6547.3	25 g	plastic	81,20 €

3-(Methylsulfinyl)-propylglucosinolate potassium salt

▶ Glucoiberin see p. 1852

3-(Methylsulphanyl)butyl-glucosinolate potassium salt

▶ Glucoraphanin see p. 1854

Methylsulphonic acid

▶ Methanesulphonic acid see p. 1959

Methyl sulphoxide deuterized

► Dimethyl sulphoxide D6 see p. 1786

Methyl tert-butyl ether

► tert-Butyl methyl ether see p. 1699

Methyl tetradecanoate

► Myristic acid methyl ester see p. 1979

2-Methyltetrahydrofuran**2-Methyltetrahydrofuran**

≥99 %, extra pure

C₅H₁₀O

M 86,13 g/mol

D 0,860 • bp 78-80 °C

mp -136 °C • flp -12 °C

[96-47-9] • EC No. 202-507-4

UN No. 2536 • ADR 3 II • WGK 2

⚠ ⚠ **Danger** H225-H319-H335-EUH019**Type analysis:**

Appearance..... clear, colourless liquid

Assay (GC)..... ≥99 %

Water (KF)..... ≤0,05 %

Density (20 °C)..... 0,850-0,865

Stabilized with 150-400 ppm BHT

6845.1	250 ml	glass	23,15 €

6845.2	500 ml	glass	38,60 €

6845.3	1 l	glass	52,70 €

Original pack 6 x 1 l 50,07/1 l

6845.4	2,5 l	glass	99,45 €

Original pack 4 x 2,5 l 94,48/2,5 l

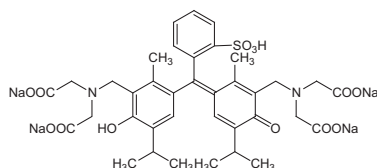
6845.5	10 l	tinplate	342,95 €

7-Methyltheobromine

► Caffeine see p. 1704

4-Methylthiobutylglucosinolate potassium salt

► Glucoerucin see p. 1852

Methylthymol blue sodium salt**Methylthymol blue sodium salt**

p.a.

Indicator for titration of metal ions (complexometry).

C₃₇H₄₀N₂Na₄O₁₃S

M 844,76 g/mol

Solubility: 460 g/l (H₂O, 20 °C)

[1945-77-3] • EC No. 217-743-3

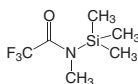
WGK 2

Guarantee analysis:

Sulphated ash (dry substance)..... 30,0-35,0 %
 Loss on drying..... ≤5,0 %
 Specific Extinction E (1%/1cm)..... ≥70,0
 Absorption max. (buffer, pH 7)..... 601,0-609,0 nm

KK17.1	1 g	glass	14,20 €

KK17.2	5 g	glass	39,70 €

N-Methyl-N-(trimethylsilyl)-trifluoroacetamide**N-Methyl-N-(trimethylsilyl)-trifluoroacetamide**

≥97 %, for GC

Silylation agent

MSTFA

C₆H₁₂F₃NOSi

M 199,25 g/mol

D 1,07 • bp 130-132 °C

mp 98-100 °C • flp 25 °C

[24589-78-4] • EC No. 246-331-6

UN No. 1993 • ADR 3 III • WGK 3

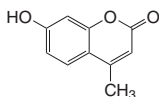
⚠ ⚠ **Warning** H226-H315-H319-H335**Type analysis:**

Appearance..... clear, colourless to yellowish liquid

Assay (GC)..... ≥97 %

8007.1	5 g	glass	50,45 €

For further information, please see page 1494

4-Methylumbelliferone**4-Methylumbelliferone**

≥98 %, for biochemistry

7-Hydroxy-4-methylcoumarin, Hymecromone, 4-MU

C₁₀H₈O₃

M 176,17 g/mol

mp 187-191 °C

[90-33-5] • EC No. 201-986-7

WGK 2

⚠ **Warning** H315-H319-H335**Type analysis:**

Assay (titr.)..... ≥98,0 %

Solution (5 % in ethanol at 50 °C)..... colourless, clear

Water (KF)..... ≤1,0 %

Melting point..... 187-191 °C

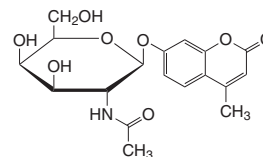
Sulphated ash..... ≤0,1 %

5512.1	50 g	plastic	33,25 €

5512.2	100 g	plastic	55,80 €

4-Methylumbelliferyl-2-acetamido-2-deoxy-β-D-galactopyranoside

► 4-Methylumbelliferyl-N-acetyl-β-D-galactosaminide see p. 1971

4-Methylumbelliferyl-N-acetyl-β-D-galactosaminide**4-Methylumbelliferyl-N-acetyl-β-D-galactosaminide**

≥98 %, for biochemistry

Glycosidase substrate

MU-N-acetyl-β-D-galactosaminide,

4-Methylumbelliferyl-2-acetamido-2-deoxy-

β-D-galactopyranoside, 4-MU-β-D-GalNAc

C₁₈H₂₁NO₈

M 379,37 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[36476-29-6] • EC No. 253-052-3

WGK 1

Type analysis:

Assay (HPLC)..... ≥98 %

Water (KF)..... ≤3,0 %

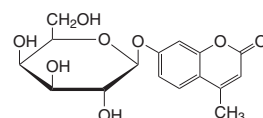
Free 4-methylumbelliferone..... ≤0,005 %

Specific rotation [α]_D²⁰ (c=0,3 in pyridine)..... -48° to -44°

4083.1	100 mg	glass	38,60 €

4083.2	250 mg	glass	68,30 €

4083.3	500 mg	glass	113,45 €

4-Methylumbelliferyl-β-D-galactopyranoside**4-Methylumbelliferyl-β-D-galactopyranoside**

for biochemistry

Glycosidase substrate

MUGalactoside, 4-MU-β-D-Gal

C₁₆H₁₈O₈

M 338,32 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[6160-78-7] • EC No. 228-185-5

WGK 1

Type analysis:

Solution (0,5 % in DMF)..... colourless, clear

Water (KF)..... ≤1 %

4-Methylumbelliferone..... ≤0,005 %

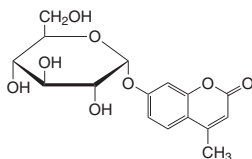
Specific rotation [α]_D²⁰ (c=1 in pyridine, after 24 h)..... -66° to -62°

4084.1	500 mg	glass	27,85 €

4084.2	1 g	glass	42,90 €

4084.3	5 g	glass	160,20 €

4-Methylumbelliferyl- α -D-glucopyranoside



4-Methylumbelliferyl- α -D-glucopyranoside

≥99 %, for biochemistry

Glycosidase substrate

4-MU- α -D-Glc

C₁₆H₁₈O₈

M 338,32 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[17833-43-1] • EC No. 241-794-0

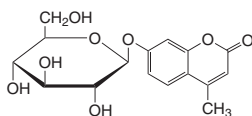
WGK 1

Type analysis:

Assay (TLC)..... ≥99,0 %
Solubility (4 % in pyridine).... colorless to slightly yellow
Water (KF)..... 4-6 %
4-Methylumbelliferone..... ≤0,001 %
Specific rotation $[\alpha]_D^{20}$ (c=0,8 in pyridine)..... +155° to +161°

4086.1	100 mg	glass	37,55 €
4086.2	250 mg	glass	66,15 €

4-Methylumbelliferyl- β -D-glucopyranoside



4-Methylumbelliferyl- β -D-glucopyranoside

≥99 %, for biochemistry

Glycosidase substrate

MUGlucoside, 4-MU- β -D-Glc

C₁₆H₁₈O₈

M 338,32 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[18997-57-4] • EC No. 242-736-7

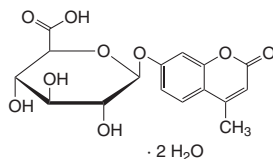
WGK 1

Type analysis:

Assay (TLC)..... ≥99 %
Solution (3 % in water/acetone 1:2) ... colourless, clear
Water (KF)..... ≤2 %
4-Methylumbelliferone..... ≤0,001 %
Specific rotation $[\alpha]_D^{20}$ (c=0,3 in water)..... -102° to -98°

4093.1	500 mg	glass	39,70 €
4093.2	1 g	glass	67,65 €
4093.3	2,5 g	glass	132,15 €

4-Methylumbelliferyl- β -D-glucuronide dihydrate



4-Methylumbelliferyl- β -D-glucuronide dihydrate

≥99 %, p.a.

Substrate for β -glucuronidase.

For detection of *E. coli*.

MUG

C₁₆H₁₆O₉ · 2 H₂O

M 388,33 g/mol

mp 102 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[6160-80-1] • EC No. 228-186-0

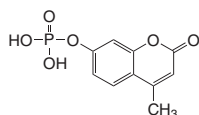
Type analysis:

Assay (titr.)..... ≥99,0 %
Water (KF)..... ≤10,2 %
Free 4-methylumbelliferone..... ≤0,0025 %

6394.1	50 mg	glass	21,40 €
6394.2	250 mg	glass	57,95 €
6394.3	1 g	glass	181,70 €

For further information, please see page 1234

4-Methylumbelliferyl phosphate



4-Methylumbelliferyl phosphate

≥99 %, for biochemistry

Phosphatase substrate

4-MUP phos, free acid

C₁₀H₉O₆P

M 256,15 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

[3368-04-5] • EC No. 222-137-7

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.)..... ≥99 %
Solution (1 % in H₂O)..... colourless, clear
Water (KF)..... ≤0,5 %
4-Methylumbelliferone..... ≤0,01 %

4103.1	250 mg	glass	31,10 €
4103.2	1 g	glass	91,30 €

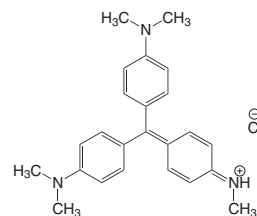
5-Methyluracil

► Thymine see p. 2209

Methyl-valerate

► n-Valeric acid methyl ester see p. 2234

Methyl violet 2B (C.I. 42535)



Methyl violet 2B (C.I. 42535)

for microscopy

Basic Violet

C₂₄H₂₈N₃Cl

M 393,96 g/mol • mp 137 °C

[8004-87-3]

UN No. 3077 • ADR 9 III • WGK 3

⚠ ⚠ Warning H302-H400

Type analysis:

Appearance..... green cryst. powder
Loss on drying..... ≤5,0 %

7715.1	5 g	glass	13,15 €
7715.2	25 g	glass	22,50 €
7715.3	100 g	glass	44,00 €

For further information, please see page 1404

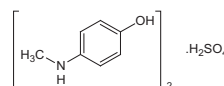
Methyl violet 10B

► Crystal violet (C.I. 42555) see p. 1751

7-Methylquercetin

► Rhamnetin see p. 2083

Metol



Metol

≥99 %, Photo

4-Methylaminophenol sulphate

C₁₄H₂₀N₂O₆S

M 344,39 g/mol • mp 260 °C (dec.)

Solubility: ~48 g/l (H₂O, 15 °C)

[55-55-0] • EC No. 200-237-1

UN No. 3077 • ADR 9 III • WGK 3

⚠ ⚠ ⚠ Warning

H373-H400-H410-H302-H317

Type analysis:

Assay (cerim.)..... ≥99 %
pH value (5 % in H₂O, 20 °C)..... 3,5-4,5
Substances soluble in ether..... ≤0,2 %
Chloride (Cl)..... ≤0,01 %
Iron (Fe)..... ≤0,005 %
Heavy metals (as Pb)..... ≤0,001 %
p-Aminophenol..... ≤2,5 %
Sulphated ash..... ≤0,1 %
Loss on drying..... ≤0,3 %
N,N-Dimethyl p-phenylene diammonium sulphate..... complies

4315.1	100 g	plastic	37,55 €
4315.2	500 g	plastic	142,45 €
Original pack 6 x 500 g			135,33/500 g

MIBK

► Isobutyl methylketone see p. 1909

Milk sugar

► Lactose monohydrate see p. 1921

Mineral Oil**Mineral Oil****for molecular biology**

For overlaying PCR and other enzymatic reactions.

D 0,84 • bp >200 °C

flp >115 °C

[8042-47-5] • EC No. 232-455-8 • WGK 1

Type analysis:

Colour..... clear, colourless
 Density (25 °C)..... 0,818-0,880
 Viscosity (40 °C)..... ≤33,5 cSt
 Readily carbonizable substances..... complies
 Solid paraffin..... complies
 Suitable for PCR..... complies

HP50.1	10 ml	glass	12,60 €

HP50.4	15 ml	dropp. bottle	21,20 €

HP50.2	50 ml	plastic	25,50 €

HP50.3	250 ml	plastic	76,25 €

For further information, please see page 1215

Minimum Essential Medium acc. to Eagle, Alpha modification

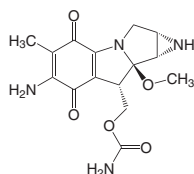
► Roti®-CELL Eagle's MEM-Alpha see p. 2091

Minimum Essential Medium acc. to Eagle with Earle's salts

► Roti®-CELL Eagle's MEM / Earle's see p. 2091

Minimum Essential Medium acc. to Eagle with Hanks' salts

► Roti®-CELL Eagle's MEM / Hanks' see p. 2091

Mitomycin C**Mitomycin C**

≥98 %, for biochemistry

Mitosis inhibitor

C₁₅H₁₈N₄O₅

M 334,30 g/mol • mp >360 °C

Storage temp.: +4 °C

[50-07-7] • EC No. 200-008-6

UN No. 3462 • ADR 6.1 II • WGK 3

Danger H300-H351
Type analysis:

Assay..... ≥98 %

4150.1	2 mg	glass	71,95 €

For further information, please see page 1376

Mixed bed ion exchangers

► Amberjet™ see p. 1628

Mixed indicator 5**Mixed indicator 5****for ammonia titration**

UN No. 1170 • ADR 3 II • WGK 1

Danger H225

T125.1	250 ml	glass	51,50 €

Mohr's salt

► Ammonium iron(II) sulphate hexahydrate see p. 1640

Molecular sieves

Storage temp.: +20 °C

[1318-02-1] • EC No. 215-283-8

Molecular sieve 3 Å**activated, under argon**

Suitable for PolyGen® synthesiser, 3 Å.

N893.1	100 ml	glass	11,50 €

For further information, please see page 1429 1587 1429 1587

Molecular sieve 3 Å**0,3 nm, type 564, pearls**

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Type analysis:

H₂O ads. capacity (10 % R.H./25 °C)..... ≥15,5 %
 Loss on ignition..... ≤2,5 %

8487.1	250 g	glass	25,30 €

8487.2	750 g	glass	56,90 €

8487.3	2,5 kg	plastic	149,45 €

For further information, please see page 1587

Molecular sieve 3 Å**0,3 nm, type 562 C, pearls**

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 2,5-5,0 mm.

Type analysis:

H₂O ads. capacity (10 % R.H./25 °C)..... ≥15,5 %
 Loss on ignition..... ≤2,5 %
 Globe diameter..... 2,5-5,0 mm

P729.1	250 g	glass	25,30 €

P729.2	750 g	glass	56,90 €

P729.3	2,5 kg	plastic	149,45 €

For further information, please see page 1587

Molecular sieve 4 Å**0,4 nm, type 514, pearls**

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Type analysis:

H₂O ads. capacity (10 % R.H./25 °C)..... ≥17,5 %
 Loss on ignition..... ≤2,5 %

8471.1	250 g	glass	27,85 €

8471.2	750 g	glass	58,60 €

8471.3	2,5 kg	plastic	154,70 €

For further information, please see page 1587

Molecular sieve 5 Å**0,5 nm, type 522, pearls**

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Type analysis:

H₂O ads. capacity (10 % R.H./25 °C)..... ≥17,0 %
 Water content..... ≤0,9 %

8475.1	250 g	glass	27,85 €

8475.2	750 g	glass	58,60 €

8475.3	2,5 kg	plastic	154,70 €

For further information, please see page 1587

Molecular sieve 10 Å**1,0 nm, type 544, pearls**

Metal-aluminium silicates for drying, cleaning or separating of liquids and gases. Spheres Ø 1,6-2,5 mm.

Type analysis:

H₂O ads. capacity (10 % R.H./25 °C)..... ≥17,0 %
 Water (KF)..... ≤0,8 %

8483.1	250 g	glass	27,85 €

8483.2	750 g	glass	58,60 €

8483.3	2,5 kg	plastic	154,70 €

For further information, please see page 1587

Molybdenum Standards

► Molybdenum AAS Standard Solution see p. 2168

► Molybdenum ICP Standard Solution see p. 2172

► Molybdenum ICP Standard Solution see p. 2176

Molybdenum(VI) oxide

Molybdenum(VI) oxide

ROTI[®]METIC 99,98 % (3N8)

Molybdenum trioxide

MoO₃

M 143,94 g/mol

D 4,7 • bp 1155 °C

mp 795 °C

Solubility: 0,5 g/l (H₂O, 28 °C)

[1313-27-5] • EC No. 215-204-7 • WGK 1

  **Warning** H319-H335-H351

Type analysis:

Assay (metals basis)..... 99,98 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4548.1	5 g	plastic	44,00 €
4548.2	10 g	plastic	73,00 €

Molybdenum trioxide

► Molybdenum(VI) oxide see p. 1974

Molybdate-Reagent

Molybdate-Reagent

For determination of total phosphate

UN No. 3264 • ADR 8 II • WGK 1

  **Danger** H314-H290

Type analysis:

Suitability for determination of phosphate. complies

2442.1	1 l	plastic	47,20 €
Original pack 6 x 1 l			44,84/1 l

Molybdatophosphoric acid hydrate

Molybdatophosphoric acid hydrate

p.a., ACS

Staining reagent for TLC, biochemical analysis, microscopy.

Phosphormolybdic acid

H₃[P(Mo₃O₁₀)₄] • x H₂O

M 1825,25 + x H₂O g/mol

mp 78-90 °C

Solubility: easily soluble (H₂O, 20 °C)

Storage temp.: +4 °C

[51429-74-4] • EC No. 234-713-5

UN No. 3260 • ADR 8 III • WGK 2

  **Danger** H314

Guarantee analysis:

Appearance. yellow to orange-yellow crystals
Chloride (Cl). ≤0,005 %
Sulphate (SO₄). ≤0,01 %
Ammonium (NH₄). ≤0,003 %
In H₂O insoluble matter. ≤0,01 %
Heavy metals (as Pb). ≤0,005 %
Calcium (Ca). ≤0,02 %
Iron (Fe). ≤0,005 %

4440.1	25 g	glass	36,35 €
4440.2	50 g	glass	53,45 €
4440.3	100 g	glass	96,25 €

Molybdatophosphoric acid spray solution

Molybdatophosphoric acid spray solution

for TLC

Ready-to-use spray solution for detection of reducing compound lipids, fatty acids and steroids.

4 g Molybdatophosphoric acid dissolved in 100 ml ethanol.

UN No. 3316 • ADR 9 II • WGK 1

  **Danger** H225-H315-H318

Type analysis:

TLC-application. complies

CP31.1	100 ml	glass	34,50 €

Molybdic acid

Molybdic acid

>85 %, p.a., ACS

H₂MoO₄

M 161,96 g/mol

mp 300 °C

[7782-91-4] • EC No. 231-970-5

WGK 1

  **Warning** H319-H335-H373

Guarantee analysis:

Assay (based on MoO₃). >85,0 %
In NH₄OH insoluble matter. ≤0,01 %
Chloride (Cl). ≤0,002 %
Phosphate (PO₄). ≤0,0005 %
Sulphate (SO₄). ≤0,2 %
Heavy metals (as Pb). ≤0,003 %
Arsenate, phosphate and silicate (as SiO₂). ≤0,001 %

2722.1	100 g	plastic	41,85 €
2722.2	250 g	plastic	82,70 €
2722.3	500 g	plastic	138,70 €
Original pack 6 x 500 g			131,77/500 g

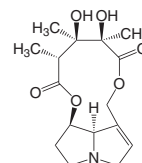
Monoammonium glycyrrhizinate

► Glycyrrhizic acid ammonium salt hydrate see p. 1862

Monochlorobenzene

► Chlorobenzene see p. 1729

Monocrotaline



Monocrotaline

≥99 %

Crotaline

C₁₆H₂₃NO₆

M 325,35 g/mol

mp 202-203 °C

Storage temp.: +4 °C

[315-22-0]

UN No. 1544 • ADR 6.1 III • WGK 3

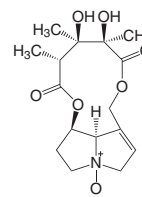
  **Danger** H301-H351

Type analysis:

Appearance. white powder
Assay (TLC). ≥99,0 %
Melting point. 197-202 °C

3418.1	500 mg	glass	273,60 €

Monocrotaline N-oxide



Monocrotaline N-oxide

ROTICHROM[®] HPLC

Reference substance for HPLC

From *Crotalaria*

C₁₆H₂₃NO₇

M 341,36 g/mol

mp 134-138 °C

Storage temp.: +4 °C

[35337-98-5]

UN No. 1544 • ADR 6.1 III • WGK 3

 **Danger** H301

Type analysis:

Purity (HPLC). ≥98,0 %

2249.1	10 mg	glass	364,45 €

Monoethanolamine

► Ethanolamine see p. 1811

Monoethylene glycol

► Ethylene glycol see p. 1817

Monomethylthionin

► Azure C see p. 1664

Monopotassium phosphate

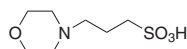
- Potassium dihydrogen phosphate
see p. 2054

Monorhein

- Rhein see p. 2084

Monosodium phosphate

- Sodium dihydrogen phosphate see p. 2145
► Sodium dihydrogen phosphate monohydrate
see p. 2145
► Sodium dihydrogen phosphate dihydrate
see p. 2146

MOPS**MOPS**

PUFFERAN® ≥99,5 %

3-(N-Morpholino) propane sulphonic acid

$C_7H_{15}NO_4S$

M 209,27 g/mol

mp 277-281 °C

Solubility: 1440 g/l (H_2O , 20 °C)

[1132-61-2] • EC No. 214-478-5 • WGK 1

Guarantee analysis:

Assay (dry substance) ≥99,5 %
pH value (10 % in water) 3,0-5,0
pKa (at 25 °C) 7,0-7,4
Loss on drying (110 °C) ≤1,0 %
UV-absorption (1 M in H_2O):
260 nm ≤0,05

6979.2 250 g plastic 69,80 €

6979.4 500 g plastic 118,80 €

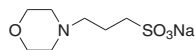
Original pack 6 x 500 g 112,86/500 g

6979.3 1 kg plastic 228,45 €

Original pack 6 x 1 kg 217,03/1 kg

6979.5 2,5 kg plastic 482,70 €

For further information, please see page 1214

MOPS sodium salt**MOPS sodium salt**

PUFFERAN® ≥99 %

3-(N-Morpholino)-propane sulphonic acid
sodium salt

$C_7H_{14}NaNO_4S$

M 231,2 g/mol

[71119-22-7] • WGK 1

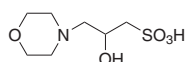
Guarantee analysis:

Assay (titr. dry substance) ≥99,0 %
Loss on drying ≤1,0 %
pH value (1 M, H_2O) 10,0-12,0
UV-absorption (0,1 M in H_2O):
260 nm ≤0,1
280 nm ≤0,1

6927.1 25 g plastic 26,80 €

6927.2 100 g plastic 76,25 €

For further information, please see page 1214

MOPSO**MOPSO**

PUFFERAN® ≥98 %

3-(N-Morpholino)-2-hydroxypropane sulphonic
acid

$C_7H_{15}NO_5S$

M 225,27 g/mol

mp 280 °C

[68399-77-9] • EC No. 269-989-6

WGK 1

⚠ **Warning** H315-H319-H335

Guarantee analysis:

Assay (titr.) ≥98 %
Water (KF) ≤1,0 %
pH value (1 % solution) 3,9-4,5
UV-absorption (0,1 M in H_2O):
260 nm ≤0,04
280 nm ≤0,02

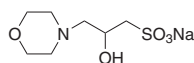
7117.1 25 g plastic 28,95 €

7117.2 100 g plastic 89,15 €

7117.3 1 kg plastic 665,45 €

Original pack 6 x 1 kg 632,18/1 kg

For further information, please see page 1214

MOPSO sodium salt**MOPSO sodium salt**

PUFFERAN® ≥98 %

3-(N-Morpholino)-2-hydroxypropane sulphonic
acid sodium salt

$C_7H_{14}NaNO_5S$

M 247,28 g/mol

[79803-73-9]

Type analysis:

Assay (titr.) ≥98 %
Water (KF) ≤1,0 %
pH value (1 % solution) 8,9-9,7
UV-absorption (5 % in H_2O):
280 nm ≤0,05
260 nm ≤0,06

7101.1 25 g plastic 35,40 €

7101.2 100 g plastic 111,30 €

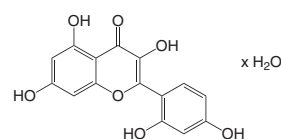
For further information, please see page 1214

Mordant black 3

- Eriochrom blue black B (C.I. 14640)
see p. 1806

Mordant black 17

- Eriochrom blue black R (C.I. 15705)
see p. 1806

Morin hydrate**Morin hydrate**

for microscopy

Fluorescence indicator

2',3',4',5',7-Pentahydroxyflavone

$C_{15}H_{10}O_7 \cdot x H_2O$

M 302,24 + x H_2O g/mol

mp ~295 °C

[654055-01-3] • EC No. 207-542-9

WGK 2

⚠ **Warning** H315-H319-H335

Type analysis:

Appearance powder
Reagent for: Al, Be, Zn, Ga, In, Sc
Fluorescence indicator

6459.1 5 g plastic 96,65 €

6459.2 50 g plastic 719,20 €

Morpholine

NEW

Morpholine

≥99 %, for synthesis

1,4-Oxazinane, Tetrahydro-1,4-oxazine

C_4H_9NO

M 87,12 g/mol

D 1,00 • bp 128-130 °C

mp -5 °C • flp 32 °C

[110-91-8] • EC No. 203-815-1

UN No. 2054 • ADR 8 I • WGK 2

⚠ **Danger**

H226-H302-H311+H331-H314

Type analysis:

Assay (GC) ≥99,0 %
Colour number (APHA) ≤20
Water (KF) ≤0,3 %
2-Methoxyethanol (GC) ≤0,3 %
1,2-Ethanediamine (GC) ≤0,3 %
Ethylmorpholine (GC) ≤0,2 %

9691.1 100 ml plastic 13,90 €

9691.2 500 ml plastic 18,20 €

9691.3 1 l plastic 26,80 €

Original pack 6 x 1 l 25,46/1 l

9691.4 2,5 l plastic 42,90 €

Original pack 4 x 2,5 l 40,76/2,5 l

9691.5 10 l plastic 118,25 €

2-(N-Morpholino)-ethane sulphonic acid

- MES see p. 1958

2-(N-Morpholino)-ethane sulphonic acid monohydrate

► MES monohydrate see p. 1958

2-(N-Morpholino)-ethane sulphonic acid potassium salt

► MES potassium salt see p. 1958

2-(N-Morpholino)-ethane sulphonic acid sodium salt

► MES sodium salt see p. 1958

3-(N-Morpholino)-2-hydroxy-propane sulphonic acid

► MOPSO see p. 1975

3-(N-Morpholino)-2-hydroxy-propane sulphonic acid sodium salt

► MOPSO sodium salt see p. 1975

3-(N-Morpholino)-propane sulphonic acid

► MOPS see p. 1975

3-(N-Morpholino)-propane sulphonic acid sodium salt

► MOPS sodium salt see p. 1975

Mossel EE Broth

Mossel EE Broth

Ph.Eur., for microbiology

For selective enrichment of enterobacteria in foods, particularly *Salmonella* and *Coliforms*.

Application: Use 45 g for 1 l broth.

Enriched broth medium E (Ph.Eur. 6.0), Enterobacteria enrichment broth-Mossel (Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Pancreas hydrolysate made from gelatin..... 10 g/l
Glucose monohydrate..... 5 g/l
Dehydrated ox bile..... 20 g/l
Potassium dihydrogen phosphate..... 2 g/l
di-Sodium hydrogenphosphate dihydrate..... 8 g/l
Brilliant green..... 0,015 g/l
pH value..... 7,2 ±0,2

AE65.1	500 g	plastic	162,90 €
Original pack 6 x 500 g			154,76/500 g

For further information, please see page 1334

Mowiol® 4-88

Mowiol® 4-88

granulated

Aqueous mounting medium in histology.

Polyvinyl alcohol

(-CH₂CHOH-)_n

M ~31,000 g/mol

D ~1,27

mp ~300 °C • flp ~113 °C

[9002-89-5]

WGK 1

Type analysis:

Appearance.....colourless to light yellow granules
Viscosity (4 %, H₂O, 20 °C)..... 3,0-5,0 mPas
Degree of hydrolysis, Mol.-%..... 86,7-88,7
Ester value (mg KOH/g)..... 130-150
Residual acetate..... 10,0-11,6 %
Ash content (as Na₂O)..... ≤0,5 %

0713.1	50 g	plastic	11,00 €
0713.2	100 g	plastic	15,60 €

For further information, please see page 1415

MRSA Cefoxitin Supplement

MRSA Cefoxitin Supplement

lyophilised

Media supplement for selective detection of methicillin resistant *Staphylococcus aureus*.

One box of 10 vials MRSA Cefoxitin Supplement is sufficient for 10 x 500 ml MRSA chromogenic Agar.

Storage temp.: +4 °C

Formulation:

Cefoxitin.....0,002 g
per vial

2975.1	10 vials	glass	67,65 €

For further information, please see page 1351

MRSA chromogenic Agar (Base)

MRSA chromogenic Agar (Base)

for microbiology

For detection of methicillin resistant staphylococci.

Application: Use 103,4 g for 1 l agar. Do not overheat! After cooling add 2 vials (10 ml) reconstituted MRSA Cefoxitin Supplement (Art. No. 2975.1).

Storage temp.: +4 °C

WGK 1

Formulation:

Nutrients.....78 g/l
Peptone.....11 g/l
Chromogene Mixture.....1,9 g/l
Agar.....12,5 g/l
pH value..... 7,2 ±0,2

3026.1	100 g	plastic	69,80 €

For further information, please see page 1334

MRS Agar

MRS Agar

for microbiology

For cultivation of lactobacilli. According to deMan, Rogosa and Sharpe.

Application: Use 62 g for 1 l agar.

Storage temp.: +4 °C

WGK 1

Formulation:

Peptone..... 10 g/l
Yeast extract..... 4 g/l
Beef extract..... 8 g/l
Glucose..... 20 g/l
Dipotassium phosphate..... 2 g/l
Sodium acetate..... 5 g/l
Ammonium citrate..... 2 g/l
Magnesium sulphate (MgSO₄)..... 0,2 g/l
Manganese sulphate..... 0,05 g/l
Polysorbate 80..... 1 g/l
Agar..... 10 g/l
pH value..... 6,2 ±0,2

X924.1	500 g	plastic	70,45 €
Original pack 6 x 500 g			66,93/500 g
X924.2	1 kg	plastic	122,05 €
Original pack 6 x 1 kg			115,95/1 kg

For further information, please see page 1335

MRS Agar pH 5,7

MRS Agar pH 5,7

ISO 15214, for microbiology

For cultivation of pH sensitive lactobacilli from foods and feeding stuff. According to deMan, Rogosa and Sharpe.

Application: Use 64 g for 1 l agar.

Storage temp.: +4 °C

WGK 1

Guarantee analysis:

Casein peptone..... 10 g/l
Yeast extract..... 4 g/l
Beef extract..... 10 g/l
Glucose..... 20 g/l
Dipotassium phosphate..... 2 g/l
Sodium acetate..... 5 g/l
Triammonium citrate..... 2 g/l
Magnesium sulphate heptahydrate..... 0,20 g/l
Mangansulphate tetrahydrate..... 0,05 g/l
Polysorbate 80..... 1,08 g/l
Agar..... 10 g/l
pH value..... 5,7 ±0,1

HP65.1	500 g	plastic	79,05 €
Original pack 6 x 500 g			75,10/500 g

For further information, please see page 1335

MRS Broth

MRS Broth

for microbiology

For cultivation of lactobacilli. According to deMan, Rogosa and Sharpe.

Application: Use 52 g for 1 l broth.

Storage temp.: +4 °C

WGK 1

Formulation:

Peptone..... 10 g/l
Yeast extract..... 4 g/l
Beef extract..... 8 g/l
Glucose..... 20 g/l
Dipotassium phosphate..... 2 g/l

Sodium acetate.....	5 g/l
Ammonium citrate.....	2 g/l
Magnesium sulphate (MgSO ₄).....	0,2 g/l
Manganese sulphate.....	0,05 g/l
Polysorbate 80.....	1 g/l
pH value.....	6,2 ±0,2

X925.1	500 g	plastic	67,20 €
Original pack 6 x 500 g			63,84/500 g
X925.2	1 kg	plastic	113,45 €
Original pack 6 x 1 kg			107,78/1 kg
X925.3	2,5 kg	plastic	237,60 €

For further information, please see page 1334

MRS Broth pH 5,7

MRS Broth pH 5,7

ISO 15214, for microbiology

For cultivation of pH sensitive lactobacilli from foods and feeding stuff. According to deMan, Rogosa and Sharpe.

Application: Use 54 g for 1 l broth.

Storage temp.: +4 °C

WGK 1

Guarantee analysis:

Casein peptone.....	10 g/l
Yeast extract.....	4 g/l
Beef extract.....	10 g/l
Glucose.....	20 g/l
Dipotassium phosphate.....	2 g/l
Sodium acetate.....	5 g/l
Triammonium citrate.....	2 g/l
Magnesium sulphate heptahydrate.....	0,20 g/l
Mangansulphate tetrahydrate.....	0,05 g/l
Polysorbate 80.....	1,08 g/l
pH value.....	5,7 ±0,1

HP64.1	500 g	plastic	71,50 €
Original pack 6 x 500 g			67,93/500 g

For further information, please see page 1335

MSA

► Methanesulphonic acid see p. 1959

MSTFA

► N-Methyl-N-(trimethylsilyl)-trifluoroacetamide see p. 1971

MTAB

► Tetradecyltrimethylammonium bromide see p. 2203

MTBE

► tert-Butyl methyl ether see p. 1699

MTT

► Thiazolyl blue see p. 2206

4-MU

► 4-Methylumbelliferone see p. 1971

MU-N-acetyl-β-D-galactosaminide

► 4-Methylumbelliferyl-N-acetyl-β-D-galactosaminide see p. 1971

Mucin

Mucin

75-95 %, for biochemistry

Isolated from porcine stomach lining.

Storage temp.: +4 °C

[91053-71-3] • EC No. 282-357-4

Type analysis:

Assay.....	75,0-95,0 %
Sulphated ash.....	<7,0 %
Total nitrogen.....	7,5-9,9 %
Nitrogen (in alcoholic extract).....	7,0-9,9 %
pH value (2 %, water).....	3,0-6,5
Loss on drying.....	≤6,0 %
Viscosity (rel. to H ₂ O).....	≥2,0 %

8494.1	100 g	plastic	47,20 €

Mueller Hinton Agar

Mueller Hinton Agar

for microbiology

For testing of organism susceptibility to antimicrobial agents by disk diffusion method. Also for cultivation of *Neisseria*.

Application: Use 38 g for 1 l agar. Slightly opalescent.

Storage temp.: +20 °C

Formulation:

Beef Infusion.....	2 g/l
Casein peptone (acidic hydrolysate).....	17,5 g/l
Corn starch.....	1,5 g/l
Agar.....	17 g/l
pH value.....	7,4 ±0,2

X926.1	500 g	plastic	85,50 €

Original pack 6 x 500 g 81,23/500 g

For further information, please see page 1335

Mueller Hinton Broth

Mueller Hinton Broth

for microbiology

For cultivation of microorganisms and for antibiotic-sensitivity testing.

Application: Use 21 g for 1 l broth. Slightly opalescent.

Storage temp.: +20 °C

WGK 1

Formulation:

Beef Infusion.....	2 g/l
Casein peptone (acidic hydrolysate).....	17,5 g/l
Corn starch.....	1,5 g/l
pH value.....	7,4 ±0,2

X927.1	500 g	plastic	111,30 €

Original pack 6 x 500 g 105,74/500 g

For further information, please see page 1335

Mueller Kauffmann Broth (Base)

Mueller Kauffmann Broth (Base)

for microbiology

For selective enrichment of *Salmonella* from meat and other foods.

Application: Use 82 g for 1 l broth. Add iodine and brilliant green.

Tetrathionate Broth, Tetrathionate Enrichment Broth

Storage temp.: +20 °C

WGK 1

Formulation:

Sodium thiosulphate.....	40,7 g/l
Calcium carbonate.....	25 g/l
Dehydrated ox bile.....	4,75 g/l
Sodium chloride (NaCl).....	4,5 g/l
Meat peptone.....	4,5 g/l
Yeast extract.....	1,8 g/l
Meat extract.....	0,9 g/l
pH value.....	7,6 ±0,2

8323.1	500 g	plastic	76,90 €

Original pack 6 x 500 g 73,06/500 g

For further information, please see page 1336

MUG

► 4-Methylumbelliferyl-β-D-glucuronide dihydrate see p. 1972

4-MU-β-D-GalNAc

► 4-Methylumbelliferyl-N-acetyl-β-D-galactosaminide see p. 1971

4-MU-β-D-Gal

► 4-Methylumbelliferyl-β-D-galactopyranoside see p. 1971

MUGalactoside

► 4-Methylumbelliferyl-β-D-galactopyranoside see p. 1971

4-MU-α-D-Glc

► 4-Methylumbelliferyl-α-D-glucopyranoside see p. 1972

4-MU-β-D-Glc

► 4-Methylumbelliferyl-β-D-glucopyranoside see p. 1972

MUGlucoside

► 4-Methylumbelliferyl-β-D-glucopyranoside see p. 1972

MultiTag-Protein

MultiTag-Protein

0,1 mg/ml, affinity purified

Recombinant protein with His-tag, GST-tag, Myc- and DYKDDDDK anchor sequence.

Recommended application: 100 ng / lane (Western blotting), dilution 1:100 (ELISA)

M 31,6 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Concentration 0,09-0,11 mg/ml

Appearance clear, colourless liquid

Host E. coli BL21 (DE3)

PAGE (12 % PAA) complies

Western Blot complies

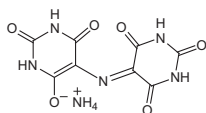
3999.1	100 µl	plastic	224,70 €

For further information, please see page 1262

4-MUP phos, free acid

► 4-Methylumbelliferyl phosphate
see p. 1972

Murexide (C.I. 56085)



Murexide (C.I. 56085)

ACS, for complexometry

Indicator

Ammonium purpurate

C₈H₈N₆O₆

M 284,19 g/mol

Solubility: 1 g/l (H₂O, 20 °C)

[3051-09-0] • EC No. 221-266-6 • WGK 2

Guarantee analysis:

Loss on drying ≤0,5 %

Sulphated ash ≤0,2 %

Suitability as indicator for complexometry complies

T124.1	5 g	glass	22,50 €
T124.2	25 g	glass	53,65 €
T124.3	50 g	glass	89,15 €

Musculamine

► Spermine see p. 2165

Musk oil

Musk oil

artificial

D 1,0

WGK 2

⚠ Warning H412-H317

Type analysis:

Appearance clear, colourless to light yellowish oil

Relative density (20 °C) 1,000-1,100

Refractive index (20 °C) 1,4500-1,4600

Optical rotation (20 °C) -2° to +2°

3364.1	100 ml	glass	36,45 €

Mycose

► D(+)-Trehalose dihydrate see p. 2216

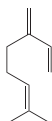
Mycostatin

► Nystatin dihydrate see p. 1997

MYP Agar

► Mannitol Egg Yolk Polymyxin Agar (Base)
see p. 1950

Myrcene



Myrcene

≥90 %

β-Myrcene, 7-Methyl-3-methylene-
1,6-octadieneC₁₀H₁₆

M 136,24 g/mol

D ~0,801 • bp 167 °C

flp 39 °C

Storage temp.: +4 °C

[123-35-3] • EC No. 204-622-5

UN No. 2319 • ADR 3 III • WGK 1

⚠ ⚠ Warning H226-H315-H319-H335

Type analysis:

Purity ≥90 %

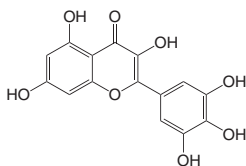
Stabilised with ~0,1 % BHT

5278.1	1 g	glass	177,40 €

β-Myrcene

► Myrcene see p. 1978

Myricetin

3,3',4',5,5',7-Hexahydroxyflavone,
CannabiscetinC₁₅H₁₀O₈

M 318,24 g/mol

mp >300 °C

Storage temp.: +4 °C

[529-44-2] • EC No. 208-463-2

Myricetin

≥95 %

Type analysis:

Assay (HPLC) ≥95 %

6461.1	25 mg	glass	27,75 €

Myricetin

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

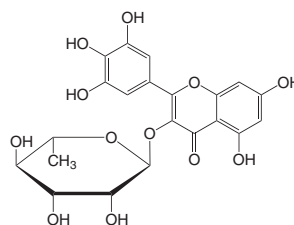
Purity (HPLC) ≥99 %

4187.1	10 mg	glass	213,95 €

Myricetin-3-rhamnoside

► Myricitrin see p. 1978

Myricitrin



Myricitrin

ROTICHRON® HPLC

Reference substance for HPLC

From *Myrica cerifera*

Myricetin-3-rhamnoside

C₂₁H₂₀O₁₂

Storage temp.: +4 °C

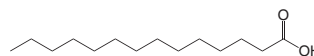
[17912-87-7] • EC No. 241-856-7

Type analysis:

Purity (HPLC) ≥99 %

9391.1	10 mg	glass	177,40 €

Myristic acid



Myristic acid

≥98 %, for biochemistry

Tetradecanoic acid

C₁₄H₂₈O₂

M 228,38 g/mol

bp 326 °C

mp ~53 °C • flp >160 °C

Solubility: ~1 mg/l (H₂O, 25 °C)

Storage temp.: +4 °C

[544-63-8] • EC No. 208-875-2

Type analysis:

Assay (GC) 98-100 %

Acid value (mg KOH/g) 244-248

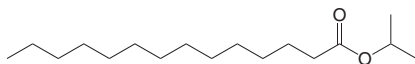
6469.2	100 g	plastic	11,75 €

6469.3	500 g	plastic	30,00 €

Original pack 6 x 500 g 28,50/500 g

6469.1	1 kg	plastic	44,00 €

Original pack 6 x 1 kg 41,80/1 kg

Myristic acid isopropyl ester**Myristic acid isopropyl ester**

≥92 %, extra pure

Isopropyl myristate, IPM

C₁₇H₃₂O₂

M 270,46 g/mol

D 0,85 • bp 140 °C (3 mbar)

mp 1 °C • flp >150 °C

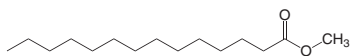
Solubility: <0,05 mg/l (H₂O, 20 °C)

[110-27-0] • EC No. 203-751-4

Type analysis:

Assay	≥92 %
Saponification value	205-211
Iodine value	≤0,5
Acid value	≤0,1
Viscosity	5-6 mPa s
Relative density (20 °C)	0,850-0,855
Refractive index n _D ²⁰	1,4335-1,4355

5527.1	500 ml	glass	32,15 €

Myristic acid methyl ester**Myristic acid methyl ester**

≥99 %

Methyl myristate, Methyl tetradecanoate

C₁₅H₃₀O₂

M 242,40 g/mol

D 0,867 • bp 161-163 °C (17,3 hPa)

mp 17-19 °C • flp 112 °C

[124-10-7] • EC No. 204-680-1

WGK 1

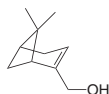
Type analysis:

Assay (GC, area %), ... ≥99 %

3753.1	50 ml	glass	33,25 €

Myristyltrimethylammonium bromide

▶ Tetradecyltrimethylammonium bromide see p. 2203

(1R)-(-)-Myrtenol**(1R)-(-)-Myrtenol**

≥94 %

C₁₀H₁₆O

M 152,24 g/mol

D 0,95 • bp 221-222 °C

[19894-97-4] • EC No. 243-409-1

Type analysis:

Assay (GLC)	≥94,0 %
Specific rotation [α] _D ²⁰	-51° ±2°

7123.1	10 ml	glass	42,90 €

Myrtillin

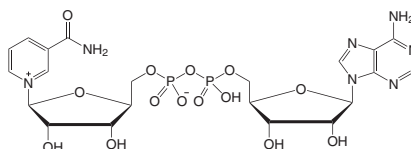
▶ Delphinidin 3-glucoside chloride see p. 1762

NAA

▶ 1-Naphthyl acetic acid see p. 1981

NAC

▶ N-Acetyl-L-cysteine see p. 1609

NAD**NAD**

~98 %, for biochemistry

NAD free acid, β-Nicotinamide adenine

dinucleotide, DPN,

Coenzyme I, β-NAD.

C₂₁H₂₇N₇O₁₄P₂

M 663,4 g/mol

Storage temp.: +4 °C

[53-84-9] • EC No. 200-184-4

WGK 1

Type analysis:

Assay (encym., dry substance)	≥97,5 %
Water (KF)	≤3,5 %
UV-absorption:	
A ₂₈₀ /A ₂₆₀	0,20-0,24
A ₂₅₀ /A ₂₆₀	0,81-0,85

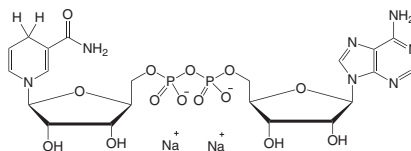
AE11.1	1 g	glass	27,45 €

AE11.2	5 g	glass	109,15 €

AE11.3	10 g	glass	190,85 €

NAD free acid

▶ NAD see p. 1979

NADH disodium salt**NADH disodium salt**

≥98 %, for biochemistry

NADH-Na₂, β-Nicotinamide adenine

dinucleotide disodium salt,

DPNH₂-Na₂C₂₁H₂₇N₇O₁₄P₂Na₂

M 709,4 g/mol

mp 140-142 °C

Storage temp.: +4 °C

[606-68-8] • EC No. 210-123-3

WGK 1

Type analysis:

Assay (encym., dry substance)	≥98 %
Water (KF)	≤6,0 %

UV-absorption:

A ₂₆₀ /A ₃₄₀	≤2,40
A ₂₆₀ /A ₂₄₀	1,57-2,17

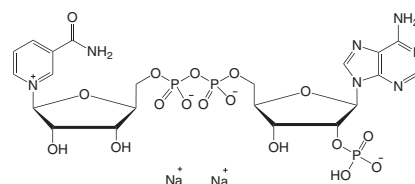
AE12.1	1 g	glass	40,75 €

AE12.2	5 g	glass	179,55 €

AE12.3	10 g	glass	332,20 €

NADH-Na₂

▶ NADH disodium salt see p. 1979

NADP disodium salt**NADP disodium salt**

≥97 %, for biochemistry

NADP-Na₂, β-Nicotinamide adenine

dinucleotide phosphate disodium salt.

C₂₁H₂₆N₇O₁₇P₃Na₂

M 787,4 g/mol

Storage temp.: +4 °C

[24292-60-2] • EC No. 246-129-8

WGK 1

Type analysis:

Assay (encym., dry substance)	≥97 %
Water (KF)	≤6,0 %
UV-absorption:	
A ₃₆₀ (H ₂ O)	≤0,6
A ₃₄₀ (c=0,01 mg/l buffer, pH 7,0)	≤0,005

AE13.1	250 mg	glass	33,25 €

AE13.2	500 mg	glass	59,70 €

AE13.3	1 g	glass	112,35 €

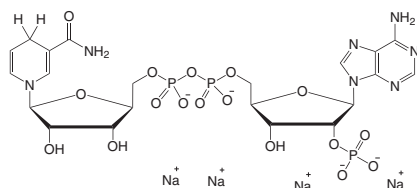
NADP-Na₂

▶ NADP disodium salt see p. 1979

NADPH-Na₄

▶ NADPH tetrasodium salt see p. 1980

NADPH tetrasodium salt



NADPH tetrasodium salt

≥97 %, for biochemistry

NADPH- Na_4 , β -Nicotinamide adenine dinucleotide phosphate tetrasodium salt.

$\text{C}_{21}\text{H}_{26}\text{N}_7\text{O}_{17}\text{P}_3\text{Na}_4$

M 833,4 g/mol

Storage temp.: +4 °C

[2646-71-1] • EC No. 220-163-3

WGK 1

Type analysis:

Assay (encym., dry substance).....≥97 %

Water (KF).....≤6,0 %

UV-absorption:

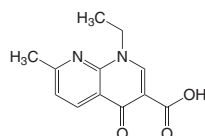
A_{260}/A_{340} 2,32-2,65

AE14.1 100 mg glass 74,75 €

AE14.2 250 mg glass 166,65 €

AE14.3 500 mg glass 292,95 €

Nalidixic acid



Nalidixic acid

≥99 %, for biochemistry

Quinolone antibiotic

1,4-Dihydro-1-ethyl-7-methyl-1,8-naphthyridin-4-on-3-carboxylic acid

$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_3$

M 232,23 g/mol

mp 228-230 °C

Solubility: 0,1 g/l (H_2O , 23 °C)

Storage temp.: +20 °C

[389-08-2] • EC No. 206-864-7

WGK 2

Danger H334-H317

Type analysis:

Assay.....≥99 %

Sulphated ash.....≤0,1 %

Heavy metals.....≤0,002 %

Loss on drying.....≤0,5 %

CN32.1 10 g plastic 15,60 €

CN32.2 25 g plastic 30,00 €

CN32.3 100 g plastic 91,95 €

For further information, please see page 1377

Nanoparticles

Art. No.	Description	Page
8250	Aluminium oxide, nano	1627
8256	Cadmium telluride	2075
8257	Cadmium telluride	2075
8258	Cadmium telluride	2075
8260	Cadmium telluride	2075
8261	Cadmium telluride	2075
8279	Copper, nano	1745
8251	Copper(II) oxide, nano	1747
8254	Titanium(IV) oxide, nano	2212
8278	Zinc oxide, nano	2253
8255	Zirconium(IV) oxide, nano	2254
8609	Zn-Cu-In-S/ZnS	2075
8610	Zn-Cu-In-S/ZnS	2075
8618	Zn-Cu-In-S/ZnS	2075
8614	Zn-Cu-In-S/ZnS	2075
8616	Zn-Cu-In-S/ZnS	2075
8615	Zn-Cu-In-S/ZnS	2075

Naphthalene



Naphthalene

≥99 %

C_{10}H_8

M 128,17 g/mol

bp 218 °C

mp 79 - 82 °C • flp 80 °C

Solubility: 0,03 g/l (H_2O , 25 °C)

[91-20-3] • EC No. 202-049-5

UN No. 1334 • ADR 4.1 III • WGK 2

Warning

H228-H302-H351-H410

Type analysis:

Assay.....≥99,0 %

Melting point.....79-81 °C

6714.1 100 g plastic 12,70 €

6714.2 500 g plastic 27,85 €

Original pack 6 x 500 g 26,46/500 g

6714.3 1 kg plastic 45,70 €

Original pack 6 x 1 kg 43,42/1 kg

6714.4 2,5 kg plastic 83,75 €

6714.5 5 kg plastic 134,40 €

1-Naphthaleneacetic acid

► 1-Naphthyl acetic acid see p. 1981

1-Naphthol



1-Naphthol

≥99,5 %, p.a.

Reagent for carbohydrates.

α -Naphthol, 1-Hydroxynaphthalene

$\text{C}_{10}\text{H}_8\text{O}$

M 144,17 g/mol

D 1,28 • bp ~288 °C

mp 94-97 °C • flp 125 °C

Solubility: 0,1 g/l (H_2O , 20 °C)

[90-15-3] • EC No. 201-969-4

UN No. 2811 • ADR 6.1 III • WGK 1

Danger

H318-H302+H312-H335-H315

Guarantee analysis:

Assay (GC).....≥99,5 %

Sulphated ash.....≤0,05 %

Chloride (Cl).....≤0,005 %

Iron (Fe).....≤0,001 %

Heavy metals (as Pb).....≤0,001 %

Water (KF).....≤0,2 %

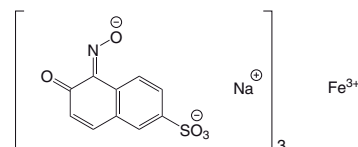
KK14.1 50 g glass 21,75 €

KK14.2 100 g glass 33,25 €

Naphthol blue black

► Amido black 10 B (C.I. 20470) see p. 1628

Naphthol green B (C.I. 10020)



Naphthol green B (C.I. 10020)

for microscopy

Acid green 1

$(\text{C}_{10}\text{H}_5\text{NNaO}_5\text{S})_3\text{Fe}$

M 878,47 g/mol

Solubility: 160 g/l (H_2O , 20 °C)

[19381-50-1] • EC No. 243-010-2

WGK 2

Type analysis:

Absorption max. (in H_2O).....710-715 nm

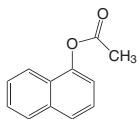
Loss on drying (110 °C).....≤5 %

Suitability for microscopy.....complies

5161.1 25 g glass 15,60 €

5161.2 100 g glass 34,30 €

For further information, please see page 1404

α -Naphthyl acetate **α -Naphthyl acetate**

≥99 %

For determination of esterase.

 $C_{12}H_{10}O_2$

M 186,21 g/mol

mp ~45 °C

Storage temp.: +4 °C

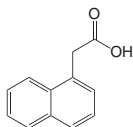
[830-81-9] • EC No. 212-599-8

⚠ **Danger** H318**Type analysis:**

Appearance: almost white, fine crystals

Assay (GC):≥99 %

8509.1	25 g	plastic	110,65 €

1-Naphthyl acetic acid**1-Naphthyl acetic acid**

≥99 %, p.a.

1-Naphthaleneacetic acid, NAA

 $C_{12}H_{10}O_2$

M 186,21 g/mol

mp ~130 °C

Solubility: 0,42 g/l (H_2O , 20 °C)

[86-87-3] • EC No. 201-705-8

WGK 2

⚠ **Warning** H302-H319**Type analysis:**

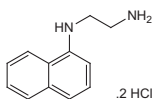
Appearance: white powder

Assay (acidim., titr.):≥99,0 %

Melting point: 127-132 °C

4343.2	25 g	plastic	18,20 €

4343.1	100 g	plastic	58,60 €

N-(1-Naphthyl)-ethylenediamine dihydrochloride**N-(1-Naphthyl)-ethylenediamine dihydrochloride**

≥99 %, p.a.

For the detection of sulphonamide and the determination of nitrite.

 $C_{12}H_{14}N_2 \cdot 2 HCl$

M 259,18 g/mol

mp 188-190 °C

[1465-25-4] • EC No. 215-981-2

WGK 2

⚠ **Warning** H315-H319-H335**Guarantee analysis:**

Assay (dry substance):≥99 %

Loss on drying:≤5,0 %

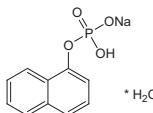
Appearance of solution: nearly clear, colourless to yellowish

Suitability for the detection of sulphonamide: complies

4342.2	10 g	glass	32,15 €

4342.1	25 g	plastic	77,30 €

4342.3	50 g	glass	127,95 €

1-Naphthyl phosphate monosodium salt monohydrate**1-Naphthyl phosphate monosodium salt monohydrate**

≥98,0 %, p.a.

 $C_{10}H_9NaO_5P \cdot H_2O$

M 264,15 g/mol

[81012-89-7] • EC No. 220-171-7

WGK 3

⚠ **Warning** H315-H319-H335**Guarantee analysis:**

Assay (titr.):≥98,0 %

Solution (5 % in H_2O): clear and colourlesspH value (5 % in H_2O): 3,5-4,5

Free 1-Naphtol:≤0,01 %

KK26.1	1 g	glass	19,60 €

KK26.2	5 g	glass	63,35 €

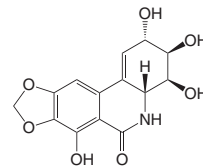
For further information, please see page 1239

Naramycin A

► Cycloheximide see p. 1755

Narangelol

► Naringenin see p. 1981

Narciclasine**Narciclasine****ROTICHROM® HPLC**Reference substance for HPLC. From *Narcissus pseudonarcissus*.

Lycoricidinol

 $C_{14}H_{13}NO_7$

M 307,26 g/mol

Storage temp.: +4 °C

[29477-83-6]

UN No. 1544 • ADR 6.1 II • WGK 3

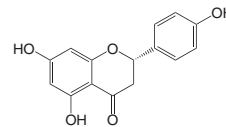
⚠ **Danger** H302-H340**Type analysis:**

Purity (HPLC):≥97 %

6689.1	10 mg	glass	385,95 €

Narcisin

► Isorhamnetin-3-rutinoside see p. 1913

Naringenin

Narangelol, Pelarginadon, 4',5,7-Trihydroxyflavan

 $C_{15}H_{12}O_5$

M 272,26 g/mol

mp 247-250 °C

Storage temp.: +4 °C

[480-41-1] • EC No. 207-550-2

⚠ **Warning** H302**Naringenin**

≥95 %, for biochemistry

Guarantee analysis:

Appearance: cryst. powder

Assay (HPLC):≥95,0 %

Loss on drying:≤2 %

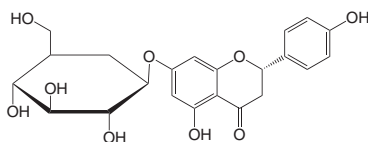
8524.1	2,5 g	glass	65,05 €

Naringenin**ROTICHROM® HPLC**Reference substance for HPLC
From *Citrus paradisi*.**Type analysis:**

Purity (HPLC):>98 %

1186.1	50 mg	glass	407,45 €

Naringenin-7-glucoside



$C_{21}H_{22}O_{10}$
M 434,4 g/mol
mp 150-170 °C
Storage temp.: +4 °C
[529-55-5] • EC No. 208-464-8
 Warning H302

Naringenin-7-glucoside

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

8865.1	10 mg	glass	160,20 €

Naringenin-7-glucoside

ROTICHRON® ~CHR

Type analysis:

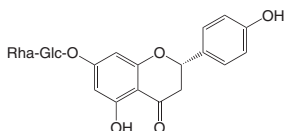
Appearance..... cream-coloured powder

6786.1	100 mg	glass	181,70 €

Naringenin-7-O-rutinoside

► Narirutin see p. 1982

Naringin



$C_{27}H_{32}O_{14}$
M 580,53 g/mol
mp 171 °C
Storage temp.: +4 °C
[10236-47-2] • EC No. 233-566-4

Naringin

~97 %

Type analysis:

Appearance..... light yellow, cryst. powder

Assay..... ~97 %

6481.1	10 g	plastic	25,70 €

6481.2	50 g	plastic	80,55 €

6481.3	100 g	plastic	149,45 €

Naringin

ROTICHRON® HPLC

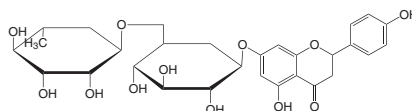
Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

4200.1	10 mg	glass	138,70 €

Narirutin



Narirutin

ROTICHRON® HPLC

Reference substance for HPLC

Naringenin-7-O-rutinoside

$C_{27}H_{32}O_{14}$

M 580,61 g/mol

Storage temp.: +4 °C

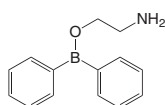
[14259-46-2] • EC No. 238-138-0

Type analysis:

Purity (HPLC)..... ≥99 %

5185.2	10 mg	glass	278,45 €

Natural product reagent A



Natural product reagent A

≥98 %, p.a.

Biochemical analytical reagent for determination of flavonoids and vegetable acids.

Diphenylboric acid β-aminoethyl ester complex

$C_{14}H_{16}BNO$

M 225,10 g/mol

mp ~191 °C

Storage temp.: +4 °C

[524-95-8]

WGK 3

Warning H315-H319-H335

Type analysis:

Appearance..... white cryst. powder

Assay..... ≥98 %

Melting point..... 190-194 °C

9920.1	5 g	plastic	52,60 €

9920.2	25 g	plastic	143,55 €

9920.3	50 g	plastic	249,40 €

For further information, please see page 1506

Natural Red 28

► Orcein see p. 2015

NBD-chloride

► 4-Chloro-7-nitro-benzofurazan see p. 1731

NBS

► N-Bromosuccinimide see p. 1692

NBT

► p-Nitrotetrazolium blue chloride
see p. 1994

Neisser's solution I

Neisser's solution I

for microscopy

Solution for diphtheria staining acc. to Neisser.

Neisser's solution Ia, Methylene blue solution

0,1 %

WGK 1

3463.1	100 ml	glass	18,20 €

3463.2	500 ml	glass	33,90 €

For further information, please see page 1398

Neisser's solution Ia

► Neisser's solution I see p. 1982

Neisser's solution Ib

► Neisser's solution II see p. 1982

Neisser's solution II

Neisser's solution II

for microscopy

Solution for diphtheria staining acc. to Neisser.

Neisser's solution Ib, Crystal violet solution

UN No. 1230 • ADR 3(6.1) II • WGK 2

Danger H225-H371-H302-H412

3464.1	100 ml	glass	18,20 €

3464.2	500 ml	glass	33,90 €

For further information, please see page 1398

Neisser's solution III

Neisser's solution III

for microscopy

Solution for diphtheria staining acc. to Neisser.

Neisser's solution II, Chrysoidine solution 0,3 %

UN No. 1230 • ADR 3(6.1) II • WGK 2

Danger H225-H371-H302-H412

3466.1	100 ml	glass	18,20 €

3466.2	500 ml	glass	33,90 €

For further information, please see page 1398

Nekal® BX

Nekal® BX

hygroscopic powder

Ideal for testing water tightness of pipes, containers and the like

[27213-90-7]

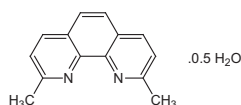
WGK 2

⚠ **Warning** H302-H315-H319

5240.1	1 kg	plastic	99,55 €
5240.2	5 kg	plastic	424,65 €

For further information, please see page 1106

Neocuproine hemihydrate



Neocuproine hemihydrate

≥99 %, p.a.

Reagent for Copper.

2,9-Dimethyl-1,10-phenanthroline

C₁₄H₁₂N₂ · 0,5 H₂O

M 217,27 g/mol

mp 159-164 °C

[34302-69-7] • EC No. 207-601-9

WGK 3

Guarantee analysis:

Assay ≥99,0 %
 Sulphated ash ≤0,1 %
 Solution (10 % in methanol) clear, max. 150 APHA
 Suitability for determination of copper complies

KK32.1	1 g	glass	19,60 €
KK32.2	5 g	glass	68,50 €

Neodymium Standards

- ▶ Neodymium ICP Standard Solution see p. 2172
- ▶ Neodymium ICP Standard Solution see p. 2176

Neodymium(III) acetate hydrate

Neodymium(III) acetate hydrate

ROTI®REMETIC 99,9 %

Nd(CH₃CO₂)₃ · x H₂O

M 321,37 + x H₂O g/mol

[6192-13-8] • EC No. 228-244-5

WGK 3

Type analysis:

Assay (TREO*) 99,9 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7107.1	50 g	plastic	67,20 €
7107.2	100 g	plastic	122,45 €

Neodymium(III) carbonate hydrate

Neodymium(III) carbonate hydrate

ROTI®REMETIC 99,9 %

Nd₂(CO₃)₃ · x H₂O

M 468,51 + x H₂O g/mol

[38245-38-4] • EC No. 227-579-4

WGK 2

Type analysis:

Assay (TREO*) 99,9 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7103.1	10 g	plastic	33,25 €
7103.2	50 g	plastic	112,35 €

Neodymium(III) chloride hexahydrate

Neodymium(III) chloride hexahydrate

ROTI®REMETIC 99,99 %

Neodymium trichloride

NdCl₃ · 6 H₂O

M 358,69 g/mol

mp 124 °C (dec.)

Solubility: ~1000 g/l (H₂O, 25 °C)

[13477-89-9] • EC No. 233-031-5

WGK 3

Type analysis:

Assay (TREO*) 99,99 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7283.1	1 g	plastic	17,10 €

Neodymium(III) oxide

Neodymium(III) oxide

ROTI®REMETIC 99,999 %

Dineodym trioxide

Nd₂O₃

M 336,48 g/mol

bp 3760 °C

mp 2233 °C

Solubility: insoluble (H₂O, 20 °C)

[1313-97-9] • EC No. 215-214-1

WGK 3

Type analysis:

Assay (TREO*) 99,999 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7092.1	5 g	plastic	55,80 €
7092.2	25 g	plastic	220,40 €

Neodymium(III) nitrate hexahydrate

Neodymium(III) nitrate hexahydrate

ROTI®REMETIC 99,9 %

Nd(NO₃)₃ · 6 H₂O

M 438,35 g/mol

Solubility: 1520 g/l (H₂O, 25 °C)

[16454-60-7] • EC No. 233-153-9

UN No. 1477 • ADR 5.1 III • WGK 3

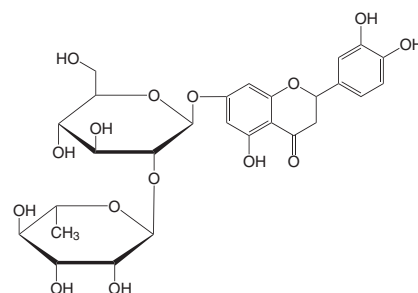
⚠ **Danger** H272

Type analysis:

Assay (TREO*) 99,9 %
 *Total rare earth oxide
 Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7097.1	25 g	plastic	33,25 €
7097.2	100 g	plastic	104,85 €

Neoericiotin



Neoericiotin

ROTICHRON® HPLC

Reference substance for HPLC

Eriodictyol-7-neohesperidoside

C₂₇H₃₂O₁₅

M 596,54 g/mol

Storage temp.: +4 °C

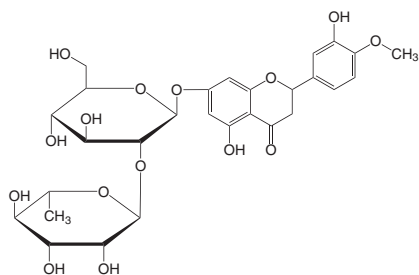
[13241-32-2] • EC No. 236-215-3

Type analysis:

Purity (HPLC) ≥99 %

4206.1	10 mg	glass	310,70 €

Neohesperidin



Neohesperidin

ROTICHRON® HPLC

Reference substance for HPLC

$C_{28}H_{34}O_{15}$

M 610,56 g/mol

Storage temp.: +4 °C

[13241-33-3] • EC No. 236-216-9

Type analysis:

Purity (HPLC)..... ≥99 %

6767.1	10 mg	glass	235,45 €

Neomycin sulphate

Neomycin sulphate

≥600 I.U./mg, for biochemistry

Inhibitor for protein biosynthesis, aminoglycoside antibiotic.

$C_{23}H_{46}N_6O_{13} \cdot 3 H_2SO_4$

Storage temp.: +4 °C

[1405-10-3] • EC No. 215-773-1

WGK 2

Danger H317-H334

Type analysis:

Assay (microbiol. activity)..... ≥600 I.U./mg
 Specific rotation $[\alpha]_D^{25}$ +53,0° to +59,0°
 pH value (10 % in H_2O)..... 5,0-7,5
 Sulphated ash..... ≤1,0 %
 Water content..... ≤8,0 %

8668.1	10 g	plastic	13,15 €

8668.2	100 g	plastic	60,10 €

For further information, please see page 1377

Neopentyl glycol

► 2,2-Dimethyl-1,3-propanediol see p. 1785

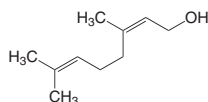
NEP

► N-Ethyl-2-pyrrolidone see p. 1819

Neptune black

► Sudan black B (C.I. 26150) see p. 2188

Nerol



Nerol

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{18}O$

M 154,24 g/mol

D 0,876 • bp 227 °C

flp 100 °C

Storage temp.: +4 °C

[106-25-2] • EC No. 203-378-7

WGK 2

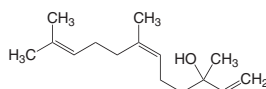
Warning H315-H319-H335

Type analysis:

Purity (GC)..... ≥96 %

5183.1	1 g	plastic	75,15 €

cis-Nerolidol



cis-Nerolidol

ROTICHRON® GC

Reference substance for GC

$C_{15}H_{26}O$

M 222,37 g/mol

D 0,876

flp 96 °C

Storage temp.: +4 °C

[3790-78-1] • EC No. 223-263-5

Type analysis:

Purity (GC)..... ≥95 %

6701.1	1 g	plastic	75,15 €

cis+trans-Nerolidol

cis+trans-Nerolidol

ROTICHRON® GC

Reference substance for GC

$C_{15}H_{26}O$

M 222,37 g/mol

D 0,88 • bp 263-266 °C

mp -75 °C • flp 96 °C

Storage temp.: +4 °C

[7212-44-4] • EC No. 230-597-5

UN No. 3082 • ADR 9 III • WGK 2

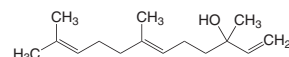
Warning H400-H410

Type analysis:

Purity (GC)..... ≥96 %

7895.1	1 g	plastic	75,15 €

trans-Nerolidol



trans-Nerolidol

ROTICHRON® GC

Reference substance for GC

$C_{15}H_{26}O$

M 222,37 g/mol

flp 113 °C

Storage temp.: +4 °C

[40716-66-3] • EC No. 255-053-4

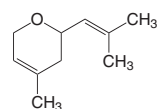
WGK 1

Type analysis:

Purity (GC)..... ≥89 %

6703.1	1 g	plastic	75,15 €

Nerol oxide



Nerol oxide

ROTICHRON® GC

Reference substance for GC

$C_{10}H_{16}O$

M 152,23 g/mol

flp 70 °C

Storage temp.: +4 °C

[1786-08-9] • EC No. 217-241-4

WGK 2

Type analysis:

Purity (GC)..... ≥95 %

5178.1	1 g	plastic	75,15 €

Nessler's Reagent

Nessler's Reagent

Potassium tetraiodomercurate(II), Potassium mercuric iodide

$K_2[HgI_4]$

D 1,16

[7783-33-7] • EC No. 231-990-4

UN No. 2922 • ADR 8(6.1) I • WGK 2

Danger

H290-H301+H311-H314-H330-H373-H412

Type analysis:

Suitability for determination of ammonium. complies

8132.1	100 ml	plastic	28,95 €

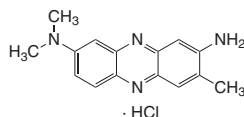
Neuridine

► Spermine see p. 2165

Neutral acriflavine

► Trypaflavine see p. 2226

Neutral red (C.I. 50040)



Neutral red (C.I. 50040)

p.a.

Indicator pH 6,8-8,0

Tolulene red

C₁₅H₁₇ClN₄

M 288,78 g/mol

Solubility: 50 g/l (H₂O, 25 °C)

[553-24-2] • EC No. 209-035-8

WGK 2

Type analysis:

pH-transition range. 6,8 (red)-8,0 (orange-yellow)

Absorption max. (ethanol 50 %)..... 538-544 nm

Loss on drying (135 °C). ≤12 %

T122.2	1 g	glass	19,90 €

T122.1	10 g	glass	50,45 €

T122.3	25 g	glass	100,55 €

For further information, please see page 1400

NHS

► N-Hydroxysuccinimide see p. 1893

NHS-PEG5-Alkyne

► NHS-PEG5-Alkyne see p. 2022

NHS-PEG4-Azide

► NHS-PEG4-Azide see p. 2022

Niacin

► Nicotinic acid see p. 1986

Nickel powder

Ni

M 58,71 g/mol

D 8,90 • bp 2832 °C

mp 1453 °C

[7440-02-0] • EC No. 231-111-4

WGK 2

Danger H372-H351-H317-H412

Nickel powder

ROTI®METIC 99,995 % (4N5)

Catalyst

Type analysis:

Assay (metals basis)..... 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5643.1	25 g	plastic	69,80 €

5643.2	100 g	plastic	220,40 €

Nickel powder

≥99 %, <63 µm

Catalyst

Type analysis:

Assay (Ni)..... ≥99 %

CP22.1	100 g	plastic	26,70 €

Nickel Standards

► Nickel AAS Standard Solution

see p. 2168

► Nickel ICP Standard Solution

see p. 2172

► Nickel ICP Standard Solution

see p. 2176

Nickel agarose beads

► Roti®agarose-His/Ni Beads see p. 2097

Nickel(II) bromide hydrate

Nickel(II) bromide hydrate

pure

NiBr₂ · x H₂OM 218,51 + x H₂O g/mol

mp 300 °C (dec.)

[207569-11-7]

UN No. 3077 • ADR 9 III • WGK 2

Danger H334-H350i-H360D-H372-

H341-H400-H410-H317

Type analysis:

Appearance..... yellow to green crystals

Nickel (Ni)..... 19,0-23,0 %

8680.2	25 g	plastic	62,90 €

Nickel charged IMAC columns

► Roti®agarose-His/Ni Cartridges

see p. 2098

► Roti®agarose-His/Ni Columns

see p. 2098

Nickel(II) chloride hexahydrate

Nickelous chloride

NiCl₂ · 6 H₂O

M 237,70 g/mol

D 1,92

mp 140 °C (dec.)

Solubility: 553 g/l (H₂O, 20 °C)

[7791-20-0] • EC No. 231-743-0

UN No. 3288 • ADR 6.1 III • WGK 3

Danger H301+H331-H315-H317-

H334-H341-H350i-H360D-H372-H410

Nickel(II) chloride hexahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis). 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5373.1	50 g	plastic	310,70 €

Nickel(II) chloride hexahydrate

≥98 %, p.a.

Guarantee analysis:

Assay (compl.)..... ≥98 %

pH value (5 % solution). ≥3,0

In H₂O insoluble matter. ≤0,005 %Sulphate (SO₄). ≤0,02 %

Lead (Pb). ≤0,003 %

Sodium (Na). ≤0,05 %

Cadmium (Cd). ≤0,002 %

Calcium (Ca). ≤0,005 %

Iron (Fe). ≤0,001 %

Potassium (K). ≤0,01 %

Cobalt (Co). ≤0,01 %

Copper (Cu). ≤0,005 %

Zinc (Zn). ≤0,005 %

4489.1	100 g	plastic	40,75 €

4489.2	250 g	plastic	85,90 €

Nickel(II) chloride hexahydrate

≥97 %, extra pure

Type analysis:

Assay. ≥97,0 %

Arsenic (As). ≤0,001 %

Iron (Fe). ≤0,001 %

Copper (Cu). ≤0,001 %

Insoluble matter. ≤0,01 %

7312.1	250 g	plastic	18,85 €

7312.2	500 g	plastic	30,00 €

Original pack 6 x 500 g 28,50/500 g

7312.3	1 kg	plastic	50,45 €

Original pack 6 x 1 kg 47,93/1 kg

7312.4	2,5 kg	plastic	104,20 €

Nickel matrix modifier

► Nickel nitrate matrix modifier solution
see p. 1952

Nickel monoxide

► Nickel(II) oxide see p. 1986

Nickel(II) nitrate hexahydrate

Nickelous nitrate

Ni(NO₃)₂ · 6 H₂O

M 290,81 g/mol

bp 136 °C

mp 56,7 °C

Solubility: 940 g/l (H₂O, 20 °C)

[13478-00-7] • EC No. 236-068-5

UN No. 2725 • ADR 5.1 III • WGK 3

Danger H272-H334-

H341-H350i-H360D-H372-H318-H400-H410-

H302+H332-H315-H317

Nickel(II) nitrate hexahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis). 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5387.1	100 g	plastic	203,20 €

5387.2	500 g	plastic	697,70 €

Original pack 6 x 500 g 662,82/500 g

Nickel(II) nitrate hexahydrate

≥99 %, p.a.

For manufacturing of Ni/Cd batteries.

Guarantee analysis:

Assay (compl.)	≥99 %
In H ₂ O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,002 %
Sulphate (SO ₄)	≤0,01 %
Ammonium (NH ₄)	≤0,05 %
Lead (Pb)	≤0,003 %
Cadmium (Cd)	≤0,002 %
Calcium (Ca)	≤0,1 %
Iron (Fe)	≤0,002 %
Cobalt (Co)	≤0,2 %
Copper (Cu)	≤0,005 %
Zinc (Zn)	≤0,03 %

4395.1	100 g	plastic	24,65 €
4395.2	250 g	plastic	51,50 €
4395.3	500 g	plastic	94,10 €
Original pack 6 x 500 g			89,40/500 g

Nickel nitrate matrix modifier solution

- Matrix modifier solution
Nickel nitrate see p. 1952

Nickelous chloride

- Nickel(II) chloride hexahydrate
see p. 1985

Nickel(II) oxide**Nickel(II) oxide**ROTI[®]METIC 99,999 % (5N)

Nickel monoxide

NiO

M 74,69 g/mol

D 6,72

mp 1957 °C

[1313-99-1] • EC No. 215-215-7

WGK 1

 **Danger** H317-H350i-H372-H413
Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5388.1	50 g	plastic	209,65 €
5388.2	100 g	plastic	375,20 €

Nickel(II) sulphate hexahydrateNiSO₄ · 6 H₂O

M 262,86 g/mol

D 2,07

mp >100 °C (dec.)

Solubility: 650 g/l (H₂O, 20 °C)

[10101-97-0] • EC No. 232-104-9

UN No. 3288 • ADR 6.1 III • WGK 3

 **Danger** H302+H332-H315-H334-H317-H341-H350i-H360D-H372-H400-H410
Nickel(II) sulphate hexahydrate

≥99 %, p.a., ACS

Guarantee analysis:

Assay (compl.)	≥99,0 %
In H ₂ O insoluble matter	≤0,005 %
Total nitrogen (as N)	≤0,002 %
Chloride (Cl)	≤0,001 %
Lead (Pb)	≤0,002 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,01 %
Cobalt (Co)	≤0,002 %
Copper (Cu)	≤0,002 %
Magnesium (Mg)	≤0,005 %
Manganese (Mn)	≤0,002 %
Sodium (Na)	≤0,05 %
Zinc (Zn)	≤0,002 %

T111.1	250 g	plastic	60,10 €
T111.2	1 kg	plastic	181,70 €
Original pack 6 x 1 kg			172,62/1 kg

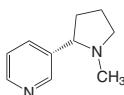
Nickel(II) sulphate hexahydrate

≥98 %, extra pure

Type analysis:

Assay	≥98,0 %
Lead (Pb)	≤0,001 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,001 %

7322.1	250 g	plastic	22,50 €
7322.2	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g
7322.3	1 kg	plastic	55,80 €
Original pack 6 x 1 kg			53,01/1 kg
7322.4	2,5 kg	plastic	110,20 €

(-)-Nicotine**(-)-Nicotine**

≥99 %, for biochemistry

C₁₀H₁₄N₂

M 162,24 g/mol

D 1,01 • bp 247 °C

mp -79 °C • flp 101 °C

[54-11-5] • EC No. 200-193-3

UN No. 1654 • ADR 6.1 II • WGK 3

 **Danger** H301-H310-H411
Type analysis:

Assay (GC)..... ≥99 %
Specific rotation [α]_D²⁰..... -164° to -168°

8746.1	10 g	glass	26,35 €

β-Nicotine amide adenine dinucleotide

► NAD see p. 1979

β-Nicotine amide adenine dinucleotide disodium salt

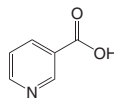
► NADH disodium salt see p. 1979

β-Nicotine amide adenine dinucleotide phosphate disodium salt

► NADP disodium salt see p. 1979

β-Nicotine amide adenine dinucleotide phosphate tetrasodium salt

► NADPH tetrasodium salt see p. 1980

Nicotinic acid**Nicotinic acid**

≥99 %, for biochemistry

3-Pyridinecarboxylic acid, Niacin, Vitamin B

C₆H₅NO₂

M 123,11 g/mol

D 1,47

mp 236 °C • flp 193 °C

Solubility: 18 g/l (H₂O, 20 °C)

[59-67-6] • EC No. 200-441-0

WGK 1

 **Warning** H319
Type analysis:

Appearance..... white, cryst. powder
Assay (titr. dry substance)..... 99,5-100,5 %
Chloride (Cl)..... ≤0,02 %
Sulphate (SO₄)..... ≤0,02 %
Heavy metals (as Pb)..... ≤0,002 %
Loss on drying (105 °C)..... ≤1,0 %
Sulphated ash..... ≤0,1 %
Melting temperature..... 234-240 °C

3815.1	100 g	plastic	29,60 €
3815.2	250 g	plastic	59,05 €

Nigrosin (C.I. 50415)**Nigrosin (C.I. 50415)**

extra pure

[11099-03-9]

WGK 3

Type analysis:

Appearance..... black powder

7716.1	5 g	glass	13,15 €
7716.2	25 g	glass	22,50 €
7716.3	100 g	glass	44,65 €

**Nigrosin, water soluble
(C.I. 50420)****Nigrosin, water soluble
(C.I. 50420)****for microscopy**

Acid Black 2

[8005-03-6] • WGK 3

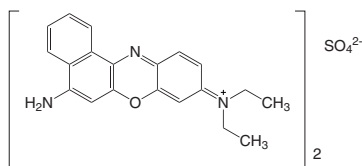
Type analysis:

Appearance: black powder

Appearance of solution (0,1 % in H₂O): black to purple

7718.1	25 g	glass	13,15 €
7718.2	100 g	glass	33,25 €

For further information, please see page 1405

Nile blue A (C.I. 51180)**Nile blue A (C.I. 51180)**

~80 %

Nile blue sulphate

C₄₀H₄₀N₆O₆S

M 732,84 g/mol

mp >300 °C (dec.)

Solubility: ~50 g/l (H₂O, 25 °C)

[3625-57-8] • EC No. 222-832-5 • WGK 2

Type analysis:

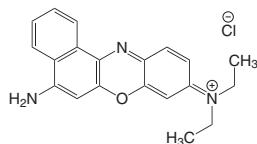
Appearance: dark green powder

Dye content: ~80 %

Suitability for microscopy: complies

4377.2	5 g	glass	16,05 €
4377.1	10 g	glass	26,80 €
4377.3	25 g	glass	42,90 €

For further information, please see page 1405

Nile blue chloride (C.I. 51180)**Nile blue chloride (C.I. 51180)****extra pure**C₂₀H₂₀ClN₃O

M 353,85 g/mol

[2381-85-3] • WGK 3

Type analysis:

Appearance: dark green to black powder

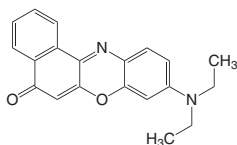
Solubility (0,2 % in H₂O): complies

Loss on drying (1 h, 110 °C): ≤10 %

7723.1	5 g	glass	22,50 €
7723.2	25 g	glass	67,20 €
7723.3	100 g	glass	166,65 €

Nile blue sulphate

▶ Nile blue A (C.I. 51180) see p. 1987

Nile red**Nile red****extra pure**C₂₀H₁₈N₂O₂

M 318,38 g/mol

mp 203-205 °C

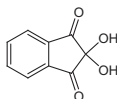
[7385-67-3]

WGK 3

Type analysis:

Appearance: brown to green cryst. powder

7726.1	1 g	glass	33,25 €
7726.2	5 g	glass	134,40 €
7726.3	10 g	glass	220,40 €

Ninhydrin**Ninhydrin**

≥99 %, p.a., ACS

For the detection of amino acids.

2,2-Dihydroxyindane-1,3-dione, Indanetrione hydrate

C₉H₆O₄

M 178,15 g/mol

mp ~250 °C (dec.)

Solubility: 20 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[485-47-2] • EC No. 207-618-1

WGK 2

⚠ Warning H302-H315-H319-H335

Guarantee analysis:

Appearance: yellowish crystals or cryst. powder

Assay: ≥99,0 %

Solubility (0,1 g/10 ml H₂O): conforms to ACS

Loss on drying (105 °C): ≤1,0 %

Melting point: conforms to ACS

Sensitivity: conforms to ACS

Application: 0,1 % in ethanol for determination of amino acids in chromatography.

4378.1	25 g	glass	35,40 €
4378.2	100 g	glass	92,35 €
4378.3	500 g	glass	342,95 €

Original pack 6 x 500 g 325,80/500 g

For further information, please see page 1506

Ninhydrin spray solution**Ninhydrin spray solution****for TLC**

Ready-to-use spray solution for detection of amino acids, amines and amino sugars.

0,5 g Ninhydrin dissolved in 100 ml ethanol.

UN No. 1993 • ADR 3 II • WGK 1

⚠ Danger H225

Type analysis:

TLC-application: complies

CP30.1	100 ml	glass	34,50 €

Niobium Standards

▶ Niobium ICP Standard Solution see p. 2172

▶ Niobium ICP Standard Solution see p. 2176

Niobium(V) oxide**Niobium(V) oxide**

≥99,9 %

Nb₂O₅

M 265,81 g/mol

D 4,55

Solubility: insoluble (H₂O, 20 °C)

[1313-96-8] • EC No. 215-213-6

Type analysis:

Appearance: white powder

Assay: ≥99,9 %

Loss on ignition: ≤0,4 %

Iron (Fe): ≤0,003 %

Nickel (Ni): ≤0,002 %

Silicon (Si): ≤0,003 %

Tantal (Ta): ≤0,015 %

Titanium (Ti): ≤0,0002 %

Tungsten (W): ≤0,0005 %

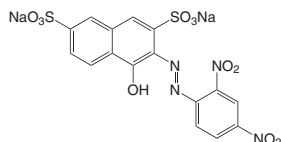
Zirconium (Zr): ≤0,0002 %

4381.1	50 g	plastic	91,30 €
4381.2	250 g	plastic	413,90 €

Nitrate Standards

▶ Nitrate IC Standard Solution see p. 2181

Nitrazine yellow (C.I. 14890)



Nitrazine yellow (C.I. 14890)

p.a.

Indicator pH 6,0-7,2

 $C_{16}H_9N_4Na_2O_{11}S_2$

M 542,36 g/mol

[5423-07-4]

WGK 3

Type analysis:

Appearance.....brown to orange powder

Appearance of solution (0,1 % in H_2O).....

pH-transition range.....6,0 (yellow)-7,2 (blue)

7727.1	1 g	glass	14,95 €
7727.2	5 g	glass	53,65 €
7727.3	10 g	glass	96,65 €

Nitric acid Ultra-quality

Nitric acid Ultra-quality

ROTIPURAN® Ultra 69 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis.

 HNO_3

M 63,01 g/mol

D 1,41 • bp 120 °C

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 (5.1) II • WGK 1

Danger H272-H290-H314

Guarantee analysis:

Assay (w/w).....	67-69 %
Aluminium (Al).....	≤20 ppt
Antimony (Sb).....	≤10 ppt
Arsenic (As).....	≤20 ppt
Barium (Ba).....	≤10 ppt
Beryllium (Be).....	≤10 ppt
Lead (Pb).....	≤10 ppt
Boron (B).....	≤10 ppt
Cadmium (Cd).....	≤10 ppt
Cesium (Cs).....	≤10 ppt
Calcium (Ca).....	≤10 ppt
Cerium (Ce).....	≤10 ppt
Chromium (Cr).....	≤10 ppt
Dysprosium (Dy).....	≤1 ppt
Iron (Fe).....	≤10 ppt
Erbium (Er).....	≤1 ppt
Europium (Eu).....	≤1 ppt
Gadolinium (Gd).....	≤1 ppt
Gallium (Ga).....	≤10 ppt
Germanium (Ge).....	≤10 ppt
Gold (Au).....	≤20 ppt
Hafnium (Hf).....	≤10 ppt
Holmium (Ho).....	≤1 ppt
Indium (In).....	≤1 ppt
Potassium (K).....	≤10 ppt
Cobalt (Co).....	≤10 ppt
Copper (Cu).....	≤10 ppt
Lanthanum (La).....	≤1 ppt
Lithium (Li).....	≤10 ppt
Lutetium (Lu).....	≤1 ppt
Magnesium (Mg).....	≤10 ppt
Manganese (Mn).....	≤10 ppt
Molybdenum (Mo).....	≤10 ppt
Sodium (Na).....	≤10 ppt

Neodymium (Nd).....	≤1 ppt
Nickel (Ni).....	≤20 ppt
Niobium (Nb).....	≤1 ppt
Palladium (Pd).....	≤20 ppt
Platinum (Pt).....	≤20 ppt
Praseodymium (Pr).....	≤1 ppt
Mercury (Hg).....	≤50 ppt
Rhenium (Re).....	≤10 ppt
Rhodium (Rh).....	≤10 ppt
Rubidium (Rb).....	≤10 ppt
Ruthenium (Ru).....	≤20 ppt
Samarium (Sm).....	≤1 ppt
Scandium (Sc).....	≤10 ppt
Silver (Ag).....	≤10 ppt
Strontium (Sr).....	≤10 ppt
Tellur (Te).....	≤1 ppt
Terbium (Tb).....	≤1 ppt
Thallium (Tl).....	≤10 ppt
Thorium (Th).....	≤1 ppt
Thulium (Tm).....	≤1 ppt
Titanium (Ti).....	≤10 ppt
Uranium (U).....	≤1 ppt
Vanadium (V).....	≤10 ppt
Bismuth (Bi).....	≤10 ppt
Tungsten (W).....	≤10 ppt
Ytterbium (Yb).....	≤1 ppt
Yttrium (Y).....	≤1 ppt
Zinc (Zn).....	≤10 ppt
Tin (Sn).....	≤20 ppt
Zirconium (Zr).....	≤10 ppt

HN60.1	250 ml	plastic (FEP)	332,20 €
HN60.2	500 ml	plastic (FEP)	461,20 €
HN60.3	1 l	plastic (FEP)	740,70 €
Original pack 6 x 1 l			703,67/1 l
HN60.4	2 l	plastic (FEP)	1138,45 €

For further information, please see page 1573

Nitric acid Supra-quality

Nitric acid Supra-quality

ROTIPURAN® Supra 69 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, ion chromatography etc.).

 HNO_3

M 63,01 g/mol

D 1,41 • bp 120 °C

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 (5.1) II • WGK 1

Danger H272-H290-H314

Guarantee analysis:

Assay (w/w).....	67-69 %
Colour (APHA).....	≤10
Chloride (Cl).....	≤0,00002 %
Total Phosphorous (P).....	≤0,00001 %
Total Sulfur (S).....	≤0,00003 %
Aluminium (Al).....	≤1 ppt
Antimony (Sb).....	≤0,5 ppb
Arsenic (As).....	≤0,5 ppb
Barium (Ba).....	≤0,1 ppb
Beryllium (Be).....	≤0,1 ppb
Lead (Pb).....	≤0,1 ppb
Boron (B).....	≤1 ppt
Cadmium (Cd).....	≤0,5 ppb
Cesium (Cs).....	≤0,1 ppb
Calcium (Ca).....	≤1 ppt
Cerium (Ce).....	≤0,1 ppb
Chromium (Cr).....	≤1 ppt
Dysprosium (Dy).....	≤0,1 ppb
Iron (Fe).....	≤1 ppt
Erbium (Er).....	≤0,1 ppb
Europium (Eu).....	≤0,1 ppb
Gadolinium (Gd).....	≤0,1 ppb
Gallium (Ga).....	≤0,1 ppb
Germanium (Ge).....	≤0,1 ppb
Gold (Au).....	≤0,1 ppb
Hafnium (Hf).....	≤0,1 ppb
Holmium (Ho).....	≤0,1 ppb

Indium (In).....	≤0,1 ppb
Potassium (K).....	≤1 ppt
Cobalt (Co).....	≤0,5 ppb
Copper (Cu).....	≤0,5 ppb
Lanthanum (La).....	≤0,1 ppb
Lithium (Li).....	≤0,1 ppb
Lutetium (Lu).....	≤0,1 ppb
Magnesium (Mg).....	≤1 ppt
Manganese (Mn).....	≤0,1 ppb
Molybdenum (Mo).....	≤0,1 ppb
Sodium (Na).....	≤1 ppt
Neodymium (Nd).....	≤0,1 ppb
Nickel (Ni).....	≤0,5 ppb
Niobium (Nb).....	≤0,1 ppb
Palladium (Pd).....	≤0,5 ppb
Platinum (Pt).....	≤0,5 ppb
Praseodymium (Pr).....	≤0,1 ppb
Mercury (Hg).....	≤0,1 ppb
Rhenium (Re).....	≤0,1 ppb
Rhodium (Rh).....	≤0,5 ppb
Rubidium (Rb).....	≤0,1 ppb
Ruthenium (Ru).....	≤0,5 ppb
Samarium (Sm).....	≤0,1 ppb
Scandium (Sc).....	≤0,1 ppb
Selenium (Se).....	≤1 ppt
Silver (Ag).....	≤0,1 ppb
Strontium (Sr).....	≤0,1 ppb
Tellur (Te).....	≤0,1 ppb
Terbium (Tb).....	≤0,1 ppb
Thallium (Tl).....	≤0,1 ppb
Thorium (Th).....	≤0,1 ppb
Thulium (Tm).....	≤0,1 ppb
Titanium (Ti).....	≤0,5 ppb
Uranium (U).....	≤0,1 ppb
Vanadium (V).....	≤0,5 ppb
Bismuth (Bi).....	≤0,1 ppb
Tungsten (W).....	≤0,1 ppb
Ytterbium (Yb).....	≤0,1 ppb
Yttrium (Y).....	≤0,1 ppb
Zinc (Zn).....	≤0,5 ppb
Tin (Sn).....	≤0,5 ppb
Zirconium (Zr).....	≤0,1 ppb

HN50.1	500 ml	plastic	69,35 €
HN50.2	1 l	plastic	109,15 €
Original pack 6 x 1 l			103,69/1 l
HN50.3	2,5 l	plastic	121,40 €
Original pack 4 x 2,5 l			115,33/2,5 l

For further information, please see page 1573

Nitric acid 68 %

Nitric acid 68 %

68 %, extra pure

 HNO_3

M 63,0 g/mol

D 1,41

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8(5.1) II • WGK 1

Danger H272-H290-H314

Type analysis:

Assay.....	67,5-68,5 %
Chloride (Cl).....	≤0,001 %
Sulphate (SO_4).....	≤0,005 %
Heavy metals.....	≤0,001 %
Iron (Fe).....	≤0,0005 %
Ash content.....	≤0,005 %

2616.1	250 ml	glass	13,15 €
2616.2	1 l	glass	22,80 €
Original pack 6 x 1 l			21,66/1 l
2616.3	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l

Nitric acid 65 %

HNO₃

M 63,0 g/mol

D 1,3-1,4

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 (5.1) II • WGK 1

 **Danger** H272-H290-H314

Nitric acid 65 %

ROTIPURAN® 65 %, p.a., ISO,
max. 0,005 ppm Hg

Dissolving agent for organic and anorganic samples. For determination of mercury.

Guarantee analysis:

Assay (acidim.)	≥65 %
Chloride (Cl)	≤0,00005 %
Sulphate (SO ₄)	≤0,0002 %
Phosphate (PO ₄)	≤0,0001 %
Mercury (Hg)	≤0,0000005 %
Silver (Ag)	≤0,000002 %
Aluminium (Al)	≤0,000005 %
Arsenic (As)	≤0,000001 %
Barium (Ba)	≤0,000002 %
Beryllium (Be)	≤0,000002 %
Calcium (Ca)	≤0,00005 %
Cadmium (Cd)	≤0,000001 %
Cobalt (Co)	≤0,000002 %
Chromium (Cr)	≤0,00001 %
Copper (Cu)	≤0,000001 %
Iron (Fe)	≤0,00002 %
Potassium (K)	≤0,00001 %
Lithium (Li)	≤0,000002 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000001 %
Sodium (Na)	≤0,00005 %
Nickel (Ni)	≤0,000005 %
Lead (Pb)	≤0,000002 %
Strontium (Sr)	≤0,000002 %
Zinc (Zn)	≤0,000005 %
Ash content (as SO ₄)	≤0,0005 %

X943.1	1 l	glass	28,50 €
Original pack 6 x 1 l			
			27,08/1 l
X943.2	2,5 l	glass	55,40 €
Original pack 4 x 2,5 l			
			52,63/2,5 l

Nitric acid 65 %

ROTIPURAN® ≥65 %, p.a., ISO

Guarantee analysis:

Assay (acidim.)	≥65,0 %
Heavy metals (as Pb)	≤0,0002 %
Test with dithizone	complies
Ash content (as SO ₄)	≤0,0005 %
Chloride (Cl)	≤0,00005 %
Sulphate (SO ₄)	≤0,00005 %
Phosphate (PO ₄)	≤0,00005 %
Silver (Ag)	≤0,000001 %
Aluminium (Al)	≤0,000005 %
Arsenic (As)	≤0,000001 %
Barium (Ba)	≤0,000001 %
Beryllium (Be)	≤0,000001 %
Bismuth (Bi)	≤0,00001 %
Calcium (Ca)	≤0,00001 %
Cadmium (Cd)	≤0,000001 %
Cobalt (Co)	≤0,000001 %
Chromium (Cr)	≤0,000002 %
Copper (Cu)	≤0,000001 %
Iron (Fe)	≤0,00001 %
Germanium (Ge)	≤0,000005 %
Potassium (K)	≤0,00001 %
Lithium (Li)	≤0,000001 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000001 %
Molybdenum (Mo)	≤0,000002 %
Sodium (Na)	≤0,00005 %
Nickel (Ni)	≤0,000002 %
Lead (Pb)	≤0,000001 %
Titanium (Ti)	≤0,00001 %

Thallium (Tl)	≤0,000005 %
Vanadium (V)	≤0,000001 %
Zinc (Zn)	≤0,000005 %
Zirconium (Zr)	≤0,000001 %

4989.3	250 ml	glass	17,75 €
4989.1	1 l	glass	27,45 €
Original pack 6 x 1 l			
			26,08/1 l
4989.2	2,5 l	glass	54,30 €
Original pack 4 x 2,5 l			
			51,59/2,5 l

Nitric acid 65 %

65 %, pure

Type analysis:

Assay	64,0-66,0 %
Density (20 °C)	1,386-1,395

X898.1	1 l	glass	22,50 €
Original pack 6 x 1 l			
			21,38/1 l
X898.2	2,5 l	glass	36,25 €
Original pack 4 x 2,5 l			
			34,44/2,5 l

Nitric acid 60 %

Nitric acid 60 %

60 %, pure

HNO₃

M 63,0 g/mol

D 1,36

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H314

Type analysis:

Assay	59,0-61,0 %
Chloride (Cl)	≤0,001 %
Iron (Fe)	≤0,0005 %
Heavy metals (as Pb)	≤0,001 %
Evaporation residue	≤0,01 %

6745.1	1 l	glass	19,90 €
Original pack 6 x 1 l			
			18,91/1 l
6745.5	2,5 l	glass	30,85 €
Original pack 4 x 2,5 l			
			29,31/2,5 l

Nitric acid 53 %

Nitric acid 53 %

53 %

HNO₃

M 63,0 g/mol

D 1,3-1,4

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H314-H290

Type analysis:

Assay	51,5-54,5 %
Density (20 °C)	1,3219-1,3336
Chloride (Cl)	≤0,001 %
Iron (Fe)	≤0,0005 %

9274.1	1 l	glass	19,90 €
Original pack 6 x 1 l			
			18,91/1 l
9274.2	10 l	plastic	61,85 €

Nitric acid 40 %

Nitric acid 40 %

40 %, pure

HNO₃

M 63,0 g/mol

D 1,25

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H314

Type analysis:

Assay	39,0-41,0 %
Chloride (Cl)	≤0,001 %
Iron (Fe)	≤0,0005 %
Heavy metals	≤0,001 %
Ash	≤0,001 %

6748.1	1 l	glass	17,45 €
Original pack 6 x 1 l			
			16,58/1 l
6748.2	5 l	plastic	43,75 €
Original pack 2 x 5 l			
			41,56/5 l
6748.3	10 l	plastic	54,75 €
6748.4	25 l	plastic	105,90 €

Nitric acid 25 %

Nitric acid 25 %

25 %, pure

HNO₃

M 63,0 g/mol

D ~1,15

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H314-H290

Type analysis:

Assay	24,0-26,0 %
Density (20 °C)	1,1404-1,1534
Chloride (Cl)	≤0,001 %
Iron (Fe)	≤0,0005 %
Ash content	≤0,005 %

4339.1	1 l	plastic	16,35 €
Original pack 6 x 1 l			
			15,53/1 l
4339.2	5 l	plastic	40,75 €
Original pack 2 x 5 l			
			38,71/5 l
4339.3	10 l	plastic	53,65 €
4339.4	25 l	plastic	105,25 €

Nitric acid 20 %

Nitric acid 20 %

20 %, pure

 HNO_3

M 63,0 g/mol

D ~1,12

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Assay.....19,0-21,0 %
 Density (20 °C).....1,1088-1,1213
 Chloride (Cl).....≤0,0005 %
 Iron (Fe).....≤0,0003 %
 Ash content.....≤0,003 %

4337.1	1 l	plastic	16,05 €
Original pack 6 x 1 l			
4337.2	2,5 l	plastic	22,50 €
Original pack 4 x 2,5 l			
4337.3	5 l	plastic	35,40 €
Original pack 2 x 5 l			
4337.4	10 l	plastic	45,05 €

Nitric acid (0,1 N)

Nitric acid

0,1 mol/l - 0,1 N volumetric standard solution

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %
 Titr. 0,998-1,002

KK73.1	1 l	plastic	17,10 €
Original pack 6 x 1 l			
16,25/1 l			

For further information, please see page 1546

Nitric acid (0,1 N)

Nitric acid

ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

 HNO_3

M 63,0 g/mol

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

CN69.1	1 piece	plastic ampoule	16,15 €

For further information, please see page

Nitric acid (1 N)

Nitric acid

1 mol/l - 1 N volumetric standard solution

 HNO_3

[7697-37-2] • EC No. 231-714-2

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %
 Titr. 0,998-1,002

N070.1	1 l	glass	20,10 €
Original pack 6 x 1 l			
19,10/1 l			

For further information, please see page 1546

Nitric acid (1 N)

Nitric acid

ROTI®VOLUM 1 mol/l - 1 N

Ampoule for preparation of 1000 ml volumetric solution.

 HNO_3

M 63,0 g/mol

[7697-37-2] • EC No. 2317142

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H314-H290

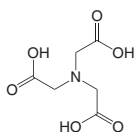
Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %

CN60.1	1 piece	plastic ampoule	18,50 €

For further information, please see page 1547

Nitrilotriacetic acid



Tri-(carboxymethyl)amine, Komplexon®

 $\text{C}_6\text{H}_9\text{NO}_6$

M 191,14 g/mol

mp 242 °C (dec.) • flp 100 °C

Solubility: 1,28 g/l (H_2O , 22 °C)

[139-13-9] • EC No. 205-355-7

WGK 2

⚠ Warning H351-H302-H319

Nitrilotriacetic acid

≥99 %, p.a., ACS

Guarantee analysis:

Assay (titr. NaOH).....≥99,0 %
 Appearance of solution.....clear, colorless
 Ash content (as SO_4).....≤0,1 %
 Loss on drying.....≤0,1 %
 Chloride (Cl).....≤0,01 %
 Lead (Pb).....≤0,0005 %
 Cadmium (Cd).....≤0,0005 %
 Calcium (Ca).....≤0,001 %
 Chromium (Cr).....≤0,0005 %
 Iron (Fe).....≤0,0007 %
 Potassium (K).....≤0,005 %
 Cobalt (Co).....≤0,0005 %
 Copper (Cu).....≤0,0005 %

Magnesium (Mg).....≤0,0005 %
 Manganese (Mn).....≤0,0005 %
 Sodium (Na).....≤0,05 %
 Nickel (Ni).....≤0,0005 %
 Zinc (Zn).....≤0,0005 %

4384.1	100 g	plastic	61,85 €

Nitrilotriacetic acid

≥99 %, extra pure



Type analysis:

Assay.....≥99,0 %
 Chloride (Cl).....≤0,01 %
 Sulphate (SO_4).....≤0,05 %
 Iron (Fe).....≤0,005 %
 Heavy metals.....≤0,001 %
 Sulphated ash.....≤0,1 %

8653.1	100 g	plastic	20,35 €

8653.2	500 g	plastic	61,20 €

Original pack 6 x 500 g			
58,14/500 g			

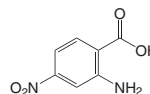
8653.3	1 kg	plastic	117,20 €

Original pack 6 x 1 kg			
111,34/1 kg			

Nitrite Standards

▶ Nitrite IC Standard Solution see p. 2181

4-Nitroanthranilic acid



4-Nitroanthranilic acid

≥98 %, for synthesis

 $\text{C}_7\text{H}_6\text{N}_2\text{O}_4$

M 182,13 g/mol

mp 269-272 °C

[619-17-0] • EC No. 210-583-5

WGK 3

⚠ Warning H315-H319-H335

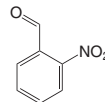
Type analysis:

Appearance.....orange powder
 Assay (titr.).....≥98,0 %
 Loss on drying.....≤0,5 %

4543.1	1 g	glass	41,85 €

4543.2	5 g	glass	80,55 €

2-Nitrobenzaldehyde



2-Nitrobenzaldehyde

≥98 %, for synthesis

o-Nitrobenzaldehyde

 $\text{C}_7\text{H}_5\text{NO}_3$

M 151,12 g/mol

mp 41-46 °C

[552-89-6] • EC No. 209-025-3

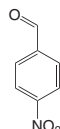
WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... yellow to light gold cryst. powder or pieces
 Assay..... $\geq 98,0\%$
 Loss on drying..... $\leq 0,5\%$

4224.1	25 g	plastic	30,00 €
4224.2	100 g	plastic	57,95 €
4224.3	250 g	plastic	103,75 €

4-Nitrobenzaldehyde**4-Nitrobenzaldehyde** $\geq 98\%$, for synthesis

p-Nitrobenzaldehyde

 $C_7H_5NO_3$

M 151,12 g/mol

mp 102-106 °C

[555-16-8] • EC No. 209-084-5

WGK 2

Warning H315-H319-H335**Type analysis:**

Appearance..... yellow to light gold cryst. powder
 Assay..... $\geq 98,0\%$
 Loss on drying..... $\leq 1,0\%$

5667.1	25 g	plastic	23,15 €
5667.2	100 g	plastic	45,05 €
5667.3	250 g	plastic	85,90 €

Nitrobenzene**Nitrobenzene** $\geq 99\%$, for synthesis $C_6H_5NO_2$

M 123,11 g/mol

D 1,20 • bp 205-210 °C

mp 5-6 °C • flp 88 °C

Solubility: 1,9 g/l (H_2O , 20 °C)

[98-95-3] • EC No. 202-716-0

UN No. 1662 • ADR 6.1 II • WGK 2

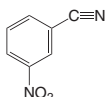
Danger

H301+H311+H331-H360F-H372-H351-H412

Type analysis:

Assay (GC)..... $\geq 99\%$
 Density (d 20 °C/4 °C)..... 1,201-1,205
 Freezing point..... 5-6 °C

4394.2	500 ml	glass	30,65 €
4394.1	1 l	glass	51,10 €
Original pack 6 x 1 l			48,55/1 l

3-Nitrobenzonitrile**3-Nitrobenzonitrile** $\geq 98\%$, for synthesis

3-Cyano-1-nitrobenzene

 $C_7H_4N_2O_2$

M 148,12 g/mol

mp 115-117 °C

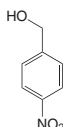
[619-24-9] • EC No. 210-587-7

UN No. 3439 • ADR 6.1 II • WGK 3

Danger H301**Type analysis:**

Appearance..... pale yellow cryst. powder
 Assay..... $\geq 98,0\%$
 Loss on drying..... $\leq 0,5\%$

4530.1	25 g	glass	41,85 €
4530.2	100 g	glass	88,05 €

4-Nitrobenzylalcohol**4-Nitrobenzylalcohol** $\geq 99\%$, for synthesis $C_7H_7NO_3$

M 153,14 g/mol

bp 185 °C

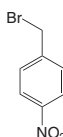
mp 93-96 °C

[619-73-8] • EC No. 210-611-6 • WGK 1

Type analysis:

Appearance..... pale yellow cryst. powder
 Assay..... $\geq 99,0\%$
 Loss on drying..... $\leq 0,5\%$

6522.1	25 g	glass	27,85 €
6522.2	100 g	glass	56,90 €
6522.3	250 g	glass	102,70 €

4-Nitrobenzyl bromide**4-Nitrobenzyl bromide** $\geq 99\%$, for synthesis α -Bromo-4-nitrotoluene $C_7H_6NO_2Br$

M 216,03 g/mol

mp 96-100 °C

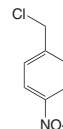
[100-11-8] • EC No. 202-820-6

UN No. 3261 • ADR 8 II • WGK 3

Danger H314-H335**Type analysis:**

Appearance..... off-white to light yellow to beige cryst. powder
 Assay..... $\geq 99,0\%$
 Loss on drying..... $\leq 0,5\%$

5680.1	25 g	glass	24,20 €
5680.2	100 g	glass	46,15 €
5680.3	250 g	glass	84,85 €

4-Nitrobenzyl chloride**4-Nitrobenzyl chloride** $\geq 98\%$, for synthesis α -Chloro-4-nitrotoluene $C_7H_6NO_2Cl$

M 171,58 g/mol

mp 70-73 °C

[100-14-1] • EC No. 202-822-7

UN No. 3261 • ADR 8 II • WGK 3

Danger H302-H314**Type analysis:**

Appearance..... off-white to light yellow cryst. powder
 Assay..... $\geq 98,0\%$

5697.1	10 g	glass	16,05 €
5697.2	50 g	glass	34,95 €

Nitro-BT

p-Nitrotetrazolium blue chloride see p. 1994

Nitromethane CH_3NO_2

M 61,04 g/mol

D 1,14 • bp 101,2 °C

mp -29,2 °C • flp 36 °C

Solubility: 105 g/l (H_2O , 20 °C)

[75-52-5] • EC No. 200-876-6

UN No. 1261 • ADR 3 II • WGK 2

Warning H226-H302**Nitromethane** $\geq 98,5\%$, for synthesis**Type analysis:**

Assay (GC)..... $\geq 98,5\%$
 Colour (APHA)..... ≤ 20
 Water..... $\leq 0,1\%$
 Acidity (as CH_3COOH)..... $\leq 0,1\%$

4406.1	500 ml	glass	26,55 €

Nitromethane

≥97 %

Type analysis:

Assay..... ≥97,0 %

5173.1	1 l	glass	38,60 €
Original pack 6 x 1 l			36,67/1 l

Nitromethane D3**Nitromethane D3**

99 Atom%D

For nuclear magnetic resonance spectroscopy.

CD₃NO₂

M 64,06 g/mol

D ~1,19 • bp 100 °C

mp -29,2 °C • flp 36 °C

[13031-32-8] • EC No. 235-892-2

UN No. 1261 • ADR 3 II • WGK 2

Warning H226-H302
Guarantee analysis:
 Deuterising degree..... ≥99 %
 Water (KF, H₂O+D₂O)..... ≤0,05 %

HN91.1	10 ml	glass	89,80 €

3-Nitro-4-methylaniline

► 4-Methyl-3-nitroaniline see p. 1968

3-Nitrophenol**3-Nitrophenol**

≥99 %, for synthesis

Indicator pH 6,8-8,6

1-Hydroxy-3-nitrobenzene

C₆H₅NO₃

M 139,11 g/mol

mp 96-98 °C

[554-84-7] • EC No. 209-073-5

UN No. 1663 • ADR 6.1 III • WGK 2

Warning H302-H319
Type analysis:

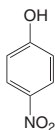
Appearance..... yellow to tan cryst. powder

Assay..... ≥99,0 %

Loss on drying..... ≤0,5 %

pH-transition range..... 6,8 (colourless)-8,6 (yellow)

4533.1	25 g	glass	49,35 €
4533.2	100 g	glass	122,05 €
4533.3	250 g	glass	278,45 €

4-Nitrophenol**4-Nitrophenol**

≥99 %, for synthesis

1-Hydroxy-4-nitrobenzene

C₆H₅NO₃

M 139,11 g/mol

bp 279 °C

mp 112-115 °C

[100-02-7] • EC No. 202-811-7

UN No. 1663 • ADR 6.1 III • WGK 2

Danger H301-H312+H332-H373
Type analysis:

Appearance..... white to yellow cryst. powder

Assay..... ≥99,0 %

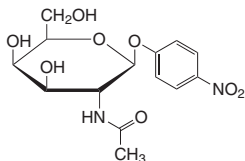
6524.1	25 g	glass	30,00 €
6524.2	100 g	glass	47,85 €
6524.3	500 g	glass	127,95 €
Original pack 6 x 500 g			121,55/500 g

p-Nitrophenyl-2-acetamido-2-deoxy-β-D-galactoside

► 4-Nitrophenyl-N-acetyl-β-D-galactosaminide see p. 1992

4-Nitrophenyl-2-acetamido-2-deoxy-β-D-glucosaminide

► 4-Nitrophenyl-N-acetyl-β-D-glucosaminide see p. 1992

4-Nitrophenyl-N-acetyl-β-D-galactosaminide**4-Nitrophenyl-N-acetyl-β-D-galactosaminide**

≥98 %, for biochemistry

Glycosidase substrate

p-Nitrophenyl-2-acetamido-2-deoxy-β-D-galactoside, PNP-β-D-GalNAc

C₁₄H₁₈N₂O₈

M 342,31 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[14948-96-0] • EC No. 239-024-3 • WGK 1

Type analysis:

Assay (TLC)..... ≥98 %

Solution (0,5 % in DMF/water 1:1).....

..... nearly colourless, clear

Solution (5 % in DMF).....

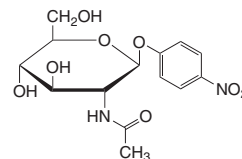
..... yellow to greenish yellow, clear

Water (KF)..... ≤6,0 %

p-Nitrophenol..... ≤0,1 %

Specific rotation [α]_D²⁰ (c=0,1 in water)..... +19,0° ±2°

4058.1	250 mg	glass	56,45 €
4058.2	500 mg	glass	99,45 €

4-Nitrophenyl-N-acetyl-β-D-glucosaminide**4-Nitrophenyl-N-acetyl-β-D-glucosaminide**

≥99 %, for biochemistry

Glycosidase substrate

4-Nitrophenyl-2-acetamido-2-deoxy-β-D-glucosaminide, PNP-β-D-GlcNAc

C₁₄H₁₈N₂O₈

M 342,31 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[3459-18-5] • EC No. 222-398-7

WGK 1

Type analysis:

Assay (TLC)..... ≥99 %

Solution (0,5 % in water, gently warmed).....

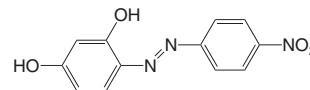
..... colourless, clear

Water (KF)..... ≤0,5 %

p-Nitrophenol..... ≤0,1 %

Specific rotation [α]_D²⁰ (c=0,5 in water)..... -16,0° ±1,0°

4062.1	100 mg	glass	24,20 €
4062.2	500 mg	glass	71,50 €
4062.3	1 g	glass	132,80 €

4-(4-Nitrophenylazo)-resorcinol**4-(4-Nitrophenylazo)-resorcinol**

p.a.

Metal indicator, pH indicator 11,0-13,0

Magneson, Azo violet

C₁₂H₉N₃O₄

M 259,22 g/mol

mp 185 °C (dec.)

Solubility: insoluble (H₂O, 20 °C)

[74-39-5] • EC No. 200-808-5

WGK 1

Guarantee analysis:

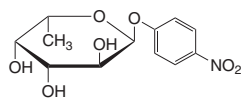
Appearance..... red-orange powder

Absorption max. (CH₃OH)..... ~432 nm

pH transition range..... 11,0 (yellow)-13,0 (violet)

2563.1	10 g	glass	23,90 €
2563.2	25 g	glass	36,05 €

4-Nitrophenyl- α -L-fucopyranoside



4-Nitrophenyl- α -L-fucopyranoside

≥98 %, for biochemistry

Glycosidase substrate

p-Nitrophenyl- α -L-fucoside, PNP- α -L-Fuc

$C_{12}H_{15}NO_7$

M 285,26 g/mol

mp ~195 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[10231-84-2] • EC No. 233-553-3

WGK 1

Type analysis:

Assay (TLC)..... ≥98 %
 Water (KF)..... ≤1,0 %
 p-Nitrophenol..... ≤0,1 %
 Specific rotation $[\alpha]_D^{20}$ (c=0,2 in ethanol)..... -245,0° ±2°

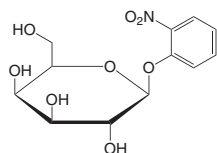
4018.1	100 mg	glass	53,65 €

4018.2	250 mg	glass	105,25 €

p-Nitrophenyl- α -L-fucoside

▶ 4-Nitrophenyl- α -L-fucopyranoside
 see p. 1993

2-Nitrophenyl- β -D-galactopyranoside



2-Nitrophenyl- β -D-galactopyranoside

≥99 %, for biochemistry

Substrate of β -galactosidase.

ONPG, ortho-Nitrophenyl- β -D-galactopyranoside

$C_{12}H_{15}NO_8$

M 301,23 g/mol

mp 189-192 °C

Storage temp.: +4 °C

[369-07-3] • EC No. 206-716-1

WGK 1

⚠ Warning H335

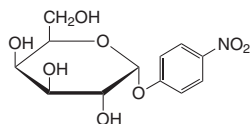
Type analysis:

Assay..... ≥99 %
 Water..... ≤0,5 %
 Specific rotation $[\alpha]_D^{20}$ (c=1 in H_2O)..... -67° to -71°

CN22.1	5 g	glass	29,60 €

CN22.2	10 g	glass	50,45 €

4-Nitrophenyl- α -D-galactopyranoside



4-Nitrophenyl- α -D-galactopyranoside

for biochemistry

Glycosidase substrate

p-Nitrophenyl- α -D-galactoside, PNP- α -D-Gal, PNP-G

$C_{12}H_{15}NO_8$

M 301,26 g/mol • mp 161-169 °C

Storage temp.: +4 °C

[7493-95-0] • EC No. 231-343-6 • WGK 1

Type analysis:

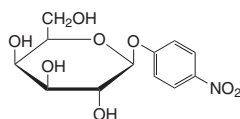
Identity (TLC)..... complies
 Solution (5 % in H_2O)..... colourless to nearly colourless
 Water (KF)..... ≤1,0 %
 Spec. rotation $[\alpha]_D^{20}$ (c=1 in water)..... +242° to +248°

4063.1	100 mg	glass	19,25 €

4063.2	500 mg	glass	43,55 €

4063.3	1 g	glass	68,70 €

4-Nitrophenyl- β -D-galactopyranoside



4-Nitrophenyl- β -D-galactopyranoside

≥98 %, for biochemistry

Glycosidase substrate

p-Nitrophenyl- β -D-galactoside, PNP-G, PNP- β -D-Gal

$C_{12}H_{15}NO_8$

M 301,26 g/mol • mp ~180 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[3150-24-1] • EC No. 221-584-5 • WGK 1

Type analysis:

Assay (HPLC)..... ≥98 %
 Solution (1 % in H_2O)..... colourless to slightly yellowish
 Water (KF)..... ≤7,0 %
 p-Nitrophenol..... ≤0,05 %
 Specific rotation $[\alpha]_D^{20}$ (c=1 in H_2O)..... -84° ±2°

4081.1	1 g	glass	28,95 €

4081.2	2,5 g	glass	68,30 €

4081.3	5 g	glass	126,85 €

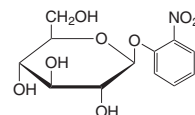
p-Nitrophenyl- α -D-galactoside

▶ 4-Nitrophenyl- α -D-galactopyranoside
 see p. 1993

p-Nitrophenyl- β -D-galactoside

▶ 4-Nitrophenyl- β -D-galactopyranoside
 see p. 1993

2-Nitrophenyl- β -D-glucopyranoside



2-Nitrophenyl- β -D-glucopyranoside

≥99 %, for biochemistry

Glycosidase substrate

o-Nitrophenyl- β -D-glucoside, ONP- β -D-Glc

$C_{12}H_{15}NO_8$

M 301,26 g/mol

mp ~143 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[2816-24-2] • EC No. 220-568-5

WGK 1

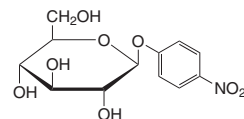
Type analysis:

Assay (HPLC)..... ≥99 %
 Solution (5 % in methanol)..... clear, colourless to light yellowish
 Water (KF)..... ≤0,5 %
 o-Nitrophenol..... ≤0,05 %
 Specific rotation $[\alpha]_D^{20}$ (c=1 in H_2O)..... -105° ±2°

4077.1	500 mg	glass	36,05 €

4077.2	1 g	glass	60,10 €

4-Nitrophenyl- β -D-glucopyranoside



4-Nitrophenyl- β -D-glucopyranoside

≥99 %, for biochemistry

Glycosidase substrate

p-Nitrophenyl- β -D-glucoside, PNP- β -D-Glc

$C_{12}H_{15}NO_8$

M 301,26 g/mol

mp 161-167 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[2492-87-7] • EC No. 219-661-3

WGK 1

Type analysis:

Assay (HPLC)..... ≥99 %
 Solution (1 % in H_2O)..... colourless
 Water (KF)..... ≤6,0 %
 p-Nitrophenol..... ≤0,05 %
 Spec. rotation $[\alpha]_D^{20}$ (c=1 in water, dry substance)..... -109° to -105°

4082.1	500 mg	glass	33,25 €

4082.2	1 g	glass	53,65 €

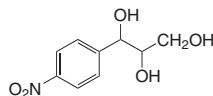
4082.3	5 g	glass	213,95 €

o-Nitrophenyl- β -D-glucoside

▶ 2-Nitrophenyl- β -D-glucopyranoside
 see p. 1993

p-Nitrophenyl-β-D-glucoside

► 4-Nitrophenyl-β-D-glucopyranoside
see p. 1993

4-Nitrophenylglycerol**4-Nitrophenylglycerol**

>98 %, for biochemistry

1-(4-Nitrophenyl)-1,2,3-propanetriol

C₉H₁₁O₅N

M 213,19 g/mol

mp 95-101 °C

[2207-68-3] • EC No. 218-624-9

⚠ Warning H315-H319-H335

Type analysis:

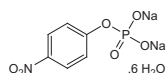
Appearance..... white to yellow crystals

Assay..... >98 %

Melting point..... 98-101 °C

9240.1 250 mg glass 59,70 €

9240.2 1 g glass 139,25 €

4-Nitrophenyl phosphate disodium salt hexahydrate**4-Nitrophenyl phosphate disodium salt hexahydrate**

≥99 %, p.a.

Substrate for alkaline phosphatase, particularly for ELISA.

p-Nitrophenyl phosphate, pNPP

C₆H₄NNa₂O₆P · 6 H₂O

M 371,12 g/mol

mp ~300 °C

Storage temp.: +4 °C

[4264-83-9] • EC No. 224-246-5

Guarantee analysis:

Assay (HPLC)..... ≥99,0 %

Solution (5 % in H₂O)..... clear, colourless to yellow

Free 4-nitrophenol..... ≤0,01 %

4165.1 2,5 g glass 14,55 €

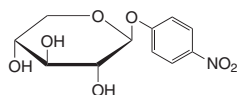
For further information, please see page 1235

1-(4-Nitrophenyl)-1,2,3-propanetriol

► 4-Nitrophenylglycerol see p. 1994

p-Nitrophenyl-β-D-xylopyranoside

► 4-Nitrophenyl-β-D-xyloside see p. 1994

4-Nitrophenyl-β-D-xyloside**4-Nitrophenyl-β-D-xyloside**

≥99 %, for biochemistry

Glycosidase substrate

p-Nitrophenyl-β-D-xylopyranoside,

PNP-β-D-Xyl, PNPX

C₁₁H₁₃NO₇

M 271,23 g/mol

mp ~160 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[2001-96-9] • EC No. 217-897-1

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (TLC)..... ≥99 %

Solution (1 % in H₂O)..... colourless

Water (KF)..... ≤1 %

p-Nitrophenol..... ≤0,05 %

Specific rotation [α]_D²⁰ (c=0,4 in H₂O)..... -57° to -53°

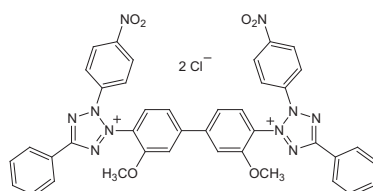
4079.1 100 mg glass 23,90 €

4079.2 500 mg glass 73,00 €

4079.3 1 g glass 131,70 €

Nitroprusside sodium

► Sodium nitroprusside dihydrate see p. 2155

p-Nitrotetrazolium blue chloride**p-Nitrotetrazolium blue chloride**

≥98 %, p.a.

Nitro-BT, NBT, Nitroblue tetrazolium chloride

C₄₀H₃₀Cl₂N₁₀O₆

M 817,65 g/mol

mp 205 °C

Storage temp.: +4 °C

[298-83-9] • EC No. 206-067-4

WGK 2

Type analysis:

Assay (NT)..... ≥98 %

Water (KF)..... ≤5,0 %

4421.1 100 mg glass 15,95 €

4421.2 500 mg glass 40,75 €

4421.3 1 g glass 77,30 €

4421.4 5 g glass 274,15 €

For further information, please see page 1234

Nitro thinner**Nitro thinner**

tech.

D 0,830 • bp 57-132 °C

mp <-95 °C • flp -18 °C

UN No. 1993 • ADR 3 II • WGK 2

⚠ ⚠ ⚠ ⚠ Danger H225-

H302+H312+H332-H315-H318-H361d-H335-

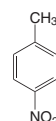
H336-H373-H304-EUH066

3036.5 1 l tinplate 13,15 €

Original pack 6 x 1 l 12,49/1 l

3036.3 10 l tinplate 68,70 €

3036.4 25 l tinplate 126,85 €

p-Nitrotoluene**p-Nitrotoluene**

ROTI®CALIPURE Melting point standard
52-54 °C

1-Methyl-4-nitrobenzene

C₇H₇NO₂

M 137,14 g/mol

bp 239 °C

mp 52-54 °C • flp 106 °C

[99-99-0] • EC No. 202-808-0

UN No. 3446 • ADR 6.1 II • WGK 3

⚠ ⚠ ⚠ ⚠ Danger

H301+H311+H331-H373-H411

Type analysis:

Meniscus formation..... 52-54 °C

Complete liquefaction..... 52-54 °C

9712.1 1 g glass 27,85 €

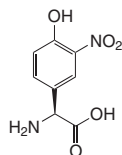
3-Nitro-p-toluidine

► 4-Methyl-3-nitroaniline see p. 1968

H-3-Nitro-Tyr-OH

► 3-Nitro-L-tyrosine see p. 1995

3-Nitro-L-tyrosine

**3-Nitro-L-tyrosine**

≥98 %, for biochemistry

H-3-Nitro-Tyr-OH

C₉H₁₀N₂O₅

M 226,19 g/mol

mp 233-235 °C

[621-44-3] • EC No. 210-688-6

Type analysis:

Assay (titr.) ≥98,0 %
 Solution (5 % in 1 N HCl) slightly yellow, clear
 Water (KF) ≤0,5 %

5275.1	5 g	plastic	59,05 €
5275.2	10 g	plastic	96,65 €

NMM

▶ N-Methylmorpholine see p. 1968

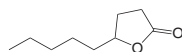
NMP

▶ N-Methyl-2-pyrrolidone (NMP) see p. 1970

NMR solvents

▶ Deuterated Compounds see p. 1764
 ▶ Deuterated Solvents see p. 2165

γ-Nonalactone

**γ-Nonalactone**

ROTICHROM® GC

Reference substance for GC

Racemate

C₉H₁₆O₂

M 156,21 g/mol

D 0,976 • bp 243 °C

flp 113 °C

Storage temp.: +4 °C

[104-61-0] • EC No. 203-219-1

WGK 1

Type analysis:

Purity (GC) ≥97 %

3088.1	1 g	plastic	75,15 €

n-Nonanal

▶ Pelargonaldehyde see p. 2023

n-Nonane

C₉H₂₀

M 128,26 g/mol

D 0,72 • bp 151 °C

mp -53 °C • flp 31 °C

[111-84-2] • EC No. 203-913-4

UN No. 1920 • ADR 3 III • WGK 3

Danger

H226-H304-H315-H319-H332-H336-H410

n-Nonane

~99 %

Type analysis:

Appearance clear, colourless liquid
 Assay (GC) ≥98,5 %
 Refractive index n_D²⁰ 1,403-1,407

4310.2	100 ml	glass	21,40 €
4310.1	250 ml	glass	40,75 €
4310.3	500 ml	glass	64,40 €
4310.4	1 l	glass	106,45 €
Original pack 6 x 1 l 101,13/1 l			

n-Nonane

ROTICHROM® GC

Reference substance for GC

Type analysis:

Purity (GC) ≥98,5 %

9008.1	1 g	plastic	75,15 €

Nonanedioic acid

▶ Azelaic acid see p. 1660

Nonanoic acid

▶ Pelargonic acid see p. 2023

Non-essential amino acids

▶ Roti®-CELL MEM-NEAA solution see p. 2093

Non-ionic polymer of saccharose

▶ Ficoll® 400 see p. 1827

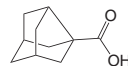
Nonylaldehyde

▶ Pelargonaldehyde see p. 2023

Nonylvanylamide

▶ Pelargonic acid vanillylamide see p. 2023

3-Noradamantanecarboxylic acid

**3-Noradamantanecarboxylic acid**

≥99 %, for synthesis

C₁₀H₁₄O₂

M 166,22 g/mol

mp 102-107 °C

[16200-53-6]

WGK 3

Type analysis:

Appearance white, cryst. powder
 Assay (GC) ≥99,0 %
 Identity (GC) complies
 Sulphated ash ≤0,1 %

7631.1	1 g	glass	20,10 €
7631.2	5 g	glass	60,10 €

2,5-Norbornadiene

**2,5-Norbornadiene**

~97 %

Bicyclo-[2,2,1]-hepta-2,5-diene

C₇H₈

M 92,14 g/mol

D 0,91 • bp 90 °C

mp -20 °C • flp -11 °C

[121-46-0] • EC No. 204-472-0

UN No. 2251 • ADR 3 II • WGK 2

Danger H225
Type analysis:

Assay (GC) ~97 %

3201.1	50 ml	glass	67,20 €

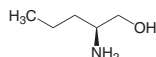
Norgine

▶ Alginate acid see p. 1622

Norkanugin

▶ Robinetin see p. 2086

L-Norvalinol



L-Norvalinol

≥98 %, for biochemistry

(S)-(+)-2-Amino-1-pentanol

C₅H₁₃NO

M 103,16 g/mol

bp 137 °C

mp 44 °C

Storage temp.: +4 °C

[22724-81-8]

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (GC) ≥98,0 %
Water (KF) ≤2,0 %

6663.1	500 mg	glass	30,00 €
6663.2	1 g	glass	46,15 €

Nourseothricin dihydrogen sulphate

Nourseothricin dihydrogen sulphate

≥85 %, for biochemistry and microbiology

Broad-band antibiotic and antimycotic of viruses, bacteria and fungi.

Streptothricine

Solubility: 1 g/ml

Storage temp.: +4 °C

[96736-11-7]

WGK 1

⚠ Warning H302-H315-H319-H335

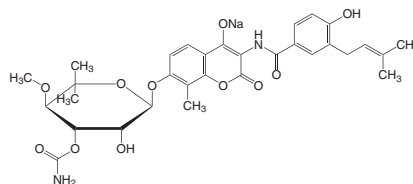
Type analysis:

Appearance beige powder
Streptothricine D, F ≥85 %
Streptothricine C, E <15 %
Ash ≤3,0 %
Packed under argon.

3011.1	25 mg	plastic	38,60 €
3011.2	100 mg	plastic	89,80 €
3011.3	1 g	plastic	461,20 €

For further information, please see page 1377

Novobiocin sodium salt



Novobiocin sodium salt

≥850 µg/mg, for biochemistry

Bacteriostatic antibiotic, HSP90 inhibitor.

C₃₁H₃₅N₂NaO₁₁

M 634,62 g/mol

Storage temp.: +4 °C

[1476-53-5] • EC No. 216-023-6

WGK 3

⚠ Warning H319-H317

Type analysis:

Activity ≥850 µg/mg
Specific rotation [α]_D²⁰ (dry substance) -58° to -50°
pH value (2,5 % in H₂O) 6,5-8,5
Sulphated ash ≤12,0 %
Water ≤6,0 %

0247.1	1 g	glass	26,55 €
0247.2	5 g	glass	107,40 €
0247.3	10 g	glass	147,85 €

For further information, please see page 1377

NTP-set

NTP-set

≥99 %, ATP, CTP, GTP, UTP

NTP-Set, consisting of the single nucleotide solutions:

ATP, CTP, GTP, UTP.

Concentration: 100 mM per NTP.

Ribonucleoside triphosphate-set

Storage temp.: -20 °C • Transport temp.:

cooled

WGK 1

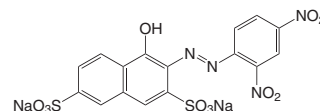
K049.1	4 x 25 µmol (250 µl), 100 mM	plastic	119,90 €
K049.2	5 x 4 x 25 µmol (250 µl), 100 mM	plastic	396,70 €

For further information, please see page 1213

Nucin

► Juglone see p. 1915

Nuclear fast red (C.I. 60760)



Nuclear fast red (C.I. 60760)

for microscopy

C₁₄H₈NNaO₇S

M 357,28 g/mol

[6409-77-4] • EC No. 229-088-0

WGK 3

Type analysis:

Appearance dark red to brown powder
Appearance of solution (0,1 % in H₂O) dark red

7728.1	1 g	glass	22,05 €
7728.2	5 g	glass	66,55 €
7728.3	10 g	glass	110,65 €

For further information, please see page 1405

Nuclear fast red aluminium sulphate solution

Nuclear fast red aluminium sulphate solution

for microscopy

For visualising nuclei e.g. during Elastica Staining.

WGK 1

⚠ Warning H319

N069.1	500 ml	glass	30,00 €

For further information, please see page 1394

Nucleotides / Nucleosides

Art. No.	Description	Page
6122	Adenosine	1615
HN35	Adenosin-5'-triphosphate disodium salt	1226
K054	ATP	1214
K045	ATP solution	1213
1047	Biotin-11-dUTP	1212
3243	5-Bromo-2'-deoxyuridine	1284
7801	C8-Alkyne-dCTP	1709
7799	C8-Alkyne-dUTP	1710
K057	CTP	1214
K048	CTP solution	1213
0717	Cytidine	1757
K050	dATP	1213
K035	dATP solution	1211
K053	dCTP	1213
K038	dCTP solution	1211
K040	ddATP solution	1214
K043	ddCTP solution	1214
K042	ddGTP solution	1214
K044	ddNTP-Set	1214
K041	ddTTP solution	1214
K052	dGTP	1213
K037	dGTP solution	1211
P732	dITP solution	1211
K039	dNTP-Set 1	1210
0178	dNTP-Set 1 (pH 7)	1210

L540	dNTP-Set 2	1210
P731	dNTP-Set 3	1210
K051	dTTP	1213
K036	dTTP solution	1211
L539	dUTP solution	1211
7845	5-Ethynyl-2'-deoxyuridine (EdU)	1812
7802	5-Ethynyl-dUTP	1820
7848	5-Ethynyl uridine	1820
1048	Fluorescein-12-dUTP	1212
K056	GTP	1214
K047	GTP solution	1213
0715	Guanosine	1865
K049	NTP-set	1996
1049	Rhodamine-12-dUTP	2084
L541	Roti®-Mix PCR 1	2105
L542	Roti®-Mix PCR 2	2105
L785	Roti®-Mix PCR 3	2105
0179	Roti®-Mix PCR 3 (pH 7)	2105
L786	Roti®-Mix PCR 4	2105
3005	Thymidine	2209
0714	Uridine	2233
K055	UTP	2233
K046	UTP solution	2234

Nutrient Agar

Storage temp.: +20 °C

Nutrient Agar

EN ISO 6579, ISO 10273, for microbiology

For cultivation of non-fastidious microorganisms.

Application: Use 23 g for 1 l agar.

Guarantee analysis:

Gelatine peptone.....	5 g/l
Beef extract.....	3 g/l
Agar.....	15 g/l
pH value.....	6,8 ±0,2

X928.1	500 g	plastic	72,60 €
Original pack 6 x 500 g			68,97/500 g
X928.2	1 kg	plastic	131,70 €
Original pack 6 x 1 kg			125,12/1 kg

For further information, please see page 1336

Nutrient Agar (DEV/ISO)

DEV, EN ISO 16266:2008, for microbiology

For confirmation of *Pseudomonas aeruginosa* in water samples.

Application: Use 28 g for 1 l agar.

Guarantee analysis:

Peptone.....	5 g/l
Meat extract.....	1 g/l
Yeast extract.....	2 g/l
Sodium chloride (NaCl).....	5 g/l
Agar.....	15 g/l
pH value.....	7,4 ±0,2

CP66.1	500 g	plastic	94,10 €
Original pack 6 x 500 g			89,40/500 g

For further information, please see page 1336

Nutrient Agar (DEV)

DEV, DIN 38 411, for microbiology

For enumeration of microorganisms in general in water samples and other sample material.

Application: Use 43 g for 1 l agar.

Guarantee analysis:

Meat peptone.....	10 g/l
Meat extract.....	10 g/l
Sodium chloride (NaCl).....	5 g/l
Agar.....	18 g/l
pH value.....	7,3 ±0,2

CL02.1	500 g	plastic	95,70 €
Original pack 6 x 500 g			90,92/500 g
CL02.2	1 kg	plastic	170,95 €
Original pack 6 x 1 kg			162,40/1 kg

For further information, please see page 1336

Nutrient Broth

Nutrient Broth

for microbiology

For cultivation of non-fastidious microorganisms.

Application: Use 8 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Beef extract.....	3 g/l
Gelatine peptone.....	5 g/l
pH value.....	6,8 ±0,2

X929.1	500 g	plastic	70,45 €
Original pack 6 x 500 g			66,93/500 g
X929.2	1 kg	plastic	123,10 €
Original pack 6 x 1 kg			116,95/1 kg

For further information, please see page 1336

Nystatin dihydrate

Nystatin dihydrate

≥4400 I.U./mg, for biochemistry

Broad-range fungicide, polyene.

Mycostatin, Fungicidin

$C_{47}H_{75}NO_{17} \cdot 2 H_2O$

M 962,14 g/mol

Storage temp.: +4 °C

[1400-61-9] • EC No. 215-749-0

Type analysis:

Activity.....	≥4400 I.U./mg
pH value (H_2O).....	6,0-8,0
Loss on drying.....	≤5 %

0241.1	5 g	glass	33,25 €
0241.2	10 g	glass	55,80 €

For further information, please see page 1377

NZamine

NZamine

for molecular biology

Component of nutrition media for molecular biological assays, particularly LB Broth.

Storage temp.: +20 °C

Guarantee analysis:

Total nitrogen.....	≥10 %
Amino nitrogen.....	≥3,9 %
Loss on drying.....	≤6 %
Ash.....	≤15 %
pH value (2 % solution).....	7,0 ±0,5

CP76.2	250 g	plastic	42,90 €

CP76.1	500 g	plastic	67,20 €

Original pack 6 x 500 g			63,84/500 g

For further information, please see page 1365

NZCYM Broth

NZCYM Broth

for molecular biology

Application: Use 22 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Casein, enzymatically digested.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Casamino Acids.....	1 g/l
Magnesium sulphate ($MgSO_4$), anhydrous.....	0,98 g/l
pH value.....	7,0 ±0,2

X974.1	500 g	plastic	54,75 €

Original pack 6 x 500 g			52,01/500 g

For further information, please see page 1361

NZYM Broth

NZYM Broth

for molecular biology

Application: Use 21 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Casein, enzymatically digested.....	10 g/l
Yeast extract.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Magnesium sulphate ($MgSO_4$), anhydrous.....	0,98 g/l
pH value.....	7,0 ±0,2

X973.1	500 g	plastic	57,55 €

Original pack 6 x 500 g			54,67/500 g

For further information, please see page 1361

Octaacetyl-α-D-cellobiose

► α-D-Cellobiose octaacetate see p. 1723

Octacetyl modified silica - endcapped

► Silica gel 60 modified phases see p. 2128

Octacosane

Octacosane

≥98 %

C₂₈H₅₈

M 394,74 g/mol

mp 61-62 °C

[630-02-4] • EC No. 211-125-7

Type analysis:

Assay (GC). ≥98,0 %

4441.1	5 g	glass	39,25 €

n-Octadecane

n-Octadecane

ROTICHRON® GC

Reference substance for GC

C₁₈H₃₈

M 254,50 g/mol

D 0,78 • bp 317 °C

mp 28-30 °C • flp 154 °C

Storage temp.: +4 °C

[593-45-3] • EC No. 209-790-3 • WGK 1

Type analysis:

Purity (GC). ≥98,5 %

9059.1	1 g	plastic	75,15 €

Octadecanoic acid

▶ Stearic acid see p. 2183

1-Octadecanol

▶ Stearyl alcohol see p. 2184

9,12,15-Octadecatrienoic acid

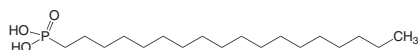
▶ Linolenic acid see p. 1933

Octadecyl-modified silica gel

▶ Silica gel C₁₈ see p. 2128

Octadecylphosphonic acid

O/p



Octadecylphosphonic acid

Suitable for the production and modification of nanoparticles.

ODPA

C₁₈H₃₉O₃P

M 334,47 g/mol

mp 95-100 °C

Storage temp.: +4 °C

[4724-47-4] • WGK 3

Type analysis:

Melting point. 95-100 °C

8468.1	1 g	glass	35,40 €

8468.2	5 g	glass	127,95 €

Octadeutero tetrahydrofuran

▶ Tetrahydrofuran D8 see p. 2204

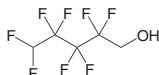
5-(Octa-1,7-diynyl)-5'-O-tri-phosphate-2'-desoxycytidine

▶ C8-Alkyne-dCTP see p. 1709

5-(Octa-1,7-diynyl)-5'-O-tri-phosphate-2'-desoxyuridine

▶ C8-Alkyne-dUTP see p. 1710

2,2,3,3,4,4,5,5-Octafluoro-1-pentanol



2,2,3,3,4,4,5,5-Octafluoro-1-pentanol

≥99,5 %

OFF, 1H, 1H, 5H-Perfluoropentanol

C₅H₄F₈O

M 232,07 g/mol

D 1,67 • bp 140-142 °C

mp ≥120 °C • flp 75 °C

[355-80-6] • EC No. 206-593-4

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance. clear colourless liquid

Assay (GC). ≥99,5 %

Water (KF). ≤0,1 %

7297.1	10 ml	glass	15,60 €

7297.2	100 ml	glass	81,20 €

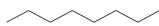
Octamethylene glycol

▶ 1,8-Octanediol see p. 1998

iso-Octane

▶ Isooctane see p. 1911

n-Octane

C₈H₁₈

M 114,22 g/mol

D 0,703 • bp 125-127 °C

mp -57 °C • flp 13 °C

[111-65-9] • EC No. 203-892-1

UN No. 1262 • ADR 3 II • WGK 2

⚠ ⚠ ⚠ ⚠ Danger

H225-H304-H315-H336-H410

n-Octane

≥99 %, for synthesis

Type analysis:

Appearance. clear colourless liquid

Assay. ≥99,0 %

Density (15 °C). 0,706-0,710

Aromatic compounds. ≤0,01 %



8753.1	100 ml	glass	21,40 €

8753.2	500 ml	glass	53,65 €

8753.3	1 l	glass	96,65 €

Original pack 6 x 1 l

8753.4	2,5 l	glass	192,45 €

Original pack 4 x 2,5 l

n-Octane

ROTICHRON® GC

Reference substance for GC

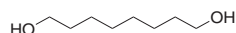
Storage temp.: +4 °C

Type analysis:

Purity (GC). ≥98,5 %

4435.1	1 g	plastic	75,15 €

1,8-Octanediol



1,8-Octanediol

≥98 %

Octamethylene glycol

C₈H₁₈O₂

M 146,23 g/mol

bp 274 °C

mp 63 °C • flp 148 °C

[629-41-4] • EC No. 211-090-8 • WGK 1

Type analysis:

Assay (GC). ≥98,0 %

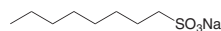
Water (KF). ≤1,0 %

Melting point. 59-61 °C

5273.1	25 g	plastic	25,50 €

5273.2	50 g	plastic	41,40 €

Octane-1-sulphonic acid sodium salt



Octane-1-sulphonic acid sodium salt

≥98 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-octane sulphonate

C₈H₁₇NaO₃S

M 216,27 g/mol

[5324-84-5] • EC No. 226-195-4 • WGK 2

⚠ Warning H315-H319

Guarantee analysis:

Assay (acidim.). ≥98,0 %

Water. ≤2 %

A 200 nm (0,25 M in water). ≤0,1 AU

A 210 nm (0,25 M in water). ≤0,05 AU

A 220 nm (0,25 M in water). ≤0,03 AU

A 230 nm (0,25 M in water). ≤0,02 AU

A 240 nm (0,25 M in water). ≤0,01 AU

A 250 nm (0,25 M in water). ≤0,01 AU

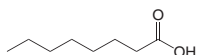
A 260 nm (0,25 M in water). ≤0,01 AU

KK55.1	10 g	glass	42,50 €

KK55.2	25 g	glass	81,60 €

KK55.3	100 g	glass	246,20 €

Octanoic acid



Octanoic acid

≥99,5 %, for synthesis

Caprylic acid

C₈H₁₆O₂

M 144,21 g/mol

D 0,91 • bp 237 °C

mp 12-16 °C • flp 127 °C

[124-07-2] • EC No. 204-677-5

UN No. 3265 • ADR 8, III • WGK 1

⚠ Warning H314

Type analysis:

Assay ≥99,5 %
 Water ≤0,2 %
 Melting point 12-16 °C

2613.1	100 ml	glass	13,15 €

2613.2	500 ml	glass	21,40 €

2613.3	1 l	glass	28,50 €

Original pack 6 x 1 l 27,08/1 l

2613.4	2,5 l	glass	55,80 €

Original pack 4 x 2,5 l 53,01/2,5 l

n-Octanoic acid

▶ Caprylic acid see p. 1713

Octanoic acid methylester

▶ Caprylic acid methyl ester see p. 1713

1-Octanol



Caprylic alcohol, n-Octyl alcohol

C₈H₁₈O

M 130,23 g/mol

D 0,82 • bp 194,4 °C

mp -16,3 °C • flp 81 °C

Solubility: 0,3 g/l (H₂O, 20 °C)

[111-87-5] • EC No. 203-917-6

WGK 1

⚠ Warning H319

1-Octanol

≥99 %, for synthesis

Type analysis:

Assay (GC) ≥99,0 %
 Density (d 20 °C/4 °C) 0,824-0,826
 Water ≤0,1 %

4439.1	100 ml	glass	13,80 €

4439.2	500 ml	glass	22,80 €

4439.3	1 l	glass	34,95 €

Original pack 6 x 1 l 33,20/1 l

1-Octanol

ROTICHROM® GC

Reference substance for GC

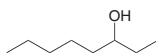
Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥98 %

3182.1	1 g	plastic	75,15 €

3-Octanol



3-Octanol

ROTICHROM® GC

Reference substance for GC

Ethylpentylcarbinol

C₈H₁₈O

M 130,23 g/mol

D 0,82 • bp 173 °C

mp -45 °C • flp 68 °C

Storage temp.: +4 °C

[589-98-0] • EC No. 209-667-4

WGK 2

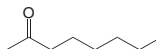
⚠ Warning H315-H319

Type analysis:

Purity (GC) ≥97,5 %

8017.1	1 g	plastic	75,15 €

2-Octanone



2-Octanone

ROTICHROM® GC

Reference substance for GC

C₈H₁₆O

M 128,22 g/mol

D 0,82 • bp 172-173 °C

mp -21 °C • flp 56 °C

Solubility: ~1 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[111-13-7] • EC No. 203-837-1

UN No. 1224 • ADR 3 III • WGK 1

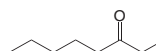
⚠ Warning H226-H312

Type analysis:

Purity (GC) ≥97,5 %

9440.1	1 g	plastic	75,15 €

3-Octanone



3-Octanone

ROTICHROM® GC

Reference substance for GC

Ethyl pentyl ketone, n-Amyl ethyl ketone, Ethyl-n-amyl ketone, EAK

C₈H₁₆O

M 128,21 g/mol

D 0,82 • bp 167-168 °C

mp -23 °C • flp 53 °C

Solubility: 4,5 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[106-68-3] • EC No. 203-423-0

UN No. 2271 • ADR 3 III • WGK 1

⚠ Warning H226

Type analysis:

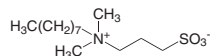
Purity (GC) ≥98 %

3846.1	1 g	glass	75,15 €

n-Octylalcohol

▶ 1-Octanol see p. 1999

N-Octyl-N,N-dimethyl-3-ammonio-1-propane sulphate



N-Octyl-N,N-dimethyl-3-ammonio-1-propane sulphate

≥98 %, for biochemistry

Zwitterionic detergent

Sulfobetaine-8, SB-8

C₁₃H₂₉NO₃S

M 279,4 g/mol

[15178-76-4]

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC) ≥98,0 %
 Loss on drying ≤2,0 %
 Ash ≤0,1 %

1800.1	5 g	glass	47,20 €

1800.2	25 g	glass	126,35 €

For further information, please see page 1220

Oil of balm

Oil of balm

natural

Oleum Melissae indikum

D ~0,9 • bp ~220 °C

flp 63 °C

[91771-61-8] • EC No. 294-954-7

UN No. 3082 • ADR 9 III • WGK 2

Danger

H318-H317-H315-H304-H411

Type analysis:

Appearance..... clear, colourless to yellowish oil

Relative density (20 °C)..... 0,880-0,896 g/cm³

Refractive index (20 °C)..... 1,4630-1,4750

Optical rotation (20 °C)..... +1° to -4°

6507.1	100 ml	glass	17,10 €

Oil of basil

Oil of basil

natural

Oleum Basilici

bp ~215 °C

flp 74 °C

[8015-73-4] • EC No. 283-900-8

WGK 2

Warning

H302-H317-H341-H351-H412

Type analysis:

Appearance..... clear light yellow brownish oil

Relative density (20 °C)..... 0,920-0,960

Refractive index (20 °C)..... 1,495-1,515

Optical rotation (20 °C)..... -10° to 0°

7039.1	25 ml	glass	42,90 €

Oil of bergamot, natural

Oil of bergamot

natural

Oleum Bergamottae

D 0,88

flp 58 °C

[8007-75-8] • EC No. 289-612-9

UN No. 1169 • ADR 3 III • WGK 3

Danger

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, green-yellow to green-amber oil

Relative density (20 °C)..... 0,870-0,880

Refractive index (20 °C)..... 1,464-1,468

Optical rotation (20 °C)..... +15° to +35°

6501.1	50 ml	glass	31,10 €

Oil of bergamot, artificial

Oil of bergamot

artificial

Oleum Bergamottae

D 0,88

flp 58 °C

UN No. 1993 • ADR 3 III • WGK 3

Danger H304-H226-H400-

H410-H315-H319-H317-H335

Type analysis:

Appearance..... clear, green-yellow oil

Relative density (20 °C)..... 0,875-0,885

Refractive index (20 °C)..... 1,450-1,470

Optical rotation (20 °C)..... +20° to +40°

3282.2	100 ml	glass	21,40 €

3282.1	250 ml	glass	36,05 €

Oil of cajuput

Oil of cajuput

natural

Oleum Cajuput

D ~0,92

flp 48 °C

[85480-37-1] • EC No. 287-316-4

UN No. 1169 • ADR 3 III • WGK 2

Danger

H304-H226-H317-H411

Type analysis:

Appearance..... clear, colourless to lightly yellow-

brownish oil

Solubility in ethanol % vol..... L96: 1:10 v/v opalescent

Miscible..... ethanol 90 %

Relative density (20 °C)..... 0,910-0,925

Refractive index (20 °C)..... 1,4660-1,4720

Optical rotation (20 °C)..... 0° to -4°

1,8-Cineole..... 50-70 %

Terpineol..... 5-15 %

6105.1	100 ml	glass	24,20 €

6105.2	500 ml	glass	60,10 €

Oil of camphor

Oil of camphor

light

Oleum Camphorae

D 0,89

flp 53 °C

[8008-51-3] • EC No. 294-760-2

UN No. 1130 • ADR 3 III • WGK 3

Danger

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, pale yellow to yellowish to brownish oil

Relative density (20 °C)..... 0,870-0,920

Refractive index (20 °C)..... 1,46-1,47

Optical rotation (20 °C)..... +5° to +15°

3357.1	1 l	glass	52,15 €

Original pack 6 x 1 l 49,54/1 l

Oil of caraway, natural

Oil of caraway

natural

Oleum Carvi

D ~0,95

flp 53 °C

[8000-42-8] • EC No. 288-921-6

UN No. 1169 • ADR 3 III • WGK 3

Danger

H304-H226-H400-H410-H312-H315-H317

Type analysis:

Appearance..... clear, almost colourless to light yellowish oil

Solubility in ethanol % vol..... L96: 1:1 v/v clear sol.

Miscible..... ethanol 90 %, ether

Relative density (20 °C)..... 0,920-0,980

Refractive index (20 °C)..... 1,484-1,490

Optical rotation (20 °C)..... +65° to +81°

7050.1	25 ml	glass	18,85 €

Oil of caraway, artificial

Oil of caraway

artificial

Oleum Carvi

D ~0,87

UN No. 1993 • ADR 3 III • WGK 3

Danger

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellowish to brownish oil

Relative density (20 °C)..... 0,850-0,890

Refractive index (20 °C)..... 1,470-1,480

Optical rotation (20 °C)..... +65° to +95°

3307.1	250 ml	glass	33,25 €

Oil of cassia

Oil of cassia

natural, chinese

Oleum Cassiae

D ~1,06

[8007-80-5] • EC No. 284-635-0

WGK 2

Warning H312-H315-H317

Type analysis:

Appearance..... clear, yellow to brown oil

Relative density (20 °C)..... 1,052-1,070

Refractive index (20 °C)..... 1,600-1,614

Optical rotation (20 °C)..... +1° to -1°

6593.1	100 ml	glass	36,45 €

Oil of cedar leaf, pure

Oil of cedar leaf

pure

Oleum Foliorum cedri

D ~0,91

flp 48 °C

[8007-20-3] • EC No. 290-370-1

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H302-H317-H411

Type analysis:

Appearance..... yellow to brown oil

Density (20 °C)..... 0,900-0,940 g/cm³

Refractive index (20 °C)..... 1,450-1,470

Optical rotation (20 °C)..... -14° to -4°

6594.1	100 ml	glass	72,60 €

Oil of cedar leaf, artificial

Oil of cedar leaf

artificial

Oleum Foliorum cedri

D ~0,91

flp 51 °C

UN No. 1993 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H302-H317-H411

Type analysis:

Appearance..... clear, yellowish to brownish oil

Relative density (20 °C)..... 0,880-0,920

Refractive index (20 °C)..... 1,4640-1,4740

Optical rotation (20 °C)..... +5° to +15°

3291.2	50 ml	glass	18,20 €

3291.1	250 ml	glass	53,65 €

Oil of cedar wood

Oil of cedar wood

for microscopy

Oleum Ligni cedri

D 0,99 • bp 279 °C

flp 110-113 °C

UN No. 3082 • ADR 9 III • WGK 2

 **Danger** H304-H410

Type analysis:

Appearance..... yellow to brownish, translucent, viscous

Solubility in ether..... 1:1

Solubility in toluene..... 1:1

Solubility in chloroform..... 1:1

Odour..... characteristic

Density (20 °C)..... 0,985-0,998

Refractive index n_D²⁰..... 1,51-1,525

5308.1	100 ml	glass	14,55 €

5308.2	250 ml	glass	21,40 €

5308.3	500 ml	glass	37,55 €

For further information, please see page 1417

Oil of celery

Oil of celery

Oleum Apii, from seeds

Apium graveoleus oil

D 0,89

flp 56 °C

[89997-35-3] • EC No. 289-668-4

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, light yellow-brownish oil

Relative density (20 °C)..... 0,880-0,905

Refractive index (20 °C)..... 1,4780-1,4860

Optical rotation (20 °C)..... +50° to +70°

7040.2	5 ml	glass	21,40 €

7040.1	25 ml	glass	53,25 €

Oil of cembra pine

Oil of cembra pine

pure

Oleum Cembrae

D ~0,86

[92202-04-5] • EC No. 296-036-1

UN No. 1272 • ADR 3 III • WGK 3

 **Danger**

H226-H315-H319-H317-H304-H410

Type analysis:

Appearance..... clear, light yellowish oil

Density (20 °C)..... 0,850-0,890 g/cm³

Refractive index (20 °C)..... 1,4700-1,4800

Optical rotation (20 °C)..... -15° to -5°

4208.2	25 ml	glass	16,05 €

4208.1	100 ml	glass	40,75 €

Oil of chamomile, blue

Oil of chamomile

blue

Oleum Chamomillae

D 0,94

flp 63 °C

[8002-66-2] • EC No. 282-006-5

WGK 1

H412

Type analysis:

Appearance..... blue oil

Density (20 °C)..... 0,922-0,964 g/cm³

Refractive index (20 °C)..... 1,4700-1,4800

Optical rotation (20 °C)..... -15° to -5°

6504.1	10 ml	glass	84,85 €

Oil of chamomile, natural

Oil of chamomile

roman, natural

Oleum Chamomillae romanae

D ~0,90

flp 70 °C

[84649-86-5] • EC No. 283-467-5

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H317-H411

Type analysis:

Appearance..... clear, yellowish oil

Relative density (20 °C)..... 0,890-0,930

Refractive index (20 °C)..... 1,440-1,455

Optical rotation (20 °C)..... +5° to -5°

3354.1	5 ml	glass	60,10 €

Oil of chamomile, artificial

Oil of chamomile

artificial

Oleum Chamomillae

D 0,94

flp 51 °C

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H319-H317

Type analysis:

Appearance..... clear, blue to green oil

Density (20 °C)..... 0,900-1,000 g/cm³

Refractive index (20 °C)..... 1,500-1,520

Optical rotation (20 °C)..... -10° to 0°

3305.1	50 ml	glass	50,45 €

Oil of cinnamon, natural

Oil of cinnamon

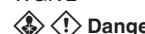
natural

Oleum Cinnamomi ceylanici

D ~1,03

flp 80 °C

WGK 2

 **Danger**

H304-H312-H315-H319-H317-H412

Type analysis:

Appearance..... clear, yellowish to yellow-brownish oil

Density (20 °C)..... 1,000-1,050 g/cm³

Refractive index (20 °C)..... 1,570-1,590

Optical rotation (20 °C)..... -2° to +2°

A432.2	10 ml	glass	16,05 €

A432.1	50 ml	glass	53,65 €

Oil of cinnamon, artificial

Oil of cinnamon

artificial

Oleum Cinnamomi ceylanici

D ~1,03

flp 63 °C

WGK 2

 **Danger** H304-H315-H319-H317-H312

Type analysis:

Appearance..... clear, light yellow to medium yellow oil
 Density (20 °C)..... 1,020-1,040
 Refractive index (20 °C)..... 1,590-1,596
 Optical rotation (20 °C)..... -1° to +1°

6512.1 50 ml glass 26,80 €

Oil of citronella, natural

Oil of citronella

natural

Oleum Citronellae

D 0,89

flp 63 °C

[91771-61-8] • EC No. 294-954-7

UN No. 3082 • ADR 9 III • WGK 2

 **Danger**

H318-H317-H315-H411-H304

Type analysis:

Appearance..... clear, colourless to yellow-brownish oil
 Density (20 °C)..... 0,881-0,895 g/cm³
 Refractive index (20 °C)..... 1,4630-1,4750
 Optical rotation (20 °C)..... -4° to +1°

6502.1 250 ml glass 36,45 €

Oil of citronella, artificial

Oil of citronella

artificial

Oleum Citronellae

D 0,89 • bp ~180 °C

flp 53 °C

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H318-H226-H400-H410-H317-H315

Type analysis:

Appearance..... clear, yellowish to brownish oil
 Density (20 °C)..... 0,850-0,900 g/cm³
 Refractive index n_D²⁰..... 1,4650-1,4750
 Optical rotation (20 °C)..... +30° to +50°

3292.1 500 ml glass 31,10 €

Oil of clary-sage

Oil of clary-sage

natural

Oleum Salviae sclareae

[84775-83-7] • EC No. 283-911-8

WGK 1

 **Warning** H315-H317-H412

Type analysis:

Appearance..... clear, light yellow oil
 Density (20 °C)..... 0,890-0,920 g/cm³
 Refractive index (20 °C)..... 1,456-1,468
 Optical rotation (20 °C)..... -20° to -5°

3355.1 25 ml glass 40,35 €

Oil of cloves

Oil of cloves

≥80 %, DAB, natural

Oleum Caryophyllorum

D 1,05

flp 117 °C

[8000-34-8] • EC No. 284-638-7

WGK 1

 **Danger**

H302+H312-H319-H317-H304

Guarantee analysis:

Appearance..... clear, colourless to yellow oil
 Assay (phenol/acetyleugenol)..... ≥80 %
 Identity..... complies
 Foreign phenols..... complies
 Water-soluble content..... complies
 Foreign ester..... complies
 Solubility (EtOH)..... complies
 Relative density (20 °C)..... 1,030-1,055
 Refractive index (20 °C)..... 1,5280-1,5370
 Optical rotation (20 °C)..... 0° to -2°
 Acid and alkaline reacting substances..... complies
 Fatty oils, resinified volatile oils..... complies
 Halogen compounds..... complies

8662.1 250 ml glass 34,30 €

8662.2 1 l glass 107,40 €

Original pack 6 x 1 l 102,03/1 l

Oil of coriander

Oil of coriander

natural

Oleum Coriandri

D 0,87 • bp 193 °C

flp 59 °C

[8008-52-4] • EC No. 283-880-0

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H315-H317-H411

Type analysis:

Appearance..... clear, colourless to light yellowish oil
 Relative density (20 °C)..... 0,860-0,880
 Refractive index (20 °C)..... 1,4620-1,4700
 Optical rotation (20 °C)..... +7° to +13°

7052.1 25 ml glass 20,35 €

Oil of cubeb

Oil of cubeb

natural

Litsea, Oleum Cubeborum

D 0,89

[90063-59-5] • EC No. 290-018-7

UN No. 3082 • ADR 9 III • WGK 2

 **Danger** H304-H315-H317-H411

Type analysis:

Appearance..... clear, yellowish to yellowish-brownish oil
 Density (20 °C)..... 0,850-0,900 g/cm³
 Refractive index (20 °C)..... 1,4750-1,4850
 Optical rotation (20 °C)..... +5° to +20°

6608.1 100 ml glass 24,20 €

Oil of cypress

Oil of cypress

french, natural

Oleum Cupressi

D 0,87

flp 41 °C

[8013-86-3] • EC No. 283-626-9

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H317

Guarantee analysis:

Appearance..... clear, yellow to brown oil
 Density (20 °C)..... 0,850-0,890 g/cm³
 Refractive index (20 °C)..... 1,450-1,480
 Optical rotation (20 °C)..... +10° to +30°

6596.1 100 ml glass 53,25 €

Oil of dill herb, natural

Oil of dill herb

natural

Oleum Anethi e herba

D ~0,90

flp 53 °C

[8006-75-5] • EC No. 289-790-8

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear light yellow to brownish oil
 Solubility in ethanol % vol..... L90: 1:3 v/v almost clear sol.
 Miscible..... ethanol 96 %
 Relative density (20 °C)..... 0,880-0,900
 Refractive index (20 °C)..... 1,4800-1,4900
 Optical rotation (20 °C)..... +70° to +90°
 Acid value..... ≤2

6597.1 100 ml glass 42,90 €

Oil of dill seed

Oil of dill seed

extra pure

Oleum Anethi e seminis

D 0,90

flp 56 °C

[8006-75-5] • EC No. 289-790-8

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear colourless to yellowish oil

Density (20 °C)..... 0,895-0,925 g/cm³

Refractive index (20 °C)..... 1,481-1,492

Optical rotation (20 °C)..... +70° to +80°

3352.1	100 ml	glass	40,35 €

Oil of estragon

Oil of estragon

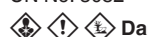
pure

Oleum Dracunculi

D 0,95

[90131-45-6] • EC No. 290-356-5

UN No. 3082 • ADR 9 III • WGK 2

 **Danger**

H304-H302-H317-H341-H351-H411-EUH066

Type analysis:

Appearance..... clear light yellow green to brownish oil

Relative density (20 °C)..... 0,920-0,980

Refractive index (20 °C)..... 1,510-1,520

Optical rotation (20 °C)..... 0° to +10°

6602.1	50 ml	glass	69,35 €

Oil of eucalyptus, Ph.Eur.

Oil of eucalyptus

>70 %, Ph.Eur.

Oleum Eucalypti

D 0,92

flp 47 °C

[8000-48-4] • EC No. 283-406-2

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H226-H317-H304-H411

Guarantee analysis:

Appearance..... clear, colourless to light yellow oil

Identity..... complies

Solubility in ethanol % vol..... L70: 1:5 v/v clear sol.

Relative density (20 °C)..... 0,906-0,927

Refractive index (20 °C)..... 1,4580-1,4700

Optical rotation (20 °C)..... +0° to +10°

1,8-Cineole..... ≥70 %

5337.1	100 ml	glass	20,35 €

5337.2	500 ml	glass	79,05 €

Oil of eucalyptus, artificial

Oil of eucalyptus

artificial

Oleum Eucalypti artificiale

D 0,88

flp 31 °C

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H317-H410-H315-H319

Type analysis:

Appearance..... clear, colourless to yellowish to yellow oil

Relative density (20 °C)..... 0,850-0,900

Refractive index (20 °C)..... 1,4650-1,4750

Optical rotation (20 °C)..... +5° to +15°

3297.2	500 ml	glass	26,80 €

3297.1	1 l	glass	41,40 €

Original pack 6 x 1 l 39,33/1 l

Oil of evening primrose

Oil of evening primrose

refined

Oleum Oenotherae

[90028-66-3] • EC No. 289-859-2

Type analysis:

Appearance..... clear, yellowish to yellow oil

Density (20 °C)..... 0,920-0,930

Refractive index n_D²⁰..... 1,475-1,480

3691.1	50 ml	glass	14,20 €

3691.2	500 ml	glass	61,85 €

Oil of fennel

Oil of fennel

artificial

Oleum Foeniculi

D ~0,89

UN No. 1993 • ADR 3 III • WGK 3

 **Danger** H304-H341-H351-

H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellowish to yellow-brownish oil

Density (20 °C)..... 0,871-0,921 g/cm³

Refractive index (20 °C)..... 1,480-1,500

Optical rotation (20 °C)..... +5° to +20°

3299.2	100 ml	glass	16,05 €

3299.1	500 ml	glass	41,40 €

Oil of fir needles

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H319-H317

Oil of fir needles

artificial

Oleum Pini

Type analysis:

Appearance..... clear, almost colourless to yellowish oil

Miscible..... ethanol 96 %

Relative density (20 °C)..... 0,850-0,900

Refractive index (20 °C)..... 1,4650-1,4750

Optical rotation (20 °C)..... -35° to -15°

3301.1	500 ml	glass	30,00 €

Oil of fir needles

siberian, artificial

Oleum Pini sibiricum artificiale

Type analysis:

Appearance..... pale yellow to brownish oil

Density (20 °C)..... 0,890-0,920 g/cm³

Refractive index (20 °C)..... 1,465-1,475

Optical rotation (20 °C)..... -20° to -0°

3300.1	1 l	glass	36,45 €

Original pack 6 x 1 l 34,63/1 l

Oil of gardensage

Oil of gardensage

natural, Dalmat.

Oleum Salviae

D ~0,92

flp 47 °C

[84082-79-1] • EC No. 282-025-9

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H371-H226-H302-H317-H411

Type analysis:

Appearance..... clear, pale yellow to green-yellowish oil

Relative density (20 °C)..... 0,905-0,925

Refractive index (20 °C)..... 1,457-1,473

Optical rotation (20 °C)..... -3° to +15°

7075.1	50 ml	glass	24,20 €

Oil of garlic

Oil of garlic

natural

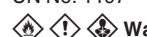
Oleum Allii sativi

D 1,05

Storage temp.: +4 °C

[8008-99-9] • EC No. 232-371-1

UN No. 1197 • ADR 3 III • WGK 2

 **Warning**

H226-H302-H317-H304-H412

Type analysis:

Appearance..... clear, yellow to brown oil

Relative density (20 °C)..... 1,050-1,200

Refractive index (20 °C)..... 1,570-1,590

3540.2	50 ml	glass	26,80 €

3540.1	100 ml	glass	59,05 €

Oil of geranium, natural

Oil of geranium

natural

Oleum Geranii

D 0,91

flp 90 °C

[90082-51-2] • EC No. 290-140-0

UN No. 3082 • ADR 9 III • WGK 2

 **Danger**

H304-H318-H317-H315-H411

Type analysis:

Appearance..... clear, colourless to brown oil

Density (20 °C)..... 0,870-0,910 g/cm³

Refractive index (20 °C)..... 1,460-1,470

Optical rotation (20 °C)..... -10° to +10°

7054.1	25 ml	glass	21,40 €

Oil of geranium, artificial

Oil of geranium

artificial

Oleum Geranii

D 0,91

flp 95 °C

UN No. 2810 • ADR 6.1 III • WGK 2

 **Danger**

H304-H318-H317-H315-H411

Type analysis:

Appearance..... clear, yellowish to brownish oil

Relative density (20 °C)..... 0,880-0,920

Refractive index (20 °C)..... 1,468-1,478

Optical rotation (20 °C)..... -5° to +5°

3304.1	250 ml	glass	47,20 €

Oil of grapefruit

Oil of grapefruit

natural

D ~0,85

flp 50 °C

[8016-20-4] • EC No. 289-904-6

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... yellow-brown oil

Density (20 °C)..... 0,846-0,864

Refractive index n_D²⁰..... 1,470-1,482Rotation [α]_D²⁰..... +90,0° to +104,0°

Aldehyde (calc. as decanal)..... 0,8-1,6 %

6718.1	250 ml	glass	56,65 €

Oil of juniper

Oil of juniper

pure

Oleum Juniperi e baccis

D ~0,87

flp 39 °C

[73049-62-4] • EC No. 283-268-3

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H411-H317-EUH066

Type analysis:

Appearance..... clear, colourless-yellowish oil

Solubility in ethanol % vol..... L90: 1:10 v/v clear, light turbid

Miscible..... abs. ethanol, ether, chloroform

Relative density (20 °C)..... 0,856-0,876

Refractive index (20 °C)..... 1,4720-1,4840

Optical rotation (20 °C)..... -15° to -1°

7059.1	25 ml	glass	26,35 €

Oil of juniper wood

Oil of juniper wood

natural

Oleum Juniperi e ligno

D ~0,87

flp 36 °C

[84603-69-0] • EC No. 283-268-3

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H319-H317

Type analysis:

Appearance..... clear, colourless to yellowish oil

Relative density (20 °C)..... 0,8400-0,8800

Refractive index (20 °C)..... 1,4650-1,4750

Optical rotation (20 °C)..... -12° to -2°

7057.1	25 ml	glass	18,20 €

Oil of lavandin

Oil of lavandin

french

Lavendula hybrida

D 0,91

[8022-15-9] • EC No. 294-470-6

WGK 1

 **Warning** H317-H412-EUH066

Type analysis:

Appearance..... clear, pale yellow oil

Relative density (20 °C)..... 0,87-0,91

Refractive index (20 °C)..... 1,455-1,465

Optical rotation (20 °C)..... -10° to -2°

6603.1	100 ml	glass	27,85 €

Oil of lavender, DAB

Oil of lavender

DAB

Oleum Lavandulae

D ~0,88

flp 53 °C

[90063-37-9] • EC No. 289-995-2

UN No. 3082 • ADR 9 III • WGK 3

 **Danger** H304-H315-H317-H411

Guarantee analysis:

Appearance..... clear, colourless to light yellowish oil

Identity..... complies

Solubility (EtOH)..... complies

Relative density (20 °C)..... 0,876-0,894

Refractive index (20 °C)..... 1,457-1,464

Optical rotation (20 °C)..... -11° to -3°

Water-soluble content..... complies

Acid value..... ≤2,0

Fatty oils, resinified volatile oils..... complies

Foreign ester..... complies

5443.1	100 ml	glass	37,10 €

5443.2	1 l	glass	209,65 €

Original pack 6 x 1 l 199,17/1 l

Oil of lavender, artificial

Oil of lavender

artificial

Oleum Lavandulae

D 0,88

flp 53 °C

UN No. 3082 • ADR 9 III • WGK 3

 **Danger** H304-H315-H411-H317

Type analysis:

Appearance..... clear, pale yellow oil

Density (20 °C)..... 0,870-0,910 g/cm³

Refractive index (20 °C)..... 1,4600-1,4700

Optical rotation (20 °C)..... -5° to +5°

3367.1	250 ml	glass	45,70 €

Oil of lemon, italian

Oil of lemon

italian

Oleum Citri

D 0,85 • bp 175 °C

flp 48 °C

[8008-56-8] • EC No. 284-515-8

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... yellow oil

Refractive index n_D²⁰..... 1,468-1,480

Density (20 °C)..... 0,845-0,865

Specific rotation [α]_D²⁰..... +58° to +70°

3797.2	50 ml	glass	48,30 €

3797.1	100 ml	glass	94,50 €

Oil of lemon, natural

Oil of lemon

natural

Oleum Citri

D ~0,85

flp 48 °C

[8008-56-8] • EC No. 284-515-8

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellow oil
 Solubility in ethanol % vol. L96: 1:1
 Relative density (20 °C)..... 0,848-0,854
 Refractive index (20 °C)..... 1,470-1,4770
 Optical rotation (20 °C)..... +55° to +65°

5213.1	100 ml	glass	27,45 €

Oil of lemon, artificial

Oil of lemon

artificial

Oleum Citri

D ~0,85

flp 48 °C

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, light yellow to medium yellow oil
 Density (20 °C)..... 0,840-0,860 g/cm³
 Refractive index (20 °C)..... 1,4710-1,4760
 Optical rotation (20 °C)..... +55° to +75°

3346.1	500 ml	glass	40,35 €

Oil of lemon, low in terpenes

Oil of lemon

low in terpenes

Oleum Citri

D 0,88

mp 228 °C • flp 58 °C

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellowish oil
 Miscible..... ethanol 96 %
 Density (20 °C)..... 0,860-0,890 g/cm³
 Refractive index (20 °C)..... 1,475-1,485
 Optical rotation (20 °C)..... +30° to +50°

6625.1	50 ml	glass	55,80 €

Oil of lemon-grass

Oil of lemon-grass

natural purity

Cochin, Oleum Lemon-grass

D 0,9

flp 73 °C

[91844-92-7] • EC No. 295-161-9

UN No. 3082 • ADR 9 III • WGK 2

 **Warning** H315-H317-H411-H319

Guarantee analysis:

Appearance..... clear, light yellow to medium yellow oil
 Relative density (20 °C)..... 0,880-0,920
 Refractive index (20 °C)..... 1,480-1,490
 Optical rotation (20 °C)..... -5° to +5°

6606.1	100 ml	glass	24,20 €

Oil of lime

Oil of lime

natural

Oleum Limettae, Lime oil

D 0,86

UN No. 1993 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Density (20 °C)..... 0,855-0,870
 Refractive index (20 °C)..... 1,470-1,482
 Optical rotation (20 °C)..... +30° to +40°

6721.1	50 ml	glass	22,50 €

Oil of lovage

Oil of lovage

pure

Oleum Levistici

D 0,97

flp 63 °C

[8016-31-7] • EC No. 284-292-7

WGK 2

 **Danger** H317-H341-H351-H304-H412

Type analysis:

Appearance..... clear, yellowish to brownish oil
 Solubility in ethanol % vol. L80: 1:4 v/v almost clear sol.
 Relative density (20 °C)..... 0,970-1,030
 Refractive index (20 °C)..... 1,5050-1,5350
 Optical rotation (20 °C)..... +5° to +25°

6607.1	10 ml	glass	96,65 €

Oil of mandarin

Oil of mandarin

italian

Oleum Mandarinae

D 0,85

[84929-38-4] • EC No. 284-521-0

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Relative density (20 °C)..... 0,840-0,860
 Refractive index (20 °C)..... 1,470-1,480
 Optical rotation (20 °C)..... +70° to +80°

3796.1	100 ml	glass	42,90 €

Oil of mint

Oleum Menthae arvensis

D ~0,9

flp ~80 °C

[90063-97-1] • EC No. 290-058-5

UN No. 3082 • ADR 9 III • WGK 2

 **Warning** H315-H317-H411

Oil of mint

China, raw

Type analysis:

Appearance..... pale oil
 Density (20 °C)..... 0,885-0,905
 Refractive index n_D²⁰..... 1,450-1,470
 Specific rotation [α]_D²⁰..... -25° to -15°

6730.2	50 ml	glass	16,05 €

6730.1	250 ml	glass	47,85 €

Oil of mint

Japan, natural

Type analysis:

Appearance..... clear, colourless-yellow to green-yellow oil
 Relative density (20 °C)..... 0,888-0,910
 Refractive index (20 °C)..... 1,4560-1,4700
 Optical rotation (20 °C)..... -34° to -16°

6731.2	50 ml	glass	18,20 €

6731.1	250 ml	glass	47,85 €

Oil of mint

rectified twice

Type analysis:

Appearance..... colourless to slightly yellow oil
 Refractive index n_D²⁰..... 1,458-1,465
 Optical rotation [α]_D²⁰..... -23° to -16°
 Density (20 °C)..... 0,895-0,905

6732.1	50 ml	glass	21,40 €

6732.2	250 ml	glass	51,50 €

Oil of mint

► Oil of peppermint italian see p. 2008

Oil of mountain pine**Oil of mountain pine****artificial**

Oleum Pini pumilionis

D ~0,87

flp 44 °C

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellowish oil
Density (20 °C).....0,860-0,880 g/cm³
Refractive index (20 °C)..... 1,470-1,480
Optical rotation (20 °C)..... -20° to -5°

3310.2	250 ml	glass	21,40 €

3310.1	500 ml	glass	39,70 €

Oil of niaouli**Oil of niaouli****natural**

Melaleuca viridiflora

D 0,92 • bp 175 °C

mp ~7-8 °C • flp 46 °C

[8014-68-4] • EC No. 310-217-5

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H315-H317-H411

Type analysis:

Appearance..... clear, yellowish oil
Density (20 °C).....0,904-0,925 g/cm³
Refractive index (20 °C)..... 1,4630-1,4720
Optical rotation (20 °C)..... -4° to +1°

6610.1	100 ml	glass	28,95 €

Oil of nutmeg**Oil of nutmeg****volatile**

Oleum Myristicae aethereum

D 0,89 • bp 165 °C

flp 36 °C

Solubility: 1,07 mg/l (H₂O, 25 °C)

[8008-45-5] • EC No. 282-013-3

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H350-H304-H341-H226-H400-H410-H317

Type analysis:

Appearance..... clear, colorless to yellow oil
Density (20 °C).....0,885-0,920 g/cm³
Refractive index (20 °C)..... 1,475-1,489
Optical rotation (20 °C)..... +8° to +18°

7064.1	50 ml	glass	26,35 €

Oil of orange, bitter**Oil of orange****bitter, italian**

Oleum Aurantii amar

[68916-04-1] • EC No. 232-433-8

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellow to brownish oil
Density (20 °C)..... 0,840-0,860 g/cm³
Refractive index (20 °C)..... 1,470-1,480
Optical rotation (20 °C)..... +85° to +95°

6509.1	100 ml	glass	34,95 €

Oil of orange, Brazil**Oil of orange****Brazil**

Oleum Aurantii, with analysis.

D 0,85 • bp 175 °C

flp 50 °C

[8028-48-6] • EC No. 232-433-8

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Relative density (20 °C)..... 0,840-0,850
Density (20 °C)..... 1,468-1,478
Optical rotation (20 °C)..... +95° to +101°

3803.1	100 ml	glass	33,25 €

Oil of orange, Florida**Oil of orange****Florida**

From orange peel, cold-pressed.

[8028-48-6] • EC No. 232-433-8

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Specific rotation [α]_D²⁰..... +92° to +102°
Refractive index n_D²⁰..... 1,468-1,480
Aldehydes (as decanal)..... 1,2-1,8 %

6728.2	250 ml	glass	21,40 €

6728.3	500 ml	glass	35,40 €

6728.1	1 l	glass	56,90 €

Original pack 6 x 1 l 54,06/1 l

Oil of orange, sweet**Oil of orange****sweet, natural**

Oleum Aurantii dulc

[8008-57-9] • EC No. 232-433-8

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellowish to brownish oil
Relative density (20 °C)..... 0,840-0,860
Refractive index (20 °C)..... 1,4680-1,4760
Optical rotation (20 °C)..... +75° to +100°

6611.1	100 ml	glass	41,40 €

Oil of orange flowers, natural**Oil of orange flowers****natural**

Oleum Neroli

D 0,87

flp 57 °C

[168916-04-1] • EC No. 277-143-2

UN No. 1169 • ADR 3 III • WGK 3

 **Danger**

H226-H315-H317-H304-H400-H410

Type analysis:

Appearance..... clear, yellowish oil
Relative density (20 °C)..... 0,863-0,880
Refractive index (20 °C)..... 1,464-1,474
Optical rotation (20 °C)..... +1° to +11°

7070.1	10 ml	glass	188,15 €

Oil of orange flowers artificial**Oil of orange flowers****artificial**

Oleum Neroli

D 0,87

flp 70 °C

[84929-31-7] • EC No. 284-515-8

UN No. 3082 • ADR 9 III • WGK 3

 **Danger**

H304-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellowish to brownish oil
Relative density (20 °C)..... 0,860-0,920
Refractive index (20 °C)..... 1,46-1,48

3323.1	50 ml	glass	60,10 €

Oil of origanum

Oil of origanum

natural

Oleum Origanum cretici, oil of wild majoran

D 0,915

flp 66 °C

[84012-24-8] • EC No. 281-670-3

WGK 2

Danger

H302+H312-H304-H315-H317-H412

Type analysis:

Appearance..... clear, yellow to red-brown oil

Relative density (20 °C)..... 0,915-0,975

Refractive index (20 °C)..... 1,500-1,520

Optical rotation (20 °C)..... -5° to +1°

6612.2	25 ml	glass	20,35 €

6612.1	100 ml	glass	52,15 €

Oil of palmarosa

Oil of palmarosa

east indian

Oleum Palmarosae

D 0,89

[8014-19-5] • EC No. 283-461-2

WGK 1

Danger H318-H317-H315-H412

Guarantee analysis:

Appearance..... clear, yellow to brown oil

Density (20 °C)..... 0,880-0,900 g/cm³

Refractive index (20 °C)..... 1,465-1,475

Optical rotation (20 °C)..... -5° to +3°

6613.2	25 ml	glass	21,40 €

6613.1	100 ml	glass	41,40 €

Oil of parsley

Oil of parsley

french

Oleum Petroselinum

D ~1,06

flp 52 °C

[8000-68-8] • EC No. 281-677-1

UN No. 1169 • ADR 3 III • WGK 2

Danger

H304-H226-H315-H317-H411

Type analysis:

Appearance..... clear, yellow to yellow brown greenish oil

Relative density (20 °C)..... 1,037-1,095

Refractive index (20 °C)..... 1,492-1,522

Optical rotation (20 °C)..... -9° to -4°

7072.1	10 ml	glass	21,40 €

Oil of patchouli

Oil of patchouli

artificial

Oleum Patchouli

D 0,92

flp >100 °C

[8014-09-3] • EC No. 282-493-4

Type analysis:

Appearance..... clear medium to dark brown oil

Relative density (20 °C)..... 0,920-0,980

Refractive index (20 °C)..... 1,5050-1,5150

Optical rotation (20 °C)..... -30° to -60°

6511.2	25 ml	glass	20,35 €

6511.1	100 ml	glass	52,15 €

Oil of pepper

Oil of pepper

natural

Oleum Piperis

D 0,89

[84929-41-9] • EC No. 284-524-7

UN No. 1169 • ADR 3 III • WGK 3

Danger

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, yellow to yellow-brownish oil

Miscible..... abs. ethanol

Relative density (20 °C)..... 0,864-0,915

Refractive index (20 °C)..... 1,4700-1,4900

Optical rotation (20 °C)..... -23° to -1°

6616.2	25 ml	glass	30,00 €

6616.1	100 ml	glass	83,75 €

Oil of peppermint, pure

Oil of peppermint

pure

Oleum Menthae piperitae

D 0,91

flp 80 °C

[8006-90-4] • EC No. 282-015-4

UN No. 3082 • ADR 9 III • WGK 2

Warning H315-H317-H411

Type analysis:

Appearance..... colourless to light yellowish oil

Density (20 °C)..... 0,898-0,908

Refractive index (20 °C)..... 1,455-1,465

Optical rotation (20 °C)..... -30° to -20°

9318.1	50 ml	glass	21,40 €

Oil of peppermint italian

Oil of peppermint italian

pure

Oleum Menthae piperitae

D 0,91

flp 62 °C

[8006-90-4] • EC No. 282-015-4

UN No. 3082 • ADR 9 III • WGK 2

Warning H315-H317-H411

Type analysis:

Appearance..... colourless to yellow oil

Relative density (20 °C)..... 0,900-0,916

Refractive index (20 °C)..... 1,4570-1,4670

Optical rotation (20 °C)..... -30° to -10°

Acid value..... ≤1,4

7063.1	25 ml	glass	26,35 €

Oil of peppermint Kennewick, USA

Oil of peppermint Kennewick, USA

natural

Oleum Menthae piperitae

D 0,91

UN No. 3082 • ADR 9 III • WGK 2

Warning H315-H317-H411

Type analysis:

Density (20 °C)..... 0,890-0,920

Refractive index (20 °C)..... 1,454-1,470

Optical rotation (20 °C)..... -30° to -14°

3777.1	100 ml	glass	95,70 €

Oil of peppermint, artificial

Oil of peppermint

artificial

Oleum Menthae piperitae

[68917-18-0] • EC No. 290-058-5

UN No. 1169 • ADR 3 III • WGK 2

Warning

H226-H302-H315-H317-H411

Type analysis:

Appearance..... clear, yellowish to light brownish oil

Density (20 °C)..... 0,850-0,900 g/cm³

Refractive index (20 °C)..... 1,4600-1,4800

Optical rotation (20 °C)..... +10° to +25°

3329.2	100 ml	glass	16,05 €

3329.1	500 ml	glass	40,75 €

Oil of petitgrain

Oil of petitgrain

south american

Oleum Petitgrain americ.

D 0,87 • bp 156 °C

[8014-17-3] • EC No. 277-143-2

UN No. 3082 • ADR 9 III • WGK 2

⚠ **Warning** H315-H317-H412

Type analysis:

Appearance..... clear, yellow to yellow brownish oil
 Density (20 °C)..... 0,870-0,910 g/cm³
 Refractive index (20 °C)..... 1,455-1,495
 Optical rotation (20 °C)..... -5° to +10°

6614.1	100 ml	glass	41,40 €

Oil of rose, bulgarian, natural

Oil of rose

bulgarian, natural

Oleum Rosae

D 0,86

flp 59 °C

[90106-38-0] • EC No. 290-260-3

UN No. 1169 • ADR 3 III • WGK 2

⚠ **Danger** H226-H315-

H318-H317-H341-H351-H411

Type analysis:

Appearance..... yellowish oil
 Density (20 °C)..... 0,848-0,862 g/cm³
 Refractive index (20 °C)..... 1,455-1,465
 Optical rotation (20 °C)..... -1° to -4°

5733.1	1 ml	glass	45,70 €

5733.2	10 ml	glass	278,45 €

Oil of rose, artificial

Oil of rose

artificial

Oleum Rosae

D 0,89

flp 90 °C

UN No. 3082 • ADR 9 III • WGK 2

⚠ **Danger**

H304-H341-H351-H318-H317-H315-H411

Type analysis:

Appearance..... clear, pale yellow to yellowish to brownish oil
 Density (20 °C)..... 0,860-0,920 g/cm³
 Refractive index (20 °C)..... 1,4700-1,4800
 Optical rotation (20 °C)..... -2° to +2°

4092.1	10 ml	glass	24,20 €

Oil of rosemary, spanish

Oil of rosemary

spanish

Oleum Rosmarini

D 0,91

flp 38 °C

UN No. 1993 • ADR 3 III • WGK 3

⚠ **Danger**

H226-H317-H371-H304-H400-H410

Type analysis:

Appearance..... clear, colourless to pale yellow oil
 Density (20 °C)..... 0,891-0,917 g/cm³
 Refractive index (20 °C)..... 1,4650-1,4750
 Optical rotation (20 °C)..... -5° to +15°

6514.1	100 ml	glass	24,20 €

Oil of rosemary, morrocan

Oil of rosemary

morrocan

Oleum Rosmarini

D 0,91

flp 40 °C

[8000-25-7] • EC No. 283-291-9

UN No. 1169 • ADR 3 III • WGK 3

⚠ **Danger**

H304-H371-H226-H400-H410-H317

Type analysis:

Appearance..... clear, colourless to pale yellow oil
 Relative density (20 °C)..... 0,891-0,917
 Refractive index (20 °C)..... 1,4650-1,4750
 Optical rotation (20 °C)..... -5° to +15°

3764.1	100 ml	glass	23,15 €

Oil of rosemary, artificial

Oil of rosemary

artificial

Oleum Rosmarini

D 0,91

flp 35 °C

UN No. 1992 • ADR 3 (6.1) III • WGK 3

⚠ **Danger**

H304-H371-H226-H400-H410-H315-H317

Type analysis:

Appearance..... clear, light yellow oil
 Density (20 °C)..... 0,890-0,920 g/cm³
 Refractive index (20 °C)..... 1,4650-1,4750
 Optical rotation (20 °C)..... -10° to +10°

3336.2	100 ml	glass	16,05 €

3336.1	500 ml	glass	40,75 €

Oil of rose-wood

Oil of rose-wood

nature identical

Oleum Ligni Rhodii

D 0,90

[8015-77-8] • EC No. 281-093-7

WGK 1

⚠ **Warning** H315-H317-H412

Type analysis:

Appearance..... clear, pale yellow to yellow-brownish oil
 Relative density (20 °C)..... 0,850-0,900
 Refractive index (20 °C)..... 1,460-1,490
 Optical rotation (20 °C)..... -20° to 0°

3275.2	50 ml	glass	32,15 €

3275.1	100 ml	glass	60,10 €

Oil of sandal-wood

D 0,97 • bp 276 °C

flp >100 °C

[84787-70-2] • EC No. 284-111-1

UN No. 3082 • ADR 9 III • WGK 3

⚠ H411

Oil of sandal-wood

west indian

Oleum Santali

Type analysis:

Appearance..... clear, yellowish to brownish oil
 Relative density (20 °C)..... 0,935-0,975
 Refractive index (20 °C)..... 1,5000-1,5150
 Optical rotation (20 °C)..... +10° to +35°

6620.2	25 ml	glass	16,05 €

6620.1	100 ml	glass	40,75 €

Oil of sandal-wood

artificial

Oleum Ligni Santali artificiale

Type analysis:

Appearance..... clear, yellowish oil
 Miscible..... ethanol 96 %
 Relative density (20 °C)..... 0,950-1,000
 Refractive index (20 °C)..... 1,500-1,510
 Optical rotation (20 °C)..... -5° to +5°

3341.2	50 ml	glass	18,20 €

3341.1	250 ml	glass	48,30 €

Oil of Scotch pine needles, natural

Oil of Scotch pine needles

natural

Oleum Pini silvestris

D 0,88

[84012-35-1] • EC No. 281-679-2

UN No. 1272 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H317

Type analysis:

Appearance. clear, colourless to light yellow oil
Density (20 °C). 0,855-0,875 g/cm³
Refractive index (20 °C). 1,465-1,480
Optical rotation (20 °C). -30° to -9°

7073.1	100 ml	glass	27,85 €

Oil of Scotch pine needles, artificial

Oil of Scotch pine needles

artificial

Oleum Pini silvestris

D 0,88

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H319-H317

Type analysis:

Appearance. clear, light yellowish oil
Relative density (20 °C). 0,855-0,885
Refractive index (20 °C). 1,4700-1,4850
Optical rotation (20 °C). -25° to -5°

3306.2	250 ml	glass	21,40 €

3306.1	500 ml	glass	39,70 €

Oil of silver fir

Oil of silver fir

artificial

Oleum Abietis

D 0,90

UN No. 1993 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H319-H317

Type analysis:

Appearance. clear, almost colourless to yellowish to brownish oil
Relative density (20 °C). 0,850-0,900
Refractive index (20 °C). 1,4700-1,4800
Optical rotation (20 °C). -70° to -30°

3295.1	250 ml	glass	27,85 €

Oil of silver fir cones

Oil of silver fir cones

natural

Oleum Templini

D 0,88

[90028-76-5]

UN No. 1272 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance. clear, yellow to brown oil
Density (20 °C). 0,840-0,880 g/cm³
Refractive index (20 °C). 1,470-1,480
Optical rotation (20 °C). -90° to -50°

6598.1	100 ml	glass	47,20 €

Oil of silver fir needles

Oil of silver fir needles

natural

Oleum Abietis

D 0,86

flp 37 °C

[8021-27-0]

UN No. 1272 • ADR 3 III • WGK 3

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Appearance. clear, light yellow-brownish oil
Density (20 °C). 0,850-0,890 g/cm³
Refractive index (20 °C). 1,465-1,475
Optical rotation (20 °C). -60° to -30°

3353.1	100 ml	glass	36,45 €

Oil of spike

Oil of spike

natural pure

Oleum Spicae

D ~0,893

flp 58 °C

[84837-04-7] • EC No. 284-290-6

UN No. 1169 • ADR 3 III • WGK 2

 **Warning**

H226-H371-H315-H317-H411

Type analysis:

Appearance. clear, light yellow oil
Density (20 °C). 0,893-0,909 g/cm³
Refractive index (20 °C). 1,4630-1,4680
Optical rotation (20 °C). -5° to +5°

7079.1	50 ml	glass	25,30 €

Oil of sweet almond

Oil of sweet almond

refined

Oleum Amygdalae dulcis

D 0,91

[90320-37-9]

Type analysis:

Appearance. clear, yellow liquid
Relative density (20 °C). ~0,916
Acid value (mg KOH/g). ≤1,0
Peroxide value. ≤5
Unsaponifiable matter. ≤1,0 %

9342.1	1 l	glass	36,45 €

Original pack 6 x 1 l	34,63/1 l

9342.3	2,5 l	glass	75,15 €

Original pack 4 x 2,5 l	71,39/2,5 l

9342.2	10 l	tinplate	224,70 €

Oil of tansy

Oil of tansy

pure

Oleum Tanacetii

D 0,94

flp 59 °C

[84961-64-8] • EC No. 284-653-9

UN No. 1169 • ADR 3 III • WGK 2

 **Warning** H226-H302-H411

Type analysis:

Appearance. clear, yellow to brown oil
Relative density (20 °C). 0,930-0,985
Refractive index (20 °C). 1,460-1,485
Optical rotation (20 °C). -10° to +15°

7081.2	5 ml	glass	16,05 €

7081.1	25 ml	glass	40,75 €

Oil of tea tree

Oil of tea tree

australian, natural

Melaleuca alternifolia aetheroleum

D 0,89

flp 53 °C

[85085-48-9] • EC No. 285-377-1

UN No. 1169 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H302-H315-H317-H411

Type analysis:

Appearance. clear, colourless to light yellowish oil
Relative density (20 °C). 0,885-0,906
Refractive index (20 °C). 1,475-1,482
Optical rotation (20 °C). +0° to +15°

K032.1	50 ml	glass	24,20 €

Oil of theobroma

Oil of theobroma

pure, filtered twice

Oleum Cacao

D 0,96

mp 30-34 °C

[8002-31-1] • EC No. 310-127-6

Type analysis:

Appearance..... light yellow pellets
 Refractive index (40 °C)..... 1,456-1,459
 Melting point..... 30-34 °C
 Saponification value..... 192-198
 Iodine value..... 33-42

3515.2	100 g	plastic	15,60 €

3515.1	500 g	plastic	41,40 €
Original pack 6 x 500 g			39,33/500 g

Oil of thyme, natural

Oil of thyme

natural

ex *Thymus serpyllum*

D ~0,92

flp 53 °C

[84776-98-7] • EC No. 284-023-3

UN No. 2924 • ADR 3 (8) III • WGK 2

Danger

H304-H314-H226-H302-H317-H411

Type analysis:

Appearance..... clear, brown oil
 Relative density (20 °C)..... 0,880-0,940
 Refractive index (20 °C)..... 1,480-1,500
 Optical rotation (20 °C)..... -10° to +1°

K500.1	50 ml	glass	37,55 €

Oil of thyme, natural/nature-identical

Oil of thyme

natural/nature-identical

Oleum Thymi

D ~0,9

flp 58 °C

UN No. 2924 • ADR 3 (8) III • WGK 3

Danger

H304-H314-H226-H302-H317-H335-H411

Type analysis:

Appearance..... clear, yellowish to red-brownish oil
 Miscible..... ethanol 96 %
 Density (20 °C)..... 0,915-0,935 g/cm³
 Refractive index (20 °C)..... 1,490-1,505
 Optical rotation (20 °C)..... -10° to 0°

6513.1	100 ml	glass	20,35 €

Oil of turpentine

Oil of turpentine

rect., DAB

D 0,86 • bp 154-170 °C

mp -55 °C • flp 35 °C

[8006-64-2] • EC No. 232-350-7

UN No. 1299 • ADR 3 III • WGK 2

Danger H304-H226-

H302+H312+H332-H315-H319-H317-H411

Guarantee analysis:

Relative density (20 °C)..... 0,856-0,867
 Solubility..... L90: 1,5:10,5
 Optical rotation (20 °C)..... -40° to +48°
 Refractive index n_D²⁰..... 1,467-1,478
 Non volatile matter..... ≤1,0 %
 Water-soluble content..... complies
 Heavy metals..... complies
 Fatty oils, resinified volatile oils..... complies
 Foreign ester..... complies
 Halogen compounds..... complies
 Acid react. substances..... complies

T139.1	1 l	glass	62,25 €

Original pack 6 x 1 l			

T139.2	2,5 l	glass	130,65 €

Original pack 4 x 2,5 l			

T139.3	10 l	tinplate	413,90 €

Oil of valerian

Oil of valerian

polish

Oleum Valerianae

D ~0,97

flp 84 °C

[8057-49-6] • EC No. 232-501-7

UN No. 3082 • ADR 9 III • WGK 2

Danger H304-H317-H411

Type analysis:

Appearance..... clear, yellowish to brownish oil
 Density (20 °C)..... 0,890-0,990 g/cm³
 Refractive index (20 °C)..... 1,4700-1,4800
 Optical rotation (20 °C)..... -10° to -30°

6588.2	10 ml	glass	42,90 €

6588.3	25 ml	glass	93,45 €

6588.1	50 ml	glass	170,95 €

Oil of valerian, artificial

Oil of valerian

artificial

Oleum Valerianae artificiale

D ~0,97

flp 85 °C

UN No. 3082 • ADR 9 III • WGK 3

Warning

H302+H332-H315-H319-H317-H411

Type analysis:

Appearance..... clear yellowish to brownish oil
 Miscible..... Ethanol 96 %
 Relative density (20 °C)..... 0,950-1,050
 Refractive index (20 °C)..... 1,5000-1,5200
 Optical rotation (20 °C)..... 0° to -20°

3279.1	100 ml	glass	30,00 €

Oil of vetiver

Oil of vetiver

natural

Oleum Vetiverae

D ~1,02

flp 88 °C

[8016-96-4] • EC No. 282-490-8

WGK 2

Type analysis:

Appearance..... clear brownish oil
 Density (20 °C)..... 0,980-1,040 g/cm³
 Refractive index (20 °C)..... 1,515-1,535
 Optical rotation (20 °C)..... +10° to +30°

6622.2	10 ml	glass	16,05 €

6622.1	50 ml	glass	40,75 €

Oil of wintergreen

Oil of wintergreen

artificial

Main constituent: methyl salicylate

Oleum Gaultheriae

flp >100 °C

WGK 1

Warning H302-H315-H319-H335

Type analysis:

Appearance..... clear, yellowish to brownish oil
 Density (20 °C)..... 1,181-1,188 g/cm³
 Refractive index (20 °C)..... 1,530-1,540
 Optical rotation (20 °C)..... -0,5° to +0,5°

7053.1	100 ml	glass	30,00 €

Oil of wormwood

Oil of wormwood

natural

Oleum Absinthii

[8008-93-3] • EC No. 284-503-2

WGK 1

Warning H302-H412

Type analysis:

Appearance..... clear, very dark brown oil
 Miscible..... 96 % ethanol
 Relative density (20 °C)..... 0,850-0,950
 Refractive index (20 °C)..... 1,4600-1,4800
 Optical rotation (20 °C)..... +15° to +55°

6909.1	10 ml	glass	19,25 €

O/p

Oil of ylang-ylang, natural

Oil of ylang-ylang

Comoren, natural

Oleum Anonae

D 0,95

[8006-81-3] • EC No. 281-092-1

WGK 2

 **Danger** H304-H315-H317-H412

Type analysis:

Appearance..... clear yellow to brown oil
 Density (20 °C)..... 0,940-0,980 g/cm³
 Refractive index (20 °C)..... 1,495-1,515
 Optical rotation (20 °C)..... -50° to -20°

6624.2	25 ml	glass	30,00 €
6624.1	100 ml	glass	107,40 €

Oil of ylang-ylang, artificial

Oil of ylang-ylang

artificial

Oleum Anonae

D 0,95

UN No. 3082 • ADR 9 III • WGK 2

 **Danger**

H304-H315-H317-H318-H411

Type analysis:

Appearance..... clear light yellow to brownish oil
 Relative density (20 °C)..... 0,940-0,980
 Refractive index (20 °C)..... 1,5000-1,5200
 Optical rotation (20 °C)..... -20° to 0°

3343.2	50 ml	glass	16,05 €
3343.1	250 ml	glass	53,65 €

Oil soluble red A

► Rhodamine B (C.I. 45170) see p. 2084

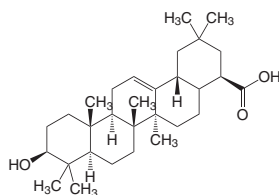
Okani-4'-glucoside

► Marein see p. 1951

Oleanol

► Oleanolic acid see p. 2012

Oleanolic acid



Oleanol, Caryophyllin

C₃₀H₄₈O₃

M 456,71 g/mol

mp 306-308 °C

[508-02-1] • EC No. 208-081-6

Oleanolic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %
 Residual solvents (GC)..... ≤1,0 %
 Water (KF)..... ≤4,0 %
 Assay (qNMR)..... ≥90,0 %
 Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE50.1	10 mg	glass	525,70 €

Oleanolic acid

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC)..... ≥85,0 %
 Identity..... complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC50.1	50 mg	glass	256,95 €

Oleanolic acid

ROTICHROM® HPLC

Reference substance for HPLC

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... ≥99 %

7402.1	25 mg	glass	149,45 €

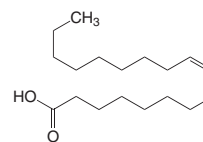
Oleanolic acid

ROTICHROM® ~CHR

Storage temp.: +4 °C

8308.1	250 mg	glass	241,90 €

Oleic acid

C₁₈H₃₄O₂

M 282,47 g/mol

D 0,9 • bp 360 °C

mp 17 °C • flp 189 °C

Storage temp.: +4 °C

[112-80-1] • EC No. 204-007-1

WGK 1

Oleic acid

≥99%, natural

Type analysis:

Assay (GC)..... ≥99 %

7213.1	5 ml	glass	31,10 €

7213.2	50 ml	glass	212,35 €

Oleic acid

ROTICHROM® GC

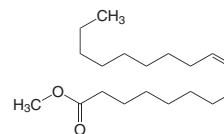
Reference substance for GC

Type analysis:

Purity (GC)..... ≥99 %

5362.1	1 g	glass	33,90 €

Oleic acid methyl ester



Oleic acid methyl ester

ROTICHROM® GC

Reference substance for GC

Methyl oleate

C₁₉H₃₆O₂

M 296,50 g/mol

D 0,879 • bp₂₀ 202-210 °C

mp -20 °C • flp 113 °C

Storage temp.: +4 °C

[112-62-9] • EC No. 203-992-5

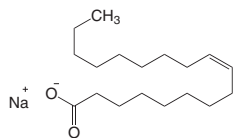
WGK 1

Type analysis:

Purity (GC)..... ≥99 %

3186.1	1 g	glass	31,10 €

Oleic acid sodium salt



Oleic acid sodium salt

~90 %

Sodium oleate

 $C_{18}H_{33}NaO_2$

M 304,47 g/mol

[143-19-1] • EC No. 205-591-0

WGK 1

Type analysis:

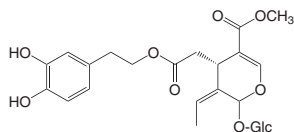
Appearance..... white to yellowish
 Total fatty acids..... 88,0-92,0 %
 Moisture..... 1,0-4,0 %
 Free NaOH..... 0,2-0,6 %

8856.1	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g

Oleoside-1-methylester

► Elenolic acid glucoside see p. 1802

Oleuropein

 $C_{25}H_{32}O_{13}$

M 540,53 g/mol

mp 89-90 °C

[32619-42-4] • EC No. 251-129-6

Oleuropein

≥90 %

Type analysis:

Appearance..... powder, coloured like ivory
 Assay..... ≥90 %

7018.2	1 g	glass	446,15 €

Oleuropein

ROTICHRON® HPLC

Reference substance for HPLC

From *Olea europaea*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... >98 %

1191.1	20 mg	glass	252,65 €

Oligo Click M-488

Oligo Click M-488

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

UN No. 1120 • ADR 3 III • WGK 3

⚠ ⚠ Warning H226-H319-H335

Components:

6-FAM-Azide..... 1 mg
 Activator..... 20 µl
 Reactor M..... 7 x 5 mg
 Solvent..... 1 ml
 Store at -20 °C (6-FAM-Azide, Activator); room temp.
 (Reactor M, Solvent)

7767.1	1 kit	cardboard	127,40 €

Oligo Click M-555

Oligo Click M-555

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

WGK 3

⚠ ⚠ Warning H319-H335

Components:

5-TAMRA-Azide..... 1 mg
 Activator..... 20 µl
 Reactor M..... 7 x 5 mg
 Solvent..... 1 ml
 Store at -20 °C (5-TAMRA-Azide, Activator); room temp.
 (Reactor M, Solvent)

7770.1	1 kit	cardboard	144,60 €

Oligo Click M-Biotin

Oligo Click M-Biotin

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

WGK 3

⚠ ⚠ Warning H319-H335

Components:

Biotin Azide..... 1 mg
 Activator..... 20 µl
 Reactor M..... 7 x 5 mg
 Solvent..... 1 ml
 Store at -20 °C (Biotin Azide, Activator); room temp.
 (Reactor M, Solvent)

7772.1	1 kit	cardboard	105,90 €

Oligo Click M Reload

Oligo Click M Reload

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

WGK 3

⚠ ⚠ Warning H319

Components:

Activator..... 50 µl
 Reactor M..... 9 x 5 mg
 Store at -20 °C (Activator); room temp. (Reactor M)

7765.1	1 kit	cardboard	70,45 €

Oligo Click S-488

Oligo Click S-488

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

UN No. 1120 • ADR 3 III • WGK 3

⚠ ⚠ Warning H226-H319-H335

Components:

6-FAM-Azide..... 1 mg
 Activator..... 10 µl
 Reactor S..... 7 x 2,5 mg
 Solvent..... 1 ml
 Store at -20 °C (6-FAM-Azide, Activator); room temp.
 (Reactor S, Solvent)

7766.1	1 kit	cardboard	122,55 €

Oligo Click S-555

Oligo Click S-555

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

WGK 3

⚠ ⚠ Warning H319-H335

Components:

5-TAMRA-Azide..... 1 mg
 Activator..... 10 µl
 Reactor S..... 7 x 2,5 mg
 Solvent..... 1 ml
 Store at -20 °C (5-TAMRA-Azide, Activator); room temp.
 (Reactor S, Solvent)

7769.1	1 kit	cardboard	138,70 €

Oligo Click S-Biotin

Oligo Click S-Biotin

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

WGK 3

⚠ Warning H319-H335

Components:

Biotin Azide..... 1 mg
Activator..... 10 µl
Reactor S..... 7 x 2,5 mg
Solvent..... 1 ml
Store at -20 °C (Biotin Azide, Activator); room temp. (Reactor S, Solvent)

7771.1	1 kit	cardboard	101,60 €

Oligo Click S Reload

Oligo Click S Reload

ROTI®kit for DNA labelling

For DNA labelling assays.

Storage temp.: see below, room temp./-20 °C

Transport temp.: cooled

UN No. 1120 • ADR 3 III • WGK 3

⚠ ⚠ Warning H226-H319

Components:

Activator..... 35 µl
Reactor S..... 9 x 2,5 mg
Store at -20 °C (Activator); room temp. (Reactor S)

7764.1	1 kit	cardboard	56,45 €

Olive oil

Olive oil

Ph.Eur.

Oleum Olivarum

D 0,91

[8001-25-0] • EC No. 232-277-0

Guarantee analysis:

Identity..... complies
Purity..... complies
Relative density..... ~0,913
Absorption..... complies
Acid value..... ≤2,0
Peroxide value..... ≤20
Unsaponifiable matter..... ≤1,5 %
Sterols..... complies
Sesame oil..... not existing
C <16 Saturated fatty acid..... ≤0,1 %
C 16:0 Palmitic acid..... 7,5-20,0 %
C 16:1 Palmitoleic acid..... ≤3,5 %
C 18:0 Stearic acid..... 0,5-5,0 %
C 18:1 Oleic acid..... 56,0-85,0 %
C 18:2 Linoleic acid..... 3,5-20,0 %
C 18:3 Linolenic acid..... ≤1,2 %
C 20:0 Arachidic acid..... ≤0,7 %
C 20:1 Eicosenoic acid..... ≤0,4 %
C 22:0 Behenic acid..... ≤0,2 %
C 24:0 Lignoceric acid..... ≤0,2 %

8873.1	500 ml	glass	22,80 €

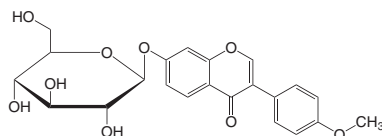
8873.2	2,5 l	glass	77,30 €

Original pack 4 x 2,5 l	73,44/2,5 l

1-OMe-β-D-GlcA

► 1-O-Methyl-β-D-glucuronic acid, sodium salt see p. 1967

Ononin



Ononin

ROTICHRON® HPLC

Reference substance for HPLC

Formononetin-7-O-glucoside

C₂₂H₂₂O₉

M 430,43 g/mol

Storage temp.: +4 °C

[486-62-4]

Type analysis:

Purity (HPLC)..... ≥99 %

9411.1	5 mg	plastic	263,40 €

ONPG

► 2-Nitrophenyl-β-D-galactopyranoside see p. 1993

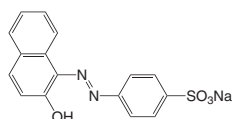
ONP-β-D-Glc

► 2-Nitrophenyl-β-D-glucopyranoside see p. 1993

OPA

► o-Phthalaldehyde see p. 2041

Orange II sodium salt (C.I. 15510)



Orange II sodium salt (C.I. 15510)

for microscopy

Indicator pH 7,4-8,6 and pH 10,2-11,8

Acid Orange 7

C₁₆H₁₁N₂NaO₄S

M 350,33 g/mol

[633-96-5] • EC No. 211-199-0

WGK 3

Type analysis:

Appearance..... orange to brown powder
pH-transition range..... 7,4 (amber)-8,6 (orange)
pH-transition range..... 10,2 (orange)-11,8 (red)

7729.1	5 g	glass	13,15 €

7729.2	25 g	glass	22,50 €

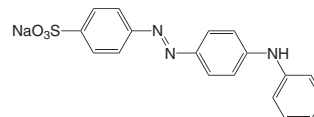
7729.3	100 g	glass	54,75 €

For further information, please see page 1405

Orange III

► Methyl orange (C.I. 13025) see p. 1968

Orange IV sodium salt (C.I. 13080)



Orange IV sodium salt (C.I. 13080)

for microscopy

Indicator pH 1,2-2,7

Tropaeolin OO

C₁₈H₁₄N₃NaO₃S

M 375,39 g/mol

[554-73-4] • EC No. 209-071-4

WGK 3

Type analysis:

Appearance..... orange powder
pH-transition range..... 1,2 (red)-2,7 (yellow)

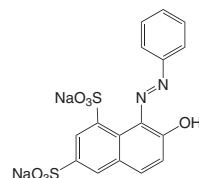
7731.1	5 g	glass	13,15 €

7731.2	25 g	glass	22,50 €

7731.3	100 g	glass	54,75 €

For further information, please see page 1405

Orange G (C.I. 16230)



Orange G (C.I. 16230)

for microscopy and electrophoresis

Acid orange 10

C₁₆H₁₀N₂Na₂O₇S₂

M 452,37 g/mol

Solubility: 70 g/l (H₂O, 20 °C)

[1936-15-8] • EC No. 217-705-6

WGK 2

Type analysis:

Appearance..... orange powder
Maximum absorption..... ≥440 nm
Loss on drying..... ≤10 %

0318.1	10 g	glass	12,70 €

0318.2	25 g	glass	18,20 €

0318.3	100 g	glass	42,90 €

For further information, please see page 1405

Orange Serum Agar

Orange Serum Agar

for microbiology

For isolation, detection and enumeration of acid-tolerant pathogens in fruit juices and fruit juice concentrates, particularly citrus products.

Application: Use 40 g for 1 l agar.

Storage temp.: +20 °C

UN No. 3077 • ADR 9 III • WGK 1

  **Warning** H315-H317-H411-EUH208

Formulation:

Casein peptone.....	10 g/l
Orange extract.....	5 g/l
Glucose.....	4 g/l
Potassium phosphate.....	3 g/l
Yeast extract.....	3 g/l
Agar.....	15 g/l
pH value.....	5,5 ± 0,2

HP09.1	500 g	plastic	153,20 €
Original pack 6 x 500 g			145,54/500 g

For further information, please see page 1336

Orange terpenes

Orange terpenes

pure

Natural solvent

D 0,84

flp 52 °C

UN No. 2319 • ADR 3 III • WGK 2

   **Warning**

H226-H400-H410-H315-H317-H304

Type analysis:

Appearance.....	colourless oil
Density (20 °C).....	0,836-0,850
Specific rotation $[\alpha]_D^{20}$	+96° to +105°
Refractive index n_D^{20}	1,468-1,478

3098.1	2,5 l	glass	52,15 €
Original pack 4 x 2,5 l			49,54/2,5 l

Orcein

Orcein

for microscopy

Natural red 28

[1400-62-0] • EC No. 215-750-6

WGK 2

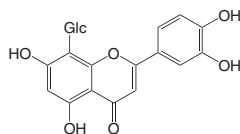
Type analysis:

Absorption max. (NaOH 0,01 mol/l).....	575-580 nm
Specific extinction E 1 %/1 cm.....	>500

0320.1	25 g	plastic	145,15 €

For further information, please see page 1405

Orientin



Orientin

ROTICHROM® HPLC

Reference substance for HPLC

From *Adonis vernalis*

C₂₁H₂₀O₁₁

M 448,38 g/mol

Storage temp.: +4 °C

[28608-75-5]

Type analysis:

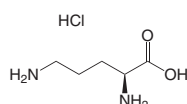
Purity (HPLC)..... ≥99 %

6151.1	5 mg	glass	235,45 €

Orientosid

► Vitexin see p. 2238

L-Ornithine monohydrochloride



L(+)-2,5-Diamino valeric acid hydrochloride

C₅H₁₂N₂O₂ · HCl

M 168,62 g/mol

mp 245 °C

Solubility: ~100 g/l (H₂O, 20 °C)

[3184-13-2] • EC No. 221-678-6

L-Ornithine monohydrochloride

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤6,0 E.U./g
Assay.....	≥99 %
Loss on drying.....	≤0,2 %
Specific rotation $[\alpha]_D^{20}$	+23,3° to +25,0°
Foreign amino acids.....	complies
Ammonium (NH ₄).....	≤0,02 %
Sulphate (SO ₄).....	≤0,02 %
Heavy metals (as Pb).....	≤0,001 %
Arsenic (As ₂ O ₃).....	≤0,0001 %
Iron (Fe).....	≤0,001 %

1703.1	25 g	plastic	21,40 €

1703.2	100 g	plastic	50,45 €

1703.3	500 g	plastic	198,90 €

Original pack 6 x 500 g			188,96/500 g

L-Ornithine monohydrochloride

≥99 %, for biochemistry

Type analysis:

Appearance.....	white cryst. powder
Assay (dry substance).....	99,0-101,0 %
Appearance of solution.....	clear, colourless
Specific rotation $[\alpha]_D^{20}$	+23,3° to +25,0°
pH value.....	5,0-6,0
Ammonium (NH ₄).....	≤0,02 %
Sulphate (SO ₄).....	≤0,02 %
Arsenic (As ₂ O ₃).....	≤0,0001 %
Iron (Fe).....	≤0,001 %
Heavy metals (as Pb).....	≤0,001 %
Foreign amino acids.....	complies
Loss on drying.....	≤0,2 %
Sulphated ash.....	≤0,1 %

T204.1	25 g	plastic	13,45 €

T204.2	100 g	plastic	34,95 €

T204.3	500 g	plastic	126,75 €

Original pack 6 x 500 g			120,41/500 g

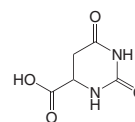
H-D-Orn(N3)-OH · HCl

► D-Azidoornithine hydrochloride
see p. 1662

H-L-Orn(N3)-OH · HCl

► L-Azidoornithine hydrochloride
see p. 1662

Orotic acid



Orotic acid

≥99 %, anhydrous

Uracil-6-carboxylic acid

C₅H₄N₂O₄

M 156,10 g/mol

mp 345-346 °C

[65-86-1] • EC No. 200-619-8

 **Warning** H302-H315-H319-H335

Type analysis:

Assay.....	≥99,0 %
Heavy metals (as Pb).....	≤0,002 %
Sulphated ash.....	≤0,1 %
Loss on drying.....	≤0,5 %

6820.2	25 g	plastic	36,05 €

6820.1	100 g	plastic	107,40 €

Orotic acid Monohydrate

Orotic acid Monohydrate

≥96,5 %

Uracilacid-6-carboxylic acid

$C_5H_4N_2O_4 \cdot H_2O$

M 174,11 g/mol • mp >334 °C

[50887-69-9] • EC No. 200-619-8

 **Warning** H315-H319-H335

Type analysis:

Appearance..... white crystalline powder

Assay (HPLC)..... ≥99,0 %

Water..... ≤12,0 %

7285.1	10 g	plastic	16,70 €

7285.2	50 g	plastic	33,25 €

7285.3	250 g	plastic	99,90 €

Orthophosphoric acid

▶ ortho-Phosphoric acid 85 % see p. 2039

Osmium Standards

▶ Osmium ICP Standard Solution see p. 2172

Osmium(IV) ammonium chloride

▶ Ammonium hexachloroosmate (IV) see p. 1638

Osmic acid

▶ Osmium tetroxide see p. 2016

Osmium(VIII) oxide

▶ Osmium tetroxide see p. 2016

Osmium tetroxide

Osmium tetroxide

≥99,95 %, p.a., for electron microscopy

In sealed off glass ampoules.

Osmium(VIII) oxide, Osmic acid

OsO_4

M 254,20 g/mol

D 4,9 • bp 130 °C

mp 40 °C

Solubility: 65 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[20816-12-0] • EC No. 244-058-7

UN No. 2471 • ADR 6.1 I • WGK 2

 **Danger** H300+H310+H330-H314

Guarantee analysis:

Appearance..... pale yellow crystals

Assay..... ≥99,95 %

Osmium (Os)..... 74-76 %

Aluminium (Al)..... ≤0,001 %

Calcium (Ca)..... ≤0,001 %

Lead (Pb)..... ≤0,001 %

Sodium (Na)..... ≤0,001 %

Nickel (Ni)..... ≤0,001 %

Non volatile matter..... ≤0,02 %

8371.1	100 mg	glass	36,45 €

8371.2	500 mg	glass	91,30 €

8371.3	1 g	glass	141,40 €

For further information, please see page 1388

Osmium tetroxide solution

OsO_4

D 1,0

Storage temp.: +4 °C

[20816-12-0] • EC No. 244-058-7

UN No. 3287 • ADR 6.1 II • WGK 1

 **Danger**

H301+H331-H310-H315-H318

Osmium tetroxide solution 2 %

for electron microscopy

In sealed off glass ampoules.

Type analysis:

Assay (OsO_4)..... ~2 % in water

7436.1	5 ml	glass	34,95 €

For further information, please see page 1388

Osmium tetroxide solution 4 %

for electron microscopy

In sealed off glass ampoules.

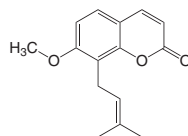
Type analysis:

Assay (OsO_4)..... ~4 % in water

8088.1	5 ml	glass	52,60 €

For further information, please see page 1388

Osthol



$C_{15}H_{16}O_3$

M 244,28 g/mol

[484-12-8]

WGK 3

Osthol

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤1,0 %

Water (KF)..... ≤1,0 %

Assay (qNMR)..... ≥95,0 %

Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE51.1	10 mg	glass	783,70 €

Osthol

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC)..... ≥90,0 %

Identity..... complies

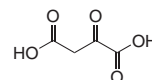
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC51.1	50 mg	glass	206,95 €

Ouabin octahydrate

▶ g-Strophanthin see p. 2185

Oxalacetic acid



Oxalacetic acid

≥98 %, for biochemistry

2-Oxosuccinic acid

$C_4H_4O_5$

M 132,07 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[328-42-7] • EC No. 206-329-8

UN No. 3261 • ADR 8 III • WGK 2

 **Danger** H314

Type analysis:

Assay (titr.)..... ≥98,0 %

Solution (10 % in water)..... colourless to almost colourless

Water (KF)..... ≤2,0 %

Sulphated ash..... ≤0,1 %

4032.1	5 g	glass	28,95 €

4032.2	10 g	glass	48,40 €

4032.3	25 g	glass	104,20 €

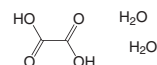
Oxalane

▶ Tetrahydrofuran see p. 2203

Oxalate Standards

▶ Oxalate IC Standard Solution see p. 2181

Oxalic acid dihydrate



Ethanedioic acid

$C_2H_2O_4 \cdot 2 H_2O$

M 126,07 g/mol

D 1,65 • bp 149-160 °C (dec.)

mp 101 °C

Solubility: 95 g/l (H_2O , 20 °C)

[6153-56-6] • EC No. 205-634-3

UN No. 3261 • ADR 8 III • WGK 1

 **Warning** H302+H312

Oxalic acid dihydrate

≥99,5 %, p.a., ACS, ISO

Titrimetric standard substance in manganometry.

Guarantee analysis:

Assay (perm.)..... ≥99,5 %

In H_2O insoluble matter..... ≤0,005 %

Ash content (as SO_4)..... ≤0,01 %

Reaction with H_2SO_4 complies

Total nitrogen (as N)..... ≤0,001 %

Chloride (Cl)..... ≤0,0005 %

Sulphate (SO_4)..... ≤0,0005 %

Lead (Pb)..... ≤0,0005 %

Calcium (Ca)..... ≤0,001 %

Iron (Fe)..... ≤0,0002 %

Copper (Cu)..... ≤0,0005 %

Magnesium (Mg)..... ≤0,001 %

Nickel (Ni)..... ≤0,0005 %

Heavy metals (as Pb)..... ≤0,0005 %

T113.1	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
T113.2	1 kg	plastic	47,85 €
Original pack 6 x 1 kg			45,46/1 kg
T113.3	2,5 kg	plastic	110,20 €

Oxalic acid dihydrate

≥99 %, cryst.

Type analysis:

Appearance.....white, crystal. powder
Assay.....≥99,0 %
Ash content.....≤0,03 %

8879.1	1 kg	plastic	18,85 €
Original pack 6 x 1 kg			17,91/1 kg
8879.3	5 kg	plastic	62,25 €
8879.2	10 kg	plastic	116,65 €

Oxalic acid ammonium salt monohydrate

► di-Ammonium oxalate monohydrate see p. 1642

Oxalic acid calcium salt monohydrate

► Calcium oxalate monohydrate see p. 1708

Oxalic acid di-potassium salt monohydrate

► di-Potassium oxalate monohydrate see p. 2060

Oxalic acid disodium salt

► di-Sodium oxalate see p. 2155

Oxalic acid solution (0,1 N)

Oxalic acid solution

0,05 mol/l - 0,1 N volumetric standard solution

EC No. 205-634-3 • WGK 1

Type analysis:

Amount-of-substance conc. (20 °C).....0,05 mol/l ±0,2 %
Titer.....0,998-1,002

CN35.1	1 l	plastic	21,75 €
Original pack 6 x 1 l			20,66/1 l

For further information, please see page 1546

Oxalic acid solution (0,1 N)

Oxalic acid solution

ROTI®VOLUM 0,05 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

C₂H₂O₄ · 2 H₂O

M 126,07 g/mol

[6153-56-6] • EC No. 205-634-3 • WGK 1

Type analysis:

Amount-of-substance conc. (20 °C).....0,05 mol/l ±0,2 %

CN59.1	1 piece	plastic ampoule	16,15 €

For further information, please see page

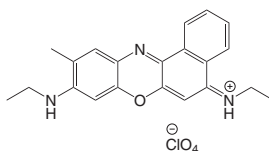
Oxane

► Tetrahydropyran see p. 2204

Oxazine 170 perchlorate

► Oxazine 720 perchlorate see p. 2017

Oxazine 720 perchlorate



Oxazine 720 perchlorate

≥96 %

Laser and scintillation dye

Oxazine 170 perchlorate

C₂₁H₂₂N₃O · ClO₄

M 431,88 g/mol

mp 298-300 °C

Solubility: insoluble (H₂O, 20 °C)

[62669-60-7] • EC No. 263-682-0

UN No. 2811 • ADR 6.1 II • WGK 3

⚠ Danger H301

Type analysis:

Appearance.....dark-green cryst. powder
Assay (HPLC).....≥96 %
Maximum absorption.....626 ±1 nm (EtOH)

7306.1	100 mg	glass	22,50 €
7306.2	500 mg	glass	44,65 €
7306.3	1 g	glass	67,20 €

Ox Bile, bacteriological

Ox Bile, bacteriological

for microbiology

Storage temp.: +20 °C

[8008-63-7] • EC No. 232-369-0

WGK 1

Type analysis:

Cholic acid.....≥45 %
Loss on drying.....≤6 %
pH (2 % solution).....6,0-8,5
Solubility (2 % solution).....clear

7595.1	250 g	plastic	114,50 €
7595.2	500 g	plastic	203,20 €
Original pack 6 x 500 g			193,04/500 g

For further information, please see page 1365

Oxford Agar

► Oxford Listeria Agar (Base) see p. 2017

Oxford Listeria Agar (Base)

Oxford Listeria Agar (Base)

ISO 11290-1, for microbiology

Selective medium for detection of *Listeria monocytogenes*.

Application: Use 55,5 g for 1 l agar. After cooling add 2 vials (2x2 ml) reconstituted Listeria Oxford Supplement (Art. No. 5801.1).

Oxford Agar

Storage temp.: +20 °C

WGK 1

⚠ Warning H302-H315-H319

Guarantee analysis:

Peptone mixture.....23 g/l
Sodium chloride.....5 g/l
Starch.....1 g/l
Lithium chloride.....15 g/l
Esculin.....1 g/l
Ammonium iron(III) citrate.....0,5 g/l
Agar.....10 g/l
pH value.....7,0 ±0,2

5767.1	500 g	plastic	143,55 €
Original pack 6 x 500 g			136,37/500 g

For further information, please see page 1336

Oxford Supplement

► Listeria Oxford Supplement see p. 1934

Oxidation reagent

Oxidation reagent

for DNA-Synthesis with ABI™ and PolyGen® Synthesizer

Iodine/water/pyridine/tetrahydrofuran-mixture. 0,05 M iodine.

D 0,8 • bp ~65 °C

flp -21 °C

UN No. 1993 • ADR 3 II • WGK 2

⚠ ⚠ ⚠ Danger H225-H302+H312+H332-H351-H319-H335-EUH019

2254.1	200 ml	glass	25,70 €
2254.2	450 ml	glass	47,85 €
2254.3	2,5 l	glass	209,65 €
Original pack 4 x 2,5 l			199,17/2,5 l

For further information, please see page 1430

Oxidation-Reagent, Fast-

► Fast Oxidation reagent see p. 1823

Oxine

► 8-Hydroxyquinoline see p. 1893

2-Oxoglutaric acid

► α-Ketoglutaric acid see p. 1917

5-(2-Oxo-hexahydro-thieno [3,4-d]imidazol-6-yl)-pentanoic acid (3-azido-propyl)-amide

► Biotin-Azide see p. 1677

5-((3aS,4S,6aR)-2-oxohexahydro-1H-thieno[3,4-d]imidazol-4-yl)-N-(3,6,9,12-tetraoxapentadec-14-yn-1-yl)pentanamide

► Biotin-PEG4-Alkyne see p. 1677

4-Oxopentanoic acid

► Levulinic acid see p. 1930

2-Oxopropanoic acid

► Pyruvic acid see p. 2075

2-Oxosuccinic acid

► Oxalacetic acid see p. 2016

17-Oxo-4,7,10,13-tetraoxa-16-azahenicos-1-yn-21-oic acid

► HOOC-PEG4-Alkyne see p. 2022

5'-Oxyfisetin

► Robinetin see p. 2086

Oxyma Pure

► Ethyl(hydroxyimino)-cyanoacetate see p. 1818

PAGE gel solutions

► Rotiphorese® Gel solution 30 % see p. 2107
► Rotiphorese® Gel solution 40 % see p. 2107

PAGE ready-made gels

► Roti®-PAGE gels ready-to-use see p. 2106

Palatinose®

► Isomaltulose see p. 1911

Palcam Agar

► Palcam Listeria Agar (Base) see p. 2018

Palcam Listeria Agar (Base)

Palcam Listeria Agar (Base)

ISO 11290-1, for microbiology

Differential medium for detection of *Listeria* spp., particularly *L. monocytogenes*.

Application: Use 68,8 g for 1 l agar. After cooling add 2 vials (2x2 ml) reconstituted Listeria Palcam Supplement (Art. No. 5803.1).

Palcam Agar

Storage temp.: +20 °C

WGK 1

⚠ **Warning** H315-H319

Guarantee analysis:

Peptone mixture.....	23 g/l
Sodium chloride.....	5 g/l
Starch.....	1 g/l
Lithium chloride.....	15 g/l
D-Mannitol.....	10 g/l
Yeast extract.....	3 g/l
Esculin.....	0,8 g/l
Glucose.....	0,5 g/l
Phenol red.....	0,08 g/l
Ammonium iron(III) citrate.....	0,5 g/l
Agar.....	10 g/l
pH value.....	7,2 ±0,2

5768.1	500 g	plastic	131,70 €
Original pack 6 x 500 g			125,12/500 g

For further information, please see page 1336

Palcam Supplement

► Listeria Palcam Supplement see p. 1934

Palladium powder

Palladium powder

ROTI®METIC 99,999 % (5N)

Pd

M 106,42 g/mol

D 12,02 • bp 2963 °C

mp 1555 °C

[7440-05-3] • EC No. 231-115-6

UN No. 3089 • ADR 4.1 II

⚠ ⚠ **Danger** H228-H315-H319-H335

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5648.1	1 g	plastic	192,45 €

Palladium Standards

► Palladium AAS Standard Solution see p. 2168
► Palladium ICP Standard Solution see p. 2172
► Palladium ICP Standard Solution see p. 2176

Palladium(II) chloride

Palladium(II) chloride

ROTI®METIC 99,999 % (5N)

PdCl₂

M 177,31 g/mol

D 4,0

mp 590 °C (subl.)

[7647-10-1] • EC No. 231-596-2

UN No. 3260 • ADR 8 III • WGK 1

⚠ **Warning** H315-H317-H319

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5653.1	1 g	plastic	117,20 €
5653.2	5 g	plastic	504,20 €

Palladium & Magnesium matrix modifier

► Palladium nitrate & Magnesium nitrate matrix modifier solution see p. 1952

Palladium matrix modifier

► Matrix modifier solution
Palladium nitrate see p. 1952

Palladium monoxide

► Palladium(II) oxide see p. 2019

Palladium(II) nitrate dihydrate

Palladium(II) nitrate dihydrate

~40 % Pd

Pd(NO₃)₂ · 2 H₂O

M 266,44 g/mol

[32916-07-7] • EC No. 233-265-8

UN No. 3085 • ADR 5.1 (8) II • WGK 3

⚠ ⚠ ⚠ **Danger**

H272-H301-H314-H400-H410

Type analysis:

Palladium (Pd)..... 39,9-42,0 %
Lead (Pb)..... ≤0,002 %
Calcium (Ca)..... ≤0,002 %
Iron (Fe)..... ≤0,002 %
Gold (Au)..... ≤0,004 %
Copper (Cu)..... ≤0,002 %
Magnesium (Mg)..... ≤0,002 %
Silver (Ag)..... ≤0,002 %
Silicon (Si)..... ≤0,003 %

9026.1	1 g	glass	69,80 €
9026.2	10 g	glass	525,70 €

Palladium nitrate & Magnesium nitrate matrix modifier solution

► Matrix modifier solution
Palladium nitrate see p. 1952
► Matrix modifier solution
Palladium nitrate & Magnesium nitrate see p. 1952

Palladium(II) oxide**Palladium(II) oxide**

ROTI®METIC 99,995 % (4N5)

Palladium monoxide

PdO

M 122,42 g/mol

D 8,3

mp 750 °C (dec.)

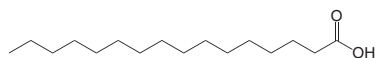
[1314-08-5] • EC No. 215-218-3 • WGK 1

⚠ **Warning** H315-H319-H335**Type analysis:**

Assay (metals basis)..... 99,995 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5393.1	1 g	plastic	149,45 €

5393.2	5 g	plastic	557,95 €

Palmitic acid**Palmitic acid**

≥98 %, extra pure

Hexadecanoic acid

C₁₆H₃₂O₂

M 256,43 g/mol

D 0,85 • bp 351 °C

mp 61,5-62,5 °C • flp >160 °C

[57-10-3] • EC No. 200-312-9

Type analysis:

Appearance..... white fatty tablets
 Assay..... ≥98,0 %
 Iodine value..... ≤0,8
 Acid value..... 217-221
 Melting point..... 61-63 °C

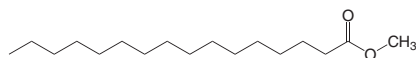
5907.3	500 g	plastic	19,25 €

Original pack 6 x 500 g	18,29/500 g

5907.1	1 kg	plastic	26,35 €

Original pack 6 x 1 kg	25,03/1 kg

5907.2	5 kg	plastic	92,35 €

Palmitic acid methyl ester**Palmitic acid methyl ester**

≥97 %

Methyl palmitate

C₁₇H₃₄O₂

M 270,46 g/mol

D 0,85 • bp 185 °C (10 mbar)

flp >113 °C

[112-39-0] • EC No. 203-966-3 • WGK 1

Type analysis:

Assay (GC)..... ≥97 %

4459.1	25 g	glass	17,75 €

4459.2	100 g	glass	32,15 €

4459.3	500 g	glass	87,00 €

Original pack 6 x 500 g	82,65/500 g

1-Palmitin

▶ Glyceryl 1-monopalmitate see p. 1859

PAN

▶ 1-(2-Pyridylazo)-2-naphthol see p. 2073

Panoptical fast staining kit**Panoptical fast staining kit**

for microscopy

Staining kit for fast oversight staining of blood smears and other cytological preparations (modified method acc. to Pappenheim), incl. instructions for use.

Storage temp.: +20 °C

UN No. 1230 • ADR 3 II • WGK 1

⚠ **Danger**

H225-H301+H311+H331-H370

Formulation:

Panoptical fast staining solution 1 (Art. No. 8934)

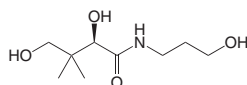
Panoptical fast staining solution 2 (Art. No. 8935)

Panoptical fast staining solution, fixative (Art. No. 8939)

6487.1	1 kit (3 x 250 ml)	plastic	70,45 €

6487.2	1 kit (3 x 500 ml)	plastic	128,50 €

For further information, please see page 1394

D-Panthenol**D-Panthenol**

≥98 %

D-Pantothenyl alcohol

C₉H₁₉NO₄

M 205,26 g/mol

D 1,2 • bp 66-69 °C

Storage temp.: +4 °C

[81-13-0] • EC No. 201-327-3

Type analysis:

Assay (titr.)..... ≥98 %
 Specific rotation [α]_D²⁰ (c=5 in H₂O)..... +29° to +31,5°
 3-Aminopropanol..... ≤1,0 %
 Heavy metals..... ≤0,002 %
 Ash content..... ≤0,1 %

4170.1	10 ml	glass	31,75 €

4170.2	100 ml	glass	50,45 €

D(+)-Pantothenic acid calcium salt

▶ Calcium D(+)-pantothenate see p. 1709

D-Pantothenyl alcohol

▶ D-Panthenol see p. 2019

Papain**Papain**

>30 000 USP-U/mg, for biochemistry

Made from *Carica papaya*.

Storage temp.: +4 °C

[9001-73-4] • EC No. 232-627-2

WGK 1

⚠ **Danger** H334-H335-H315-H319**Type analysis:**

Identity..... complies
 Activity (casein, pH 6,0, 40 °C)..... >30 000 USP-U/mg
 pH value (2 % in H₂O)..... 4,8-6,2
 Loss on drying..... <5 %

8933.1	25 g	plastic	45,70 €

8933.2	100 g	plastic	127,95 €

For further information, please see page 1223

Papanicolaou solution 1

▶ Hematoxylin solution acc. to Harris see p. 1869

Papanicolaou orange solution 2a (OG 6)**Papanicolaou orange solution 2a (OG 6)**

for microscopy

UN No. 1170 • ADR 3 II • WGK 1

⚠ **Danger** H225**Type analysis:**

Suitability for microscopy..... complies

T867.1	500 ml	glass	21,75 €

T867.2	1 l	glass	31,10 €

Original pack 6 x 1 l 29,55/1 l

T867.3	2,5 l	plastic	68,30 €

Original pack 4 x 2,5 l 64,89/2,5 l

For further information, please see page 1397

Papanicolaou solution 2b Orange II solution**Papanicolaou solution 2b Orange II solution**

for microscopy

UN No. 1230 • ADR 3 (6.1) II • WGK 1

⚠ **Danger**

H225-H301+H311+H331-H370-H319

Type analysis:

Suitability for microscopy..... complies

AE62.1	500 ml	glass	30,00 €

AE62.2	1 l	glass	38,20 €

Original pack 6 x 1 l 36,29/1 l

AE62.3	2,5 l	plastic	69,80 €

Original pack 4 x 2,5 l 66,31/2,5 l

For further information, please see page 1398

Papanicolaou polychrome solution 3a (EA31)

Papanicolaou polychrome solution 3a (EA31)

for microscopy

UN No. 1230 • ADR 3 (6.1) II • WGK 1

Danger

H225-H301+H311+H331-H370-H319

Type analysis:

Suitability for microscopy.....complies

AE63.1	500 ml	glass	24,20 €

AE63.2	1 l	glass	36,05 €

Original pack 6 x 1 l	34,25/1 l

AE63.3	2,5 l	plastic	77,95 €

Original pack 4 x 2,5 l	74,05/2,5 l

For further information, please see page 1398

Papanicolaou polychrome solution 3b (EA 50)

Papanicolaou polychrome solution 3b (EA 50)

for microscopy

UN No. 1230 • ADR 3 (6.1) II • WGK 1

Danger

H225-H301+H311+H331-H370-H319

Type analysis:

Suitability for microscopy.....complies

T866.1	500 ml	glass	26,55 €

T866.2	1 l	glass	33,90 €

Original pack 6 x 1 l	32,21/1 l

T866.3	2,5 l	plastic	72,60 €

Original pack 4 x 2,5 l	68,97/2,5 l

For further information, please see page 1398

PAP fast staining kit

PAP fast staining kit

for microscopy

Staining kit for fast staining of cytological smears (fast staining acc. to Papanicolaou), incl. instructions for use.

Storage temp.: +20 °C

UN No. 1987 • ADR 3 III • WGK 2

Danger H225-H302+H312+H332-H319-H370-H373-EUH208

Formulation:

PAP fast staining, solution 1 (Art. No. 9197)

PAP fast staining, solution 2 (Art. No. 9199)

9195.1	2 x 250 ml	plastic	54,30 €

9195.2	2 x 500 ml	plastic	83,85 €

For further information, please see page 1398

PAR

► 4-(2'-Pyridylazo)-resorcinol see p. 2073

Paraffin 50-52 °C

Paraffin 50-52 °C

extra pure, for histology

D 0,9 • bp >350 °C

mp 50-52 °C • flp 220 °C

[8002-74-2] • EC No. 232-315-6

Type analysis:

Appearance.....pastilles

Solidification point.....50-52 °C

CN48.1	500 g	plastic	19,25 €

Original pack 6 x 500 g	18,29/500 g

CN48.2	1 kg	plastic	28,95 €

Original pack 6 x 1 kg	27,50/1 kg

For further information, please see page 1390

Paraffin 52-54 °C

Paraffin 52-54 °C

extra pure, for histology

D 0,9 • bp >300 °C

mp 52-54 °C • flp 220 °C

[8002-74-2] • EC No. 232-315-6

Type analysis:

Appearance.....pastilles

Solidification point.....52-54 °C

CN49.1	500 g	plastic	19,25 €

Original pack 6 x 500 g	18,29/500 g

CN49.2	1 kg	plastic	28,95 €

Original pack 6 x 1 kg	27,50/1 kg

For further information, please see page 1390

Paraffin 52-54 °C

► Granopent® "P" see p. 1863

Paraffin in droplets

► Roti®-Plast see p. 2109

► Paraplast® see p. 2021

Paraffin oil high viscosity

Paraffin oil high viscosity

Ph.Eur., DAB, high viscosity

D 0,88 • bp ≥375 °C

flp 221 °C

[8042-47-5] • EC No. 232-455-8

Guarantee analysis:

Identity.....complies

Density (20 °C).....0,867-0,882

Viscosity (20 °C).....220-260 mm²/s

Refractive index n_D²⁰.....1,478-1,481

Conforms in all points to the corresponding pharmacopeia.

8904.1	1 l	plastic	22,50 €

Original pack 6 x 1 l	21,38/1 l

8904.2	10 l	plastic	127,95 €

Paraffin oil low viscosity

Paraffin oil low viscosity

Ph.Eur., DAB, low viscosity

D 0,85 • bp 300 °C

flp 221 °C

[8042-47-5] • EC No. 232-455-8

Danger H304

Guarantee analysis:

Identity.....complies

Density (20 °C).....0,842-0,853

Viscosity (20 °C).....34-42 mm²/s

Refractive index n_D²⁰.....1,462-1,472

Conforms in all points to the corresponding pharmacopeia.

9190.1	1 l	plastic	22,80 €

Original pack 6 x 1 l	21,66/1 l

9190.2	10 l	plastic	131,70 €

Paraformaldehyde

Paraformaldehyde

extra pure, DAC

Fixative

Polyoxymethylene

(CH₂O)_n

D ~1,3

mp ~130 °C • flp ~70 °C

Storage temp.: +4-15 °C

[30525-89-4] • EC No. 200-001-8

UN No. 2213 • ADR 4.1 III • WGK 2

Warning H228-H351-

H302+H332-H315-H319-H317-H335

Guarantee analysis:

Assay (acidim.).....95,0-100,5 %

In NH₄OH insoluble matter.....complies

Ash content (as SO₄).....≤0,1 %

Heavy metals (as Pb).....≤0,001 %

Acid or alkaline react. substances.....complies

0335.1	250 g	plastic	13,45 €

0335.2	500 g	plastic	16,70 €

Original pack 6 x 500 g	15,87/500 g

0335.3	1 kg	plastic	21,40 €

Original pack 6 x 1 kg	20,33/1 kg

0335.4	5 kg	plastic	80,55 €

For further information, please see page 1387

Paraloid™ B-72

Paraloid™ B-72

Clear, light-resistant thermoplastic acrylic resin for conserving samples. Also ideal for coating and sealing wood, stone, metals and other materials.

WGK 1

9639.1	1 kg	plastic	55,80 €

Original pack 6 x 1 kg	53,01/1 kg

9639.2	5 kg	plastic	161,15 €

For further information, please see page 1101

Paraplast®**Paraplast®****for histology, in pellets**

Tissue embedding medium composed of highly purified paraffin containing complex elastomers with regulated molecular weights.

Melting point: 56 °C

D 0,8 • bp >371 °C

flp 199 °C

Type analysis:

Appearance pellets
Melting point 56 °C

X880.1	1 kg	paper bag	15,30 €
Original pack 6 x 1 kg			14,54/1 kg
X880.3	3 x 1 kg	paper bag	42,50 €
X880.2	8 x 1 kg	paper bag	102,70 €

For further information, please see page 1391

Paraplast PLUS®**Paraplast PLUS®****for histology, in pellets**

Tissue embedding medium composed of highly purified paraffin containing complex elastomers with regulated molecular weights and an addition of DMSO for large and difficult-to-infiltrate tissue samples.

Melting point: 56 °C

D 0,8 • bp 316 °C

flp 199 °C

Type analysis:

Appearance pellets
Melting point 56 °C

X881.1	1 kg	paper bag	17,75 €
X881.3	3 x 1 kg	paper bag	50,45 €
X881.2	8 x 1 kg	paper bag	107,40 €

Paraplast X-TRA®**Paraplast X-TRA®****for histology, in pellets**

Tissue embedding medium composed of polymers with low molecular weights and highly purified paraffin for large and difficult-to-infiltrate tissue samples.

flp 204 °C

Type analysis:

Appearance pellets
Melting point 52 °C

X882.1	1 kg	paper bag	19,15 €
X882.2	8 x 1 kg	paper bag	128,90 €

Paratoluolsulphonic acid

► p-Toluenesulphonic acid monohydrate
see p. 2215

Parietin

► Physcion see p. 2041

PAR monosodium salt

► 4-(2'-Pyridylazo)-resorcinol monosodium salt see p. 2073

PAS staining kit**PAS staining kit****for microscopy**

Staining kit for Periodic Acid Schiff (PAS) staining, incl. instructions for use.

Storage temp.: +4 °C

WGK 1

Danger H302-H315-H319-H350

Formulation:

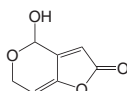
Periodic acid solution 1 % (Art. No. HP00). 500 ml
Schiff's reagent (Art. No. X900). 500 ml
Hemalum solution acid acc. to Mayer (Art. No. T865). 500 ml

HP01.1	1 kit	glass	79,05 €

For further information, please see page 1397

Patton and Reeder's Reagent

► Calconcarboxylic acid see p. 1709

Patulin**Patulin**

≥98 %

Claviformin

C₇H₆O₄

M 154,13 g/mol

mp 110-111 °C

Storage temp.: +4 °C

[149-29-1] • EC No. 205-735-2

UN No. 2811 • ADR 6.1 II • WGK 2

Danger H300+H310+H330-H351

Type analysis:

Appearance white powder
Assay (TLC) ≥98 %

6970.2	5 mg	plastic	428,95 €

PBS

► Roti®-CELL PBS see p. 2093

10 x PBS ready-to-use solution

► Roti®-Stock 10x PBS see p. 2112

10 x PBST ready-to-use solution

► Roti®-Stock 10x PBST see p. 2112

Peanut oil**Peanut oil****refined**

D 0,91

[8002-03-7] • EC No. 232-296-4

Type analysis:

Refractive index n_D²⁰ 1,468-1,472

9332.2	500 ml	glass	16,05 €
9332.1	1 l	glass	23,55 €
Original pack 6 x 1 l			22,37/1 l
9332.3	2,5 l	glass	40,75 €
Original pack 4 x 2,5 l			38,71/2,5 l

Pectin A**Pectin A****for biochemistry, natural**

From apples.

Dry extract, Apple pectin extract

[9000-69-5] • EC No. 232-553-0

Type analysis:

Appearance red-brown flakes/needles
Odour fruity, light sour
Content (pectin) ≥20 %
Solubility colloidal solution in water
Loss on drying (105 °C, 2 h) ≤10 %
Sulphur dioxide (SO₂) ≤500 mg/kg

4510.1	1 kg	plastic	64,40 €
Original pack 6 x 1 kg			61,18/1 kg
4510.2	5 kg	carton	252,65 €

Pectin C**Pectin C****for biochemistry**

From citrus fruits.

Degree of esterification ~70 %

[9000-69-5]

Type analysis:

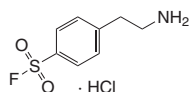
Appearance powder, coloured like ivory
Arsenic (As) ≤0,0003 %
Lead (Pb) ≤0,0005 %
Solubility good
Water content ≤12 %
Degree of esterification ≥69 %
pH value 2,5-3,5

8911.1	100 g	plastic	17,75 €
8911.2	1 kg	plastic	113,45 €
Original pack 6 x 1 kg			107,78/1 kg

Pectinose

► L(+)-Arabinose see p. 1652

Pefabloc® SC-Protease Inhibitor



Pefabloc® SC-Protease Inhibitor

≥95 %, for biochemistry

Irreversible inhibitor of serine proteases.
4-(2-Aminoethyl)-benzylsulfonyl fluoride hydrochloride

$C_8H_{10}NSO_2F \cdot HCl$

M 239,7 g/mol

mp 175-177 °C

Solubility: 10 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[30827-99-7]

UN No. 3261 • ADR 8 III • WGK 3

Danger H314

Type analysis:

Assay (HPLC) ≥95 %

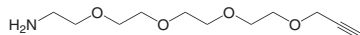
A154.1	100 mg	glass	49,35 €
A154.2	500 mg	glass	195,65 €
A154.3	1 g	glass	342,95 €

For further information, please see page 1232

PEG

► Polyethylene glycol see p. 2046

H₂N-PEG4-Alkyne



H₂N-PEG4-Alkyne

≥90 %

Linker

3,6,9,12-Tetraoxapentadec-14-yn-1-amine

$C_{11}H_{21}NO_4$

M 231,29 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[1013921-36-2]

WGK 3

Type analysis:

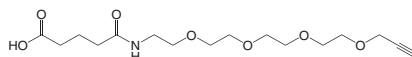
Appearance: slightly orange oil (RT), grey solid (-20 °C)

Assay (NMR) ≥90 %

Solubility: DMSO, DMF, CH_2Cl_2 , $CHCl_3$, THF, H_2O

7840.1	5 mg	plastic	61,20 €
7840.2	10 mg	plastic	105,90 €

HOOC-PEG4-Alkyne



HOOC-PEG4-Alkyne

≥90 %

Linker

17-Oxo-4,7,10,13-tetraoxa-16-azahenicos-1-yn-21-oic acid

$C_{16}H_{27}NO_7$

M 345,39 g/mol

Storage temp.: -20 °C

Transport temp.: room temp. • WGK 3

Type analysis:

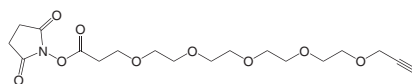
Appearance: slightly orange oil

Assay (NMR) ≥90 %

Solubility: DMSO, DMF, CH_2Cl_2 , $CHCl_3$, THF, H_2O

7842.1	5 mg	plastic	61,20 €
7842.2	10 mg	plastic	105,90 €

NHS-PEG5-Alkyne



NHS-PEG5-Alkyne

≥90 %

Linker

2,5-Dioxopyrrolidin-1-yl-4,7,10,13,16-pentaoxanonadec-18-ynoate

$C_{18}H_{27}NO_9$

M 401,41 g/mol

Storage temp.: -20 °C

Transport temp.: room temp. • WGK 3

Type analysis:

Appearance: slightly orange oil

Assay (NMR) ≥90 %

Solubility: DMSO, DMF, CH_2Cl_2 , $CHCl_3$, THF, H_2O

7838.1	5 mg	plastic	60,10 €
7838.2	10 mg	plastic	104,85 €

HO-PEG2-Azide



HO-PEG2-Azide

≥90 %

Linker

2-[2-(2-Azidoethoxy)ethoxy]ethanol

$C_6H_{13}N_3O_3$

M 175,19 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[86520-52-7]

WGK 3

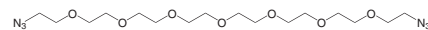
Type analysis:

Appearance: yellowish liquid

Assay (NMR) ≥90 %

7828.1	5 mg	plastic	38,60 €
7828.2	10 mg	plastic	61,20 €

PEG7-Bis-Azide



PEG7-Bis-Azide

≥95 %

Linker

1,23-Diazido-3,6,9,12,15,18,21-hepta-oxatricosane

$C_{16}H_{32}N_6O_7$

M 420,46 g/mol • Storage temp.: +4 °C

[225523-86-4] • WGK 3

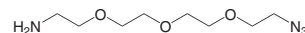
Type analysis:

Appearance: colourless oil

Assay (HPLC) ≥95 %

7831.1	5 mg	plastic	38,60 €
7831.2	10 mg	plastic	61,20 €

H₂N-PEG3-Azide



H₂N-PEG3-Azide

≥90 %

Linker

11-Azido-3,6,9-trioxaundecan-1-amine

$C_8H_{18}N_4O_3$

M 218,25 g/mol

Storage temp.: +4 °C • [134179-38-7]

UN No. 2735 • ADR 8 III • WGK 3

Danger H314

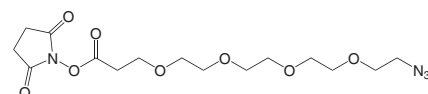
Type analysis:

Appearance: colourless liquid

Assay (GC) ≥90 %

7830.1	5 mg	plastic	38,60 €
7830.2	10 mg	plastic	61,20 €

NHS-PEG4-Azide



NHS-PEG4-Azide

≥90 %

Linker

15-Azido-4,7,10,13-tetraoxapentadecanoic acid succinimidyl ester

$C_{15}H_{24}N_4O_8$

M 388,37 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[944251-24-5] • WGK 3

Type analysis:

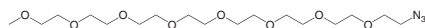
Appearance: colourless viscous liquid

Assay (NMR) ≥90 %

Solubility: DMSO, DMF, CH_2Cl_2

7823.1	5 mg	plastic	37,65 €
7823.2	10 mg	plastic	60,10 €
7823.3	50 mg	plastic	181,70 €
7823.4	100 mg	plastic	252,65 €

PEG8-Azide



PEG8-Azide

≥95 %

O-(2-Azidoethyl)-O'-methylheptaethylene glycole

C₁₇H₃₅N₃O₈

Storage temp.: -20 °C

Transport temp.: room temp.

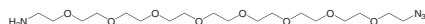
[869718-80-9]

WGK 3

Type analysis:

Appearance: colourless viscous liquid
Assay (HPLC): ≥95 %

7826.1	5 mg	plastic	56,45 €
7826.2	10 mg	plastic	83,75 €

H₂N-PEG8-AzideH₂N-PEG8-Azide

≥90 %

Linker

26-Azido-3,6,9,12,15,18,21,24-octa-oxahexacosan-1-amine

C₁₈H₃₈N₄O₈

M 438,52 g/mol

Storage temp.: +4 °C

[857891-82-8]

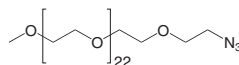
WGK 3

Type analysis:

Appearance: yellowish liquid
Assay: ≥90 %

7829.1	5 mg	plastic	38,60 €
7829.2	10 mg	plastic	61,20 €

PEG24-Azide



PEG24-Azide

≥90 %

73-Azido-2,5,8,11,14,17,20,23,26,29,32,35,-38,41,44,47,50,53,56,59,62,65,68,71-tetracosaoxatrihepta-contane

C₄₉H₉₉N₃O₂₄

M 1114,32 g/mol

Storage temp.: +4 °C

[89485-61-0]

WGK 3

Type analysis:

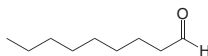
Appearance: white solid
Assay (HPLC): ≥90 %

7825.1	5 mg	plastic	56,45 €
7825.2	10 mg	plastic	83,75 €

Pelarginadon

► Naringenin see p. 1981

Pelargonaldehyde



Pelargonaldehyde

ROTICHROM® GC

Reference substance for GC

Nonylaldehyde, n-Nonanal

C₉H₁₈O

M 142,23 g/mol

D 0,83 • bp ~201 °C

mp -18 °C • flp 76 °C

Storage temp.: +4 °C

[124-19-6] • EC No. 204-688-5

WGK 2

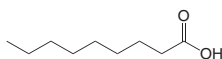
⚠ Warning H315

Type analysis:

Purity (GC): ≥90 %

5564.1	1 g	plastic	75,15 €

Pelargonic acid



Pelargonic acid

≥97 %

Nonanoic acid

C₉H₁₈O₂

M 158,24 g/mol

D 0,90 • bp 254 °C

mp 12 °C • flp 133 °C

Solubility: 0,3 g/l (H₂O, 25 °C)

[112-05-0] • EC No. 203-931-2

UN No. 3265 • ADR 8 III • WGK 1

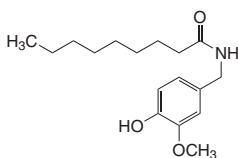
⚠ Danger H314

Type analysis:

Assay (GC): ≥97,0 %

7015.1	50 ml	glass	32,15 €

Pelargonic acid vanillylamide



Pelargonic acid vanillylamide

≥96 %

Nonylvanylamide, so called synth. Capsaicin

C₁₇H₂₇NO₃

M 293,41 g/mol

mp 52-56 °C

[2444-46-4] • EC No. 219-484-1

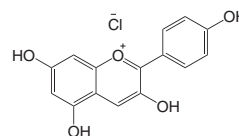
⚠ Warning H315-H319-H317-H335

Type analysis:

Assay: 96,0-102,0 %
Water (KF): ≤1,0 %

4462.1	10 g	glass	31,10 €
4462.2	50 g	glass	117,20 €

Pelargonidin chloride

C₁₅H₁₁O₅Cl

M 306,70 g/mol

mp ~350 °C

Storage temp.: +4 °C

[134-04-3] • EC No. 205-127-7

Pelargonidin chloride

ROTICHROM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC): ≥99 %

4541.1	10 mg	glass	289,20 €

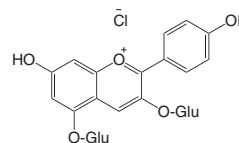
Pelargonidin chloride

ROTICHROM® ~CHR

6853.1	25 mg	glass	84,95 €

Pelargonidin chloride
3-glucoside

► Callistephin (chloride) see p. 1710

Pelargonidin 3,5-diglucoside
chloridePelargonidin 3,5-diglucoside
chloride

ROTICHROM® HPLC

Reference substance for HPLC

From *Pelargonium zonale*

Pelargonin chloride, Salvinin

C₂₇H₃₁O₁₅Cl

M 630,97 g/mol

Storage temp.: -20 °C • Transport temp.: room temp.

[17334-58-6]

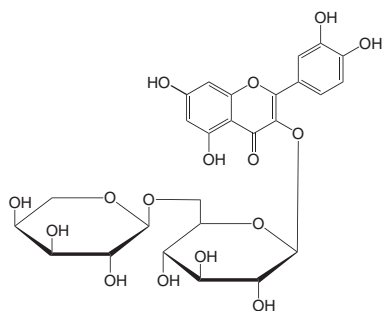
WGK 1

Type analysis:

Purity (HPLC): ≥97 %

1646.1	5 mg	glass	252,65 €

Peltatoside



Peltatoside

ROTICHRON® HPLC

Reference substance for HPLC

Quercetin-3-arabinoglucoside

$C_{26}H_{28}O_{16}$

M 596,50 g/mol

mp 202 °C

Storage temp.: +4 °C

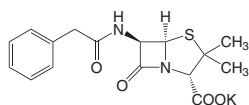
[23284-18-6] • EC No. 245-555-1

Type analysis:

Purity (HPLC)..... ≥99 %

7406.1	10 mg	glass	284,90 €

Penicillin G potassium salt



Benzylpenicillin potassium salt

$C_{16}H_{17}KN_2O_4S$

M 372,48 g/mol

mp ~215 °C

Storage temp.: +4 °C

[113-98-4] • EC No. 204-038-0

WGK 1

Danger H334-H317

Penicillin G potassium salt

≥1550 U/mg, CELLPURE®

β-Lactam antibiotic. For cell culture and biochemistry.

Type analysis:

Endotoxins..... ≤0,25 I.U./mg
Activity..... ≥1550 U/mg
Assay..... 96,0-101,0 %
pH value..... 5,5-7,5
Specific rotation $[\alpha]_D^{25}$ +270° to +300°
Loss on drying..... ≤1,0 %

HP49.1	1 g	plastic	18,10 €
HP49.2	10 g	plastic	34,30 €
HP49.3	25 g	plastic	67,20 €

For further information, please see page 1378

Penicillin G potassium salt

~1600 U/mg, for biochemistry

β-Lactam antibiotic

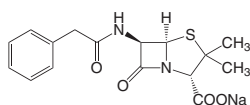
Type analysis:

Activity..... ~1600 U/mg
Assay..... 96,0-101,0 %
pH value..... 5,5-7,5
Loss on drying..... ≤1,0 %

CN29.1	10 g	plastic	18,10 €
CN29.2	25 g	plastic	27,85 €
CN29.3	100 g	plastic	73,65 €

For further information, please see page 1378

Penicillin G sodium salt



Benzylpenicillin sodium salt

$C_{16}H_{17}N_2NaO_4S$

M 356,37 g/mol

mp ~215 °C

Storage temp.: +4 °C

[69-57-8] • EC No. 200-710-2

WGK 1

Danger H334-H317

Penicillin G sodium salt

≥1550 U/mg, CELLPURE®

β-Lactam antibiotic. For cell culture and biochemistry.

Type analysis:

Endotoxins..... ≤0,25 I.U./mg
Activity..... ≥1550 U/mg
Assay..... 96,0-101,0 %
pH value..... 5,5-7,5
Specific rotation $[\alpha]_D^{25}$ +285° to +310°
Loss on drying..... ≤1,0 %

HP48.1	1 g	plastic	14,95 €
HP48.2	10 g	plastic	30,65 €
HP48.3	25 g	plastic	60,75 €

For further information, please see page 1378

Penicillin G sodium salt

≥96 %, for biochemistry

β-Lactam antibiotic

Type analysis:

Assay..... 96,0-102,0 %
pH value..... 5,5-7,5
Specific rotation $[\alpha]_D^{25}$ +285° to +310°
Loss on drying..... ≤1,0 %

CN28.1	10 g	plastic	16,35 €
CN28.2	25 g	plastic	27,45 €
CN28.3	100 g	plastic	76,90 €

For further information, please see page 1378

Pen/Strep-PreMix

Pen/Strep-PreMix

CELLPURE®

For elimination and prevention of bacterial contamination in cell culture.

WGK 2

Danger H334-H302+H332-H317

Guarantee analysis:

Penicillin G sodium salt..... 312,5 mg/vial
Streptomycin..... 0,5 g/vial
Sodium chloride..... 0,45 g/vial
Endotoxins..... ≤210 I.U./vial
pH value (stock solution in water)..... 5,5 ±0,2

HP10.1	powder mix for 100 ml	plastic	57,95 €

For further information, please see page 1378

n-Pentadecane



n-Pentadecane

ROTICHRON® GC

Reference substance for GC

$C_{15}H_{32}$

M 212,42 g/mol

D 0,769 • bp 268-271 °C

mp 9,9 °C • flp 132 °C

Storage temp.: +4 °C

[629-62-9] • EC No. 211-098-1

WGK 1

Danger H304-EUH066

Type analysis:

Purity (GC)..... ≥99 %

9096.1	1 g	plastic	75,15 €

Pentaerythritol



Pentaerythritol

≥98 %, for synthesis

2,2-Bis(hydroxymethyl)-1,3-propanediol

$C_5H_{12}O_4$

M 136,15 g/mol

D 1,39 • bp 276 °C (30 mbar)

mp 255-261 °C • flp 150 °C

Solubility: 72 g/l (H_2O , 25 °C)

[115-77-5] • EC No. 204-104-9

WGK 1

Type analysis:

Assay (TLC)..... ≥98 %
Melting range..... 255-261 °C

7522.2	100 g	plastic	16,70 €

7522.1	500 g	plastic	50,00 €

Original pack 6 x 500 g 47,50/500 g

trans-3,3',4',5,7-Pentahydroxyflavan

▶ DL-Catechin hydrate see p. 1721

2',3,4',5,7-Pentahydroxyflavone

► Morin hydrate see p. 1975

3',4',5,6,7-Pentamethoxyflavone

► Sinensetin see p. 2138

1-Pentanal

► n-Valeraldehyde see p. 2234

iso-Pentane

► 2-Methylbutane see p. 1965

n-Pentane

1,3-Dimethylpropane, Diethylmethane

 C_5H_{12}

M 72,15 g/mol

D 0,63 • bp ~36 °C

mp -129,7 °C • flp -48 °C

[109-66-0] • EC No. 203-692-4

UN No. 1265 • ADR 3 II • WGK 2

Danger

H225-H304-H336-H411-EUH066

n-Pentane**ROTISOLV® HPLC****Guarantee analysis:**

Assay (GC).....	≥99 %
Water (KF).....	≤0,005 %
Free acid (as CH_3COOH).....	≤0,002 %
Non volatile matter.....	≤0,0003 %
Transmission:	
270 nm.....	≥99 %
220 nm.....	≥90 %
200 nm.....	≥40 %
Filtered through 0,2 µm membrane and filled under protective gas.	

CN99.1	1 l	glass	58,60 €
Original pack 6 x 1 l			55,67/1 l
CN99.2	2,5 l	glass	126,75 €
Original pack 4 x 2,5 l			120,41/2,5 l

For further information, please see page 1515

n-Pentane**ROTISOLV® ≥99 %, GC Ultra Grade**

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC).....	≥99 %
Colour (APHA).....	≤5
Water (KF).....	≤0,005 %
Free acid (as CH_3COOH).....	≤0,005 %
Evaporation residue.....	≤0,0001 %
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤3 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
PAH-test (less than 2 ppb, HPLC).....	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

KK45.1	2,5 l	glass	190,85 €
Original pack 4 x 2,5 l			181,31/2,5 l

n-Pentane**ROTISOLV® ≥99 %, Pestilyse® plus****NEW**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥99,0 %
Colour (APHA).....	≤5
Water (KF).....	≤0,005 %
Free acid (as CH_3COOH).....	≤0,002 %
Evaporation residue.....	≤0,0001 %
GC/FID suitability (as 2-octanol).....	≤10 ng/ml
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤5 ng/l
Oil index (any hydrocarbon $C_{10}-C_{40}$).....	≤0,05 mg/l
GC/ECD volatile impurities (as ethylene dibromide).....	≤5 ng/ml
Fluorescence (as quinine):	
254 nm.....	≤1 ppb
365 nm.....	≤1 ppb

7587.1	2,5 l	glass	110,20 €
Original pack 4 x 2,5 l			104,69/2,5 l

n-Pentane**ROTISOLV® ≥99 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥99 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l

T903.2	1 l	glass	44,65 €
Original pack 6 x 1 l			42,42/1 l
T903.1	2,5 l	glass	91,95 €
Original pack 4 x 2,5 l			87,35/2,5 l

n-Pentane**ROTISOLV® ≥99 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....	≥99 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Transmission:	
240 nm.....	≥98 %
230 nm.....	≥95 %
220 nm.....	≥85 %
210 nm.....	≥60 %
200 nm.....	≥20 %

4443.1	2,5 l	glass	99,45 €
Original pack 4 x 2,5 l			94,48/2,5 l

n-Pentane**ROTIPURAN® ≥99 %, p.a.****Guarantee analysis:**

Assay (GC).....	≥99,0 %
Water (KF).....	≤0,01 %
Sulphur (as S).....	≤0,005 %
Evaporation residue.....	≤0,001 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Boron (B).....	≤0,000002 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Iron (Fe).....	≤0,00001 %
Chromium (Cr).....	≤0,000002 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %
Tin (Sn).....	≤0,00001 %

4978.1	1 l	glass	45,70 €
Original pack 6 x 1 l			43,42/1 l
4978.2	2,5 l	glass	95,60 €
Original pack 4 x 2,5 l			90,82/2,5 l

n-Pentane**≥99 %, for synthesis****Type analysis:**

Assay (GC).....	≥99,0 %
Density (15 °C).....	0,629-0,633
Aromatic compounds (GC).....	≤0,001 %
Evaporation residue.....	≤0,001 %

8720.1	1 l	glass	33,90 €
Original pack 6 x 1 l			32,21/1 l
8720.3	2,5 l	glass	66,15 €
Original pack 4 x 2,5 l			62,84/2,5 l
8720.4	5 l	aluminium	117,20 €
Original pack 2 x 5 l			111,34/5 l
8720.2	10 l	tinplate	231,15 €
8720.5	25 l	tinplate	504,20 €

n-Pentane**≥95 %, extra pure****Type analysis:**

Assay (GC).....	≥95,0 %
Density (15 °C).....	0,6250-0,6380
Isopentane.....	≤3,0 %
Cyclopentane.....	≤1,0 %
2,2-Dimethylbutane.....	≤1,0 %
n-Hexane.....	≤0,4 %
Benzene.....	≤0,002 %
Total sulphur.....	≤0,0001 %

3747.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
3747.3	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
3747.2	10 l	tinplate	90,20 €
3747.4	25 l	tinplate	176,30 €

O/p

Pentanedial

► Glutaraldehyde 50 % see p. 1857

Pentane-2,4-dione

► Acetyl acetone see p. 1608

Pentane-1-sulphonic acid sodium salt



Pentane-1-sulphonic acid sodium salt

≥98 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-pentane sulphonate

$C_5H_{11}NaO_3S$

M 174,20 g/mol

[22767-49-3] • EC No. 245-208-4

WGK 3

Guarantee analysis:

Assay (acidim.)	≥98,0 %
Water	≤2 %
Absorption:	
A 200 nm (0,25 M in water)	≤0,1 AU
A 210 nm (0,25 M in water)	≤0,05 AU
A 220 nm (0,25 M in water)	≤0,04 AU
A 230 nm (0,25 M in water)	≤0,03 AU
A 240 nm (0,25 M in water)	≤0,01 AU
A 250 nm (0,25 M in water)	≤0,01 AU
A 260 nm (0,25 M in water)	≤0,01 AU

KK56.1	10 g	glass	42,50 €
KK56.2	25 g	glass	81,60 €
KK56.3	100 g	glass	246,20 €

Pentanoic acid

► n-Valeric acid see p. 2234

1-Pentanol



n-Amyl alcohol, 1-Pentyl alcohol,
n-Butyl carbinol

$C_5H_{12}O$

M 88,15 g/mol

D 0,81 • bp 137,8 °C

mp -78,5 °C • flp 43 °C

Solubility: 22 g/l (H_2O , 20 °C)

[71-41-0] • EC No. 200-752-1

UN No. 1105 • ADR 3 III • WGK 1

Warning H226-H332-H315-H335

1-Pentanol

~98 %, for synthesis

Type analysis:

Assay (GC)	~98 %
Density (20 °C)	0,810-0,830
Refractive index n_D^{20}	1,4090-1,4120

8949.2	500 ml	glass	23,15 €
8949.1	1 l	glass	38,60 €
Original pack 6 x 1 l			36,67/1 l

1-Pentanol

ROTICHROM® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥99 %

9077.1	1 g	plastic	75,15 €

2-Pentanol



2-Pentanol

ROTICHROM® GC

Reference substance for GC

$C_5H_{12}O$

M 88,15 g/mol

D 0,812 • bp 119,3 °C

mp -50 °C • flp 34 °C

Solubility: 166 g/l (H_2O , 20 °C)

Storage temp.: +4 °C

[6032-29-7] • EC No. 227-907-6

UN No. 1105 • ADR 3 III • WGK 1

Warning H226-H332-H335-EUH066

Type analysis:

Purity (GC) ≥95 %

6824.1	1 g	plastic	75,15 €

4-Pentenylglucosinolate potassium salt

► Glucobrassicinapin see p. 1852

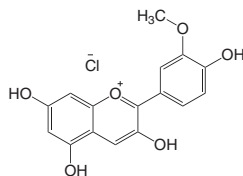
Pentetic acid

► Diethylene triamine pentaacetic acid
see p. 1774

1-Pentyl alcohol

► 1-Pentanol see p. 2026

Peonidin chloride



Peonidin chloride

ROTICHROM® HPLC

Reference substance for HPLC

$C_{16}H_{13}O_6Cl$

M 336,71 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

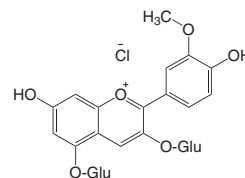
[134-01-0] • EC No. 205-125-6

Type analysis:

Purity (HPLC) ≥98,5 %

4540.1	5 mg	glass	289,20 €

Peonidin 3,5-diglucoside chloride



Peonidin 3,5-diglucoside chloride

ROTICHROM® HPLC

Reference substance for HPLC

From *Rosa Centifolia*.

Peonine

$C_{28}H_{33}O_{16}Cl$

M 661,01 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[132-37-6]

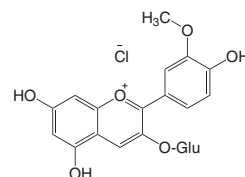
WGK 1

Type analysis:

Purity (HPLC) ≥96 %

1413.1	10 mg	glass	375,20 €

Peonidin 3-glucoside chloride



Peonidin 3-glucoside chloride

ROTICHROM® HPLC

Reference substance for HPLC

From *Vitis vinifera*

$C_{22}H_{23}O_{11}Cl$

M 498,85 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[6906-39-4]

WGK 1

Type analysis:

Purity (HPLC) ≥97 %

1619.1	5 mg	glass	267,70 €

Peonine

► Peonidin 3,5-diglucoside chloride
see p. 2026

PEP-3 Na

► Phosphoenolpyruvic acid, trisodium salt
heptahydrate see p. 2038

Pepsin

M 35000 g/mol
Storage temp.: +4 °C
[9001-75-6] • EC No. 232-629-3
WGK 1
 **Danger** H334-H335-H315-H319

Pepsin

≥2000 FIP-U/g, for biochemistry
From porcine gastric mucosa. For detection of trichina in meat.

Guarantee analysis:

Appearance..... white to clear beige, cryst. or amorphous powder
Specific activity..... ≥2000 FIP-U/g
pH value (1 % in H₂O)..... 3,0-5,0
Loss on drying..... ≤5,0 %

KK38.1	50 g	plastic	52,15 €

KK38.2	100 g	plastic	84,40 €

KK38.3	250 g	plastic	177,40 €

KK38.4	1 kg	plastic	585,90 €
Original pack 6 x 1 kg			556,61/1 kg

For further information, please see page 1564

Pepsin

≥0,5 Ph.Eur.-U/mg, for biochemistry
Isolated from pigs stomach.

Type analysis:

Assay..... ≥0,5 Ph.Eur.-E/mg
Identity..... complies
Loss on drying..... <5,0 %

0230.1	25 g	glass	23,45 €

0230.2	50 g	glass	37,55 €

Pepstatin A

Pepstatin A

≥98 %, for biochemistry
Inhibitor of acidic/aspartic proteases
Iva-Val-Val-Sta-Ala-Sta
C₃₄H₆₃N₅O₉
M 685,91 g/mol
mp 233 °C (dec.)
Storage temp.: -20 °C
Transport temp.: room temp.
[26305-03-3] • EC No. 247-600-0
WGK 1

Type analysis:

Appearance..... white powder
Assay (HPLC)..... ≥98 %
Specific rotation [α]_D²⁰ (c=0.5 in methanol)..... -94° to -91°

2936.1	5 mg	plastic	27,85 €

2936.2	25 mg	plastic	81,60 €

2936.3	100 mg	plastic	256,95 €

For further information, please see page 1233

Peptide Synthesis, reagents for

► Reagents for Peptide Synthesis see p. 2081

Peptone ex casein

Peptone ex casein

tryptic digest, for microbiology

Solubility: 800 g/l (H₂O, 20 °C)
Storage temp.: +20 °C
[91079-40-2] • EC No. 293-428-4
WGK 1

Type analysis:

Total nitrogen..... ≥12,5 %
Amino nitrogen..... ≥3,0 %
Loss on drying..... ≤6 %
Ash..... ≤16 %
pH value..... 6,5-7,5

8986.1	500 g	plastic	71,50 €

Original pack 6 x 500 g	67,93/500 g

8986.2	1 kg	plastic	127,40 €

Original pack 6 x 1 kg	121,03/1 kg

8986.3	2,5 kg	plastic	282,20 €

8986.4	5 kg	plastic	499,90 €

For further information, please see page 1365

Peptone ex casein, pancreatic digest

► Tryptone/Peptone ex casein see p. 2227

Peptone ex gelatin

Peptone ex gelatin

pancreatic digest, for microbiology

Solubility: 550 g/l (H₂O, 20 °C)
Storage temp.: +20 °C
[91079-43-5] • EC No. 293-431-0
WGK 1

Type analysis:

Total nitrogen..... ≥10 %
Amino nitrogen..... ≥2,7 %
Loss on drying..... ≤6 %
Ash..... ≤15 %
pH value (2 % solution)..... 7,0 ±0,5

HP99.1	500 g	plastic	64,40 €

Original pack 6 x 500 g	61,18/500 g

For further information, please see page 1365

Peptone ex meat

Peptone ex meat

peptic digest, for microbiology

Solubility: 1500 g/l (H₂O, 20 °C)
Storage temp.: +20 °C
[91079-38-8] • EC No. 293-426-3
WGK 1

Type analysis:

Total nitrogen..... ≥12,0 %
Amino nitrogen..... 2,0-3,1 %
Loss on drying..... ≤5 %
Ash..... ≤20 %
pH value..... 6,5-7,5
Solubility (2 % solution)..... clear

2366.1	250 g	plastic	51,50 €

2366.3	500 g	plastic	95,60 €

Original pack 6 x 500 g	90,82/500 g

2366.2	1 kg	plastic	182,25 €

Original pack 6 x 1 kg	173,14/1 kg

2366.4	2,5 kg	plastic	353,70 €

For further information, please see page 1366

Peptone ex soya

Solubility: 2200 g/l (H₂O, 20 °C)
Storage temp.: +20 °C
[91079-46-8] • EC No. 293-434-7
WGK 1

Peptone ex soya (animal-free/GMO-free)

animal-free and GMO-free, papainic digest, for microbiology

Type analysis:

Total nitrogen..... ≥7 %
Amino nitrogen..... ≥2,2 %
Loss on drying..... ≤6 %
Animal-free..... complies
GMO-free..... complies
pH value (5 % solution)..... 6,5-7,5

2832.1	250 g	plastic	51,50 €

2832.2	500 g	plastic	84,40 €

Original pack 6 x 500 g	80,18/500 g

2832.3	1 kg	plastic	155,35 €

Original pack 6 x 1 kg	147,58/1 kg

For further information, please see page 1366

Peptone ex soya

papainic digest, for microbiology

Type analysis:

Total nitrogen..... ≥9,0 %
Amino nitrogen..... ≥2,5 %
Loss on drying..... ≤6 %
Ash..... ≤21,0 %
pH value (5 % solution)..... 6,5-7,5

2365.1	250 g	plastic	36,05 €

2365.3	500 g	plastic	60,10 €

Original pack 6 x 500 g	57,10/500 g

2365.2	1 kg	plastic	115,60 €

Original pack 6 x 1 kg	109,82/1 kg

2365.4	2,5 kg	plastic	213,95 €

For further information, please see page 1366

Peptone Water, buffered

Storage temp.: +20 °C
WGK 1

Peptone Water, buffered

Ph.Eur., for microbiology

For dilution and homogenisation of samples during microbiological analysis of food.
Sodium peptone buffer solution (Ph.Eur. 6.0),
Buffered Sodium Chloride-Peptone Solution (Ph.Eur. 6.3, 7.0 and 8.0).

Application: Use 16,1 g for 1 l broth.

Guarantee analysis:

Potassium hydrogen phosphate*..... 3,6 g/l
di-Sodium hydrogen phosphate dihydrate*..... 7,2 g/l
Sodium chloride (NaCl)..... 4,3 g/l
Casein peptone (Pancreas hydrolysate)..... 1,0 g/l
pH value..... 7,0 ±0,2
*equivalent to 0,067 M phosphate

AE67.1	500 g	plastic	59,70 €

Original pack 6 x 500 g	56,72/500 g

AE67.2	1 kg	plastic	101,60 €

Original pack 6 x 1 kg	96,52/1 kg

For further information, please see page 1337

Peptone Water, buffered

EN ISO 6887, EN ISO 6579, ISO 22964, EN ISO 19250, for microbiology

Diluent for homogenisation of food samples and for sample preparation for microbiological analysis.

Application: Use 20 g for 1 l broth.

Guarantee analysis:

Pancreatic digest of casein.....	10 g/l
Sodium chloride (NaCl).....	5 g/l
Disodium phosphate.....	3,5 g/l
Potassium phosphate.....	1,5 g/l
pH value.....	7,0 ±0,2

X917.1	500 g	plastic	51,50 €
Original pack 6 x 500 g			48,93/500 g
X917.2	1 kg	plastic	92,35 €
Original pack 6 x 1 kg			87,73/1 kg
X917.3	2,5 kg	plastic	188,15 €

For further information, please see page 1337

Peptone water, buffered, granulated

granulated, EN ISO 6887, EN ISO 6579, ISO 22964, EN ISO 19250, for microbiology

Diluent for homogenisation of food samples and for sample preparation for microbiological analysis.

Application: Use 20 g for 1 l broth.

Guarantee analysis:

Pancreatic digest of casein.....	10 g/l
Sodium chloride (NaCl).....	5 g/l
Disodium phosphate.....	3,5 g/l
Potassium phosphate.....	1,5 g/l
pH value.....	7,0 ±0,2
Granulation.....	complies

6680.1	500 g	plastic	76,90 €
Original pack 6 x 500 g			73,06/500 g
6680.2	1 kg	plastic	136,55 €
Original pack 6 x 1 kg			129,72/1 kg

For further information, please see page 1337

Perchloric acid Ultra-quality

Perchloric acid Ultra-quality

ROTIPURAN® Ultra 70 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis. The quality for highest demands on purity.

HClO₄

M 100,46 g/mol

D 1,688 • bp 198 °C

mp -18 °C

[7601-90-3] • EC No. 231-512-4

UN No. 1873 • ADR 5.1 (8) I • WGK 1

  **Danger** H271-H314-H290

Guarantee analysis:

Assay (w/w).....	65-71 %
Aluminium (Al).....	≤100 ppt
Antimony (Sb).....	≤100 ppt
Arsenic (As).....	≤100 ppt
Barium (Ba).....	≤100 ppt
Beryllium (Be).....	≤100 ppt
Lead (Pb).....	≤10 ppt
Cadmium (Cd).....	≤10 ppt
Cesium (Cs).....	≤10 ppt
Calcium (Ca).....	≤100 ppt
Cerium (Ce).....	≤10 ppt
Dysprosium (Dy).....	≤10 ppt
Iron (Fe).....	≤100 ppt
Erbium (Er).....	≤10 ppt
Europium (Eu).....	≤10 ppt

Gadolinium (Gd).....	≤10 ppt
Gallium (Ga).....	≤10 ppt
Holmium (Ho).....	≤10 ppt
Indium (In).....	≤10 ppt
Potassium (K).....	≤100 ppt
Cobalt (Co).....	≤100 ppt
Copper (Cu).....	≤100 ppt
Lanthanum (La).....	≤10 ppt
Lithium (Li).....	≤100 ppt
Lutetium (Lu).....	≤10 ppt
Magnesium (Mg).....	≤100 ppt
Manganese (Mn).....	≤100 ppt
Molybdenum (Mo).....	≤100 ppt
Sodium (Na).....	≤100 ppt
Neodymium (Nd).....	≤10 ppt
Nickel (Ni).....	≤100 ppt
Palladium (Pd).....	≤10 ppt
Platinum (Pt).....	≤100 ppt
Praseodymium (Pr).....	≤10 ppt
Rhodium (Rh).....	≤10 ppt
Rubidium (Rb).....	≤10 ppt
Samarium (Sm).....	≤10 ppt
Scandium (Sc).....	≤100 ppt
Silver (Ag).....	≤100 ppt
Strontium (Sr).....	≤100 ppt
Tellur (Te).....	≤10 ppt
Terbium (Tb).....	≤10 ppt
Thallium (Tl).....	≤100 ppt
Thorium (Th).....	≤10 ppt
Thulium (Tm).....	≤10 ppt
Titanium (Ti).....	≤100 ppt
Uranium (U).....	≤10 ppt
Vanadium (V).....	≤100 ppt
Bismuth (Bi).....	≤10 ppt
Ytterbium (Yb).....	≤10 ppt
Yttrium (Y).....	≤10 ppt
Zinc (Zn).....	≤100 ppt
Tin (Sn).....	≤100 ppt
Zirconium (Zr).....	≤100 ppt

HN61.2	250 ml	plastic (FEP)	418,20 €

HN61.1	500 ml	plastic (FEP)	568,70 €

HN61.3	1 l	plastic (FEP)	934,20 €

Original pack 6 x 1 l			887,49/1 l

HN61.4	2 l	plastic (FEP)	1494,25 €

For further information, please see page 1573

Perchloric acid Supra-quality

Perchloric acid Supra-quality

ROTIPURAN® Supra 70 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

HClO₄

M 100,46 g/mol

D 1,688 • bp 198 °C

mp -18 °C

[7601-90-3] • EC No. 231-512-4

UN No. 1873 • ADR 5.1 (8) I • WGK 1

  **Danger** H271-H314-H290

Guarantee analysis:

Assay (w/w).....	65-71 %
Colour (APHA).....	≤10
Aluminium (Al).....	≤1 ppb
Antimony (Sb).....	≤0,5 ppb
Arsenic (As).....	≤0,5 ppb
Barium (Ba).....	≤1 ppb
Beryllium (Be).....	≤0,5 ppb
Lead (Pb).....	≤1 ppb
Cadmium (Cd).....	≤1 ppb
Cesium (Cs).....	≤0,5 ppb
Calcium (Ca).....	≤1 ppb
Cerium (Ce).....	≤0,5 ppb
Dysprosium (Dy).....	≤0,5 ppb
Iron (Fe).....	≤1 ppb
Erbium (Er).....	≤0,5 ppb
Europium (Eu).....	≤0,5 ppb

Gadolinium (Gd).....	≤0,5 ppb
Gallium (Ga).....	≤0,5 ppb
Gold (Au).....	≤0,5 ppb
Holmium (Ho).....	≤0,5 ppb
Indium (In).....	≤0,5 ppb
Potassium (K).....	≤1 ppb
Cobalt (Co).....	≤0,5 ppb
Copper (Cu).....	≤0,5 ppb
Lanthanum (La).....	≤0,5 ppb
Lithium (Li).....	≤0,5 ppb
Lutetium (Lu).....	≤0,5 ppb
Magnesium (Mg).....	≤1 ppb
Manganese (Mn).....	≤1 ppb
Molybdenum (Mo).....	≤0,5 ppb
Sodium (Na).....	≤1 ppb
Neodymium (Nd).....	≤0,5 ppb
Nickel (Ni).....	≤1 ppb
Palladium (Pd).....	≤0,5 ppb
Platinum (Pt).....	≤0,5 ppb
Praseodymium (Pr).....	≤0,5 ppb
Rhodium (Rh).....	≤0,5 ppb
Rubidium (Rb).....	≤0,5 ppb
Samarium (Sm).....	≤0,5 ppb
Scandium (Sc).....	≤0,5 ppb
Silver (Ag).....	≤1 ppb
Strontium (Sr).....	≤0,5 ppb
Tellur (Te).....	≤0,5 ppb
Terbium (Tb).....	≤0,5 ppb
Thallium (Tl).....	≤0,5 ppb
Thorium (Th).....	≤1 ppb
Thulium (Tm).....	≤0,5 ppb
Titanium (Ti).....	≤1 ppb
Uranium (U).....	≤0,5 ppb
Vanadium (V).....	≤0,5 ppb
Bismuth (Bi).....	≤0,5 ppb
Ytterbium (Yb).....	≤0,5 ppb
Yttrium (Y).....	≤0,5 ppb
Zinc (Zn).....	≤1 ppb
Tin (Sn).....	≤1 ppb
Zirconium (Zr).....	≤0,5 ppb

HN51.1	500 ml	glass PVC coated	149,45 €

HN51.3	1 l	glass PVC coated	241,90 €

Original pack 6 x 1 l			229,81/1 l

HN51.4	2,5 l	glass PVC coated	364,45 €

Original pack 4 x 2,5 l			346,23/2,5 l

For further information, please see page 1573

Perchloric acid 0,1 N

Perchloric acid

0,1 mol/l - 0,1 N volumetric standard solution

In anhydrous acetic acid.

HClO₄

M 100,46 g/mol

fp 40 °C

UN No. 2789 • ADR 8 (3) II • WGK 1

  **Danger** H226-H290-H314

Type analysis:

Amount-of-substance conc. (20 °C)... 0,1 mol/l ±0,2 %
Titer.....0,998-1,002

K023.1	1 l	glass	72,60 €

Original pack 6 x 1 l			68,97/1 l

For further information, please see page 1546

Perchloric acid 0,1 N

Perchloric acid

0,1 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.

In anhydrous acetic acid.

HClO₄

M 100,46 g/mol

flp 40 °C

UN No. 2789 • ADR 8 (3) II • WGK 1

 **Danger** H226-H290-H314

Type analysis:

Amount-of-substance conc. (20 °C).....0,1 mol/l ±0,1 %
Titr. 0,999-1,001

9525.1	1 l	plastic	78,40 €

Original pack 6 x 1 l	74,48/1 l

For further information, please see page 1545

Perchloroethylene

► Tetrachloroethylene see p. 2202

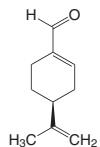
1H,1H,5H-Perfluoropentanol

► 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol see p. 1998

Perhydrosqualene

► Squalane see p. 2165

(-)-Perillaldehyde



(-)-Perillaldehyde

ROTICHROM® GC

Reference substance for GC

C₁₀H₁₄O

M 150,21 g/mol

D 0,965 • bp₁₀ 104-105 °C

flp 95 °C

Storage temp.: +4 °C

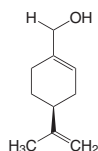
[18031-40-8]

Type analysis:

Purity (GC).....≥92 %

4099.1	1 g	plastic	75,15 €

(-)- Perillic alcohol



(-)- Perillic alcohol

~96 %

(-)-p-Mentha-1,8-diene-7-ol

C₁₀H₁₆O

M 152,24 g/mol

D 0,96 • bp₁₁ 119-122 °C

flp >110 °C

[536-59-4] • EC No. 208-639-9

WGK 2

 **Warning** H315-H319-H335

Type analysis:

Assay ~96 %

7135.1	5 ml	glass	81,20 €

Periodic acid

H₅IO₆

M 227,94 g/mol

mp 122 °C

Solubility: 2430 g/l (H₂O, 20 °C)

[10450-60-9] • EC No. 233-937-0

UN No. 3085 • ADR 5.1 (8) I • WGK 1

 **Danger** H271-H314

Periodic acid

≥99 %, p.a.

Pulping agent for organic substances.

Guarantee analysis:

Assay (iodom.) ≥99,0 %

Chloride, chlorate, bromide, bromate (as Cl) .. ≤0,02 %

Iodide (I) ≤0,001 %

Iodic acid (HIO₃) ≤1 %

Nitrate (NO₃) ≤0,01 %

Sulphate (SO₄) ≤0,01 %

Iron (Fe) ≤0,01 %

3257.1	100 g	glass	62,90 €

3257.2	500 g	glass	219,85 €

Original pack 6 x 500 g	208,86/500 g

Periodic acid

≥99 %, for synthesis

Type analysis:

Assay ≥99,0 %

Insoluble matter ≤0,01 %

2612.1	50 g	glass	27,85 €

2612.2	100 g	glass	38,60 €

2612.3	500 g	glass	153,20 €

Original pack 6 x 500 g	145,54/500 g

Periodic acid solution 1 %

Periodic acid solution 1 %

for microscopy

For hydrolysis of carbohydrates, e.g. in PAS reaction (Periodic Acid Schiff reaction).

H₅IO₆ + H₂O

[10450-60-9]

 **Warning** H315-H319

Type analysis:

Assay (H₅IO₆) 1 % in water

HP00.1	500 ml	glass	36,45 €

For further information, please see page 1397

Peroxidase

Peroxidase

≥250 U/mg material

From horseradish, freeze-dried

HRP, Horseradish peroxidase

Storage temp.: -20 °C

Transport temp.: room temp.

[9003-99-0] • EC No. 232-668-6

WGK 1

 **Danger** H317-H334

Type analysis:

Appearance brown powder

Activity ≥250 U/mg material

RZ (E₄₀₃/E₂₇₅) >3,0

6055.1	0,05 g	plastic	109,15 €

For further information, please see page 1224

Peru-Balm

Peru-Balm

natural

Balsamum Peruvianum, Balsam of Peru

D 1,14

[8007-00-9] • EC No. 232-352-8

UN No. 3082 • ADR 9 III • WGK 2

 **Danger** H315-H317-H411

Type analysis:

Appearance viscous, dark-brown to yellow-brown liquid

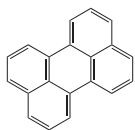
Assay (ester) 45,0-70,0 %

Density (20 °C) 1,140-1,170

6809.1	100 ml	glass	16,70 €

0/p

Perylene



Perylene

≥99 %

Dibenz[de,kl]anthracen

C₂₀H₁₂

M 252,32 g/mol

mp 275-279 °C

[198-55-0] • EC No. 205-900-9

WGK 2

Type analysis:

Assay (HPLC) ≥99,0 %
Melting point 275-279 °C

5272.1	1 g	glass	28,95 €
5272.2	5 g	plastic	103,10 €

Petroleum 132-175 °C

Petroleum 132-175 °C

special fraction 132-175 °C

D 0,77 • bp 132-175 °C

flp 23 °C

[64742-82-1] • EC No. 265-185-4

UN No. 1300 • ADR 3 III • WGK 2

Danger

H304-H226-H336-H411-EUH066

Type analysis:

Boiling range:
Lower value ≥132 °C
Upper value ≤175 °C
Colour (Hazen) ≤20
Aromatic compounds 17-23 %
Flash point ≥23 °C

5661.1	1 l	glass	21,20 €
	Original pack 6 x 1 l		20,14/1 l
5661.2	10 l	tinplate	87,65 €

Petroleum 180-230 °C

Petroleum 180-230 °C

special fraction 180-230 °C

D 0,799 • bp 180-230 °C

flp 65 °C

[64742-81-0] • EC No. 232-366-4

UN No. 3082 • ADR 9 III • WGK 2

Danger H315-H336-H304-H411

Type analysis:

Appearance clearly liquid
Boiling range:
Lower value ≥180 °C
Upper value ≤230 °C
Colour (Hazen) ≤30
Flash point ≥62 °C
Colour number (Saybolt) ≤30

9015.1	1 l	glass	20,35 €
	Original pack 6 x 1 l		19,33/1 l
9015.2	10 l	tinplate	96,65 €

Petroleum 180-250 °C

Petroleum 180-250 °C

boiling range 180-250 °C

D 0,795

flp 61 °C

[64742-81-0] • EC No. 232-366-4

UN No. 3082 • ADR 9 III • WGK 2

Danger H315-H336-H304-H411

Type analysis:

Boiling range 180-250 °C
Flash point ≥61 °C
Density ~0,795

5149.1	1 l	glass	16,05 €
	Original pack 6 x 1 l		15,25/1 l
5149.3	10 l	tinplate	71,50 €

Petroleum benzine 30-50

Petroleum benzine 30-50

extra pure

Gasoline, Petroleum ether

D ~0,63 • bp 30-50 °C • flp -31 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 I • WGK 2

Danger

H224-H304-H315-H336-H411

Type analysis:

Boiling range 30-50 °C
Benzene (GC) ≤0,02 %
Density (15 °C) 0,625-0,636

3523.1	1 l	glass	24,65 €
	Original pack 6 x 1 l		23,42/1 l
3523.3	2,5 l	glass	42,90 €
	Original pack 4 x 2,5 l		40,76/2,5 l
3523.4	5 l	aluminium	80,55 €
	Original pack 2 x 5 l		76,52/5 l
3523.2	10 l	tinplate	145,70 €

Petroleum benzine 30-75

Petroleum benzine 30-75

extra pure

Gasoline, Ligroin

D ~0,665 • bp 30-75 °C • flp -21 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 2

Danger

H225-H315-H336-H304-H411

Type analysis:

Boiling range 30-75 °C
Aromatic compounds <0,02 %
Benzene <0,01 %
n-Hexane <5,0 %
Density (15 °C) 0,650-0,680
Refractive index n_D²⁰ 1,3670-1,3770

8961.1	1 l	glass	21,00 €
	Original pack 6 x 1 l		19,95/1 l
8961.3	2,5 l	glass	35,40 €
	Original pack 4 x 2,5 l		33,63/2,5 l
8961.4	5 l	aluminium	64,00 €
	Original pack 2 x 5 l		60,80/5 l
8961.2	10 l	tinplate	101,60 €

Petroleum benzine 40-60

Petroleum benzine 40-60

extra pure

Gasoline, Petroleum ether

D ~0,65 • bp 40-60 °C

flp -45 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 1

Danger

H225-H304-H315-H336-H411

Type analysis:

Boiling range 40-60 °C
Aromatic compounds (GC) ≤0,01 %
Evaporation residue ≤0,002 %
Density (15 °C) 0,647-0,654

9320.4	500 ml	glass	19,90 €
9320.1	1 l	glass	24,20 €
	Original pack 6 x 1 l		22,99/1 l
9320.5	2,5 l	glass	41,85 €
	Original pack 4 x 2,5 l		39,76/2,5 l
9320.3	5 l	aluminium	80,55 €
	Original pack 2 x 5 l		76,52/5 l
9320.2	10 l	tinplate	127,95 €

Petroleum benzine 40-65

Petroleum benzine 40-65

extra pure

Gasoline, Petroleum ether, white spirit

D ~0,65 • bp 40-65 °C

flp -43 °C

[64742-49-0] • EC No. 931-254-9

UN No. 3295 • ADR 3 II • WGK 2

Danger

H225-H304-H336-H411-EUH066

Type analysis:

Boiling range 40-65 °C
Benzene ≤0,001 %
n-Hexane ≤2 %
Density (15 °C) 0,645-0,660

8573.1	1 l	glass	22,05 €
	Original pack 6 x 1 l		20,95/1 l
8573.2	2,5 l	glass	38,60 €
	Original pack 4 x 2,5 l		36,67/2,5 l
8573.3	5 l	aluminium	73,65 €
	Original pack 2 x 5 l		69,97/5 l
8573.4	10 l	tinplate	111,30 €
8573.5	25 l	tinplate	206,95 €

Petroleum benzine 40-80

Petroleum benzine 40-80

extra pure

Petroleum ether, Petroleum benzine, Gasoline

D ~0,66 • bp 40-80 °C

flp -20 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 2

 **Danger**

H225-H304-H361f-H373-H315-H336-H411

Type analysis:

Boiling range..... 40-80 °C

Aromatic compounds (GC)..... ≤0,01 %

Density (15 °C)..... 0,650-0,670

CP48.1	1 l	glass	24,40 €
Original pack 6 x 1 l			23,18/1 l
CP48.4	2,5 l	glass	43,55 €
Original pack 4 x 2,5 l			41,37/2,5 l
CP48.2	5 l	aluminium	82,70 €
Original pack 2 x 5 l			78,57/5 l
CP48.3	10 l	tinplate	138,70 €

Petroleum benzine 50-70

Petroleum benzine 50-70

extra pure

Petroleum ether, Petroleum benzine, Gasoline

D ~0,665 • bp 50-70 °C

flp -20 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 2

 **Danger**

H225-H304-H361f-H373-H315-H336-H411

Type analysis:

Boiling range..... 50-70 °C

Aromatic compounds (GC)..... ≤0,01 %

Density (15 °C)..... 0,660-0,675

0969.1	1 l	glass	26,80 €
Original pack 6 x 1 l			25,46/1 l
0969.4	2,5 l	glass	48,30 €
Original pack 4 x 2,5 l			45,89/2,5 l
0969.5	5 l	aluminium	91,30 €
Original pack 2 x 5 l			86,74/5 l
0969.2	10 l	tin plate	177,40 €
0969.3	25 l	tin plate	332,20 €

Petroleum benzine 60-70

Petroleum benzine 60-70

extra pure

Gasoline

D ~0,675 • bp 60-70 °C

flp -25 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 2

 **Danger**

H225-H304-H361f-H373-H315-H336-H411

Type analysis:

Boiling range..... 60-70 °C

Aromatic compounds (GC)..... ≤0,01 %

Density (15 °C)..... 0,670-0,680

9735.1	1 l	glass	23,90 €
Original pack 6 x 1 l			22,71/1 l
9735.4	2,5 l	glass	40,75 €
Original pack 4 x 2,5 l			38,71/2,5 l
9735.5	5 l	aluminium	77,30 €
Original pack 2 x 5 l			73,44/5 l
9735.2	10 l	tinplate	138,70 €
9735.3	20 l	tinplate	213,95 €

Petroleum benzine 60-95

Petroleum benzine 60-95

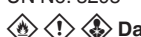
extra pure

Gasoline, Petroleum ether

D ~0,69 • bp 60-95 °C

flp <0 °C

UN No. 3295 • ADR 3 II • WGK 3

 **Danger** H225-H304-H336-H412

Type analysis:

Boiling range..... 60-95 °C

Benzene (GC)..... ≤0,005 %

Aromatic compounds (GC)..... ≤0,01 %

n-Hexane..... ≤5,0 %

Density (15 °C)..... 0,675-0,711

8575.1	1 l	glass	19,90 €
Original pack 6 x 1 l			18,91/1 l
8575.2	2,5 l	glass	33,25 €
Original pack 4 x 2,5 l			31,59/2,5 l
8575.3	5 l	aluminium	62,25 €
Original pack 2 x 5 l			59,14/5 l
8575.4	10 l	tinplate	99,90 €
8575.5	25 l	tinplate	177,40 €

Petroleum benzine 63-80

Petroleum benzine 63-80

extra pure

Gasoline, special boiling point gasoline

D ~0,675 • bp 63-80 °C

flp -30 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 2

 **Danger**

H225-H304-H361f-H373-H315-H336-H411

Type analysis:

Boiling range..... 63-80 °C

Aromatic compounds (GC)..... ≤0,01 %

Density (15 °C)..... 0,660-0,680

5649.1	1 l	glass	24,20 €
Original pack 6 x 1 l			22,99/1 l
5649.3	2,5 l	glass	44,00 €
Original pack 4 x 2,5 l			41,80/2,5 l
5649.4	5 l	aluminium	83,75 €
Original pack 2 x 5 l			79,56/5 l
5649.2	10 l	tinplate	142,45 €

Petroleum benzine 80-110

Petroleum benzine 80-110

extra pure

Gasoline, dry cleaning gasoline

D ~0,72 • bp 80-110 °C

flp -14 °C

[64742-49-0] • EC No. 265-151-9

UN No. 1268 • ADR 3 II • WGK 1

 **Danger**

H225-H304-H315-H336-H411

Type analysis:

Boiling range..... 80-110 °C

Aromatic compounds..... ≤0,005 %

Benzene..... ≤0,001 %

n-Hexane..... ≤5 %

Density (15 °C)..... 0,710-0,730

3259.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
3259.3	2,5 l	glass	34,30 €
Original pack 4 x 2,5 l			32,59/2,5 l
3259.4	5 l	aluminium	64,40 €
Original pack 2 x 5 l			61,18/5 l
3259.2	10 l	tinplate	107,40 €

Petroleum benzine 100-140

Petroleum benzine 100-140

extra pure

Gasoline, special boiling point gasoline

D ~0,73 • bp 100-140 °C

flp -2 °C

[64742-49-0] • EC No. 265-151-9

UN No. 1268 • ADR 3 II • WGK 1

 **Danger**

H225-H304-H315-H336-H411

Type analysis:

Appearance..... clear, colourless

Boiling range..... 100-140 °C

Aromatic compounds..... ≤0,01 %

Benzene..... ≤0,001 %

Density (15 °C)..... 0,720-0,740

9675.1	1 l	glass	17,10 €
Original pack 6 x 1 l			16,25/1 l
9675.4	2,5 l	glass	26,80 €
Original pack 4 x 2,5 l			25,46/2,5 l
9675.5	5 l	aluminium	51,10 €
Original pack 2 x 5 l			48,55/5 l
9675.2	10 l	tinplate	84,85 €
9675.3	25 l	tinplate	166,65 €

o/p

Petroleum benzine 135-180

Petroleum benzine 135-180

extra pure

Gasoline, Petroleum ether, white spirit

D ~0,775 • bp 135-180 °C • flp >23 °C

UN No. 3295 • ADR 3 III • WGK 2

 **Danger**

H226-H304-H336-H411-EUH066

Type analysis:

Boiling range..... 135-180 °C
Density (15 °C)..... 0,770-0,785
Refractive index (20 °C)..... 1,4260-1,4350

8576.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
8576.2	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
8576.3	5 l	aluminium	73,65 €
Original pack 2 x 5 l			69,97/5 l
8576.4	10 l	tinplate	111,30 €

Petroleum benzine 145-200

Petroleum benzine 145-200

extra pure

Gasoline, Petroleum ether, white spirit

D ~0,785 • bp 145-200 °C • flp >30 °C

[64742-82-1] • EC No. 919-446-0

UN No. 3295 • ADR 3 III • WGK 3

 **Danger**

H226-H304-H336-H411-EUH066

Type analysis:

Boiling range..... 145-200 °C
Benzene (GC)..... ≤0,01 %
Density (15 °C)..... 0,780-0,798

8577.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
8577.2	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
8577.3	5 l	aluminium	73,65 €
Original pack 2 x 5 l			69,97/5 l
8577.4	10 l	tinplate	111,30 €

Petroleum benzine 180-210

Petroleum benzine 180-210

extra pure

Gasoline, Petroleum ether, white spirit

D ~0,79 • bp 180-210 °C

flp >61 °C • WGK 3

 **Danger** H304-H412-EUH066

Type analysis:

Boiling range..... 180-210 °C
Aromatic compounds..... ≤0,4 %
Density (15 °C)..... 0,770-0,815

8579.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
8579.2	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
8579.3	5 l	aluminium	73,65 €
Original pack 2 x 5 l			69,97/5 l
8579.4	10 l	tinplate	111,30 €

Petroleum benzine 190-245

Petroleum benzine 190-245

extra pure

Gasoline, Petroleum ether, white spirit

D ~0,80 • bp 190-245 °C

flp >70 °C

WGK 1

 **Danger** H304-EUH066

Type analysis:

Boiling range..... 190-245 °C
Aromatic compounds..... ≤0,2 %
Density (15 °C)..... 0,780-0,820

8580.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
8580.2	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
8580.3	5 l	aluminium	73,65 €
Original pack 2 x 5 l			69,97/5 l
8580.4	10 l	tinplate	111,30 €

Petroleum benzine 235-265

Petroleum benzine 235-265

extra pure

Gasoline, Petroleum ether, white spirit

D ~0,82 • bp 235-265 °C

flp >100 °C

WGK 3

 **Danger** H304-EUH066

Type analysis:

Boiling range..... 235-265 °C
Aromatic compounds..... ≤0,5 %
Density (15 °C)..... ~0,82

8590.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
8590.2	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
8590.3	5 l	aluminium	73,65 €
Original pack 2 x 5 l			69,97/5 l
8590.4	10 l	tinplate	111,30 €

Petroleum Ether (Petroleum Benzine, Boiling Range 30-80 °C)

Art. No.	Description	Page
3523	Petroleum benzine 30-50	2030
8961	Petroleum benzine 30-75	2030
9320	Petroleum benzine 40-60	2030
8573	Petroleum benzine 40-65	2030
CP48	Petroleum benzine 40-80	2031
0969	Petroleum benzine 50-70	2031
9735	Petroleum benzine 60-70	2031
5649	Petroleum benzine 63-80	2031

Petroleum ether 40-60 °C

Petroleum benzine

D 0,65 • bp 40-60 °C

[64742-49-0] • EC No. 265-151-9

UN No. 3295 • ADR 3 II • WGK 1

 **Danger**

H225-H304-H315-H336-H411

Petroleum ether 40-60 °C

ROTISOLV® Pestilyse® plus

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Boiling range..... 40-60 °C
Colour (APHA)..... ≤10
Water (KF)..... ≤0,005 %
Free acid (as CH₃COOH)..... ≤0,002 %
Evaporation residue..... ≤0,0003 %
GC/FID suitability (as 2-octanol)..... ≤10 ng/ml
GC/ECD suitability (as heptachloro epoxide)..... ≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane)..... ≤5 ng/l
GC/ECD pesticides (as lindane)..... ≤5 ng/l
GC/NPD pesticides (as parathion)..... ≤10 ng/l
Oil index (any hydrocarbon C₁₀-C₄₀)..... ≤0,05 mg/l
PAH-test (less than 2 ppb, HPLC)..... complies
Fluorescence (as quinine):
254 nm..... ≤1 ppb
365 nm..... ≤1 ppb

7588.1	2,5 l	glass	64,00 €
Original pack 4 x 2,5 l			60,80/2,5 l

Petroleum ether 40-60 °C

ROTISOLV® Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Boiling range..... 40-60 °C
Water (KF)..... ≤0,02 %
Acidity..... ≤0,0005 meq/g
Evaporation residue..... ≤0,0001 %
GC/ECD (individual signal as lindane)..... ≤5 ng/l
GC/PND (individual signal as ethylparathion)..... ≤10 ng/l

T170.2	1 l	glass	31,10 €
Original pack 6 x 1 l			29,55/1 l
T170.1	2,5 l	glass	64,40 €
Original pack 4 x 2,5 l			61,18/2,5 l
T170.3	4 l	glass	87,65 €

Petroleum ether 40-60 °C

ROTIPURAN® p.a., ACS, ISO

Guarantee analysis

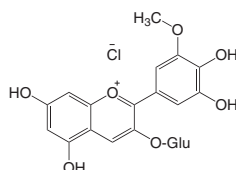
Boiling range..... 40-60 °C
Density (d 20 °C/4 °C)..... 0,640-0,655
Colour (APHA)..... ≤10
Acidity..... ≤0,0003 meq/g
Water..... ≤0,015 %
Aromatic compounds (as C₆H₆)..... ≤0,025 %
Sulphur compounds (as CS₂)..... ≤0,005 %
Evaporation residue..... ≤0,001 %
Lead (Pb)..... ≤0,00001 %
Cadmium (Cd)..... ≤0,000005 %
Calcium (Ca)..... ≤0,00005 %
Chromium (Cr)..... ≤0,000002 %
Cobalt (Co)..... ≤0,000002 %
Copper (Cu)..... ≤0,000002 %
Iron (Fe)..... ≤0,00001 %
Magnesium (Mg)..... ≤0,00001 %
Manganese (Mn)..... ≤0,000002 %
Nickel (Ni)..... ≤0,000002 %
Zinc (Zn)..... ≤0,00001 %

T173.1	1 l	glass	31,10 €
Original pack 6 x 1 l			
T173.2	2,5 l	glass	58,60 €
Original pack 4 x 2,5 l			
T173.3	5 l	aluminium	97,75 €
Original pack 2 x 5 l			
T173.5	25 l	tinplate	306,40 €

Petroleum ether 40-60 °C**DAB, extra pure****Guarantee analysis:**

Appearance.....clear, colourless liquid
 Identity.....complies
 Relative density (20/20 °C).....0,642-0,656
 Boiling range (40-60 °C).....≥75 Vol. %
 Benzene (UV).....≤0,001 Vol. %
 n-Hexane (GC).....≤2,0 Vol. %
 Tetraethyl lead.....complies
 Reaction with H₂SO₄.....complies
 Non volatile matter.....≤0,001 %
 Evaporation residue.....≤0,001 %
 Reducing substances, incl. sulphur comp.....complies
 Acid or alkaline react. substances.....complies
 Foreign odour, non volatile matter.....complies

CP44.1	1 l	glass	25,70 €
Original pack 6 x 1 l			
CP44.2	2,5 l	glass	48,30 €
Original pack 4 x 2,5 l			
CP44.3	5 l	aluminium	88,70 €
Original pack 2 x 5 l			
CP44.4	10 l	tinplate	147,30 €

Petunidin 3-glucoside chloride**Petunidin 3-glucoside chloride****ROTICHRON® HPLC**Reference substance for HPLC
From *Vitis vinifera*C₂₂H₂₃O₁₂Cl

M 514,85 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[6988-81-4]

WGK 1

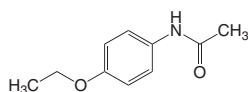
Type analysis:

Purity (HPLC).....≥97 %

1469.1	5 mg	glass	256,95 €

PGDA

► Propylene glycol diacetate see p. 2069

Phenacetin**Phenacetin****ROTI®CALIPURE** Melting point standard
133-135 °C

N-(4-Ethoxyphenyl)acetamide

C₁₀H₁₃NO₂

M 179,22 g/mol

mp 133-135 °C

[62-44-2] • EC No. 200-533-0

WGK 3

Danger H302-H350
Type analysis:

Meniscus formation.....133-135 °C

Complete liquefaction.....133-135 °C

9728.1	500 mg	glass	27,85 €

1,10-Phenanthroline monohydrate**1,10-Phenanthroline monohydrate**

≥99 %, p.a., ACS

Redox indicator

C₁₂H₈N₂ · H₂O

M 198,23 g/mol

mp 93-94 °C

Solubility: 3,3 g/l (H₂O, 20 °C)

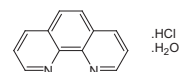
[5144-89-8] • EC No. 200-629-2

UN No. 2811 • ADR 6.1 III • WGK 3

Danger H301-H400-H410
Guarantee analysis:

Assay (NT).....≥99,0 %
 Sulphated ash.....≤0,1 %
 Melting point (dry substance).....97-102 °C
 Suitability as indicator.....complies
 Suitability for determination of iron.....complies
 1,10-Phenanthroline forms sparingly soluble complex compounds with a lot of heavy metal ions, and so it is suitable for their quantitative determination. The iron(II)-complex ("Feroin") is usable as redox indicator.

9113.2	5 g	glass	25,70 €
9113.3	25 g	glass	91,30 €
9113.1	50 g	glass	171,90 €

1,10-Phenanthroline hydrochloride monohydrate**1,10-Phenanthroline hydrochloride monohydrate**

≥99 %, p.a.

Redox indicator, reagent for Iron(II).

o-Phenanthroline hydrochloride monohydrate

C₁₂H₈N₂ · HCl · H₂O

M 234,69 g/mol

mp 215-220 °C (dec.)

[3829-86-5] • EC No. 223-325-1

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H301-H400-H410
Guarantee analysis:

Assay (titr.).....≥99,0 %
 Sulphated ash.....≤0,1 %
 Water (KF).....≤8,5 %
 Suitability for determination of iron.....complies

KK21.1	5 g	glass	24,20 €
KK21.2	10 g	glass	41,85 €
KK21.3	50 g	glass	177,40 €

o-Phenanthroline hydrochloride monohydrate

► 1,10-Phenanthroline hydrochloride monohydrate see p. 2033

1,10-Phenanthroline iron(II) salt solution

► Feroin see p. 1827

Phenethyl-3,4-dihydroxy-cinnamate

► Caffeic acid phenethyl ester see p. 1704

Phenol



Carbolic acid, Hydroxybenzene

C_6H_5O

M 94,11 g/mol

D 1,06 • bp 181,8 °C

mp 40,8 °C • flp 81 °C

Solubility: 84 g/l (H_2O , 20 °C)

[108-95-2] • EC No. 203-632-7

UN No. 1671 • ADR 6.1 II • WGK 2

Danger

H301+H311+H331-H314-H341-H373

Phenol

≥99,5 %, p.a., detached crystals

Guarantee analysis:

Appearance.....	white crystals
Assay (GC).....	≥99,5 %
Water (KF).....	≤0,5 %
Chloride (Cl).....	≤0,0005 %
Sulphur (S).....	≤0,0002 %
Iron (Fe).....	≤0,0001 %
Non volatile matter.....	≤0,01 %
Solidification point.....	≤40,6 °C

0040.1	250 g	plastic	27,85 €

0040.2	1 kg	plastic	82,25 €

Original pack 6 x 1 kg 78,14/1 kg

Phenol

≥99 %, Ph.Eur., cryst.

Type analysis:

Assay.....	99,0-100,5 %
Identity.....	complies
Water (KF).....	≤0,5 %
Appearance of solution.....	complies
Acid react. substances.....	complies
Non volatile matter.....	≤0,05 %
Solidification point.....	≥39,5 °C

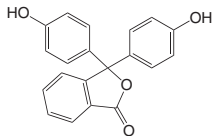
3215.2	500 g	glass	42,90 €

Original pack 6 x 500 g 40,76/500 g

3215.1	1 kg	glass	79,45 €

Original pack 6 x 1 kg 75,48/1 kg

Phenolphthalein (C.I. 764)



Phenolphthalein (C.I. 764)

≥99 %, p.a.

Indicator pH 8,0-10,0

$C_{20}H_{14}O_4$

M 318,33 g/mol

D 1,30

mp 258-263 °C

Solubility: 92 mg/l (H_2O , 20 °C)

[77-09-8] • EC No. 201-004-7

WGK 2

Danger H350-H341-H361

Type analysis:

pH-transition range....8,0 (colourless)-10,0 (red-violet)
 Assay (HPLC).....≥99,0 %
 Absorption max. (buffer, pH 9,8). 551-554 nm
 Loss on drying (105 °C).....≤1,0 %

T126.2	50 g	plastic	15,60 €

T126.1	100 g	plastic	21,75 €

T126.3	500 g	plastic	56,90 €

Original pack 6 x 500 g 54,06/500 g

Phenolphthalein indicator solution

Phenolphthalein indicator solution

1 % in ethanol 90 %

D 0,89 • bp 78 °C

mp -114,5 °C • flp 13 °C

UN No. 1170 • ADR 3 II • WGK 1

Danger H225-H350-H341

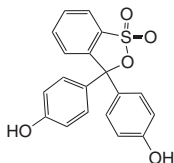
K034.1	250 ml	glass	19,25 €

K034.2	500 ml	glass	25,30 €

K034.3	1 l	glass	34,95 €

Original pack 6 x 1 l 33,20/1 l

Phenol red



Phenol red

p.a., ACS

Indicator pH 6,8-8,2

Phenolsulphonphthalein

$C_{19}H_{14}O_5S$

M 354,38 g/mol

mp >300 °C

Solubility: 0,77 g/l (H_2O , 100 °C)

[143-74-8] • EC No. 205-609-7

WGK 2

Guarantee analysis:

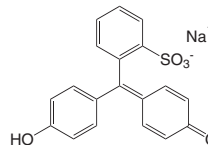
pH-transition range.....6,8 (yellow)-8,2 (red)
 Loss on drying (105 °C).....≤5,0 %
 Appearance of solution (ACS).....complies

T127.1	5 g	glass	13,90 €

T127.2	25 g	glass	32,15 €

T127.3	100 g	glass	85,90 €

Phenol red sodium salt



Phenol red sodium salt

p.a., ACS

Indicator pH 6,8-8,2

Phenolsulphonphthalein sodium salt

$C_{19}H_{13}NaO_5S$

M 376,36 g/mol

mp 285 °C

Solubility: 100 g/l (H_2O , 20 °C)

[34487-61-1] • EC No. 252-057-8

WGK 1

Guarantee analysis:

Appearance.....dark red to brownish-red powder
 Appearance of solution (ACS).....complies
 Loss on drying.....≤5 %
 pH transition range.....6,8 (yellow)-8,2 (red)

2566.1	5 g	glass	19,25 €

2566.2	25 g	glass	43,75 €

Phenol solutions

▶ Roti®-Aqua-Phenol see p. 2107

▶ Roti®-Aqua-P/C/I see p. 2107

▶ Roti®-Phenol see p. 2107

▶ Roti®-Phenol/Chloroform/Isoamyl alcohol see p. 2107

Phenolsulphonphthalein

▶ Phenol red see p. 2034

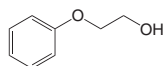
Phenolsulphonphthalein sodium salt

▶ Phenol red sodium salt see p. 2034

Phenoltetrabromophthalein disulfonic acid disodium salt

▶ Sulfobromophthalein disodium salt see p. 2188

2-Phenoxyethanol



Ethylene glycol monophenyl ether

 $C_8H_{10}O_2$

M 138,17 g/mol

D 1,11 • bp 242 °C

mp ~13 °C • flp 121 °C

Solubility: 24 g/l (H_2O , 20 °C)

[122-99-6] • EC No. 204-589-7 • WGK 1

⚠ Warning H302-H319

2-Phenoxyethanol

≥99 %, for synthesis

Type analysis:

Assay (GLC) ≥99,0 %
 Colour (APHA) ≤10
 Water ≤0,1 %

4348.1	250 ml	glass	21,40 €

4348.2	1 l	glass	42,90 €

Original pack 6 x 1 l 40,76/1 l

4348.3	10 l	tinplate	213,95 €

2-Phenoxyethanol

ROTI®STAR Primary Standard

Type analysis:

Assay (GC) ≥95,0 %
 Residual solvents (GC) ≤1,0 %
 Water (KF) ≤1,0 %
 Assay (qNMR) ≥95,0 %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE12.1	250 mg	glass	783,70 €

2-Phenoxyethanol

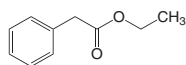
ROTICHRM® Working Standard

Type analysis:

Assay (GC) ≥90,0 %
 Identity complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC12.1	250 µl	glass	89,80 €

Phenylacetic acid ethyl ester



Phenylacetic acid ethyl ester

ROTICHRM® GC

Reference substance for GC

 $C_{10}H_{12}O_2$

M 164,22 g/mol

D 1,031 • bp 229 °C

mp -29 °C • flp 101 °C

Storage temp.: +4 °C

[101-97-3] • EC No. 202-993-8 • WGK 2

Type analysis:

Purity (GC) ≥94 %

4434.1	1 g	plastic	75,15 €

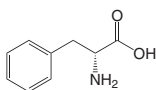
Phenylacetylenecarboxylic acid

► Phenylpropionic acid see p. 2037

3-Phenylacrolein

► Cinnamaldehyde see p. 1737

D-Phenylalanine



D-Phenylalanine

≥98,5 %, for biochemistry

(R)-2-Amino-3-phenylpropionic acid, H-D-Phe-OH

 $C_9H_{11}NO_2$

M 165,2 g/mol

Storage temp.: +4 °C

[673-06-3] • EC No. 211-603-5

WGK 1

Type analysis:

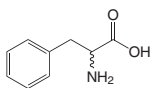
Appearance white to off-white powder
 Assay 98,5-101,0 %
 Specific rotation $[\alpha]_D^{25}$ (c=1 in H_2O) +33,0° to +35,0°
 Loss on drying ≤0,2 %

7886.1	5 g	plastic	19,90 €

7886.2	25 g	plastic	60,10 €

7886.3	100 g	plastic	151,50 €

DL-Phenylalanine



DL-Phenylalanine

≥99 %, for biochemistry

2-Amino-3-phenylpropionic acid

 $C_9H_{11}NO_2$

M 165,19 g/mol

Storage temp.: +4 °C

[150-30-1] • EC No. 205-756-7

WGK 1

Type analysis:

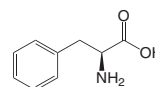
Appearance white cryst. powder
 Assay ≥99,0 %
 Identity (IR) complies
 Heavy metals (as Pb) ≤0,001 %
 Ash content ≤0,1 %
 Loss on drying ≤0,5 %

8603.1	25 g	plastic	19,90 €

8603.2	100 g	plastic	54,75 €

8603.3	250 g	plastic	122,05 €

L-Phenylalanine



(S)-2-Amino-3-phenylpropionic acid, H-L-Phe-OH

 $C_9H_{11}NO_2$

M 165,19 g/mol

mp 275-283 °C (dec.)

Solubility: ~27 g/l (H_2O , 20 °C)

[63-91-2] • EC No. 200-568-1

WGK 1

L-Phenylalanine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins ≤6,0 E.U./g
 Assay ≥99 %
 Loss on drying ≤0,5 %
 Specific rotation $[\alpha]_D^{25}$ -35,5° to -33°
 Foreign amino acids ≤0,5 %
 Ammonium (NH_4) ≤0,02 %
 Chloride (Cl) ≤0,02 %
 Sulphate (SO_4) ≤0,03 %
 Heavy metals (as Pb) ≤0,001 %
 Iron (Fe) ≤0,001 %

1709.1	25 g	plastic	18,20 €

1709.2	100 g	plastic	40,75 €

1709.3	500 g	plastic	161,15 €

Original pack 6 x 500 g 153,09/500 g

L-Phenylalanine

≥98,5 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance white cryst. powder
 Assay 98,5-101,0 %
 Identity complies
 Appearance of solution complies
 Specific rotation $[\alpha]_D^{25}$ -35,5° to -33°
 Chloride (Cl) ≤0,02 %
 Sulphate (SO_4) ≤0,03 %
 Ammonium (NH_4) ≤0,02 %
 Iron (Fe) ≤0,001 %
 Heavy metals (as Pb) ≤0,001 %
 Foreign amino acids ≤0,5 %
 Loss on drying ≤0,5 %
 Sulphated ash ≤0,1 %

4491.3	25 g	plastic	12,80 €

4491.1	100 g	plastic	36,05 €

4491.4	250 g	plastic	71,50 €

4491.2	1 kg	plastic	256,95 €

Original pack 6 x 1 kg 244,10/1 kg

3-Phenylallyl alcohol

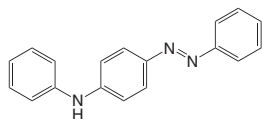
► Cinnamyl alcohol see p. 1737

Phenylamine hydrochloride

► Aniline hydrochloride see p. 1646

O/p

4-(Phenylazo) diphenylamine



4-(Phenylazo) diphenylamine

≥97 %, p.a.

Indicator pH 1,2-2,5; for microscopy

4-Anilinoazobenzene,
N-Phenyl-4-phenylazoanilineC₁₈H₁₅N₃

M 273,34 g/mol • mp 89-91 °C

[101-75-7] • EC No. 202-972-3 • WGK 3

Guarantee analysis:

Appearance..... orange to orange-brown powder
 Assay..... ≥97,0 %
 Absorption max. (in EtOH)..... ~411 nm
 pH-transition range..... 1,2 (red)-2,5 (yellow)

4538.1	5 g	glass	30,00 €
4538.2	25 g	glass	80,55 €

1-Phenyl-1,3-butanedione

► Benzoylacetone see p. 1672

Phenyl carbinol

► Benzyl alcohol see p. 1672

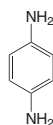
Phenyl carbonate

► Diphenyl carbonate see p. 1788

Phenyl chloride

► Chlorobenzene see p. 1729

1,4-Phenylenediamine



1,4-Phenylenediamine

≥99 %

1,4-Diaminobenzene

C₆H₈N₂

M 108,14 g/mol

D 1,14 • mp 140 °C • flp 156 °C

Solubility: 47 g/l (H₂O, 25 °C)

[106-50-3] • EC No. 203-404-7

UN No. 1673 • ADR 6.1 III • WGK 3

Danger

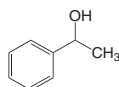
H301+H311+H331-H400-H410-H319-H317

Type analysis:

Appearance..... white crystals
 Assay (GC)..... ≥99,0 %
 Melting point..... ≥138 °C

4499.2	50 g	glass	29,60 €
4499.1	100 g	glass	53,25 €
4499.3	250 g	glass	82,25 €

1-Phenylethanol



1-Phenylethanol

ROTICHRON® GC

Reference substance for GC

C₈H₁₀O

M 122,17 g/mol

D 1,018 • bp 204 °C

mp 20 °C • flp 85 °C

Storage temp.: +4 °C

[13323-81-4] • EC No. 236-361-8

UN No. 2937 • ADR 6.1 III • WGK 1

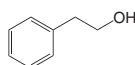
Danger H318-H302-H335-H315

Type analysis:

Purity (GC)..... ≥98,5 %

3065.1	1 g	plastic	75,15 €

2-Phenylethanol



Benzyl carbinol, β-Phenethyl alcohol

C₈H₁₀O

M 122,17 g/mol

D 1,02 • bp 219 °C

mp -27 °C • flp 102 °C

Solubility: 20 g/l (H₂O, 20 °C)

[60-12-8] • EC No. 200-456-2

UN No. 2810 • ADR 6.1 III • WGK 1

Danger H302-H311-H319

2-Phenylethanol

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99 %

4422.1	5 ml	glass	10,25 €

4422.2	250 ml	glass	15,30 €

4422.3	1 l	glass	40,75 €

Original pack 6 x 1 l 38,71/1 l

2-Phenylethanol

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥96 %

9078.1	1 g	plastic	75,15 €

Phenylethanolamine

► 2-Amino-1-phenylethanol see p. 1633

2-Phenylethyl acetate

► Acetic acid 2-phenylethyl ester see p. 1603

β-Phenethyl alcohol

► 2-Phenylethanol see p. 2036

Phenylethylene

► Styrene see p. 2186

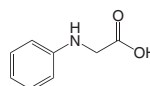
Phenylethylglucosinolate potassium salt

► Gluconasturtiin see p. 1853

Phenylformic acid

► Benzoic acid see p. 1670

N-Phenylglycine



N-Phenylglycine

≥97 %, for biochemistry

Anilinoacetic acid

C₈H₉NO₂

M 151,17 g/mol

mp 121-123 °C

[103-01-5] • EC No. 203-070-2

Type analysis:

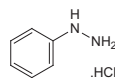
Assay (titr.)..... ≥97 %

5939.1	10 g	plastic	53,65 €

2-Phenylhydracrylic acid

► DL-Tropic acid see p. 2226

Phenylhydrazine hydrochloride



Phenylhydrazine hydrochloride

≥99 %, p.a.

Reagent for detection of sugar.

C₆H₈N₂ · HCl

M 144,61 g/mol

mp >245 °C (dec.)

Solubility: ~50 g/l (H₂O, 20 °C)

[59-88-1] • EC No. 200-444-7

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H301+H311+H331-H350-H372-H341-H400-H315-H319-H317

Guarantee analysis:

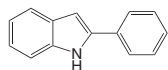
Assay (titr.)..... ≥99,0 %
 Sulphated ash..... ≤0,05 %

KK20.1	25 g	glass	17,75 €

KK20.2	100 g	glass	47,20 €

KK20.3	250 g	glass	105,25 €

2-Phenylindole



2-Phenylindole

94,5 %

α-Phenylindole

C₁₄H₁₁N

M 193,25 g/mol

mp 188-190 °C

[948-65-2] • EC No. 213-436-3

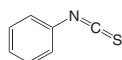
WGK 3

Type analysis:

Appearance: pale yellow powder
 Assay: ≥94,5 %

6279.1	50 g	plastic	42,90 €

Phenyl isothiocyanate



Phenyl isothiocyanate

≥99 %, for biochemistry

C₇H₅NS

M 135,17 g/mol

D 1,13 • bp 221 °C

mp -21 °C • flp 87 °C

[103-72-0] • EC No. 203-138-1

UN No. 2927 • ADR 6.1 (8) II • WGK 3

Danger H301+H311+H331-H314

Type analysis:

Appearance: colourless to pale yellow liquid
 Assay (GC): ≥99 %

7296.1	25 ml	glass	20,10 €

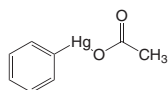
7296.2	100 ml	glass	44,65 €

7296.3	500 ml	glass	177,40 €

Phenyl ketone

► Benzophenone see p. 1671

Phenyl mercuric acetate



Phenyl mercuric acetate

≥98 %, extra pure

Acetoxyphenyl mercury

C₈H₈HgO₂

M 336,74 g/mol

mp 149-153 °C

Solubility: 2 g/l (H₂O, 20 °C)

[62-38-4] • EC No. 200-532-5

UN No. 1674 • ADR 6.1 (II) • WGK 3

Danger

H301-H314-H372-H400-H410

Type analysis:

Appearance: white cryst. powder
 Assay: ≥98,0 %
 Identity: complies
 Mercuric salts and heavy metals: complies
 Volatile organic impurities: complies
 Polymers of benzene compounds: ≤1,5 %
 Ash content: ≤0,2 %
 Sensitive to light

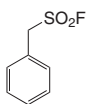
6626.1	50 g	glass	75,15 €

6626.2	250 g	glass	321,45 €

Phenylmethanol

► Benzyl alcohol see p. 1672

Phenylmethyl sulphonyl fluoride (PMSF)



Phenylmethyl sulphonyl fluoride (PMSF)

≥99 %, for biochemistry

Irreversible inhibitor of serine and cysteine proteases.

α-Toluene sulphonyl fluoride, PMSF

C₇H₇FO₂S

M 174,2 g/mol

mp 92-94 °C

[329-98-6] • EC No. 206-350-2

UN No. 2928 • ADR 6.1 (8) II • WGK 2

Danger H301-H314

Type analysis:

Appearance: colourless crystals
 Assay (GC): ≥99 %
 Water: ≤0,1 %
 Melting point: ≥92 °C

6367.1	5 g	plastic	27,85 €

6367.2	25 g	plastic	91,95 €

6367.3	100 g	plastic	261,25 €

6367.4	348 mg, in 30 ml glass bottle		13,15 €

For further information, please see 1233

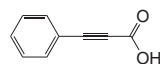
3-Phenyl-2-propen-1-ol

► Cinnamyl alcohol see p. 1737

3-Phenyl-2-propenal

► Cinnamaldehyde see p. 1737

Phenylpropionic acid



Phenylpropionic acid

≥98 %

Phenylacetylenecarboxylic acid

C₉H₈O₂

M 146,15 g/mol

mp 134-138 °C

[637-44-5] • EC No. 211-285-8

Warning H315-H319-H335

Type analysis:

Assay (titr.): ≥98,0 %
 Water (KF): ≤1,0 %
 Melting point: 134-138 °C

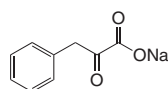
5271.1	5 g	plastic	39,70 €

5271.2	25 g	plastic	145,15 €

3-Phenylpropionic acid ethyl ester

► Hydrocinnamic acid ethyl ester see p. 1887

Phenylpyruvic acid sodium salt



Phenylpyruvic acid sodium salt

≥98 %

Sodium phenylpyruvate

C₉H₇NaO₃

M 186,14 g/mol

[114-76-1] • EC No. 204-053-2

Type analysis:

Assay (nonaqueous titration): ≥98,0 %
 Water: 7,0-10,0 %

9246.1	5 g	glass	117,20 €

H-D-Phe(4-N3)-OH

► D-4-Azidophenylalanine see p. 1663

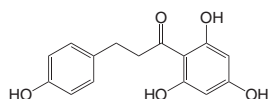
H-L-Phe(4-N3)-OH

► L-4-Azidophenylalanine see p. 1663

pH-Indicators

► Indicators and Dyes see p. 1897

Phloretin



Phloretin

ROTICHROM® HPLC

Reference substance for HPLC

Phloretol

 $C_{15}H_{14}O_5$

M 274,26 g/mol

mp ~260 °C

[60-82-2] • EC No. 200-488-7

Type analysis:

Purity (HPLC).....≥99 %

7051.2	100 mg	glass	170,95 €

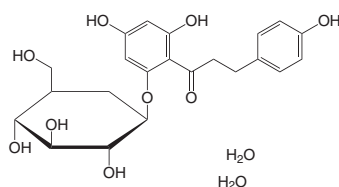
Phloretol

► Phloretin see p. 2038

Phloridzin

► Phlorizin dihydrate see p. 2038

Phlorizin dihydrate



Phlorizin dihydrate

≥98 %, for biochemistry

Phloridzin

 $C_{21}H_{24}O_{10} \cdot 2 H_2O$

M 472,41 g/mol

mp ~110 °C

Storage temp.: +4 °C

[7061-54-3] • EC No. 200-487-1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC).....≥98 %

Loss on drying.....≤5,0 %

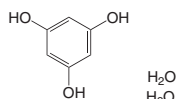
Heavy metals (as Pb).....≤0,001 %

4196.1	2,5 g	glass	42,90 €

4196.2	10 g	plastic	134,40 €

4196.3	100 g	plastic	815,95 €

Phloroglucinol dihydrate



Phloroglucinol dihydrate

≥98 %

1,3,5-Trihydroxybenzene

 $C_6H_6O_3 \cdot 2 H_2O$

M 162,14 g/mol

mp 221 °C

[6099-90-7] • EC No. 203-611-2

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....white to yellow powder

Assay.....≥98 %

7662.1	50 g	plastic	59,05 €

For further information, please see page 1382

Phos-α-D-Gal

► α-D-Galactose-1-phosphate Dipotassium salt pentahydrate see p. 1844

Phosphate Standards

► Phosphate IC Standard Solution see p. 2181

Phosphatase, alkaline

► Alkaline phosphatase see p. 1623

Phosphate-buffered formaldehyde

► Roti®-Histofix 4 % see p. 2098

Phosphate buffered saline

► Roti®-CELL PBS see p. 2093

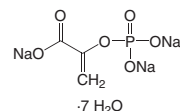
Phosphate matrix modifier

► Matrix modifier solution
Ammonium dihydrogen phosphate
see p. 1952

Phosphatidylcholine

► Lecithin see p. 1928

Phosphoenolpyruvic acid, trisodium salt heptahydrate



Phosphoenolpyruvic acid, trisodium salt heptahydrate

≥97 %, for biochemistry

PEP-3 Na

 $C_3H_2Na_3O_6P \cdot 7 H_2O$

M 360,09 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[5541-93-5] • EC No. 226-906-8 • WGK 3

Type analysis:

Appearance.....white to almost white cryst. powder

Assay (perchloric acid titration, dry substance).....

.....≥97,0 %

Identity (IR).....complies

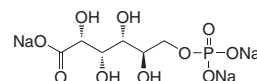
Appearance of solution (5 % in H_2O).....colourless

8397.1	100 mg	glass	27,45 €

8397.2	250 mg	glass	37,55 €

8397.3	500 mg	glass	56,45 €

6-Phosphogluconic acid trisodium salt dihydrate



6-Phosphogluconic acid trisodium salt dihydrate

≥98 %, for biochemistry

D-Gluconate-6-phosphate trisodium salt

 $C_6H_{14}O_{12}PNa_3$

M 378,11 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[57775-17-4] • EC No. 258-543-6 • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.).....≥98 %

Solution (5 % in H_2O).....colourless, clear

Water (KF).....8-12 %

4167.1	250 mg	glass	96,25 €

4167.2	500 mg	glass	163,40 €

Phosphomolybdic acid

► Molybdatophosphoric acid hydrate
see p. 1974

Phosphoramidite

Art. No.	Description	Page
K921	Adenosine-BCE-phosphoramidite	1429
K922	Cytidine-BCE-phosphoramidite	1429
K923	Guanosine-BCE-phosphoramidite	1429
K924	Thymidine-BCE-phosphoramidite	2209

meta-Phosphoric acid

meta-Phosphoric acid

p.a., pieces (hyaline)

Reagent for protein, vitamins, urea and glucose.

Stabilised with sodium metaphosphate (NaPO_3)_n $(\text{HPO}_3)_n$

D ~2,0 • bp ~600 °C

mp 200-250 °C

[37267-86-0] • EC No. 253-433-4

UN No. 3453 • ADR 8 III • WGK 1

⚠ Danger H314

Guarantee analysis:

Assay (HPO_3)	40-50 %
Assay (NaPO_3)	50-60 %
Chloride (Cl)	≤0,001 %
Nitrate (NO_3)	≤0,001 %
reducing substances (as H_3PO_3)	≤0,02 %
Arsenic (As)	≤0,0001 %
Iron (Fe)	≤0,005 %

CN91.1	100 g	plastic	27,85 €

CN91.2	250 g	plastic	54,75 €

CN91.3	500 g	plastic	98,40 €

Original pack 6 x 500 g	93,48/500 g

CN91.4	1 kg	plastic	179,55 €

Original pack 6 x 1 kg	170,57/1 kg

ortho-Phosphoric acid 85 %

 H_3PO_4

M 98,00 g/mol

D ~1,71

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III • WGK 1

⚠ Danger H314-H290

ortho-Phosphoric acid 85 %

ROTIPURAN® ≥85 %, p.a., ISO

Guarantee analysis:

Assay (acidim.)	≥85 %
Colour (APHA)	≤10
Heavy metals (as Pb)	≤0,001 %
Volatile acids (as CH_3COOH)	≤0,001 %
KMnO_4 reducing substances (as O)	≤0,001 %
Chloride (Cl)	≤0,0003 %
Nitrate (NO_3)	≤0,0005 %
Sulphate (SO_4)	≤0,003 %
Arsenic (As)	≤0,0001 %
Antimony (Sb)	≤0,002 %
Lead (Pb)	≤0,0001 %
Cadmium (Cd)	≤0,0001 %
Calcium (Ca)	≤0,001 %
Chromium (Cr)	≤0,0005 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,0005 %
Cobalt (Co)	≤0,0001 %
Copper (Cu)	≤0,0001 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,00005 %
Sodium (Na)	≤0,025 %
Nickel (Ni)	≤0,0001 %
Zinc (Zn)	≤0,0002 %

6366.1	1 l	plastic	57,55 €

Original pack 6 x 1 l	54,67/1 l

6366.2	2,5 l	plastic	117,75 €

Original pack 4 x 2,5 l	111,86/2,5 l

ortho-Phosphoric acid 85 %

85 %, Ph.Eur.

Guarantee analysis:

Assay (acidim.)	85,0-88,0 %
Identity	complies
Appearance of solution	complies
Substances precipitated by NH_4OH	complies
Chloride (Cl)	≤0,005 %
Sulphate (SO_4)	≤0,01 %
Hypophosphorous acid, phosphorous acid	complies
Heavy metals (as Pb)	≤0,001 %
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,005 %

2608.1	1 l	plastic	37,55 €

Original pack 6 x 1 l	35,67/1 l

2608.2	2,5 l	plastic	67,65 €

Original pack 4 x 2,5 l	64,27/2,5 l

2608.3	5 l	plastic	104,85 €

Original pack 2 x 5 l	99,61/5 l

2608.4	10 l	plastic	177,40 €

ortho-Phosphoric acid 85 %

85 %, extra pure

Type analysis:

Assay	84,0-86,0 %
Density (20 °C)	1,6780-1,700
Arsenic (As)	≤0,0001 %
Iron (Fe)	≤0,001 %
Cadmium (Cd)	≤0,0001 %
Copper (Cu)	≤0,0001 %

9079.1	1 l	plastic	35,40 €

Original pack 6 x 1 l	33,63/1 l

9079.2	2,5 l	plastic	64,40 €

Original pack 4 x 2,5 l	61,18/2,5 l

9079.3	10 l	plastic	134,40 €

ortho-Phosphoric acid 75 %

ortho-Phosphoric acid 75 %

75 %, extra pure

 H_3PO_4

M 98,0 g/mol

D ~1,58

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III • WGK 1

⚠ Danger H290-H314

Type analysis:

Assay	74,0-76,0 %
Chloride (Cl)	≤0,001 %
Sulphate (SO_4)	≤0,01 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00005 %
Cadmium (Cd)	≤0,00002 %
Iron (Fe)	≤0,001 %
Nickel (Ni)	≤0,0002 %
Mercury (Hg)	≤0,00001 %

2614.1	1 l	plastic	22,50 €

Original pack 6 x 1 l	21,38/1 l

2614.2	2,5 l	plastic	40,35 €

Original pack 4 x 2,5 l	38,33/2,5 l

2614.3	5 l	plastic	75,15 €

Original pack 2 x 5 l	71,39/5 l

2614.4	10 l	plastic	113,45 €

ortho-Phosphoric acid 50 %

ortho-Phosphoric acid 50 %

50 %, extra pure

 H_3PO_4

M 98,00 g/mol

D ~1,33

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III • WGK 1

⚠ Danger H314-H290

Type analysis:

Assay	49,0-51,0 %
Density (20 °C)	1,3250-1,3460
Chloride (Cl)	≤0,005 %
Iron (Fe)	≤0,001 %
Arsenic (As)	≤0,0001 %

4336.1	1 l	plastic	20,35 €

Original pack 6 x 1 l	19,33/1 l

4336.2	2,5 l	plastic	36,45 €

Original pack 4 x 2,5 l	34,63/2,5 l

4336.3	5 l	plastic	65,50 €

Original pack 2 x 5 l	62,23/5 l

4336.4	10 l	plastic	106,45 €

ortho-Phosphoric acid 40 %

ortho-Phosphoric acid 40 %

40 %, extra pure

 H_3PO_4

M 98,00 g/mol

D ~1,25

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III • WGK 1

⚠ Danger H314-H290

Type analysis:

Assay	39,0-41,0 %
Density (20 °C)	1,2468-1,2622
Chloride (Cl)	≤0,002 %
Iron (Fe)	≤0,001 %
Arsenic (As)	≤0,0001 %
Heavy metals (as Pb)	≤0,0005 %

4334.1	1 l	plastic	20,10 €

Original pack 6 x 1 l	19,10/1 l

4334.2	2,5 l	plastic	36,05 €

Original pack 4 x 2,5 l	34,25/2,5 l

4334.3	5 l	plastic	65,05 €

Original pack 2 x 5 l	61,80/5 l

4334.4	10 l	plastic	106,35 €

O/P

ortho-Phosphoric acid 25 %

ortho-Phosphoric acid 25 %

25 %, extra pure

H_3PO_4

M 98,00 g/mol

D ~1,15

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III • WGK 1

⚠ **Danger** H314-H290

Type analysis:

Assay 24,0-26,0 %
Density (20 °C) 1,1395-1,1529
Chloride (Cl) ≤0,005 %
Sulphate (SO_4) ≤0,05 %
Iron (Fe) ≤0,002 %
Arsenic (As) ≤0,0001 %

4332.1	1 l	plastic	17,75 €
Original pack 6 x 1 l			16,86/1 l
4332.2	2,5 l	plastic	31,75 €
Original pack 4 x 2,5 l			30,16/2,5 l
4332.3	5 l	plastic	55,40 €
Original pack 2 x 5 l			52,63/5 l
4332.4	10 l	plastic	85,90 €

ortho-Phosphoric acid (0,3 N)

ortho-Phosphoric acid

0,1 mol/l - 0,3 N volumetric
standard solution

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III

⚠ **Warning** H290

Type analysis:

Amount-of-substance conc. (20 °C) 0,1 mol/l ±0,3 %
Titer 0,997-1,003

8089.1	1 l	plastic	39,70 €
Original pack 6 x 1 l			37,72/1 l

ortho-Phosphoric acid (0,5 N)

ortho-Phosphoric acid

1/6 mol/l - 0,5 N volumetric
standard solution

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III

⚠ **Warning** H290

Type analysis:

Amount-of-substance conc. (20 °C) 1/6 mol/l ±0,3 %
Titer 0,997-1,003

8091.1	1 l	plastic	39,70 €
Original pack 6 x 1 l			37,72/1 l

ortho-Phosphoric acid (3 N)

ortho-Phosphoric acid

1 mol/l - 3 N volumetric
standard solution

[7664-38-2] • EC No. 231-633-2

UN No. 1805 • ADR 8 III • WGK 1

⚠ **Warning** H290

Type analysis:

Amount-of-substance conc. (20 °C) 1 mol/l ±0,3 %
Titer 0,997-1,003

8141.1	1 l	plastic	39,70 €
Original pack 6 x 1 l			37,72/1 l

Phosphoric anhydride

► Phosphorus pentoxide see p. 2040

Phosphorous acid

Phosphorous acid

≥98 %, cryst.

H_3PO_3

M 82,0 g/mol

D 1,65 • bp >180 °C (dec.)

mp 73 °C

[13598-36-2] • EC No. 237-066-7

UN No. 2834 • ADR 8 III • WGK 1

⚠ **Danger** H302-H314

Type analysis:

Assay ≥98,0 %
Chloride (Cl) ≤0,01 %
Sulphate (SO_4) ≤0,008 %
Heavy metals (as Pb) ≤0,001 %
Iron (Fe) ≤0,005 %

2620.1	100 g	glass	15,60 €
2620.2	500 g	glass	25,30 €
Original pack 6 x 500 g			24,04/500 g
2620.3	1 kg	glass	36,45 €
Original pack 6 x 1 kg			34,63/1 kg

Phosphor(V) oxid

► Phosphorus pentoxide see p. 2040

Phosphorus Standards

- Phosphor AAS Standard Solution see p. 2168
- Phosphorus ICP Standard Solution see p. 2172
- Phosphorus ICP Standard Solution see p. 2177

Phosphorus pentoxide

Phosphorus pentoxide

≥99 %, powdered

Drying agent

Phosphorus(V) oxide, Phosphoric anhydride,
Diphosphorous pentoxide

P_2O_5

M 141,94 g/mol

D 2,30 • bp 591 °C

mp 340-360 °C

[1314-56-3] • EC No. 215-236-1

UN No. 1807 • ADR 8 II • WGK 1

⚠ **Danger** H314-EUH014

Type analysis:

Appearance white powder

Assay ≥99,0 %

Heavy metals (as Pb) ≤0,02 %

Arsenic (As) ≤0,015 %

Iron (Fe) ≤0,005 %

9076.1	500 g	plastic	21,75 €
Original pack 6 x 500 g			20,66/500 g
9076.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
9076.3	2,5 kg	plastic	71,50 €

For further information, please see page 1583

Phosphotungstic acid hydrate

Phosphotungstic acid hydrate

p.a., cryst.

Tungstophosphoric acid

$H_3PO_4 \cdot 12 WO_3 \cdot x H_2O$

M 2880,17 + x H_2O g/mol

mp 95 °C

[12501-23-4] • EC No. 215-682-7

UN No. 3260 • ADR 8 (III) • WGK 2

⚠ **Danger** H314

Guarantee analysis:

Chloride (Cl) ≤0,03 %
Sulphate (SO_4) ≤0,02 %
Ammonium (NH_4) ≤0,005 %
Nitrate (NO_3) ≤0,005 %
Heavy metals (as Pb) ≤0,001 %
Iron (Fe) ≤0,002 %

2635.1	50 g	glass	41,40 €
2635.2	100 g	glass	66,55 €
2635.3	250 g	glass	143,55 €
2635.4	500 g	glass	267,70 €
Original pack 6 x 500 g			254,32/500 g

Phosphotungstic acid-Orange G solution

► Goldner's staining I see p. 1862

o-Phthaldialdehyde



o-Phthaldialdehyde

≥99 %, for synthesis

Benzene-1,2-dialdehyde, OPA

C₈H₆O₂

M 134,14 g/mol

D 1,13

mp 54-58 °C • flp 132 °C

Solubility: 53 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[643-79-8] • EC No. 211-402-2

UN No. 2923 • ADR 8 (6.1) II • WGK 3

Danger

H290-H301-H314-H400-H317

Type analysis:

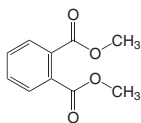
 Assay (GC): ≥99,0 %
 Melting range: 54-58 °C

5980.1	25 g	plastic	103,10 €

Phthalein purple

▶ Metal phthaleine see p. 1958

Phthalic acid dimethyl ester



Phthalic acid dimethyl ester

≥99 %, for synthesis

Transparent liquid

Dimethyl phthalate, DMP

C₁₀H₁₀O₄

M 194,19 g/mol

D 1,19 • bp 283 °C

mp 6 °C • flp 150 °C

Solubility: <0,1 g/l (H₂O, 20 °C)

[131-11-3] • EC No. 205-011-6

WGK 1

Type analysis:

 Assay: ≥99,0 %
 Density (20 °C): 1,189-1,194
 Refractive index n_D²⁰: 1,515-1,517

4576.1	1 l	glass	38,20 €

Original pack 6 x 1 l	36,29/1 l

4576.2	2,5 l	glass	78,40 €

Original pack 4 x 2,5 l	74,48/2,5 l

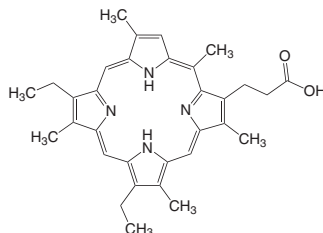
Phthalic acid monopotassium salt

▶ Potassium hydrogen phthalate
see p. 2057

Phytomenadione

▶ Vitamin K₁ see p. 2238

Phylloporphyrin



Phylloporphyrin

≥90 %

C₃₂H₃₆N₄O₂

M 508,85 g/mol

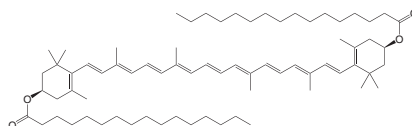
[13939-70-3] • EC No. 237-719-6

Type analysis:

Assay (TLC): ≥90 %

9084.1	10 mg	glass	203,20 €

Physalien



Physalien

ROTICHRUM® TLC

Reference substance for thin layer chromatography

C₇₂H₁₁₆O₄

M 1045,41 g/mol

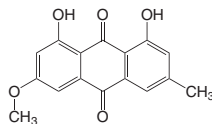
Storage temp.: -20 °C

Transport temp.: room temp.

[144-67-2] • EC No. 205-635-9

5673.1	5 mg	plastic	220,40 €

Physcion



Parietin, 1,8-Dihydroxy-3-methoxy-6-methyl-anthraquinone

C₁₆H₁₂O₅

M 284,27 g/mol

mp 209-210 °C

Storage temp.: +4 °C

[521-61-9] • EC No. 208-315-7

Warning H315-H319-H335

Physcion

ROTICHRUM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC): ≥99 %

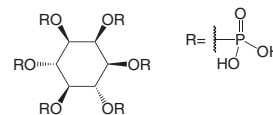
7412.1	10 mg	plastic	181,70 €

Physcion

ROTICHRUM® ~CHR

9415.1	250 mg	plastic	446,15 €

Phytic acid



Phytic acid

40 % in water

Inositol hexaphosphoric acid

C₆H₁₈O₂₄P₆

M 660,08 g/mol

D 1,28

[83-86-3] • EC No. 201-506-6

Warning H315-H319-H335

Type analysis:

Assay: ~40 % in water

7091.1	50 g	glass	50,00 €

Phytohistol® plus

Phytohistol® plus

for microscopy

Botanical mounting medium based on sugar

Application: Drop on slide, add specimen.
When free from air bubbles place cover slip.

D 1,11

WGK 1

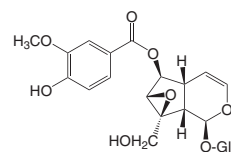
Type analysis:

 Appearance: yellow to brownish, viscous liquid
 Refractive index (20 °C): 1,51-1,53

6471.1	15 ml	dropp. bottle	19,60 €

6471.2	50 ml	plastic	51,10 €

Picrosid II



Picrosid II

ROTICHRUM® HPLC

Reference substance for HPLC

From *Picrorhiza kurroa*.

6-Vanilloylcatalpol

C₂₃H₂₈O₁₃

M 512,47 g/mol

Storage temp.: +4 °C

[39012-20-9] • EC No. 254-247-6

Warning H302

Type analysis:

Purity (HPLC): >98 %

1197.1	20 mg	glass	224,70 €

Picrotoxin

Picrotoxin

≥97,5 %

C₃₀H₃₄O₁₃

M 602,57 g/mol

mp 200-202 °C

[124-87-8] • EC No. 204-716-6

UN No. 3462 • ADR 6.1 II • WGK 2

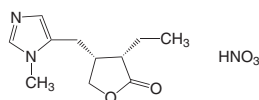
 **Danger H300**

Type analysis:

Assay (TLC)..... ≥97,5 %

7093.1	1 g	glass	107,40 €

Pilocarpin nitrate



Pilocarpin nitrate

≥98,5 %, extra pure

C₁₁H₁₇N₃O₅

M 271,27 g/mol

mp 169-173 °C

[148-72-1] • EC No. 205-723-7

UN No. 2811 • ADR 6.1 I • WGK 3

 **Danger H300+H330**

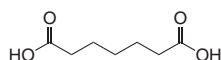
Type analysis:

Assay (titr.)..... ≥98,5 %

Specific rotation [α]_D²⁰..... +80,0° to +84,0°

7523.1	1 g	glass	134,40 €

Pimelic acid



Pimelic acid

≥99 %

Heptanedioic acid

C₇H₁₂O₄

M 160,17 g/mol

bp 212 °C (13 hPa)

mp 104-106 °C

Solubility: 50 g/l (H₂O, 20 °C)

[111-16-0] • EC No. 203-840-8

 **Warning H319**

Type analysis:

Assay (titr.)..... ≥99,0 %

Solution (10 % in methanol)..... colourless, clear

Water (KF)..... ≤0,5 %

Melting point..... 104-106 °C

5270.1	25 g	plastic	27,85 €

5270.2	50 g	plastic	40,75 €

(-)-α-Pinene



2-Pinene

C₁₀H₁₆

M 136,24 g/mol

D 0,86 • bp 155-156 °C

mp -62 °C • flp 32 °C

Storage temp.: +4 °C

[7785-26-4] • EC No. 232-077-3

UN No. 2368 • ADR 3 III • WGK 3

    **Danger**

H304-H226-H315-H-H317-H410

(-)-α-Pinene

≥97,5 %, for synthesis

Type analysis:

Appearance..... clear, colourless liquid

Assay (GC, sum of the enantiomers)..... ≥97,5 %

Specific rotation [α]_D²⁰..... ≤-41°

5647.1	100 ml	glass	28,95 €

(-)-α-Pinene

ROTICHRON® GC

Reference substance for GC

Type analysis:

Purity (GC)..... ≥96 %

5170.1	1 g	plastic	75,15 €

(+)-α-Pinene



(+)-α-Pinene

ROTICHRON® GC

Reference substance for GC

(+)-2-Pinene

D ~0,857 • bp 156-158 °C

mp -62 °C • flp 32 °C

Storage temp.: +4 °C

[7785-70-8] • EC No. 232-077-3

UN No. 2368 • ADR 3 III • WGK 3

    **Danger**

H226-H304-H315-H317-H410

Type analysis:

Purity (GC)..... ≥95 %

3857.1	1 g	plastic	75,15 €

DL-α-Pinene

DL-α-Pinene

ROTICHRON® GC

Reference substance for GC

DL-2-Pinene

D ~0,858 • bp ~155-156 °C

flp 32 °C

Storage temp.: +4 °C

[80-56-8] • EC No. 201-291-9

UN No. 2368 • ADR 3 III • WGK 2

    **Danger**

H226-H304-H315-H317-H410

Type analysis:

Purity (GC)..... ≥95 %

3858.1	1 g	plastic	75,15 €

β-Pinene



C₁₀H₁₆

M 136,24 g/mol

D ~0,87 • bp ~165 °C

mp -61 °C • flp 36 °C

[127-91-3] • EC No. 204-872-5

UN No. 2319 • ADR 3 III • WGK 3

    **Danger**

H226-H304-H315-H317-H410

β-Pinene

pure

Type analysis:

Appearance..... clear, colourless to light yellowish oil

Relative density (20 °C)..... 0,860-0,880

Refractive index (20 °C)..... 1,4700-1,4800

Optical rotation (20 °C)..... -25° to -15°

7106.1	250 ml	glass	21,40 €

β-Pinene

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥90 %

5172.1	1 g	plastic	75,15 €

2,5-Piperazinedione

► Glycine anhydride see p. 1861

**Piperazine-N,N'-bis
(2-ethanesulphonic acid)**

- ▶ PIPES see p. 2043
- ▶ PIPES monosodium salt see p. 2043
- ▶ PIPES 1,5 Na see p. 2043
- ▶ PIPES disodium salt see p. 2044

**Piperazine-N',N'-bis
(2-hydroxypropane sulphonic acid)**

- ▶ POPSO see p. 2050
- ▶ POPSO 1,5 Na see p. 2050

Piperidine**Piperidine**

≥99,5 %, for peptide synthesis

Hexahydropyridine

C₅H₁₁N

M 85,15 g/mol

D 0,86 • bp 106 °C

mp -10 °C • flp 16 °C

[110-89-4] • EC No. 203-813-0

UN No. 2401 • ADR 8 (3) I • WGK 2



Danger H225-H311+H331-H314

Type analysis:

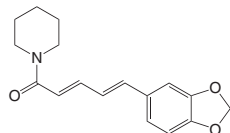
Assay.....	≥99,5 %
Water (KF).....	≤0,1 %
Evaporation residue.....	≤0,001 %
Lead (Pb).....	≤0,00001 %
Iron (Fe).....	≤0,00001 %
Magnesium (Mg).....	≤0,00001 %
Zinc (Zn).....	≤0,00001 %

A122.1 200 ml glass 30,00 €

A122.2 500 ml glass 53,65 €

A122.3 1 l glass 88,70 €

Original pack 6 x 1 l 84,27/1 l

Piperine**Piperine**

ROTICHROM® ~CHR

1-Piperoylpiperidine

C₁₇H₁₉NO₃

M 285,35 g/mol

mp 127-130 °C

Solubility: 0,04 g/l (H₂O, 18 °C)

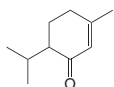
[94-62-2] • EC No. 202-348-0

UN No. 3077 • ADR 9 III • WGK 2



Warning H302-H411

7099.1 5 g glass 78,40 €

Piperitone**Piperitone**

ROTICHROM® GC

Reference substance for GC

C₁₀H₁₆O

M 152,24 g/mol

D ~0,93 • bp 233 °C

Storage temp.: +4 °C

[89-81-6] • EC No. 201-942-7

WGK 1

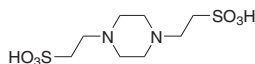
Type analysis:

Purity (GC)..... ≥96 %

5174.1 1 g plastic 75,15 €

1-Piperoylpiperidin

- ▶ Piperine see p. 2043

PIPES**PIPES**

PUFFERAN® ≥99 %

Piperazine-N,N'-bis-(2-ethanesulphonic acid)

C₈H₁₈N₂O₆S₂

M 302,37 g/mol

mp >300 °C

[5625-37-6] • EC No. 227-057-6

WGK 1

Guarantee analysis:

Appearance.....	white powder
Assay (titr.).....	≥99 %
Water.....	≤1,0 %
Solubility (0,5 M in 1 M NaOH).....	clear, soluble
UV-Absorption (0,1 M in 1 M NaOH):	
280 nm.....	≤0,1
260 nm.....	≤0,1

9156.1 25 g plastic 18,10 €

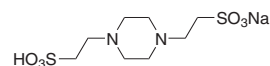
9156.2 100 g plastic 51,50 €

9156.3 250 g plastic 113,45 €

9156.4 500 g plastic 193,50 €

Original pack 6 x 500 g 183,83/500 g

For further information, please see page 1214

PIPES monosodium salt**PIPES monosodium salt**

PUFFERAN® ≥97 %

Piperazine-N,N'-bis(2-ethanesulphonic acid)
monosodium salt monohydrate

C₈H₁₇NaN₂O₆S₂

M 324,35 g/mol

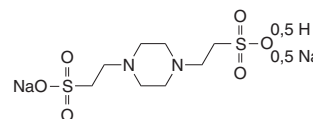
[10010-67-0] • EC No. 233-005-3

Guarantee analysis:

Assay.....	≥97,0 %
Water (KF).....	≤3,0 %
Solubility (1 % in H ₂ O).....	clear, soluble
pH value (1 % in H ₂ O).....	4,0-5,0
UV-Absorption (1 % in H ₂ O):	
280 nm.....	≤0,04
260 nm.....	≤0,05

9153.1 25 g plastic 32,80 €

For further information, please see page 1214

PIPES 1,5 Na**PIPES 1,5 Na**

PUFFERAN® ≥96 %

Piperazine-N,N'-bis(2-ethanesulphonic acid)
1,5 Na

C₈H_{16,5}N₂O₆S₂Na_{1,5}

M 335,3 g/mol

[100037-69-2]

Type analysis:

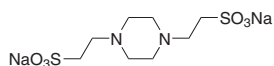
Assay (titr.).....	≥96 %
Water (KF).....	≤4,0 %
pH value (1 % solution).....	6,5-7,1
UV-absorption (10 % in H ₂ O):	
280 nm.....	≤0,05
260 nm.....	≤0,05

5583.1 50 g plastic 62,90 €

5583.2 250 g plastic 256,95 €

For further information, please see page 1214

PIPES disodium salt



PIPES disodium salt

PUFFERAN® ≥95 %

Piperazine-N,N'-bis(2-ethanesulphonic acid) disodium salt

C₈H₁₆Na₂N₂O₆S₂

M 364,3 g/mol

[76836-02-7]

Type analysis:

Appearance.....	white powder
Assay (titr.).....	≥95 %
Solubility (20 % in H ₂ O).....	colourless
pH value (1 % solution).....	9,2-10,0
Water (H ₂ O).....	≤3 %
UV-absorption (0,1 M in H ₂ O):	
280 nm.....	≤0,04
260 nm.....	≤0,02

7109.2	100 g	plastic	117,20 €

For further information, please see page 1214

Plant culture agar

► Agar-Agar, plant see p. 1617

Plant Growth Regulators

Art. No.	Description	Page
5552	6-Benzylaminopurine	1673
7464	Gibberellic acid	1849
4143	Indole-3-butyric acid	1899
4144	Indole-3-propionic acid	1899
7280	Indolyl 3-acetic acid	1899
4142	Kinetin	1917
8379	Putrescin	2072
4141	Putrescin dihydrochloride	2072
8367	Serotonin hydrochloride	2127
7161	Spermidine	2165
7162	Spermine	2165

Plant Indican

► 3-Indoxyl-β-D-glucopyranoside see p. 1900

Plasmides

Storage temp.: -20 °C
Transport temp.: room temp.
WGK 1

Plasmid DNA pUC19

High-purity plasmid-DNA of pUC19 (pUC19c, Acc. No. L09137) with an overall length of 2686 base pairs. Lyophilised.

X911.1	50 µg	plastic	42,50 €

For further information, please see page 1197

Plasmid DNA pBR322

High-purity plasmid-DNA of pBR322 (Acc. No. V01119) with an overall length of 4361 base pairs. Lyophilised.

X912.1	50 µg	plastic	52,60 €

For further information, please see page 1197

Plate Count Agar

Storage temp.: +20 °C

Plate Count Agar

APHA, ISO 4833:2003, for microbiology

For enumeration of the aerobic microbial flora in milk, foods and other material.

Application: Use 23,5 g for 1 l agar.

Guarantee analysis:

Casein peptone	5 g/l
Yeast extract	2,5 g/l
Glucose	1 g/l
Agar	15 g/l
pH value	7,0 ±0,2

X930.1	500 g	plastic	73,65 €

Original pack 6 x 500 g 69,97/500 g

X930.2	1 kg	plastic	130,10 €

Original pack 6 x 1 kg 123,60/1 kg

X930.3	2,5 kg	plastic	256,95 €

For further information, please see page 1338

Plate Count Agar with Powdered Milk

APHA, DIN 10192, LMBG, IDF, for microbiology

For enumeration of microorganisms in milk and dairy derivatives.

Application: Use 24,5 g for 1 l agar.

Guarantee analysis:

Tryptone (Peptone from Casein)	5 g/l
Yeast extract	2,5 g/l
Glucose	1 g/l
Skimmed Milk Powder	1 g/l
Agar	15 g/l
pH value	7,0 ±0,2

HP08.1	500 g	plastic	85,90 €

Original pack 6 x 500 g 81,61/500 g

For further information, please see page 1338

Platinum powder

Platinum powder

ROTI®METIC 99,999 % (5N)

Pt

M 195,08 g/mol

D 21,45 • bp 3827 °C

mp 1768 °C

[7440-06-4] • EC No. 231-116-1

UN No. 3089 • ADR 4.1 III

Danger H228-H272

Type analysis:

Assay (metals basis)	99,999 %
Particle size	~18 mesh
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5654.1	1 g	plastic	375,20 €

Platinum wire

Platinum wire

99,9 %

Ø 0,3 mm

Pt

D 21,45 • bp 3827 °C

mp 1772 °C

[7440-06-4] • EC No. 231-116-1

8415.1	100 mm	plastic	67,65 €

8415.2	500 mm	plastic	224,70 €

Platinum black

Platinum black

98,2-98,7 %

Platinummoor

Pt

D 21,45 • bp 3827 °C

mp 1772 °C

[7440-06-4] • EC No. 231-116-1

UN No. 3089 • ADR 4.1 III

Danger H272-H228

Type analysis:

Appearance.....black, fine powder

8408.1	250 mg	glass	40,35 €

8408.2	1 g	glass	144,60 €

Platinum Standards

► Platinum AAS Standard Solution see p. 2168

► Platinum ICP Standard Solution see p. 2172

Platinummoor

► Platinum black see p. 2044

Plexit® 55 Röhm, acryl-resin

Plexit® 55 Röhm, acryl-resin

for embedding, liquid

flp 10 °C

[80-62-2]

UN No. 1866 • ADR 3 II • WGK 2

Danger

H225-H315-H317-H335-H360Df-H400

2490.1	1 l resin and 10 g catalyst	45,90 €

2490.2	2,5 l resin and 25 g catalyst	88,50 €

For further information, please see page 1103

Plexit® 55 Röhm, catalyst 22**Plexit® 55 Röhm, catalyst 22****liquid**

For use with Plexit® 55 Röhm, acryl-resin
flp 180 °C

[84-74-2]

UN No. 3082 • ADR 9 III • WGK 2

Danger H360Df-H400

2494.1	50 g	glass	8,90 €

2494.2	250 g	glass	17,10 €

For further information, please see page 1103

Plexit® 55 Röhm, thinner 30**Plexit® 55 Röhm, thinner 30****liquid**

For use with Plexit® 55 Röhm, acryl-resin
flp 10 °C

[80-62-2]

UN No. 1247 • ADR 3 II • WGK 1

Danger H225-H315-H317-H335

2498.1	1 l	glass	38,20 €

For further information, please see page 1103

PMA

► Propylene glycol methyl ether acetate
see p. 2070

PMSF

► Phenylmethyl sulphonyl fluoride (PMSF)
see p. 2037

PNAG

► 4-Nitrophenyl-N-acetyl-β-D-glucosaminide
see p. 1992

PNP-α-L-Fuc

► 4-Nitrophenyl-α-L-fucopyranoside
see p. 1993

PNPG

► 4-Nitrophenyl-α-D-galactopyranoside
see p. 1993

PNP-α-D-Gal

► 4-Nitrophenyl-α-D-galactopyranoside
see p. 1993

PNP-β-D-Gal

► 4-Nitrophenyl-β-D-galactopyranoside
see p. 1993

PNP-β-D-GalNAc

► 4-Nitrophenyl-N-acetyl-β-D-galactosaminide
see p. 1992

PNP-β-D-Glc

► 4-Nitrophenyl-β-D-glucopyranoside
see p. 1993

PNP-β-D-GlcNAc

► 4-Nitrophenyl-N-acetyl-β-D-glucosaminide
see p. 1992

PNPX

► 4-Nitrophenyl-β-D-xyloside see p. 1994

PNP-β-D-Xyl

► 4-Nitrophenyl-β-D-xyloside see p. 1994

Podophyllin**Podophyllin****powdered**

From *Podophyllum emodii*

Storage temp.: +4 °C

[9000-55-9] • EC No. 232-546-2

UN No. 2811 • ADR 6.1 II • WGK 3

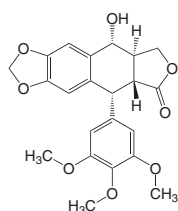
Danger

H300+H310+H330-H314-H360D

Type analysis:

Appearance..... brown powder
Origin..... *Podophyllum emodii*
Identity:
Test A..... conforms to USP
Test B..... conforms to USP

7525.1	5 g	plastic	116,65 €

(-)-Podophyllotoxin**(-)-Podophyllotoxin****ROTICHRON® HPLC**

Reference substance for HPLC

C₂₂H₂₂O₈

M 414,43 g/mol

Storage temp.: +4 °C

[518-28-5] • EC No. 208-250-4

UN No. 3462 • ADR 6.1 II • WGK 2

Danger H301-H310-H315-H319-H335

Type analysis:

Purity (HPLC)..... ≥99 %

3946.2	20 mg	glass	79,45 €

Polyacrylamide**Polyacrylamide****pure**

Flocculating agent, usable in a wide pH range.

(C₃H₅NO)_n

M (71,08)_n g/mol

[9003-05-8]

WGK 1

Type analysis:

Insoluble matter..... ≤0,5 %
Solids..... ≥87 %

3048.1	500 g	plastic	40,75 €

Original pack 6 x 500 g	38,71/500 g

3048.2	2,5 kg	plastic	144,60 €

Polyamide**Polyamide****for column chromatography**

Particle size 0,05-0,16 mm. Excellent for
purification of plant extracts.

Polyamide 6

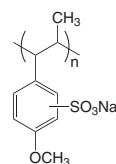
[63428-84-2]

Guarantee analysis:

Appearance..... white powder
Particle-size distribution:
>0,315 mm..... ≤15 %
pH value..... 5,5-7,5
Water..... <5 %
Ash content..... <0,3 %

9620.2	100 g	plastic	54,90 €

9620.1	250 g	plastic	119,00 €

**Polyanetholesulphonic acid,
sodium salt****Polyanetholesulphonic acid,
sodium salt****for biochemistry**

Sodium polyanetholesulfonate, SPS

(C₁₀H₁₁NaO₄S)_n

[55963-78-5]

WGK 3

Warning H315-H319-H335

Type analysis:

Appearance. cream to light brown, amorphous powder
Appearance of solution (20 %, H₂O). .. yellow to brown
Acetone (GC)..... ≤0,2 %
Ethanol (GC)..... ≤0,2 %
Calcium (Ca)..... ≤0,1 %
Water (KF)..... 8,0-15,0 %

8369.1	5 g	glass	27,85 €

8369.2	25 g	glass	107,40 €

Polyarabinic acid

▶ Arabic acid see p. 1652

Polydimethyl siloxane

▶ Silicone oil M-series see p. 2132

Polyethylene glycol 200**Polyethylene glycol 200****ROTIPURAN® Ph.Eur.**

Type 200 (liquid), PEG 200, Polyglycol, Polyoxyethylene

M 190-210 g/mol

D 1,12 • bp >250 °C

mp -50 °C • flp 200 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C)..... liquid, clear
 Identity..... complies
 Average molar mass..... 190-210 g/mol
 Colour count (APHA, 25 % in H₂O)..... ≤30
 Hydroxyl value..... 534-591 mg KOH/g
 pH value (5 % in H₂O)..... 5,0-7,5
 Water (KF)..... ≤1,0 %
 Viscosity (20 °C)..... 60-67 mPa s
 Heavy metals (as Pb)..... ≤0,0005 %
 Ethylene and diethylene glycol..... ≤0,2 %
 Sulphated ash..... ≤0,1 %
 Dioxane..... ≤0,0001 %
 Ethylene oxide..... ≤0,0001 %
 Formaldehyde..... ≤0,003 %
 Acid reacting substances (0,1 M NaOH / 5 g)..... ≤0,1 ml
 Reducing substances..... complies

2631.1	1 l	plastic	32,15 €
Original pack 6 x 1 l			
2631.2	5 l	plastic	127,95 €
Original pack 2 x 5 l			
			121,55/5 l

Polyethylene glycol 300**Polyethylene glycol 300****ROTIPURAN® Ph.Eur.**

Type 300 (liquid), PEG 300, Polyglycol, Polyoxyethylene

M 285-315 g/mol

D 1,12 • bp >250 °C

mp -15 / -10 °C • flp 220 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C)..... liquid, clear
 Identity..... complies
 Average molar mass..... 285-315 g/mol
 Colour count (APHA, 25 % in H₂O)..... ≤15
 Hydroxyl value..... 356-394 mg KOH/g
 pH value (5 % in H₂O)..... 5,0-7,0
 Water (KF)..... ≤1,0 %
 Viscosity (20 °C)..... 88-96 mPa s
 Heavy metals (as Pb)..... ≤0,0005 %
 Ethylene and diethylene glycol..... ≤0,2 %
 Sulphated ash..... ≤0,1 %
 Dioxane..... ≤0,0001 %
 Ethylene oxide..... ≤0,0001 %
 Formaldehyde..... ≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g)..... ≤0,1 ml
 Reducing substances..... complies

2632.1	1 l	plastic	26,35 €
Original pack 6 x 1 l			
2632.2	5 l	plastic	99,45 €
Original pack 2 x 5 l			
			94,48/5 l

Polyethylene glycol 400**Polyethylene glycol 400****ROTIPURAN® Ph.Eur.**

Type 400 (liquid), PEG 400, Polyglycol, Polyoxyethylene

M 380-420 g/mol

D 1,12

flp 240 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C)..... liquid, clear
 Identity..... complies
 Average molar mass..... 380-420 g/mol
 Appearance of solution (25 % in H₂O)..... complies
 Hydroxyl value..... 267-295 mg KOH/g
 pH value (10 % in H₂O)..... 4,5-7,0
 Water..... ≤1,0 %
 Viscosity (20 °C)..... 105-130 mPa s
 Heavy metals (as Pb)..... ≤0,0005 %
 Ethylene and diethylene glycol..... ≤0,25 %
 Sulphated ash..... ≤0,1 %
 Dioxane..... ≤0,001 %
 Ethylene oxide..... ≤0,0001 %
 Formaldehyde..... ≤0,003 %
 Acid/alkaline reac. substances (0,1 M NaOH / 5 g)..... complies
 Reducing substances..... complies

0144.1	1 l	plastic	23,65 €
Original pack 6 x 1 l			
0144.2	5 l	plastic	83,35 €
Original pack 2 x 5 l			
0144.3	25 kg	plastic	283,80 €

Polyethylene glycol 600**Polyethylene glycol 600****ROTIPURAN® Ph.Eur.**

Type 600 (liquid), PEG 600, Polyglycol, Polyoxyethylene

M 570-630 g/mol

D 1,12

mp 17-22 °C • flp 260 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (30 °C)..... liquid, clear
 Identity..... complies
 Average molar mass..... 570-630 g/mol
 Colour count (APHA, 25 % in H₂O)..... ≤15
 Hydroxyl value..... 178-197 mg KOH/g
 Solidification point..... 17-22 °C
 pH value (5 % in H₂O)..... 5,0-7,5
 Water (KF)..... ≤1,0 %
 Viscosity (20 °C, 50 % in H₂O)..... 17-18 mPa s
 Heavy metals (as Pb)..... ≤0,0005 %
 Ethylene and diethylene glycol..... ≤0,2 %
 Sulphated ash..... ≤0,1 %
 Dioxane..... ≤0,0001 %
 Ethylene oxide..... ≤0,0001 %
 Formaldehyde..... ≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g)..... ≤0,1 ml
 Reducing substances..... complies

2633.1	1 l	plastic	28,95 €
Original pack 6 x 1 l			
2633.2	5 l	plastic	109,15 €
Original pack 2 x 5 l			
			103,69/5 l

Polyethylene glycol 1000**Polyethylene glycol 1000****ROTIPURAN® Ph.Eur.**

Type 1000 (solid), PEG 1000, Polyglycol, Polyoxyethylene

M 950-1050 g/mol

bp >250 °C

mp 35-40 °C • flp 270 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C)..... wax like
 Identity..... complies
 Average molar mass..... 950-1050 g/mol
 Colour count (APHA, 25 % in H₂O)..... ≤30
 Hydroxyl value..... 107-118 mg KOH/g
 Solidifying point..... 35-40 °C
 pH value (5 %, water)..... 5,0-7,5
 Water (KF)..... ≤1,0 %
 Viscosity (20 °C, 50 % in H₂O)..... 24-28 mPa s
 Heavy metals (as Pb)..... ≤0,0005 %
 Ethylene and diethylene glycol..... ≤0,2 %
 Sulphated ash..... ≤0,1 %
 Dioxane..... ≤0,0001 %
 Ethylene oxide..... ≤0,0001 %
 Formaldehyde..... ≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g)..... ≤0,1 ml
 Reducing substances..... complies

0150.3	500 g	plastic	19,60 €
Original pack 6 x 500 g			
0150.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			
0150.2	5 kg	plastic	98,40 €

Polyethylene glycol 1500**Polyethylene glycol 1500****ROTIPURAN® Ph.Eur.**

Type 1500 (solid), PEG 1500, Polyglycol, Polyoxyethylene

M 1400-1600 g/mol

D 1,21 • bp >250 °C

mp 44-48 °C • flp 270 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C)..... solid, scaly
 Identity..... complies
 Average molar mass..... 1400-1600 g/mol
 Colour count (APHA, 25 % in H₂O)..... ≤30
 Hydroxyl value..... 70-80 mg KOH/g
 Solidifying point..... 44-48 °C
 pH value (5 % in H₂O)..... 5,0-7,5
 Water (KF)..... ≤1,0 %
 Viscosity (20 °C, 50 % in H₂O)..... 36-42 mPa s
 Heavy metals (as Pb)..... ≤0,0005 %
 Ethylene and diethylene glycol..... ≤0,20 %
 Sulphated ash..... ≤0,1 %
 Dioxane..... ≤0,0001 %
 Ethylene oxide..... ≤0,0001 %
 Formaldehyde..... ≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g)..... ≤0,1 ml
 Reducing substances..... complies

0152.3	500 g	plastic	19,60 €
Original pack 6 x 500 g			
0152.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			
0152.2	5 kg	plastic	98,40 €

Polyethylene glycol 2000

Polyethylene glycol 2000

ROTIPURAN® Ph.Eur.

Type 2000 (solid), PEG 2000, Polyglycol, Polyoxyethylene

M 1800-2200 g/mol

D 1,21

mp 48-52 °C • flp 270 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C).....solid, scaly
 Identity.....complies
 Average molar mass.....1800-2200 g/mol
 Colour count (APHA, 25 % in H₂O).....≤30
 Hydroxyl value.....51-62 mg KOH/g
 Solidifying point.....48-52 °C
 pH value (5 % in H₂O).....5,0-7,5
 Water (KF).....≤1,0 %
 Viscosity (20 °C, 50 % in H₂O).....50-58 mPa s
 Heavy metals (as Pb).....≤0,0005 %
 Ethylene and diethylene glycol.....≤0,25 %
 Sulphated ash.....≤0,1 %
 Dioxane content (GC).....≤0,0001 %
 Ethylene oxide (GC).....≤0,0001 %
 Formaldehyde.....≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g).....≤0,1 ml
 Reducing substances.....complies

0154.3	500 g	plastic	19,60 €
Original pack 6 x 500 g			18,62/500 g
0154.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
0154.2	5 kg	plastic	98,40 €

Polyethylene glycol 4000

Polyethylene glycol 4000

ROTIPURAN® Ph.Eur.

Type 4000 (solid), PEG 4000, Polyglycol, Polyoxyethylene

M 3500-4500 g/mol

mp 53-58 °C • flp 270 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C).....solid, scaly
 Identity.....complies
 Colour count (APHA, 25 % in H₂O).....≤30
 Hydroxyl value.....25-30 mg KOH/g
 Average molar mass.....3700-4400 g/mol
 Solidifying point.....53-58 °C
 pH value (5 % in H₂O).....5,0-7,5
 Water (KF).....≤1,0 %
 Viscosity (20 °C, 50 % in H₂O).....114-142 mPa s
 Heavy metals (as Pb).....≤0,0005 %
 Ethylene and diethylene glycol.....≤0,2 %
 Sulphated ash.....≤0,1 %
 Dioxane.....≤0,0001 %
 Ethylene oxide.....≤0,0001 %
 Formaldehyde.....≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g).....≤0,1 ml
 Reducing substances.....complies

0156.3	500 g	plastic	20,65 €
Original pack 6 x 500 g			19,62/500 g
0156.1	1 kg	plastic	29,60 €
Original pack 6 x 1 kg			28,12/1 kg
0156.2	5 kg	plastic	107,40 €

Polyethylene glycol 6000

Polyethylene glycol 6000

ROTIPURAN® Ph.Eur.

For biochemical applications and molecular biology.

Type 6000 (powdery), PEG 6000, Polyglycol, Polyoxyethylene

M 5000-7000 g/mol

mp 55-60 °C • flp 270 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance.....powdered
 Identity.....complies
 Colour count (APHA, 25 % in H₂O).....≤30
 Hydroxyl value.....17-20 mg KOH/g
 Average molar mass.....5600-6600 g/mol
 Solidifying point.....55-60 °C
 pH value (5 % in H₂O).....5,0-7,0
 Water (KF).....≤1,0 %
 Viscosity (20 °C, 50 % in H₂O).....210-262 mPa s
 Heavy metals (as Pb).....≤0,0005 %
 Sulphated ash.....≤0,1 %
 Dioxane.....≤0,0001 %
 Ethylene oxide.....≤0,0001 %
 Formaldehyde.....≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g).....≤0,1 ml
 Reducing substances.....complies

0158.4	500 g	plastic	20,65 €
Original pack 6 x 500 g			19,62/500 g
0158.1	1 kg	plastic	29,60 €
Original pack 6 x 1 kg			28,12/1 kg
0158.2	5 kg	plastic	107,40 €
0158.3	50 kg	plastic	805,20 €

Polyethylene glycol 8000

Polyethylene glycol 8000

ROTIPURAN® Ph.Eur.

For biochemical applications and molecular biology.

Type 8000 (solid), PEG 8000, Polyglycol, Polyoxyethylene

M 7300-9000 g/mol

mp 55-61 °C • flp 270 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance.....solid, scaled
 Identity.....complies
 Average molar mass.....7300-9000 g/mol
 Colour count (APHA, 25 % in H₂O).....≤30
 Hydroxyl value.....12-16 mg KOH/g
 Solidifying point.....56-61 °C
 pH value (5 % in H₂O).....5,0-7,5
 Water (KF).....≤1,0 %
 Viscosity (20 °C, 50 % in H₂O).....290-450 mPa s
 Heavy metals (as Pb).....≤0,0005 %
 Sulphated ash.....≤0,1 %
 Dioxane.....≤0,0001 %
 Ethylene oxide.....≤0,0001 %
 Formaldehyde.....≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g).....≤0,1 ml
 Reducing substances.....complies

0263.1	500 g	plastic	19,60 €
Original pack 6 x 500 g			18,62/500 g
0263.2	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
0263.3	5 kg	plastic	98,40 €

Polyethylene glycol 10 000

Polyethylene glycol 10 000

ROTIPURAN® Ph.Eur.

Type 10 000 (solid), PEG 10 000, Polyglycol, Polyoxyethylene

M 9000-11250 g/mol

D 1,12

mp 55-62 °C • flp 265 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

Appearance (20 °C).....solid, scaled
 Appearance of solution (25 % in H₂O).....clear
 Identity.....complies
 Average molar mass.....9000-11250 g/mol
 Colour count (APHA, 25 % in H₂O).....≤30
 Hydroxyl value.....10-12 mg KOH/g
 pH value (5 % in H₂O).....4,5-7,5
 Melting point.....55-62 °C
 Water (KF).....≤1,0 %
 Viscosity (20 °C, 50 % in H₂O).....550-750 mPa s
 Heavy metals (as Pb).....≤0,0005 %
 Sulphated ash.....≤0,1 %
 Dioxane.....≤0,0001 %
 Ethylene oxide.....≤0,0001 %
 Formaldehyde.....≤0,003 %
 Acid reacting substances (0,1 M NaOH / 5 g).....≤0,1 ml
 Reducing substances.....complies

2634.1	500 g	plastic	21,00 €
Original pack 6 x 500 g			19,95/500 g
2634.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
2634.3	5 kg	plastic	127,95 €

Polyethylene glycol 20 000

Polyethylene glycol 20 000

ROTIPURAN® Ph.Eur.

Type 20 000 (solid), PEG 20 000, Polyglycol, Polyoxyethylene

M ~20 000 g/mol

mp >57 °C • flp 260 °C

[25322-68-3] • EC No. 500-038-2

WGK 1

Guarantee analysis:

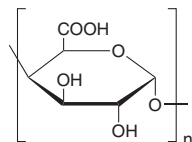
Appearance (20 °C).....solid, scales
 Identity.....complies
 Average molar mass.....≥16000 g/mol
 Colour count (APHA, 25 % in H₂O).....≤30
 Hydroxyl value.....≤7 mg KOH/g
 Solidifying point.....≥57 °C
 pH value (5 % in H₂O).....4,5-7,5
 Water (KF).....≤1,0 %
 Viscosity (20 °C, 50 % in H₂O).....2700-3500 mPa s
 Heavy metals (as Pb).....≤0,0005 %
 Sulphated ash.....≤0,1 %
 Dioxane.....≤0,0001 %
 Ethylene oxide.....≤0,0001 %
 Formaldehyde.....≤0,0015 %
 Acid reacting substances (0,1 M NaOH / 5 g).....≤0,1 ml
 Reducing substances.....complies

0165.3	500 g	plastic	20,65 €
Original pack 6 x 500 g			19,62/500 g
0165.1	1 kg	plastic	29,60 €
Original pack 6 x 1 kg			28,12/1 kg
0165.2	5 kg	plastic	107,40 €

Polyethylene glycol alkylphenyl ether

► Triton® X 100 see p. 2225

Polygalacturonic acid



Polygalacturonic acid

≥85 %
(C₆H₈O₆)_n
M ~25000 g/mol
mp 60 °C
[25990-10-7] • EC No. 205-676-2

Guarantee analysis:

Assay (titr.) ≥85,0 %
Loss on drying ≤10,0 %
pH value (1 % in H₂O) 2,5-3,5
Sulphated ash ≤2,0 %
Heavy metals (as Pb) ≤0,004 %

5269.1	25 g	plastic	22,50 €
5269.2	100 g	plastic	61,20 €

Polyglycol

► Polyethylene glycol see p. 2046

Polymyxin B sulphate

Polymyxin B sulphate

≥80 %, for biochemistry
Bacteriostatic antibiotic, peptide antibiotic
Aerosporin
C₅₅H₉₆N₁₆O₁₃ · 2 H₂SO₄
M 1385,63 g/mol
Storage temp.: +4 °C
[1405-20-5] • EC No. 215-774-7
WGK 1

⚠ Warning H302

Guarantee analysis:

Assay (HPLC) ≥80 %
pH value (2 % in H₂O) 5,0-7,0
Specific rotation [α]_D²⁰ (2 % in H₂O) -90° to -78°
Sulphate (SO₄) 15,5-17,5 %
Sulphated ash ≤0,75 %
Loss on drying ≤5,0 %

0235.1	1 g	glass	43,55 €
0235.2	5 g	glass	177,95 €
0235.3	10 g	glass	321,45 €

For further information, please see page 1379

Polymyxin E₁-disulphate

► Colistin sulphate see p. 1742

Polyoxyethylene

► Polyethylene glycol see p. 2046

Polyoxyethylenesorbitan monolaurate

► Tween® 20 see p. 2229

Polyoxyethylenesorbitan monooleate

► Tween® 80 see p. 2229

Polyoxymethylene

► Paraformaldehyde see p. 2020

Polypeptone

Polypeptone

for microbiology
Storage temp.: +20 °C
WGK 1

Type analysis:

Total nitrogen ≥10 %
Amino nitrogen ≥3,7 %
Loss on drying ≤6 %
Ash ≤15 %
pH (2 % solution) 6,5-7,5

2903.1	250 g	plastic	47,20 €
2903.2	500 g	plastic	88,05 €
Original pack 6 x 500 g 83,65/500 g			
2903.3	1 kg	plastic	167,70 €
Original pack 6 x 1 kg 159,32/1 kg			

For further information, please see page 1366

Polypheyleneethylene

► Polystyrene see p. 2048

Poly sorbate

► Tween® 20 see p. 2229
► Tween® 80 see p. 2229

Polystyrene

Polystyrene

granulated
D ~1,05
[9003-53-6] • EC No. 500-008-9

Type analysis:

Appearance colourless granules
Density (DIN 53479) 1,05
Vicat softening point 85 °C

9151.1	1 kg	plastic	24,20 €
Original pack 6 x 1 kg 22,99/1 kg			

Polysucrose 400

Polysucrose 400

BioScience-Grade, for molecular biology and biochemistry

For density gradient centrifugation during cell separation and isolation of cell organelles.
Sucrose polymer, Sucrose-epichlorhydrin copolymer
(C₁₂H₂₂O₁₁)_n x (C₃H₅ClO)_n
M 450000 ±100000 g/mol
Storage temp.: +20 °C
[26873-85-8]

Type analysis:

Appearance white powder
Loss on drying ≤5 %
Specific optical rotation [α]_D²⁰ +53° to +59°
Intrinsic viscosity (20 °C) 0,14-0,20
pH value (10 % in H₂O) 7,0-9,0
Sulphated ash ≤0,3 %
Chloride (Cl) ≤500 ppm

4668.1	10 g	plastic	26,35 €
4668.2	25 g	plastic	59,05 €
4668.3	100 g	plastic	198,90 €

For further information, please see page 1194 1278 1194 1278

Polysucrose solution

► Roti®-Sep 1077 see p. 2111

Polyvidon

► Polyvinylpyrrolidone K 12 see p. 2049
► Polyvinylpyrrolidone K 25 see p. 2049
► Polyvinylpyrrolidone K 30 see p. 2049
► Polyvinylpyrrolidone K 90 see p. 2049

Polyvinyl acetate

Polyvinyl acetate

extra pure

D 1,18
mp 96-102 °C
[9003-20-7]

Type analysis:

Softening point 119 °C
Viscosity (10 % in ethyl acetate) 3,5-5,0 mPa s
Density 1,18 ±0,01
Acid value <0,5 mg KOH/g
Molecular weight 55000-70000

9154.1	1 kg	plastic	52,70 €
Original pack 6 x 1 kg 50,07/1 kg			

Polyvinyl alcohol

► Mowiol® 4-88 see p. 1976

Polyvinylbenzene

► Polystyrene see p. 2048

Polyvinyl chloride

Polyvinyl chloride

powdered

PVC
M 30000-40000 g/mol
D 1,4

Type analysis:

Appearance white powder
K-value 42 ±1
Chlorine (Cl) 47,5 % ±0,6 %
Volatile parts <1,0 %
Viscosity (20 % in MEK) 28 ±5 mPa s

9163.1	250 g	plastic	23,90 €
9163.2	1 kg	plastic	59,70 €
Original pack 6 x 1 kg 56,72/1 kg			

Polyvinylpyrrolidone K 12

Polyvinylpyrrolidone K 12

CELLPURE®

PVP, Polyvidone, Povidon

 $(C_6H_9NO)_n$

M 2000-3000 g/mol

Solubility: >800 g/l (H_2O , 23 °C)

[9003-39-8]

WGK 1

Type analysis:

Endotoxins.....	tested
Appearance.....	white to off-white powder
K-value.....	10,2-13,8
Nitrogen content (N).....	11,5-12,8 %
Identity (IR).....	complies
Clearness (5 % in H_2O).....	clear
Water (KF).....	≤5,0 %
Sulphated ash.....	≤0,1 %
pH value (5 % in H_2O).....	3,0-5,0
Vinylpyrrolidone (HPLC).....	≤0,001 %
2-Pyrrolidone (HPLC).....	≤3,0 %
Heavy metals.....	≤0,001 %
Aldehyde.....	≤0,05 %
Hydrazine.....	≤0,0001 %
Peroxides (as H_2O_2).....	≤0,04 %

7598.1	100 g	plastic	22,50 €

7598.2	500 g	plastic	89,80 €

Original pack 6 x 500 g	85,31/500 g

Polyvinylpyrrolidone K 25

Polyvinylpyrrolidone K 25

extra pure

PVP, Polyvidone, Povidon

 $(C_6H_9NO)_n$

M ~24000 g/mol

[9003-39-8]

WGK 1

Type analysis:

Appearance.....	white powder
K-value.....	22,5-27,0
Nitrogen content (N).....	11,5-12,8 %
Clearness (5 % in H_2O).....	clear
Water (KF).....	≤5,0 %
Sulphated ash.....	≤0,1 %
pH value (5 % in H_2O).....	3,0-5,0
Vinylpyrrolidone (HPLC).....	≤0,001 %
Heavy metals.....	≤0,001 %
Aldehyde.....	≤0,05 %
Hydrazine.....	≤0,0001 %
Peroxides (as H_2O_2).....	≤0,04 %

4606.1	100 g	plastic	19,05 €

4606.2	500 g	plastic	53,65 €

Original pack 6 x 500 g	50,97/500 g

Polyvinylpyrrolidone K 30

Polyvinylpyrrolidone K 30

extra pure

Molecularbiology

PVP, Polyvidone, Povidon

 $(C_6H_9NO)_n$

M ~40000 g/mol

[9003-39-8]

WGK 1

Type analysis:

Appearance.....	white powder
K-value.....	27,0-32,4
Nitrogen content (N).....	11,5-12,8 %
Clearness (5 % in H_2O).....	clear
Water (KF).....	≤5,0 %
Sulphated ash.....	≤0,1 %
pH value (5 % in H_2O).....	3,0-5,0
Vinylpyrrolidone (HPLC).....	≤0,001 %
Heavy metals.....	≤0,001 %
Aldehyde.....	≤0,05 %
Hydrazine.....	≤0,0001 %
Peroxides (as H_2O_2).....	≤0,04 %

4607.1	100 g	plastic	20,65 €

4607.2	500 g	plastic	67,20 €

Original pack 6 x 500 g	63,84/500 g

Polyvinylpyrrolidone K 90

Polyvinylpyrrolidone K 90

extra pure

Molecularbiology

PVP, Polyvidone, Povidon

 $(C_6H_9NO)_n$

M ~360000 g/mol

[9003-39-8]

WGK 1

Type analysis:

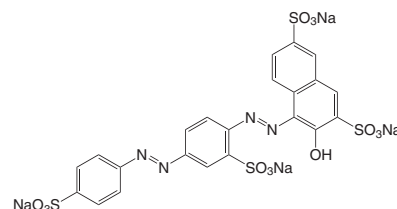
Appearance.....	white powder
K-value.....	81,0-97,2
Nitrogen content (N).....	11,5-12,8 %
Clearness (5 % in H_2O).....	clear
Water (KF).....	≤5,0 %
pH value (5 % in H_2O).....	4,0-7,0
Vinylpyrrolidone (HPLC).....	≤0,001 %
Heavy metals.....	≤0,001 %
Aldehydes.....	≤0,05 %
Hydrazine.....	≤0,0001 %
Peroxides (as H_2O_2).....	≤0,04 %

CP15.1	100 g	plastic	20,65 €

CP15.2	500 g	plastic	67,20 €

Original pack 6 x 500 g	63,84/500 g

Ponceau S (C.I. 27195)



Ponceau S (C.I. 27195)

for histology and electrophoresis

For reversible protein staining on membranes and for microscopy.

Scarlet red

 $C_{22}H_{12}N_4Na_4O_{13}S_4$

M 760,56 g/mol

Solubility: 10 g/l (H_2O , 20 °C)

[6226-79-5] • EC No. 228-319-2

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Absorption max. (in H_2O).....	517-523 nm
Specific extinction $E_{1\%}^{1\text{cm}}$	>460
Loss on drying (110 °C).....	≤10 %

5938.2	10 g	glass	23,55 €

5938.1	25 g	glass	47,85 €

For further information, please see page 1405

Ponceau de Xylidine

▶ Xylidine Ponceau 2R (C.I. 16150)
see p. 2247

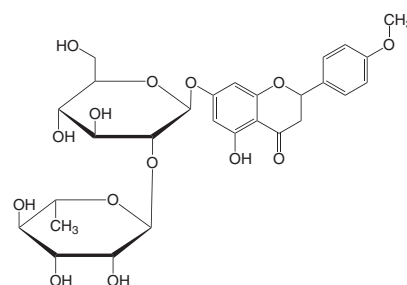
Ponceau-Fuchsin solution

▶ Goldner's staining I see p. 1862

Ponceau 4G

▶ Crocein orange G (C.I. 15970) see p. 1750

Poncirin



Poncirin

ROTICHRON® HPLC

Reference substance for HPLC

 $C_{28}H_{34}O_{14}$

M 594,56 g/mol

Storage temp.: +4 °C

[14941-08-3] • EC No. 239-020-1

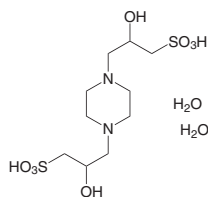
Type analysis:

Purity (HPLC).....≥97 %

7413.1	10 mg	plastic	224,70 €

POPOP

► 1,4-Bis[2-(5-phenyloxazolyl)]-benzene
see p. 1679

POPSO**POPSO**

PUFFERAN® ≥99 %

Piperazine-N,N'-bis(2-hydroxypropane
sulphonic acid)

$C_{10}H_{22}N_2O_8S_2 \cdot 2 H_2O$

M 398,5 g/mol

mp 320 °C

[68189-43-5] • EC No. 269-199-1

Type analysis:

Assay (titr.) ≥99 %
Water (KF) ~9,0 %

6632.1	25 g	plastic	37,10 €
6632.2	100 g	plastic	117,20 €

For further information, please see page 1214

POPSO 1,5 Na**POPSO 1,5 Na**

PUFFERAN® ≥99 %

Piperazine-N,N'-bis(2-hydroxypropane
sulphonic acid) 1,5 Na

$C_{20}H_{41}N_4Na_3O_{16}S_4$

M 790,79 g/mol

[108321-08-0]

Type analysis:

Assay (titr. dry substance) ≥99,0 %
Water (KF) ≤1,0 %
pH value (1 % solution) 7,9-8,5
UV-absorption (0,1 M in H_2O):
280 nm ≤0,04
260 nm ≤0,06

6965.1	25 g	plastic	55,80 €
6965.2	100 g	plastic	170,95 €

For further information, please see page 1214

Potash

► Potassium carbonate see p. 2052

Potassium Standards

- Potassium AAS Standard Solution
see p. 2168
- Potassium ICP Standard Solution
see p. 2172
- Potassium ICP Standard Solution
see p. 2177
- Potassium IC Standard Solution
see p. 2181

Potassium hydrogen tartrate**Potassium hydrogen tartrate**

≥99,5 %, extra pure

Cream of tartar, Potassium acid tartrate,
Potassium bitartrate

$C_4H_5KO_6$

M 188,18 g/mol

D 1,95

mp ~250 °C (dec.)

Solubility: ~6 g/l (H_2O , 20 °C)

[868-14-4] • EC No. 212-769-1

WGK 1

NEW**Type analysis:**

Assay (acidim., dry substance) ≥99,5 %
Specific rotation $[\alpha]_D^{20}$ (dry substance) +8,0° to +9,2°
Oxalic acid ($C_2H_2O_4$) ≤0,05 %
Chloride (Cl) ≤0,05 %
Sulphate (SO_4) ≤0,05 %
Heavy metals (as Pb) ≤0,001 %
Loss on drying (105 °C) ≤0,5 %

8645.1	100 g	plastic	11,75 €
8645.2	500 g	plastic	26,80 €
Original pack 6 x 500 g			25,46/500 g
8645.3	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg

Potassium acetate

$K(CH_3COO)$

M 98,15 g/mol

D 1,57

mp 292 °C • flp >250 °C

Solubility: 2530 g/l (H_2O , 20 °C)

[127-08-2] • EC No. 204-822-2

WGK 1

Potassium acetate

≥99 %, p.a.

Buffer substance, molecular biology

Guarantee analysis:

Assay (perchloric acid titration) ≥99,0 %
In H_2O insoluble matter ≤0,005 %
pH value (5 % solution) 6,5-9,0
Nitrogen compounds (as N) ≤0,001 %
Phosphate (PO_4) ≤0,005 %
Chloride (Cl) ≤0,002 %
Sulphate (SO_4) ≤0,005 %
Arsenic (As) ≤0,0001 %
Lead (Pb) ≤0,0005 %
Cadmium (Cd) ≤0,0005 %
Calcium (Ca) ≤0,005 %
Iron (Fe) ≤0,0005 %
Cobalt (Co) ≤0,0005 %
Copper (Cu) ≤0,0005 %
Magnesium (Mg) ≤0,005 %
Sodium (Na) ≤0,25 %
Nickel (Ni) ≤0,0005 %
Zinc (Zn) ≤0,0005 %

T874.1	500 g	plastic	31,75 €
Original pack 6 x 500 g			30,16/500 g
T874.2	1 kg	plastic	48,30 €
Original pack 6 x 1 kg			45,89/1 kg
T874.3	2,5 kg	plastic	94,10 €
T874.5	25 kg	plastic	643,95 €

For further information, please see page 1541

Potassium acetate

≥99 %, **CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins ≤6,0 E.U./g
Assay (dry substance) ≥99 %
Appearance of solution complies
pH value (5 % solution) 7,5-9,0
Chloride (Cl) ≤0,02 %
Sulphate (SO_4) ≤0,02 %
Heavy metals (as Pb) ≤0,0004 %
Iron (Fe) ≤0,002 %
Sodium (Na) ≤0,5 %
Reducing substances complies
Loss on drying (105 °C) ≤3,0 %

HN10.1	250 g	plastic	21,00 €
HN10.2	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g
HN10.3	1 kg	plastic	51,10 €
Original pack 6 x 1 kg			48,55/1 kg
HN10.4	2,5 kg	plastic	99,90 €

Potassium acetate

≥99 %, **Ph.Eur., BP**

Buffer substance, molecular biology

Guarantee analysis:

Assay (perchloric acid titration, dry substance) 99,0-101,0 %
Identity complies
Appearance of solution complies
pH value (5 % in water) 7,5-9,0
Chloride (Cl) ≤0,02 %
Sulphate (SO_4) ≤0,02 %
Heavy metals (as Pb) ≤0,0004 %
Iron (Fe) ≤0,002 %
Sodium (Na) ≤0,5 %
Reducing substances complies
Loss on drying (150 °C) ≤3,0 %

4986.1	1 kg	plastic	37,55 €
Original pack 6 x 1 kg			35,67/1 kg
4986.2	5 kg	plastic	107,40 €
4986.5	25 kg	plastic	428,95 €

Potassium acid tartrate

► Potassium hydrogen tartrate see p. 2050

Potassium alum

► Potassium aluminium sulphate
dodecahydrate see p. 2050

**Potassium aluminium sulphate
dodecahydrate**

Aluminium potassium sulphate, Potassium
Alum

$KAl(SO_4)_2 \cdot 12 H_2O$

M 474,39 g/mol

D 1,727

mp ~92 °C

Solubility: 139 g/l (H_2O , 20 °C)

[7784-24-9] • EC No. 233-141-3

WGK 1

**Potassium aluminium sulphate
dodecahydrate**

≥98 %, p.a., ACS

Guarantee analysis:

Assay (compl.) 98,0-102,0 %
pH value (5 % in water) ≥3,0

In H ₂ O insoluble matter.....	≤0,005 %
Chloride (Cl).....	≤0,0005 %
Phosphate (PO ₄).....	≤0,0005 %
Ammonium (NH ₄).....	≤0,005 %
Arsenic (As).....	≤0,0002 %
Lead (Pb).....	≤0,0005 %
Cadmium (Cd).....	≤0,0005 %
Chromium (Cr).....	≤0,0005 %
Iron (Fe).....	≤0,0005 %
Cobalt (Co).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Manganese (Mn).....	≤0,0005 %
Sodium (Na).....	≤0,02 %
Nickel (Ni).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,001 %

P724.2	500 g	plastic	23,55 €
Original pack 6 x 500 g			22,37/500 g
P724.1	1 kg	plastic	42,50 €
Original pack 6 x 1 kg			40,38/1 kg
P724.3	2,5 kg	plastic	90,85 €

Potassium aluminium sulphate dodecahydrate

≥99 %, Ph.Eur.

Guarantee analysis:

Assay.....	99,0-100,5 %
Identity.....	complies
Loss on drying.....	43-46 %
Appearance of solution.....	complies
pH value (10 % in H ₂ O).....	3,0-3,5
Ammonium (NH ₄).....	≤0,2 %
Iron (Fe).....	≤0,01 %
Heavy metals (as Pb).....	≤0,002 %
Arsenic (As).....	≤0,0003 %

CN78.1	500 g	plastic	17,75 €
Original pack 6 x 500 g			16,86/500 g
CN78.2	1 kg	plastic	25,70 €
Original pack 6 x 1 kg			24,42/1 kg
CN78.3	5 kg	plastic	92,35 €

Potassium aluminium sulphate dodecahydrate

≥98 %

Type analysis:

Assay.....	≥98,0 %
pH value (10 % in H ₂ O).....	3,0-3,5
Iron (Fe).....	≤0,02 %
Lead (Pb).....	≤0,03 %
Insoluble matter.....	≤0,01 %

8896.1	1 kg	plastic	14,95 €
Original pack 6 x 1 kg			14,20/1 kg
8896.2	5 kg	plastic	37,55 €
8896.3	10 kg	plastic	66,55 €
8896.4	25 kg	plastic	153,65 €

Potassium bicarbonate

► Potassium hydrogen carbonate see p. 2056

Potassium bichromate

► Potassium dichromate see p. 2053

Potassium biphosphate

► Potassium dihydrogen phosphate see p. 2054

Potassium biphthalate

► Potassium hydrogen phthalate see p. 2057

Potassium bisulphate

► Potassium hydrogen sulphate see p. 2057

Potassium bitartrate

► Potassium hydrogen tartrate see p. 2050

Potassium bromate

Potassium bromate

≥99,8 %, p.a., ACS, ISO

Standard substance for oxidimetric titrations, powerful bromination reagent.

KBrO₃

M 167,01 g/mol • mp 409-413 °C

Solubility: 69 g/l (H₂O, 20 °C)

[7758-01-2] • EC No. 231-829-8

UN No. 1484 • ADR 5.1 II • WGK 2

 **Danger** H271-H301-H350

Guarantee analysis:

Assay (iodom.).....	≥99,8 %
In H ₂ O insoluble matter.....	≤0,003 %
pH value (5 % in H ₂ O).....	5,0-9,0
Loss on drying (150 °C).....	≤0,1 %
Total nitrogen (N).....	≤0,001 %
Bromide (Br).....	≤0,02 %
Sulphate (SO ₄).....	≤0,005 %
Cadmium (Cd).....	≤0,0005 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,0005 %
Sodium (Na).....	≤0,01 %
Nickel (Ni).....	≤0,0005 %
Zinc (Zn).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0005 %

4396.1	100 g	plastic	42,90 €
4396.2	250 g	plastic	97,75 €
4396.3	500 g	plastic	175,80 €
Original pack 6 x 500 g			167,01/500 g

Potassium bromide

KBr

M 119,00 g/mol

D 2,75 • bp 1435 °C

mp 730 °C

Solubility: 650 g/l (H₂O, 20 °C)

[7758-02-3] • EC No. 231-830-3

WGK 1

 **Warning** H319

Potassium bromide

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5064.1	10 g	plastic	96,65 €
5064.2	50 g	plastic	342,95 €

Potassium bromide

≥99 %, p.a., ACS

Guarantee analysis:

Assay (arg.).....	≥99,0 %
In H ₂ O insoluble matter.....	≤0,005 %
pH value (5 % solution).....	5,0-8,8
Bromate (BrO ₃).....	≤0,001 %
Chloride (Cl).....	≤0,2 %
Iodate (IO ₃).....	≤0,001 %
Iodide (I).....	≤0,001 %
Sulphate (SO ₄).....	≤0,005 %
Total nitrogen (as N).....	≤0,005 %
Heavy metals (as Pb).....	≤0,0005 %
Barium (Ba).....	≤0,002 %
Calcium (Ca).....	≤0,002 %
Iron (Fe).....	≤0,0005 %
Magnesium (Mg).....	≤0,001 %
Sodium (Na).....	≤0,02 %

A137.1	100 g	plastic	19,25 €
A137.2	500 g	plastic	36,05 €
Original pack 6 x 500 g			34,25/500 g
A137.3	1 kg	plastic	64,00 €
Original pack 6 x 1 kg			60,80/1 kg

Potassium bromide

≥98 %, Ph.Eur., BP

Guarantee analysis:

Assay (arg., dry substance).....	98,5-101,0 %
Identity.....	complies
Appearance of solution.....	complies
In H ₂ O insoluble matter.....	≤0,01 %
Acid or alkaline react. substances.....	complies
Loss on drying (105 °C).....	≤1,0 %
Chloride (Cl).....	≤0,6 %
Sulphate (SO ₄).....	≤0,01 %
Iodide (I).....	complies
Bromate (BrO ₃).....	complies
Heavy metals (as Pb).....	≤0,001 %
Barium (Ba).....	complies
Iron (Fe).....	≤0,002 %
Mg and alkaline-earth metals (as Ca).....	≤0,02 %

9252.1	250 g	plastic	32,80 €
9252.2	1 kg	plastic	84,95 €
Original pack 6 x 1 kg			80,70/1 kg

Potassium bromide

for IR spectrometry

Embedding reagent for the manufacture of KBr pellets.

Typ analysis:

Suitability for IR spectrometry.....complies

CP19.2	50 g	plastic	33,25 €
CP19.1	100 g	plastic	56,45 €

Potassium bromide bromate solution

► Bromide bromate solution (0,1 N) see p. 1689

0/p

Potassium bromide solution (0,1 N)

Potassium bromide solution

0,1 mol/l - 0,1 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,5 %
Titer. 0,995-1,005

8130.1	1 l	plastic	64,40 €
Original pack 6 x 1 l			61,18/1 l

Potassium carbonate

Potash

K₂CO₃

M 138,21 g/mol

D 2,43

mp 891 °C

Solubility: 1120 g/l (H₂O, 20 °C)

[584-08-7] • EC No. 209-529-3

WGK 1

⚠ Warning H315-H319-H335

Potassium carbonate

ROTI[®]METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5335.1	10 g	plastic	42,90 €
5335.2	50 g	plastic	134,40 €

Potassium carbonate

≥99 %, p.a., ACS

Drying agent, disintegrating agent

Guarantee analysis:

Assay (acidim., dry substance).....≥99,0 %
In H₂O insoluble matter.....≤0,005 %
Loss on drying (300 °C).....≤1,0 %
Nitrogen compounds (as N).....≤0,001 %
Sulphur compounds (as SO₄).....≤0,003 %
Chloride (Cl).....≤0,002 %
Phosphate (PO₄).....≤0,001 %
Silicate (SiO₂).....≤0,005 %
Aluminium (Al).....≤0,001 %
Arsenic (As).....≤0,0001 %
Lead (Pb).....≤0,0005 %
Calcium (Ca).....≤0,002 %
Iron (Fe).....≤0,0005 %
Copper (Cu).....≤0,0005 %
Magnesium (Mg).....≤0,002 %
Sodium (Na).....≤0,02 %
Nickel (Ni).....≤0,0005 %
Heavy metals (as Pb).....≤0,0005 %

P743.1	500 g	plastic	24,20 €
Original pack 6 x 500 g			22,99/500 g
P743.2	1 kg	plastic	37,55 €
Original pack 6 x 1 kg			35,67/1 kg
P743.3	2,5 kg	plastic	81,60 €

Potassium carbonate

≥99 %, Ph.Eur.

Guarantee analysis:

Assay (dry substance).....99,0-101,0 %
Identity.....complies
Appearance of solution.....complies
Chloride (Cl).....≤0,01 %
Sulphate (SO₄).....≤0,01 %
Heavy metals (as Pb).....≤0,002 %
Calcium (Ca).....≤0,01 %
Iron (Fe).....≤0,001 %
Loss on drying (120 °C).....≤5,0 %

X894.1	500 g	plastic	16,05 €
Original pack 6 x 500 g			15,25/500 g
X894.2	1 kg	plastic	23,15 €
Original pack 6 x 1 kg			21,99/1 kg
X894.3	2,5 kg	plastic	49,35 €

Potassium carbonate

≥98 %

Type analysis:

Assay (K₂CO₃).....≥98,0 %
Sodium (Na).....≤0,25 %

7956.1	1 kg	plastic	16,70 €
Original pack 6 x 1 kg			15,87/1 kg
7956.2	5 kg	plastic	57,95 €
7956.5	25 kg	plastic	192,45 €

Potassium chlorate

KClO₃

M 122,55 g/mol

D 2,32 • bp 400 °C (dec.)

mp 368 °C

Solubility: ~73 g/l (H₂O, 20 °C)

[3811-04-9] • EC No. 223-289-7

UN No. 1485 • ADR 5.1 II • WGK 2

⚠ ⚠ ⚠ Danger H271-H302+H332-H411

Potassium chlorate

≥99 %, p.a., ACS

Oxidant

Guarantee analysis:

Assay.....≥99,0 %
In H₂O insoluble matter.....≤0,005 %
Total nitrogen (N).....≤0,001 %
Bromate (BrO₃).....≤0,015 %
Chloride (Cl).....≤0,001 %
Sulphate (SO₄).....≤0,002 %
Heavy metals (as Pb).....≤0,0005 %
Calcium (Ca).....≤0,002 %
Cadmium (Cd).....≤0,0005 %
Copper (Cu).....≤0,0005 %
Iron (Fe).....≤0,0003 %
Magnesium (Mg).....≤0,001 %
Sodium (Na).....≤0,01 %
Nickel (Ni).....≤0,0005 %

HN27.1	100 g	plastic	14,20 €
HN27.2	250 g	plastic	21,40 €
HN27.3	500 g	plastic	32,80 €
Original pack 6 x 500 g			31,16/500 g

Potassium chlorate

≥99,7 % cryst.

Oxidation reagent

Type analysis:

Appearance.....white
Assay.....≥99,7 %
Water content.....≤0,05 %
Insoluble matter.....≤0,01 %
Product with anticaking agent.

7959.1	1 kg	tin plate	29,90 €
Original pack 6 x 1 kg			28,41/1 kg
7959.2	5 kg	tin plate	107,40 €

Potassium chloride

KCl

M 74,56 g/mol

D 1,984 • bp 1413 °C

mp 770 °C

Solubility: 330 g/l (H₂O, 20 °C)

[7447-40-7] • EC No. 231-211-8

WGK 1

Potassium chloride

ROTI[®]METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5346.1	25 g	plastic	67,65 €
5346.2	100 g	plastic	198,90 €

Potassium chloride

≥99,5 %, p.a., ACS, ISO

Reagent for buffer solutions, for molecular biology.

Guarantee analysis:

Assay (arg.).....99,5-100,5 %
In H₂O insoluble matter.....≤0,005 %
pH value (5 % solution).....5,4-8,0
Bromide (Br).....complies
Iodide (I).....≤0,002 %
Phosphate (PO₄).....≤0,0005 %
Sulphate (SO₄).....≤0,001 %
Chlorate and nitrate (as NO₃).....≤0,003 %
Total nitrogen (as N).....≤0,001 %
Loss on drying (150 °C).....≤0,1 %
Heavy metals (as Pb).....≤0,0005 %
Barium (Ba).....≤0,001 %
Calcium (Ca).....≤0,002 %
Cadmium (Cd).....≤0,0005 %
Cobalt (Co).....≤0,0005 %
Copper (Cu).....≤0,0005 %
Iron (Fe).....≤0,0002 %
Magnesium (Mg).....≤0,001 %
Sodium (Na).....≤0,005 %
Nickel (Ni).....≤0,0005 %
Manganese (Mn).....≤0,002 %
Lead (Pb).....≤0,0005 %
Zinc (Zn).....≤0,0005 %

6781.3	500 g	plastic	16,70 €
Original pack 6 x 500 g			15,87/500 g
6781.1	1 kg	plastic	23,35 €
Original pack 6 x 1 kg			22,18/1 kg
6781.2	5 kg	plastic	94,10 €
6781.5	25 kg	plastic	364,45 €

Potassium chloride≥99 %, **CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤3,0 I.U./g
Assay (dry substance).....	≥99 %
Appearance of solution.....	complies
Loss on drying.....	≤0,5 %
Bromide (Br).....	≤0,1 %
Iodide (I).....	complies
Sulphate (SO ₄).....	≤0,03 %
Heavy metals (as Pb).....	≤0,0005 %
Aluminium (Al).....	≤0,00002 %
Arsenic (As).....	≤0,0002 %
Iron (Fe).....	≤0,002 %

HN02.1	250 g	plastic	14,95 €

HN02.2	500 g	plastic	19,90 €

Original pack 6 x 500 g 18,91/500 g

HN02.3	1 kg	plastic	31,40 €

Original pack 6 x 1 kg 29,83/1 kg

HN02.4	2,5 kg	plastic	59,05 €

Potassium chloride≥99 %, **Ph.Eur., USP, BP****Guarantee analysis:**

Assay (dry substance).....	99,0-100,5 %
Identity.....	complies
Appearance of solution.....	complies
Loss on drying (105 °C).....	≤1,0 %
Free acid, free alkali.....	complies
Volatile organic impurities.....	complies
Bromide (Br).....	≤0,1 %
Iodide (I).....	complies
Iodide (I).....	≤0,005 %
Sulphate (SO ₄).....	≤0,03 %
Barium (Ba).....	complies
Iron (Fe).....	≤0,002 %
Sodium (Na).....	complies
Heavy metals (as Pb).....	≤0,001 %
Calcium, Magnesium.....	complies
Magnesium, alkaline-earth metals (as Ca).....	≤0,02 %

P017.2	500 g	plastic	16,05 €

Original pack 6 x 500 g 15,25/500 g

P017.1	1 kg	plastic	22,50 €

Original pack 6 x 1 kg 21,38/1 kg

P017.3	5 kg	plastic	64,40 €

P017.5	25 kg	plastic	299,95 €

**Potassium chloride solution
(0,2 N)****Potassium chloride solution****0,2 mol/l - 0,2 N volumetric standard solution**

[7447-40-7] • EC No. 231-211-8

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C).....0,2 mol/l ±0,2 %

4117.1	1 l	plastic	23,55 €

Original pack 6 x 1 l 22,37/1 l

For further information, please see page 1546

**Potassium chloride solution
(3 N)****Potassium chloride solution****3 mol/l - 3 N volumetric standard solution**

D 1,131

[7447-40-7] • EC No. 231-211-8

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C).....3 mol/l ±0,2 %

Titer.....0,998-1,002

T138.1	250 ml	glass	17,55 €

For further information, please see page 1546

Potassium chromate**Potassium chromate**≥99 %, **p.a., ACS**

Indicator for argentometry.

Chromic acid potassium salt

K₂CrO₄

M 194,21 g/mol

D 2,73 • bp 1000 °C

mp 985 °C

Solubility: 630 g/l (H₂O, 20 °C)

[7789-00-6] • EC No. 232-140-5

UN No. 3288 • ADR 6.1 III • WGK 3

Danger H340-H350i-H400-H410-
H315-H319-H317-H335

Guarantee analysis:

Assay (iodom.).....	≥99 %
pH value (5 % solution).....	9,0-9,8
In H ₂ O insoluble matter.....	≤0,005 %
Chloride (Cl).....	≤0,001 %
Sulphate (SO ₄).....	≤0,005 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,002 %
Lead (Pb).....	≤0,005 %
Sodium (Na).....	≤0,02 %

HN33.1	100 g	plastic	34,30 €

HN33.2	250 g	plastic	63,35 €

HN33.3	500 g	plastic	110,65 €

Original pack 6 x 500 g 105,12/500 g

HN33.4	1 kg	plastic	192,45 €

Original pack 6 x 1 kg 182,83/1 kg

**Potassium chromium(III)
sulphate**

► Chromium(III) potassium sulphate
dodecahydrate see p. 1734

**tri-Potassium citrate
monohydrate****tri-Potassium citrate
monohydrate**≥99 %, **Ph.Eur., USP**

Citric acid potassium salt

C₆H₅K₃O₇ · H₂O

M 324,4 g/mol

D 1,98

Solubility: 1670 g/l (H₂O, 25 °C)

[6100-05-6] • EC No. 212-755-5 • WGK 1

Guarantee analysis:

Assay (dry substance).....	99,0-100,5 %
Appearance of solution.....	complies
Identity.....	complies
pH value (5 % solution).....	7,5-9,0
Alkalinity/acidity.....	complies
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,015 %
Oxalate (as C ₂ H ₂ O ₄).....	≤0,01 %
Tartrate (C ₄ H ₄ O ₆).....	complies
Heavy metals (as Pb).....	≤0,001 %
Arsenic (As).....	≤0,0001 %
Lead (Pb).....	≤0,0001 %
Sodium (Na).....	≤0,3 %
Mercury (Hg).....	≤0,0001 %
Loss on drying (180 °C/4h).....	4,0-6,0 %
Reaction with H ₂ SO ₄	complies

X888.1	500 g	plastic	18,20 €

Original pack 6 x 500 g 17,29/500 g

X888.2	1 kg	plastic	26,80 €

Original pack 6 x 1 kg 25,46/1 kg

X888.3	2,5 kg	plastic	53,25 €

Potassium dichromatePotassium bichromate, Potassium
pyrochromateK₂Cr₂O₇

M 294,18 g/mol

D 2,68 • bp 500 °C • mp 398 °C

Solubility: 130 g/l (H₂O, 20 °C)

[7778-50-9] • EC No. 231-906-6

UN No. 3086 • ADR 6.1 (5.1) I • WGK 3

Danger

H272-H301-H330-H334-H340-H350-H335-

H360FD-H372-H314-H312-H317-H410

Potassium dichromate≥99,5 %, **p.a., ACS, ISO**

Strong oxidizing agent for oxidative
disintegration. Titrimetric standard substance in
oxidimetry and iodometry.

Guarantee analysis:

Assay (iodom.).....	≥99,5 %
In H ₂ O insoluble matter.....	≤0,005 %
Loss on drying (105 °C).....	≤0,05 %
Chloride (Cl).....	≤0,001 %
Sulphate (SO ₄).....	≤0,005 %
Lead (Pb).....	≤0,005 %
Calcium (Ca).....	≤0,002 %
Iron (Fe).....	≤0,001 %
Copper (Cu).....	≤0,001 %
Sodium (Na).....	≤0,02 %

P744.3	100 g	plastic	24,20 €

P744.1	500 g	plastic	88,05 €

Original pack 6 x 500 g 83,65/500 g

P744.2	1 kg	plastic	148,90 €

Original pack 6 x 1 kg 141,46/1 kg

Potassium dichromate

≥99,5 % cryst.

Typ analysis:

Appearance.....orange crystals
Assay ($K_2Cr_2O_7$).....≥99,5 %
In water insoluble matter.....≤0,02 %
Percentage of moisture.....≤0,03 %
Sulphate (SO_4).....≤0,02 %

7953.3	100 g	plastic	16,05 €
7953.1	1 kg	plastic	84,40 €
Original pack 6 x 1 kg			80,18/1 kg
7953.2	5 kg	plastic	332,20 €

Potassium dichromate solution (0,1 N)

Potassium dichromate solution 1/60 mol/l - 0,1 N volumetric standard solution

[7778-50-9]

UN No. 3082 • ADR 9 III • WGK 3



H332-H340-H350-H360FD-H412-EUH208

Type analysis:

Amount-of-substance conc. (20 °C).....1/60 mol/l ±0,2 %
Titer.....0,9980-1,0020

P722.1	1 l	glass	24,20 €
Original pack 6 x 1 l			22,99/1 l
For further information, please see page 1546			

Potassium dichromate solution (0,12 N)

Potassium dichromate solution 0,02 mol/l - 0,12 N volumetric standard solution for determination of COD

according to DIN 38409 part H41 and H43

[7778-50-9] • WGK 3



H340-H350-H360FD-H332-H412-EUH208

Type analysis:

Amount-of-substance conc. (20 °C).....0,02 mol/l ±0,2 %

P720.1	1 l	plastic	23,15 €
Original pack 6 x 1 l			21,99/1 l
For further information, please see page 1546			

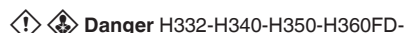
Potassium dichromate solution (0,25 N)

Potassium dichromate solution 1/24 mol/l - 0,25 N volumetric standard solution for determination of COD

bp ~100 °C

mp ~0 °C

UN No. 3082 • ADR 9 III • WGK 3



H332-H340-H350-H360FD-H373-H412-EUH208

Type analysis:

Amount-of-substance conc. (20 °C).....1/24 mol/l ±0,2 %
Titer.....0,998-1,002

P721.1	1 l	glass	27,85 €
Original pack 6 x 1 l			26,46/1 l
For further information, please see page 1546			

Potassium dicyanoaurate

Potassium dicyanoaurate

extra pure

Gold potassium cyanide

$K[Au(CN)_2]$

M 288,10 g/mol

[13967-50-5] • EC No. 237-748-4

UN No. 1588 • ADR 6.1 I • WGK 3



H300+H310+H330-H400-H410-EUH032

Type analysis:

Au assay.....68,20 % ±0,1 %
Iron (Fe).....≤0,0001 %
Sodium (Na).....≤0,04 %
Silver (Ag).....≤0,002 %

3959.1	1 g	glass	96,25 €

Potassium dihydrogen phosphate

Potassium phosphate, Potassium biphosphate

KH_2PO_4

M 136,09 g/mol

D 2,34

mp ~253 °C

Solubility: 222 g/l (H_2O , 20 °C)

[7778-77-0] • EC No. 231-913-4

WGK 1

Potassium dihydrogen phosphate

≥99 %, p.a., ACS

Reagent for phosphate, buffer, molecular biology.

Guarantee analysis:

Assay (acidim.).....≥99,0 %
pH value (5 % in H_2O).....4,2-4,5
In H_2O insoluble matter.....≤0,01 %
Loss on drying (105 °C).....≤0,2 %
Total nitrogen (as N).....≤0,001 %
Chloride (Cl).....≤0,0005 %
Sulphate (SO_4).....≤0,003 %
Heavy metals (as Pb).....≤0,001 %
Iron (Fe).....≤0,001 %
Arsenic (As).....≤0,0002 %
Lead (Pb).....≤0,0005 %
Copper (Cu).....≤0,0005 %
Calcium (Ca).....≤0,005 %
Cadmium (Cd).....≤0,0005 %
Cobalt (Co).....≤0,0005 %
Magnesium (Mg).....≤0,0005 %
Manganese (Mn).....≤0,0005 %
Sodium (Na).....≤0,005 %
Nickel (Ni).....≤0,0005 %
Zinc (Zn).....≤0,0005 %

3904.2	250 g	plastic	16,70 €
3904.1	1 kg	plastic	48,30 €
Original pack 6 x 1 kg			45,89/1 kg
3904.3	5 kg	plastic	196,65 €
3904.5	25 kg	plastic	815,95 €

Potassium dihydrogen phosphate

≥98 %, Ph.Eur., USP, BP

Guarantee analysis:

Assay (acidimetric, dry substance).....98,0-100,5 %
Identity.....complies
pH value (5 % in H_2O).....4,2-4,5
Appearance of solution.....complies
In H_2O insoluble matter.....≤0,2 %
Loss on drying (130 °C).....≤1,0 %
Volatile organic impurities.....complies
Reducing substances.....complies
Chloride (Cl).....≤0,02 %
Fluoride (F).....≤0,001 %
Sulphate (SO_4).....≤0,03 %
Heavy metals (as Pb).....≤0,001 %
Arsenic (As).....≤0,0001 %
Iron (Fe).....≤0,001 %
Nickel (Ni).....≤0,0025 %
Copper (Cu).....≤0,0025 %
Lead (Pb).....≤0,0005 %

P018.1	500 g	plastic	18,85 €
Original pack 6 x 500 g			17,91/500 g
P018.2	1 kg	plastic	31,10 €
Original pack 6 x 1 kg			29,55/1 kg
P018.3	5 kg	plastic	127,95 €
P018.5	25 kg	plastic	439,70 €

Potassium disulphite

Potassium pyrosulphite, Potassium metabisulphite

$K_2S_2O_5$

M 222,33 g/mol

D 2,34

mp 150 °C (dec.)

Solubility: 450 g/l (H_2O , 20 °C)

[16731-55-8] • EC No. 240-795-3

WGK 1



H318-H335-EUH031

Potassium disulphite

≥96 %, p.a.

Reducing agent, bleaching agent

Guarantee analysis:

Assay (iodom.).....≥96 %
In H_2O insoluble matter.....≤0,005 %
Chloride (Cl).....≤0,005 %
Phosphate (PO_4).....≤0,0002 %
Thiosulphate.....≤0,05 %
Arsenic (As).....≤0,0001 %
Lead (Pb).....≤0,001 %
Iron (Fe).....≤0,001 %
Copper (Cu).....≤0,001 %
Nickel (Ni).....≤0,001 %

P019.1	500 g	plastic	22,50 €
Original pack 6 x 500 g			21,38/500 g
P019.2	1 kg	plastic	32,80 €
Original pack 6 x 1 kg			31,16/1 kg
P019.3	5 kg	plastic	131,70 €

Potassium disulphite

≥96 %, powdered

Type analysis:

Assay.....	≥96 %
pH value (10 % solution).....	3.8-4.8
Arsenic (As).....	≤0,0001 %
Lead (Pb).....	≤0,0001 %
Iron (Fe).....	≤0,0005 %
Copper (Cu).....	≤0,0001 %
Heavy metals (as Pb).....	≤0,001 %
Selenium (Se).....	≤0,0001 %
Zinc (Zn).....	≤0,0001 %

7995.1	1 kg	plastic	23,15 €
Original pack 6 x 1 kg			21,99/1 kg
7995.3	2,5 kg	plastic	42,50 €
7995.2	10 kg	plastic	134,95 €

Potassium ferricyanide► Potassium hexacyanoferrate(III)
see p. 2055**Potassium ferrocyanide**► Potassium hexacyanoferrate(II) trihydrate
see p. 2055**Potassium ferrocyanide trihydrate**► Potassium hexacyanoferrate(II) trihydrate
see p. 2055**Potassium fluoride**

KF
M 58,10 g/mol
D 2,48 • bp 1500 °C
mp 860 °C
Solubility: 485 g/l (H₂O, 20 °C)
[7789-23-3] • EC No. 232-151-5
UN No. 1812 • ADR 6.1 III • WGK 1
⚠⚠ **Danger** H301+H311+H331-H318

Potassium fluoride

ROTI®METIC 99,99 % (4N)

Type analysis:

Assay (metals basis)..... 99,99 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5656.1	5 g	plastic	47,85 €
5656.2	25 g	plastic	166,65 €

Potassium fluoride

≥99 %, p.a.

For fluorination of organic compounds.

Guarantee analysis:

Assay.....	≥99 %
Free acid (as HF).....	≤0,01 %
Free alkali (as K ₂ CO ₃).....	≤0,01 %
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,02 %
Hexafluorosilicate (as K ₂ SiF ₆).....	≤0,1 %
Cadmium (Cd).....	≤0,0005 %
Cobalt (Co).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Iron (Fe).....	≤0,0005 %

Nickel (Ni).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Zinc (Zn).....	≤0,0005 %

CN83.1	100 g	plastic	15,60 €
CN83.2	250 g	plastic	26,35 €
CN83.3	500 g	plastic	48,30 €
Original pack 6 x 500 g			45,89/500 g
CN83.4	1 kg	plastic	81,20 €
Original pack 6 x 1 kg			77,14/1 kg

Potassium fluoride

≥99 %, cryst.

Typ analysis:

Assay.....	≥99,0 %
Chloride (Cl).....	≤0,05 %
Hexafluorosilicate (as K ₂ SiF ₆).....	≤0,2 %
Loss on drying (120 °C).....	≤0,2 %

2617.1	250 g	plastic	17,75 €
2617.2	500 g	plastic	27,85 €
Original pack 6 x 500 g			26,46/500 g
2617.3	1 kg	plastic	46,15 €
Original pack 6 x 1 kg			43,84/1 kg
2617.4	2,5 kg	plastic	96,25 €

Potassium gluconate

► Gluconic acid potassium salt see p. 1853

Potassium hexacyanoferrate(II) trihydrate

Potassium ferrocyanide, Yellow prussiate of potash

K₄[Fe(CN)₆] · 3 H₂O
M 422,41 g/mol
D 1,85
mp ~70 °C
Solubility: 289 g/l (H₂O, 20 °C)
[14459-95-1] • EC No. 237-722-2
WGK 2
H412

Potassium hexacyanoferrate(II) trihydrate

≥99 %, p.a., ACS, ISO

Reagent for the determination of Fe, Cu, Zn, protein. Preparation of Berlin blue.

Guarantee analysis:

Assay (perm.).....	99,0-102,0 %
In H ₂ O insoluble matter.....	≤0,005 %
Chloride (Cl).....	≤0,01 %
Sulphate (SO ₄).....	≤0,005 %
Lead (Pb).....	≤0,002 %
Cadmium (Cd).....	≤0,0005 %
Copper (Cu).....	≤0,002 %
Sodium (Na).....	≤0,02 %
Free alkali.....	≤0,002 %

P745.1	500 g	plastic	57,55 €
Original pack 6 x 500 g			54,67/500 g
P745.2	1 kg	plastic	102,05 €
Original pack 6 x 1 kg			96,95/1 kg
P745.3	2,5 kg	plastic	228,45 €

Potassium hexacyanoferrate(II) trihydrate

>99 % cryst.

Type analysis:

Appearance.....	pale yellow crystals
Assay.....	≥99,0 %
Chloride (Cl).....	≤0,3 %
Sulphate (SO ₄).....	≤0,1 %
In H ₂ O insoluble matter.....	≤0,01 %

7974.1	250 g	plastic	16,05 €
7974.2	1 kg	plastic	38,60 €
Original pack 6 x 1 kg			36,67/1 kg
7974.3	5 kg	plastic	143,55 €

Potassium hexacyanoferrate(III)Potassium ferricyanide, Red prussiate of potash
K₃[Fe(CN)₆]

M 329,25 g/mol

D 1,89

Solubility: 464 g/l (H₂O, 20 °C)

[13746-66-2] • EC No. 237-323-3

WGK 2

EUH032

Potassium hexacyanoferrate(III)

≥99 %, p.a., ACS

Oxidizing agent in organic synthesis. Reagent for the determination to Co, Zn and alkaloids.

Guarantee analysis:

Assay (iodom.).....	≥99,0 %
In H ₂ O insoluble matter.....	≤0,005 %
Hexacyanoferrate (II) [Fe(CN) ₆].....	≤0,05 %
Chloride (Cl).....	≤0,01 %
Sulphate (SO ₄).....	≤0,01 %

P746.3	100 g	plastic	20,35 €
P746.1	500 g	plastic	64,40 €
Original pack 6 x 500 g			61,18/500 g
P746.2	1 kg	plastic	117,20 €
Original pack 6 x 1 kg			111,34/1 kg

Potassium hexacyanoferrate(III)

≥99 % cryst.

Type analysis:

Appearance.....	ruby crystals
Assay.....	≥99,0 %
In H ₂ O insoluble matter.....	≤0,1 %
Chloride (as KCl).....	≤0,3 %

7971.3	500 g	plastic	23,55 €
Original pack 6 x 500 g			22,37/500 g
7971.1	1 kg	plastic	39,70 €
Original pack 6 x 1 kg			37,72/1 kg
7971.2	5 kg	plastic	150,00 €

Potassium oxide hydrate

► Potassium hydroxide see p. 2057

O/P

Potassium hydrogen carbonate

Potassium bicarbonate

KHCO₃

M 100,12 g/mol

D 2,17

Solubility: 333 g/l (H₂O, 20 °C)

[298-14-6] • EC No. 206-059-0 • WGK 1

Potassium hydrogen carbonate

≥99,5 %, p.a.

Neutralizing agent

Guarantee analysis:

Assay (acidim.)	99,5-101,0 %
In H ₂ O insoluble matter	≤0,005 %
Nitrogen compounds (as N)	≤0,0005 %
Sulphur compounds (as SO ₄)	≤0,003 %
Chloride (Cl)	≤0,001 %
Phosphate (PO ₄)	≤0,0005 %
Arsenic (As)	≤0,00004 %
Aluminium (Al)	≤0,001 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Iron (Fe)	≤0,0005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,03 %
Nickel (Ni)	≤0,0005 %
Zinc (Zn)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %

P748.1	500 g	plastic	26,80 €
Original pack 6 x 500 g			25,46/500 g
P748.2	1 kg	plastic	45,05 €
Original pack 6 x 1 kg			42,80/1 kg
P748.3	2,5 kg	plastic	101,60 €

Potassium hydrogen carbonate

≥99 %, Ph.Eur.

Guarantee analysis:

Assay	99,0-101,0 %
Identity	complies
Appearance of solution	complies
pH value (5 % solution)	≤8,6
Chloride (Cl)	≤0,001 %
Sulphate (SO ₄)	≤0,015 %
Ammonium (NH ₄)	≤0,002 %
Heavy metals (as Pb)	≤0,001 %
Calcium (Ca)	≤0,001 %
Iron (Fe)	≤0,002 %
Sodium (Na)	≤0,5 %

X887.1	500 g	plastic	15,30 €
Original pack 6 x 500 g			14,54/500 g
X887.2	1 kg	plastic	22,40 €
Original pack 6 x 1 kg			21,28/1 kg
X887.3	2,5 kg	plastic	44,65 €

Potassium hydrogen carbonate

≥99 %, extra pure

Type analysis:

Assay (dry substance)	≥99,0 %
Arsenic (As)	≤0,0005 %
Lead (Pb)	≤0,0005 %
Mercury (Hg)	≤0,0001 %
Loss on drying	≤0,25 %

9437.1	500 g	plastic	13,90 €
Original pack 6 x 500 g			13,21/500 g
9437.2	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg
9437.3	2,5 kg	plastic	39,70 €

di-Potassium hydrogen phosphate

Dipotassium hydrogen phosphate, Potassium phosphate, dibasic

K₂HPO₄

M 174,18 g/mol

D 2,44

Solubility: 1600 g/l (H₂O, 20 °C)

[7758-11-4] • EC No. 231-834-5

WGK 1

di-Potassium hydrogen phosphate

ROTI®METIC 99,99 % (4N), anhydrous

Type analysis:

Assay (metals basis) 99,99 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5066.1	25 g	plastic	149,45 €

di-Potassium hydrogen phosphate

≥99 %, p.a., anhydrous

Buffer substance, molecular biology

Guarantee analysis:

Assay (acidim.)	≥99,0 %
pH value (5 % solution)	8,5-9,6
In H ₂ O insoluble matter	≤0,005 %
Loss on drying (105 °C)	≤1,0 %
Nitrogen compounds (as N)	≤0,002 %
Chloride (Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,01 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,001 %
Cadmium (Cd)	≤0,001 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,001 %
Cobalt (Co)	≤0,001 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,005 %
Manganese (Mn)	≤0,001 %
Nickel (Ni)	≤0,001 %
Zinc (Zn)	≤0,001 %

P749.1	500 g	plastic	25,70 €
Original pack 6 x 500 g			24,42/500 g
P749.2	1 kg	plastic	46,80 €
Original pack 6 x 1 kg			44,46/1 kg
P749.3	2,5 kg	plastic	93,45 €

P749.5	25 kg	plastic	751,45 €

For further information, please see page 1541

di-Potassium hydrogen phosphate

≥98 %, Ph.Eur., BP, anhydrous

Guarantee analysis:

Assay (acidim., dry substance)	98,0-100,5 %
Identity	complies
Appearance of solution	complies
In H ₂ O insoluble matter	≤0,01 %
pH value (5 % solution)	8,5-9,6
Loss on drying (130 °C)	≤1,0 %
Chloride (Cl)	≤0,02 %
Fluoride (F)	≤0,001 %
Sulphate (SO ₄)	≤0,05 %
Arsenic (As)	≤0,0002 %
Lead (Pb)	≤0,001 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,025 %
Nickel (Ni)	≤0,0025 %
Heavy metals (as Pb)	≤0,001 %
Potassium dihydrogen phosphate	complies
KMnO ₄ reducing substances (as O)	complies

T875.1	500 g	plastic	24,65 €
Original pack 6 x 500 g			23,42/500 g
T875.2	1 kg	plastic	39,45 €
Original pack 6 x 1 kg			37,48/1 kg
T875.3	5 kg	plastic	167,60 €

di-Potassium hydrogen phosphate

≥98 %, anhydrous

Typ analysis:

Assay (acidim.)	98,0-100,5 %
pH value (5 % solution)	8,5-9,6
Sulphate (SO ₄)	≤0,05 %
Chloride (Cl)	≤0,02 %
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %
Loss on drying (130 °C)	≤1,0 %

6875.2	500 g	plastic	20,35 €
Original pack 6 x 500 g			19,33/500 g
6875.1	1 kg	plastic	33,25 €
Original pack 6 x 1 kg			31,59/1 kg
6875.3	5 kg	plastic	132,15 €

di-Potassium hydrogen phosphate trihydrate**di-Potassium hydrogen phosphate trihydrate**

≥99 %, p.a.

Buffer substance

Dipotassium hydrogen phosphate trihydrate

K₂HPO₄ · 3 H₂O

M 228,23 g/mol

Solubility: easily soluble (H₂O, 20 °C)

[16788-57-1] • EC No. 231-834-5

Typ analysis:

Assay (K ₂ HPO ₄ · 3 H ₂ O)	≥99 %
pH value (5 % solution)	9,1-9,3
In H ₂ O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,001 %
Sulphate (SO ₄)	≤0,005 %
Total nitrogen (as N)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %
Arsenic (As)	≤0,00005 %
Lead (Pb)	≤0,0005 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,0005 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,005 %
Sodium (Na)	≤0,1 %
Nickel (Ni)	≤0,0005 %

6878.2	250 g	plastic	18,50 €

6878.1	1 kg	plastic	43,55 €
Original pack 6 x 1 kg			41,37/1 kg
6878.3	2,5 kg	plastic	87,00 €

Potassium hydrogen phthalate

Potassium hydrogen phthalate

≥99,5 %, p.a., ISO

Buffer substance and titrimetric standard substance for alkalimetry.

Potassium biphthalate, Phthalic acid potassium salt

 $C_8H_5KO_4$

M 204,23 g/mol

D 1,64

mp 295-300 °C

Solubility: 80 g/l (H_2O , 20 °C)

[877-24-7] • EC No. 212-889-4

WGK 1

Guarantee analysis:

Assay (acidim.)	≥99,5 %
In H_2O insoluble matter	≤0,003 %
Loss on drying (110 °C)	≤0,05 %
Nitrogen compounds (as N)	≤0,001 %
Sulphur compounds (as S)	≤0,002 %
Chloride (Cl)	≤0,002 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Chromium (Cr)	≤0,001 %
Iron (Fe)	≤0,0005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,0005 %
Sodium (Na)	≤0,01 %
Nickel (Ni)	≤0,0005 %
Zinc (Zn)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %

P750.1	500 g	plastic	46,15 €
Original pack 6 x 500 g			43,84/500 g
P750.2	1 kg	plastic	80,55 €
Original pack 6 x 1 kg			76,52/1 kg
P750.3	2,5 kg	plastic	176,30 €

Potassium hydrogen phthalate solution

Potassium hydrogen phthalate solution

200 mg COD/l (0,170 g $C_8H_5KO_4$ /l)

For determination of COD; DIN 38409-41:1980, DEV H41; DIN 38409-44:1992, DEV H44

UN No. 3264 • ADR 8 III

Warning H290

2055.1	250 ml	plastic	42,90 €
2055.2	500 ml	plastic	51,50 €

Potassium hydrogen sulphate

Potassium bisulphate

 $KHSO_4$

M 136,17 g/mol

D 2,32

Solubility: 490 g/l (H_2O , 20 °C)

[7646-93-7] • EC No. 231-594-1

UN No. 2509 • ADR 8 II • WGK 1

Danger H314-H335

Potassium hydrogen sulphate

≥98 %, p.a.

For disintegration of ores and silicates, detection of acetate. Cleaning of Pt crucibles.

Guarantee analysis:

Assay (acidim.)	≥98 %
In NH_4OH insoluble matter	≤0,01 %
Chloride (Cl)	≤0,001 %
Phosphate (PO_4)	≤0,001 %
Nitrate (NO_3)	≤0,001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,001 %
Iron (Fe)	≤0,001 %
Calcium (Ca)	≤0,005 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,005 %
Nickel (Ni)	≤0,001 %

P020.1	500 g	plastic	27,45 €
Original pack 6 x 500 g			26,08/500 g
P020.2	1 kg	plastic	47,85 €
Original pack 6 x 1 kg			45,46/1 kg
P020.3	2,5 kg	plastic	103,75 €

Potassium hydrogen sulphate

≥99 %, extra pure

Type analysis:

Assay (acidim.)	≥99 %
In H_2O insoluble matter	≤0,05 %
Chloride (Cl)	≤0,002 %
Ammonium (NH_4)	≤0,002 %
Heavy metals (as Pb)	≤0,002 %
Aluminium (Al)	≤0,002 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,002 %

X989.1	500 g	plastic	17,45 €
Original pack 6 x 500 g			16,58/500 g
X989.2	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
X989.3	2,5 kg	plastic	53,65 €

Potassium hydroxide

KOH

M 56,11 g/mol

D 2,04 • bp 1327 °C

mp 360 °C

Solubility: 1130 g/l (H_2O , 20 °C)

[1310-58-3] • EC No. 215-181-3

UN No. 1813 • ADR 8 II • WGK 1

Danger H314-H290-H302

Potassium hydroxide

ROTI®METIC 99,98 % (3N8)

Type analysis:

Assay (metals basis) 99,98 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5658.1	100 g	plastic	99,90 €

Potassium hydroxide

≥85 %, p.a., pellets

Reagent for the preparation of potassium hydroxide solution. Filled under protective gas.

Guarantee analysis:

Assay (as KOH)	≥85 %
Carbonate (as K_2CO_3)	≤0,5 %
Sodium (as NaOH)	≤1,0 %
Chloride (Cl)	≤0,001 %
Sulphate (SO_4)	≤0,001 %
Phosphate (PO_4)	≤0,0005 %
Nitrogen (N)	≤0,0003 %
Silicate (SiO_2)	≤0,001 %
Arsenic (As)	≤0,00005 %
Iron (Fe)	≤0,0003 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %

6751.3	250 g	plastic	14,95 €
6751.1	1 kg	plastic	24,65 €
Original pack 6 x 1 kg			23,42/1 kg
6751.2	5 kg	plastic	84,40 €
6751.5	25 kg	plastic	256,95 €

Potassium hydroxide

≥85 %, Ph.Eur., pellets

Guarantee analysis:

Assay (acidim.)	85,0-100,5 %
Identity	complies
Appearance of solution	complies
Carbonate (as K_2CO_3)	≤1,0 %
Chloride (Cl)	≤0,005 %
Phosphate (PO_4)	≤0,002 %
Sulphate (SO_4)	≤0,005 %
Heavy metals (as Pb)	≤0,001 %
Aluminium (Al)	≤0,002 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,001 %
Sodium (Na)	≤1,0 %
Lead (Pb)	≤0,001 %
Arsenic (As)	≤0,0001 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,005 %
Nickel (Ni)	≤0,001 %

P747.1	500 g	plastic	19,25 €
Original pack 6 x 500 g			18,29/500 g
P747.2	1 kg	plastic	31,10 €
Original pack 6 x 1 kg			29,55/1 kg
P747.3	5 kg	plastic	120,95 €

Potassium hydroxide

≥85 %, in flakes

Type analysis:

Assay (KOH)	≥85 %
Carbonate (as K_2CO_3)	≤1,0 %
Chloride (Cl)	≤0,01 %
Iron (Fe)	≤0,003 %

7986.1	1 kg	plastic	22,50 €
Original pack 6 x 1 kg			21,38/1 kg
7986.3	2,5 kg	plastic	39,25 €
7986.2	10 kg	plastic	107,00 €
7986.5	25 kg	plastic	203,20 €

O/P

Potassium hydroxide solution 50 %

Potassium hydroxide solution 50 %

50 %, extra pure

KOH

M 56,11 g/mol

D 1,5 • bp >100 °C

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H314-H290-H302

Type analysis:

Appearance.....clear, colourless liquid

Assay (KOH).....49,0-50,7 %

Density (20 °C).....1,4988-1,5165

Iron (Fe).....≤0,001 %

Chloride (Cl).....≤0,01 %

Sodium hydroxide (NaOH).....≤1 %

Carbonate (CO₃).....≤0,1 %

7949.1	1 l	plastic	18,20 €

Original pack 6 x 1 l	17,29/1 l

7949.2	10 l	plastic	73,00 €

Potassium hydroxide solution 45 %

Potassium hydroxide solution 45 %

45 %, extra pure

KOH

M 56,11 g/mol

D 1,45 • bp >100 °C

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H314-H290-H302

Type analysis:

Assay (KOH).....44-46 %

Density (20 °C).....1,441-1,463

Chloride (Cl).....≤0,005 %

Iron (Fe).....≤0,001 %

0995.1	1 l	plastic	16,70 €

Original pack 6 x 1 l	15,87/1 l

0995.2	2,5 l	plastic	23,55 €

Original pack 4 x 2,5 l	22,37/2,5 l

0995.3	10 l	plastic	56,45 €

Potassium hydroxide solution 20 %

Potassium hydroxide solution 20 %

20 %

KOH

M 56,11 g/mol

D ~1,19

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H314-H290-H302

Type analysis:

Assay.....19,0-21,0 %

Density (20 °C).....1,177-1,196

Iron (Fe).....≤0,001 %

Chloride (Cl).....≤0,005 %

Carbonate (CO₃).....≤0,1 %

4330.1	1 l	plastic	15,30 €

Original pack 6 x 1 l	14,54/1 l

4330.2	2,5 l	plastic	22,50 €

Original pack 4 x 2,5 l	21,38/2,5 l

4330.3	5 l	plastic	38,20 €

Original pack 2 x 5 l	36,29/5 l

4330.4	10 l	plastic	52,70 €

Potassium hydroxide solution (0,1 N)

Potassium hydroxide solution

0,1 mol/l - 0,1 N volumetric standard solution

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 III

 **Warning** H290-H315-H319

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,1 mol/l ±0,2 %

K018.1	1 l	plastic	20,55 €

Original pack 6 x 1 l	19,52/1 l

K018.2	5 l	plastic	54,30 €

Original pack 2 x 5 l	51,59/5 l

K018.3	5 l	ROTI®CUBE	57,95 €

Original pack 2 x 5 l	55,05/5 l

For further information, please see page 1546

Potassium hydroxide solution (0,1 N)

Potassium hydroxide solution

ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

KOH

M 56,11 g/mol

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H314-H290

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,1 mol/l ±0,2 %

CN53.1	1 piece	plastic ampoule	16,05 €

For further information, please see page 1547

Potassium hydroxide solution (0,5 N)

Potassium hydroxide solution

0,5 mol/l - 0,5 N volumetric standard solution

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II

 **Danger** H314-H290

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,5 mol/l ±0,2 %

Titer.....0,998-1,002

N071.1	1 l	plastic	20,55 €

Original pack 6 x 1 l	19,52/1 l

N071.2	5 l	plastic	54,30 €

Original pack 2 x 5 l	51,59/5 l

N071.3	5 l	ROTI®CUBE	45,70 €

Original pack 2 x 5 l	43,42/5 l

For further information, please see page 1546

Potassium hydroxide solution (1 N)

Potassium hydroxide solution

1 mol/l - 1 N volumetric standard solution

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H290-H314

Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %

Titer.....0,998-1,002

K017.1	1 l	plastic	20,55 €

Original pack 6 x 1 l	19,52/1 l

K017.2	5 l	plastic	54,30 €

Original pack 2 x 5 l	51,59/5 l

K017.3	5 l	ROTI®CUBE	57,95 €

Original pack 2 x 5 l	55,05/5 l

For further information, please see page 1546

Potassium hydroxide solution (1 N)

Potassium hydroxide solution

1 mol/l - 1 N volumetric standard solution, Reag. Ph.Eur.

KOH

M 56,11 g/mol

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H290-H314

Type analysis:

Amount-of-substance conc.....1 mol/l ±0,1 %

Titer.....0,999-1,001

9522.1	1 l	plastic	24,65 €

Original pack 6 x 1 l	23,42/1 l

Potassium hydroxide solution (1 N)

Potassium hydroxide solution

ROTI®VOLUM 1 mol/l - 1 N

Ampoule for preparation of 1000 ml volumetric solution.

KOH

M 56,11 g/mol

[1310-58-3] • EC No. 215-181-3

UN No. 1814 • ADR 8 II • WGK 1

 **Danger** H290-H314-H302

Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %

CN54.1	1 piece	plastic ampoule	21,40 €

For further information, please see page 1547

Potassium hydroxide solution in ethanol (0,1 N)

Potassium hydroxide solution in ethanol

0,1 mol/l - 0,1 N volumetric standard solution

D 0,827 • bp >78 °C

flp 13 °C

UN No. 2924 • ADR 3 (8) II • WGK 1

Danger H225-H315-H319-H290

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,4 %
Titer. 0,996-1,004
Discolouration (yellow) is possible, but it has no effect on the usability.

P706.1	1 l	plastic	36,05 €
Original pack 6 x 1 l			34,25/1 l

For further information, please see page 1546

Potassium hydroxide solution in ethanol (0,5 N)

Potassium hydroxide solution in ethanol

0,5 mol/l - 0,5 N volumetric standard solution

D 0,842 • bp 78 °C

flp 13 °C

UN No. 2924 • ADR 3 (8) II • WGK 1

Danger H225-H290-H314

Type analysis:

Amount-of-substance conc. (20 °C)....0,5 mol/l ±0,4 %
Titer. 0,996-1,004
Discolouration (yellow) is possible, but it has no effect on the usability.

P707.1	1 l	plastic	52,15 €
Original pack 6 x 1 l			49,54/1 l

For further information, please see page 1546

Potassium hydroxide solution in isopropanol (0,1 N)

Potassium hydroxide solution in isopropanol

0,1 mol/l - 0,1 N volumetric standard solution

acc. to DIN 51558 part 1

D 0,789 • bp 82 °C

flp 13 °C

UN No. 2924 • ADR 3(8) II • WGK 1

Danger

H225-H315-H319-H336-H290

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

KK68.1	1 l	plastic	46,15 €
Original pack 6 x 1 l			43,84/1 l

For further information, please see page 1546

Potassium hydroxide solution in methanol (0,1 N)

Potassium hydroxide solution in methanol

0,1 mol/l - 0,1 N volumetric standard solution

D 0,8107 • bp 64 °C

flp 11 °C

UN No. 3286 • ADR 3 (6.1) (8) II • WGK 1

Danger H225-

H301+H311+H331-H315-H319-H370-H290

Type analysis:

Amount-of-substance conc. (20 °C) .. 0,1 mol/l ±0,2 %
Titer. 0,998-1,002

KK66.1	1 l	plastic	29,60 €
Original pack 6 x 1 l			28,12/1 l

For further information, please see page 1546

Potassium hydroxide solution in methanol (0,5 N)

Potassium hydroxide solution in methanol

0,5 mol/l - 0,5 N volumetric standard solution

D 0,8442 • bp 64 °C

flp <21 °C

UN No. 3286 • ADR 3 (6.1) (8) II • WGK 1

Danger H225-H290-

H301+H311+H331-H314-H370

Type analysis:

Amount-of-substance conc. (20 °C) .. 0,5 mol/l ±0,2 %
Titer. 0,998-1,002

KK67.1	1 l	plastic	27,45 €
Original pack 6 x 1 l			26,08/1 l

For further information, please see page 1546

Potassium iodate

KIO₃

M 214,00 g/mol

D 3,93

mp 560 °C

Solubility: ~92 g/l (H₂O, 25 °C)

[7758-05-6] • EC No. 231-831-9

UN No. 1479 • ADR 5.1 II • WGK 1

Danger H272-H318

Potassium iodate

≥99,4 %, p.a., ACS

Titrimetric standard substance in iodometry and in determination of morpholine.

Guarantee analysis:

Assay (iodom.). 99,4-100,4 %
pH value (5 % solution). 5,0-8,0
In H₂O insoluble matter.≤0,005 %
Nitrogen compounds (as N).≤0,005 %
Bromide and chloride (as Cl).≤0,01 %
Sulphate (SO₄).≤0,005 %
Iodide (I).≤0,001 %
Iron (Fe).≤0,001 %
Sodium (Na).≤0,005 %
Heavy metals (as Pb).≤0,0005 %

P751.1	100 g	plastic	34,95 €

P751.2	250 g	plastic	74,10 €

Potassium iodate

≥99 %, extra pure

Type analysis:

Appearance. white crystals
Assay (dry substance).≥99,0 %
pH value (5 % solution). 5,0-8,0
Chlorate (as Cl).≤0,01 %
Iodide (I).≤0,002 %
Loss on drying.≤0,5 %
Arsenic (As).≤0,0002 %
Lead (Pb).≤0,0004 %
Cadmium (Cd).≤0,001 %
Mercury (Hg).≤0,00001 %

5301.1	100 g	plastic	23,15 €

5301.2	500 g	plastic	94,50 €

Original pack 6 x 500 g 89,78/500 g

5301.3	1 kg	plastic	176,30 €

Original pack 6 x 1 kg 167,49/1 kg

5301.4	2,5 kg	plastic	407,45 €

Potassium iodide

KI

M 166,01 g/mol

D 3,13 • bp 1330 °C

mp 723 °C

Solubility: 1430 g/l (H₂O, 20 °C)

[7681-11-0] • EC No. 231-659-4

WGK 1

Potassium iodide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis). 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5067.1	25 g	plastic	110,65 €

Potassium iodide

≥99,5 %, p.a., ISO

Reagent used in iodometry and for the preparation of iodine-starch paper.

Guarantee analysis:

Assay (dry substance).≥99,5 %
pH value (5 % solution). 6,0-8,0
Loss on drying (105 °C).≤0,2 %
Chloride and bromide (as Cl).≤0,01 %
Iodate (IO₃).≤0,0003 %
Phosphate (PO₄).≤0,001 %
Sulphate (SO₄).≤0,005 %
Heavy metals (as Pb).≤0,0005 %
Barium (Ba).≤0,001 %
Calcium (Ca).≤0,002 %
Iron (Fe).≤0,0003 %
Magnesium (Mg).≤0,001 %

6750.1	250 g	glass	75,80 €

6750.3	500 g	glass	131,70 €

Original pack 6 x 500 g 125,12/500 g

6750.2	1 kg	glass	239,20 €

Original pack 6 x 1 kg 227,24/1 kg

Potassium iodide

≥99 %, Ph.Eur., BP, USP

Guarantee analysis:

Assay	99,0-100,5 %
Appearance of solution	complies
Alkaline reacting substances	complies
Iodate (IO ₃)	complies
Sulphate (SO ₄)	≤0,015 %
Thiosulphate (S ₂ O ₃)	complies
Heavy metals	≤0,001 %
Iron (Fe)	≤0,002 %
Loss on drying	≤1 %

8491.1	250 g	glass	60,10 €
8491.3	500 g	glass	104,20 €
Original pack 6 x 500 g			98,99/500 g
8491.2	1 kg	glass	196,65 €
Original pack 6 x 1 kg			186,82/1 kg

Potassium iodide solution

Potassium iodide solution

10 %, p.a.

M 166,00 g/mol

D 1,08

WGK 1

Type analysis:

Amount-of-substance conc. ~10 %

8121.1	1 l	plastic	42,90 €
Original pack 6 x 1 l			40,76/1 l

Potassium lactate

► Lactic acid potassium salt see p. 1920

Potassium metabisulphite

► Potassium disulphite see p. 2054

Potassium meta periodate

► Potassium periodate see p. 2061

Potassium myronate

► Sinigrin monohydrate see p. 2139

Potassium nitrate

KNO₃

M 101,11 g/mol

mp 334 °C

Solubility: 320 g/l (H₂O, 20 °C)

[7757-79-1] • EC No. 231-818-8

UN No. 1486 • ADR 5.1 III • WGK 1

 Danger H272

Potassium nitrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5659.1	10 g	plastic	48,30 €
5659.2	50 g	plastic	149,45 €

Potassium nitrate

≥99 %, p.a., ISO

Reagent for the oxidative disintegration of anorganic and organic samples.

Guarantee analysis:

Assay (titr. NaOH)	≥99,0 %
pH value (5 % in water)	5-8
In H ₂ O insoluble matter	≤0,005 %
Ammonium (NH ₄)	≤0,001 %
Chloride (Cl)	≤0,001 %
Phosphate (PO ₄)	≤0,0005 %
Nitrite (NO ₂)	≤0,001 %
Sulphate (SO ₄)	≤0,003 %
Iodate (IO ₃)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Magnesium (Mg)	≤0,002 %
Sodium (Na)	≤0,02 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,0003 %

P021.1	500 g	plastic	20,35 €
Original pack 6 x 500 g			19,33/500 g
P021.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
P021.3	2,5 kg	plastic	62,25 €

Potassium nitrate

≥99 %, Ph.Eur., BP

Guarantee analysis:

Assay (acidim., dry substance)	≥99,0 %
Identity	complies
pH (5 % in H ₂ O)	4,5-8,5
Appearance of solution	complies
In H ₂ O insoluble matter	≤0,025 %
Loss on drying (105 °C)	≤0,5 %
Residual solvents	complies
Acid or alkaline react. substances	complies
Reducible substances	complies
Chloride (Cl)	≤0,002 %
Phosphate (PO ₄)	≤0,003 %
Sulphate (SO ₄)	≤0,01 %
Ammonium (NH ₄)	≤0,005 %
Arsenic (As)	≤0,0002 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,003 %
Magnesium (Mg)	≤0,005 %
Sodium (Na)	≤0,1 %
Heavy metals (as Pb)	≤0,001 %

4397.1	500 g	plastic	17,75 €
Original pack 6 x 500 g			16,86/500 g
4397.2	1 kg	plastic	27,85 €
Original pack 6 x 1 kg			26,46/1 kg
4397.3	5 kg	plastic	106,35 €

Potassium nitrate

≥99 %

Type analysis:

Assay (KNO ₃)	≥99,0 %
Water	≤0,2 %
Chloride (Cl)	≤0,03 %
Iron (Fe)	≤0,001 %
Insoluble matter	≤0,035 %
Anticaking agent	~0,1 %

8001.1	500 g	plastic	13,65 €
Original pack 6 x 500 g			12,97/500 g
8001.3	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg
8001.2	2,5 kg	plastic	37,10 €

di-Potassium oxalate monohydrate

Oxalic acid di-potassium salt monohydrate

C₂K₂O₄ · H₂O

M 184,24 g/mol

D 2,13

Solubility: ~360 g/l (H₂O, 20 °C)

[6487-48-5] • EC No. 209-506-8

WGK 1

 Warning H302+H312

di-Potassium oxalate monohydrate

≥98,5 %, p.a., ACS

For determination of Manganese.

Guarantee analysis:

Assay (perm.)	98,5-101,0 %
In H ₂ O insoluble matter	≤0,01 %
Neutrality	complies
Chloride (Cl)	≤0,002 %
Sulphate (SO ₄)	≤0,01 %
Ammonium (NH ₄)	≤0,002 %
Dark coloured substance with H ₂ SO ₄	complies
Heavy metals (as Pb)	≤0,002 %
Iron (Fe)	≤0,001 %
Sodium (Na)	≤0,02 %

HN38.1	250 g	plastic	26,35 €
HN38.2	500 g	plastic	44,00 €
Original pack 6 x 500 g			41,80/500 g
HN38.3	1 kg	plastic	77,95 €
Original pack 6 x 1 kg			74,05/1 kg

di-Potassium oxalate monohydrate

≥98 %, extra pure

Type analysis:

Appearance	white cryst. powder
Assay (C ₂ K ₂ O ₄ · H ₂ O)	≥98,0 %
Identity	complies
Acidity/alkalinity	complies
Sulphate (SO ₄)	≤0,6 %
Chloride (Cl)	≤0,035 %
Heavy metals (as Pb)	≤0,001 %

4264.3	500 g	plastic	18,20 €
Original pack 6 x 500 g			17,29/500 g
4264.1	1 kg	plastic	28,95 €
Original pack 6 x 1 kg			27,50/1 kg
4264.4	5 kg	plastic	107,40 €
4264.2	10 kg	plastic	201,60 €

Potassium perchlorate

Potassium perchlorate

≥99 %, p.a., ACS

Oxidation reagent

KClO₄

M 138,55 g/mol

mp 610 °C

Solubility: 17 g/l (H₂O, 20 °C)

[7778-74-7] • EC No. 231-912-9

UN No. 1489 • ADR 5.1 II • WGK 1

   **Danger** H271-H302

Guarantee analysis:

Assay (arg.)	≥99 %
In H ₂ O insoluble matter	≤0,005 %
Total nitrogen (N)	≤0,001 %
Chloride (Cl)	≤0,003 %
Phosphate (PO ₄)	≤0,001 %
Sulphate (SO ₄)	≤0,001 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,0005 %
Sodium (Na)	≤0,02 %
Nickel (Ni)	≤0,0005 %
Zinc (Zn)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %

4400.1	250 g	plastic	56,90 €

4400.2	500 g	plastic	96,65 €

Original pack 6 x 500 g 91,82/500 g

4400.3	1 kg	plastic	166,65 €

Original pack 6 x 1 kg 158,32/1 kg

Potassium periodate

Potassium periodate

≥99,8 %, p.a., ACS

Potassium meta periodate

KIO₄

M 230,00 g/mol

D 3,62

mp 582 °C (dec.)

Solubility: 4,2 g/l (H₂O, 20 °C)

[7790-21-8] • EC No. 232-196-0

UN No. 1479 • ADR 5.1. II • WGK 1

   **Danger** H272-H315-H319-H335

Guarantee analysis:

Assay (dry substance)	99,8-100,3 %
Solubility	complies
Other halogens (as Cl)	≤0,01 %
Sulphate (SO ₄)	≤0,01 %
Manganese (Mn)	≤0,0001 %
Loss on drying	≤0,1 %

2588.1	25 g	plastic	25,30 €

2588.2	100 g	plastic	59,70 €

2588.3	500 g	plastic	224,70 €

Original pack 6 x 500 g 213,47/500 g

Potassium permanganate

Permanganic acid potassium salt

KMnO₄

M 158,04 g/mol

D 2,70

mp >240 °C

Solubility: 64 g/l (H₂O, 20 °C)

[7722-64-7] • EC No. 231-760-3

UN No. 1490 • ADR 5.1 II • WGK 3

   **Danger** H272-H400-H410-H302

Potassium permanganate

≥99 %, p.a., ACS, max. 0,005 ppm Hg

Guarantee analysis:

Assay	≥99,0 %
In H ₂ O insoluble matter	≤0,2 %
Total nitrogen (as N)	≤0,005 %
Chloride, chlorate (as Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,02 %
Mercury (Hg)	≤0,000005 %

KK08.1	500 g	plastic	39,25 €

Original pack 6 x 500 g 37,29/500 g

KK08.2	1 kg	plastic	60,10 €

Original pack 6 x 1 kg 57,10/1 kg

Potassium permanganate

≥99 %, p.a., ACS

Oxidizing agent, volumetric solution in manganometry.

Guarantee analysis:

Assay (iodom.)	≥99,0 %
In H ₂ O insoluble matter	≤0,2 %
Chloride, chlorate (as Cl)	≤0,005 %
Nitrogen compounds (as N)	≤0,005 %
Sulphate (SO ₄)	≤0,02 %

P752.1	500 g	plastic	36,05 €

Original pack 6 x 500 g 34,25/500 g

P752.2	1 kg	plastic	54,30 €

Original pack 6 x 1 kg 51,59/1 kg

P752.3	2,5 kg	plastic	96,65 €

Potassium permanganate

≥99 %, Ph.Eur., BP, USP

Guarantee analysis:

Assay (iodom.)	99,0-100,5 %
Appearance of solution	complies
In H ₂ O insoluble matter	≤0,2 %
Chloride (Cl)	≤0,02 %
Sulphate (SO ₄)	≤0,05 %
Loss on drying (105 °C)	≤0,5 %

8004.1	250 g	plastic	21,40 €

8004.2	1 kg	plastic	52,15 €

Original pack 6 x 1 kg 49,54/1 kg

8004.3	5 kg	plastic	149,45 €

Potassium permanganate solution (0,1 N)

Potassium permanganate solution

0,02 mol/l - 0,1 N volumetric standard solution

D 1,002 • bp ~100 °C

mp ~0 °C

[7722-64-7] • EC No. 231-760-3

UN No. 3082 • ADR 9 III • WGK 3

 H411

Type analysis:

Amount-of-substance conc. (20 °C). 0,02 mol/l ±0,2 %

Titer.....0,998-1,002

K019.1	1 l	glass	21,75 €

Original pack 6 x 1 l 20,66/1 l

For further information, please see page 1546

Potassium permanganate solution (0,1 N)

Potassium permanganate solution

0,02 mol/l - 0,1 N volumetric standard solution,

Reag. Ph.Eur.

KMnO₄

M 158,04 g/mol

UN No. 3082 • ADR 9 III • WGK 3

 H411

Type analysis:

Amount-of-substance conc. 0,02 mol/l ±0,1 %

Titer.....0,999-1,001

9523.1	1 l	glass	26,80 €

Original pack 6 x 1 l 25,46/1 l

Potassium permanganate solution (0,5 N)

Potassium permanganate solution

0,1 mol/l - 0,5 N volumetric standard solution

WGK 2

 H411

Type analysis:

Amount-of-substance conc. (20 °C)... 0,1 mol/l ±0,2 %

Titer.....0,998-1,002

KK69.1	1 l	glass	25,05 €

Original pack 6 x 1 l 23,80/1 l

For further information, please see page 1546

Potassium peroxodisulphate

► Potassium persulphate see p. 2062

Potassium persulphate

Potassium peroxodisulphate

 $K_2S_2O_8$

M 270,32 g/mol

D 2,48

mp 100 °C (dec.)

Solubility: 52 g/l (H_2O , 20 °C)

[7727-21-1] • EC No. 231-781-8

UN No. 1492 • ADR 5.1 III • WGK 1

 **Danger**

H334-H272-H302-H335-H315-H319-H317

Potassium persulphate**ROTI®METIC 99,99 % (4N)****Type analysis:**

Assay (metals basis)..... 99,99 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5325.1	5 g	plastic	44,65 €
5325.2	25 g	plastic	166,65 €

Potassium persulphate**≥99 %, extra pure****Type analysis:**

Assay..... ≥99,0 %

Iron (Fe)..... ≤0,001 %

6795.2	500 g	plastic	22,50 €
Original pack 6 x 500 g			21,38/500 g
6795.1	1 kg	plastic	31,10 €
Original pack 6 x 1 kg			29,55/1 kg
6795.3	5 kg	plastic	87,00 €

sec. Potassium phosphate► di-Potassium hydrogen phosphate
see p. 2056**Potassium phosphate, dibasic**► di-Potassium hydrogen phosphate
see p. 2056**Potassium phosphate monobasic**► Potassium dihydrogen phosphate
see p. 2054**Potassium platinum(II) chloride**► Potassium tetrachloroplatinate(II)
see p. 2063**Potassium polysulphide****Potassium polysulphide****≥42 %, extra pure**

Potassium sulphide

 K_2S_x

D 1,65

mp 200-250 °C • flp >200 °C

Solubility: 500 g/l (H_2O , 20 °C)

[37199-66-9] • EC No. 253-390-1

UN No. 3262 • ADR 8 II • WGK 2

 **Danger** H314-H400-EUH031**Type analysis:**

Appearance.. buff-coloured or yellow-green fragments

Assay (K_2S)..... 42-44 %

Total nitrogen (as N)..... ~0,01 %

In water insoluble matter..... ~1,0 %

Size of fragments..... ~5-60 mm

8010.2	500 g	plastic	41,40 €
Original pack 6 x 500 g			39,33/500 g
8010.1	1 kg	plastic	72,60 €
Original pack 6 x 1 kg			68,97/1 kg
8010.3	2,5 kg	plastic	157,50 €

Potassium pyrochromat

► Potassium dichromate see p. 2053

Potassium pyrosulphite

► Potassium disulphite see p. 2054

Potassium rhodanide

► Potassium thiocyanate see p. 2063

Potassium sodium tartrate solution

► Fehling's solution II see p. 1826

Potassium sodium tartrate tetrahydrate

Seignette salt

 $C_4H_4KNaO_6 \cdot 4 H_2O$

M 282,22 g/mol

mp 70-80 °C

Solubility: 630 g/l (H_2O , 20 °C)

[6381-59-5] • EC No. 205-698-2

WGK 1

Potassium sodium tartrate tetrahydrate**≥99 %, p.a., ACS, ISO**

Used as a constituent of Fehling's solution.

Guarantee analysis:

Assay (perchloric acid titration)..... ≥99 %

pH value (5 % in water)..... 6,5-8,5

In H_2O insoluble matter..... ≤0,003 %

Chloride (Cl)..... ≤0,0005 %

Sulphate (SO_4)..... ≤0,005 %Phosphate (PO_4)..... ≤0,001 %Ammonium (NH_4)..... ≤0,002 %

Arsenic (As)..... ≤0,00002 %

Lead (Pb)..... ≤0,0002 %

Calcium (Ca)..... ≤0,002 %

Iron (Fe)..... ≤0,0002 %

Copper (Cu)..... ≤0,0002 %

Magnesium (Mg)..... ≤0,002 %

Nickel (Ni)..... ≤0,0005 %

Heavy metals (as Pb)..... ≤0,0005 %

8087.2	500 g	plastic	37,10 €
Original pack 6 x 500 g			35,25/500 g
8087.1	1 kg	plastic	60,10 €
Original pack 6 x 1 kg			57,10/1 kg
8087.3	2,5 kg	plastic	132,80 €

Potassium sodium tartrate tetrahydrate**≥99 %, USP****Guarantee analysis:**

Assay (dry substance)..... 99,0-102,0 %

Identity..... complies

Water (KF)..... 21,0-27,0 %

Loss on drying (150 °C)..... 21,0-26,0 %

pH value (1 % solution)..... 6,5-8,5

Ammonia (NH_3)..... complies

Alkalinity..... complies

Oxalate (as oxalic acid)..... ≤0,01 %

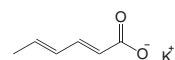
Heavy metals (as Pb)..... ≤0,001 %

Arsenic (As)..... ≤0,0003 %

Lead (Pb)..... ≤0,0005 %

Mercury (Hg)..... ≤0,0001 %

7998.3	500 g	plastic	26,80 €
Original pack 6 x 500 g			25,46/500 g
7998.1	1 kg	plastic	47,85 €
Original pack 6 x 1 kg			45,46/1 kg
7998.2	5 kg	plastic	165,55 €

Potassium sorbate

Sorbic acid potassium salt

 $C_6H_7KO_2$

M 150,22 g/mol

mp 210 °C (dec.)

[24634-61-5] • EC No. 246-376-1

WGK 1

 **Warning** H315-H319**Potassium sorbate****ROTI®STAR Primary Standard****Type analysis:**

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤1,0 %

Water (KF)..... ≤2,0 %

Assay (qNMR)..... ≥95,0 %

Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE09.1	100 mg	glass	671,90 €

Potassium sorbate**ROTICHRM® Working Standard****Type analysis:**

Assay (HPLC)..... ≥85,0 %

Identity..... complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC09.1	100 mg	glass	89,80 €

Potassium sulphate

K_2SO_4
 M 174,27 g/mol
 D 2,662 • bp 1689 °C
 mp 1069 °C
 Solubility: 111 g/l (H_2O , 20 °C)
 [7778-80-5] • EC No. 231-915-5
 WGK 1

Potassium sulphate

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5071.1	10 g	plastic	83,75 €

Potassium sulphate

≥99 %, p.a., ACS, ISO

For raising the boiling point.

Guarantee analysis:

Assay..... ≥99,0 %
 pH value (5 % in water)..... 5,5-8,0
 In H_2O insoluble matter..... ≤0,005 %
 Total nitrogen (as N)..... ≤0,0005 %
 Chloride (Cl)..... ≤0,0005 %
 Phosphate (PO_4)..... ≤0,0005 %
 Heavy metals (as Pb)..... ≤0,0005 %
 Arsenic (As)..... ≤0,0001 %
 Calcium (Ca)..... ≤0,005 %
 Copper (Cu)..... ≤0,0005 %
 Iron (Fe)..... ≤0,0005 %
 Zinc (Zn)..... ≤0,0005 %
 Cadmium (Cd)..... ≤0,0005 %
 Magnesium (Mg)..... ≤0,002 %
 Sodium (Na)..... ≤0,02 %
 Lead (Pb)..... ≤0,0005 %

P022.1	500 g	plastic	35,40 €
Original pack 6 x 500 g			33,63/500 g
P022.2	1 kg	plastic	59,05 €
Original pack 6 x 1 kg			56,10/1 kg
P022.3	2,5 kg	plastic	134,30 €

Potassium sulphate

≥99 %, Ph.Eur.

Guarantee analysis:

Assay (dry substance)..... 99,0-100,5 %
 Identity..... complies
 Loss on drying..... ≤0,5 %
 Appearance of solution..... complies
 Acidity/alkalinity..... complies
 pH value (5 % water)..... 6,0-7,5
 Chloride (Cl)..... ≤0,004 %
 Heavy metals (as Pb)..... ≤0,001 %
 Arsenic (As)..... ≤0,0002 %
 Lead (Pb)..... ≤0,0002 %
 Calcium (Ca)..... ≤0,02 %
 Iron (Fe)..... ≤0,001 %
 Magnesium (Mg)..... ≤0,002 %
 Sodium (Na)..... ≤0,1 %
 Mercury (Hg)..... ≤0,0001 %
 Selenium (Se)..... ≤0,0005 %

CN79.1	500 g	plastic	18,20 €
Original pack 6 x 500 g			17,29/500 g
CN79.2	1 kg	plastic	24,20 €
Original pack 6 x 1 kg			22,99/1 kg
CN79.3	5 kg	plastic	85,50 €

Potassium sulphate

≥98 % cryst.

Type analysis:

Assay..... ≥98,0 %
 Chloride (Cl)..... ~0,1 %
 Calcium (Ca)..... ~0,02 %
 Magnesium (Mg)..... ~0,02 %

X889.1	500 g	plastic	12,40 €
Original pack 6 x 500 g			11,78/500 g
X889.2	1 kg	plastic	17,10 €
Original pack 6 x 1 kg			16,25/1 kg
X889.3	2,5 kg	plastic	29,60 €
X889.5	25 kg	plastic	209,65 €

Potassium sulphide

► Potassium polysulphide see p. 2062

Potassium sulphocyanide

► Potassium thiocyanate see p. 2063

Potassium tetraborate tetrahydrate

Potassium tetraborate tetrahydrate

≥99,5 %, cryst.

$K_2B_4O_7 \cdot 4 H_2O$

M 305,50 g/mol

mp 100 °C

Solubility: 158 g/l (H_2O , 20 °C)

[12045-78-2] • EC No. 215-575-5 • WGK 1

 Danger H360FD

Type analysis:

Assay..... ≥99,5 %
 Chloride (Cl)..... ≤0,002 %
 Sulphate (SO_4)..... ≤0,005 %
 Iron (Fe)..... ≤0,0007 %

2615.1	250 g	plastic	20,35 €
2615.2	500 g	plastic	29,60 €
Original pack 6 x 500 g			28,12/500 g
2615.3	1 kg	plastic	48,30 €
Original pack 6 x 1 kg			45,89/1 kg

Potassium tetrachloroaurate(III)

Potassium tetrachloroaurate(III)

ROTI®METIC 99,995 % (4N5)

$KAuCl_4$

M 377,88 g/mol

mp >300 °C

Solubility: 10 g/l (H_2O , 20 °C)

[13682-61-6] • EC No. 237-190-1 • WGK 1

 Warning H315-H319-H335

Typ analysis:

Assay (metals basis)..... 99,995 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5114.1	1 g	plastic	213,95 €
5114.2	5 g	plastic	912,70 €

Potassium tetrachloroplatinate(II)

Potassium tetrachloroplatinate(II)

ROTI®METIC 99,95 % (3N5)

Potassium platinum(II) chloride

K_2PtCl_4

M 415,09 g/mol

D 3,38

mp 250 °C

[10025-99-7] • EC No. 233-050-9

UN No. 3288 • ADR 6.1 II • WGK 3

  Danger

H301-H315-H317-H318-H334

Type analysis:

Assay (metals basis)..... 99,99 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5660.1	1 g	plastic	213,95 €

Potassium tetraiodomercurate(II)

► Nessler's Reagent see p. 1984

Potassium thiocyanate

Potassium thiocyanate

≥98,5 %, p.a., ACS

Reagent for the detection of iron(III)-ions.

Potassium rhodanide, Potassium sulphocyanide

KSCN

M 97,18 g/mol

D 1,89

mp 175 °C

Solubility: 2170 g/l (H_2O , 20 °C)

[333-20-0] • EC No. 206-370-1

WGK 1

 Warning

H302+H312+H332-H412-EUH032

Guarantee analysis:

Assay (arg.)..... ≥98,5 %
 pH value (5 % solution)..... 5,3-8,7
 In H_2O insoluble matter..... ≤0,005 %
 Iodine consuming substances (I)..... complies
 Chloride (Cl)..... ≤0,005 %
 Sulphate (SO_4)..... ≤0,005 %
 Ammonium (NH_4)..... ≤0,003 %
 Iron (Fe)..... ≤0,0002 %
 Sodium (Na)..... ≤0,005 %
 Heavy metals (as Pb)..... ≤0,0005 %

P753.1	500 g	plastic	70,45 €
Original pack 6 x 500 g			66,93/500 g
P753.2	1 kg	plastic	124,20 €
Original pack 6 x 1 kg			117,99/1 kg
P753.3	2,5 kg	plastic	287,60 €

0/p

Potato Extract Glucose Agar

Potato Extract Glucose Agar

Ph.Eur., for microbiology

For cultivation and identification of yeasts and moulds.

Application: Use 39 g for 1 l agar. Slightly opalescent.

Potato Dextrose Agar (Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Potato infusion.....	4 g/l
Glucose.....	20 g/l
Agar.....	15 g/l
pH value.....	5,6 ±0,2

X931.1	500 g	plastic	88,70 €
Original pack 6 x 500 g			84,27/500 g
X931.2	1 kg	plastic	160,20 €
Original pack 6 x 1 kg			152,19/1 kg
X931.3	2,5 kg	plastic	372,95 €

For further information, please see page 1338

Potato Extract Glucose Broth

Potato Extract Glucose Broth

for microbiology

For identification, cultivation and enumeration of yeasts and moulds.

Application: Use 26,5 g for 1 l broth. Slightly opalescent.

Storage temp.: +20 °C

WGK 1

Formulation:

Potato infusion.....	6,5 g/l
Glucose.....	20 g/l
pH value.....	5,6 ±0,2

CP74.1	500 g	plastic	61,85 €
Original pack 6 x 500 g			58,76/500 g
CP74.2	1 kg	plastic	113,45 €
Original pack 6 x 1 kg			107,78/1 kg

For further informations, please see page 1338

Potato starch

► Dextrin see p. 1767

Povidon

- Polyvinylpyrrolidone K 12 see p. 2049
- Polyvinylpyrrolidone K 25 see p. 2049
- Polyvinylpyrrolidone K 30 see p. 2049
- Polyvinylpyrrolidone K 90 see p. 2049

Powdered milk

Powdered milk

blotting grade, powdered, low fat

BLOTTO reagent

[68514-61-4] • EC No. 271-045-3

Type analysis:

Water.....	≤4,0 %
Fat.....	≤1,0 %
Ash.....	≤8,5 %
Lactose.....	45,0-54,0 %
Protein.....	33,0-40,0 %
pH value.....	6,4-6,7

T145.1	250 g	plastic	13,15 €

T145.2	500 g	plastic	20,35 €

Original pack 6 x 500 g 19,33/500 g

T145.3	1 kg	plastic	33,25 €

Original pack 6 x 1 kg 31,59/1 kg

T145.5	2,5 kg	plastic	69,80 €

T145.4	5 kg	plastic	130,65 €

PPh₃

► Triphenylphosphine see p. 2222

PPO

► 2,5-Diphenyloxazole see p. 1788

Praseodymium Standards

► Praseodymium ICP Standard Solution see p. 2172

► Praseodymium ICP Standard Solution see p. 2177

Praseodymium(III) carbonate octahydrate

Praseodymium(III) carbonate octahydrate

ROTI®REMETIC 99 %

Pr₂(CO₃)₃ · 8 H₂O

M 605,96 g/mol

[14948-62-0] • EC No. 227-578-9

WGK 3

Type analysis:

Assay (TREO*)..... 99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7090.1	5 g	plastic	55,80 €

7090.2	25 g	plastic	133,85 €

Praseodymium(III) nitrate pentahydrate

Praseodymium(III) nitrate pentahydrate

ROTI®REMETIC 99,5 %

Pr(NO₃)₃ · 5 H₂O

M 417,00 g/mol

Solubility: soluble (H₂O, 20 °C)

[14483-17-1] • EC No. 233-436-7

UN No. 1477 • ADR 5.1 III • WGK 3

⚠ Danger H272

Type analysis:

Assay (TREO*)..... 99,5 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7088.1	10 g	plastic	27,85 €

7088.2	50 g	plastic	96,25 €

Praseodymium(III,IV) oxide

Praseodymium(III,IV) oxide

ROTI®REMETIC 99,99 %

Pr₆O₁₁

M 1021,44 g/mol

bp 4200 °C

mp 2500 °C

Solubility: insoluble (H₂O, 20 °C)

[12037-29-5] • EC No. 234-857-9

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (TREO*)..... 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7087.1	1 g	plastic	22,40 €

7087.2	5 g	plastic	90,20 €

Precipitation reagents (DNA)

► Roti®-PinkDNA see p. 2109

► Glycogen see p. 1861

Preston Agar

► Campylobacter Selective Agar (Base) see p. 1711

Preston Supplement

► Campylobacter Preston Supplement see p. 1711

Primary Antibody

Art. No.	Description	Page
4665	Anti DYKDDDDK pAB	1648
4664	Anti DYKDDDDK Serum	1648
3998	Anti GST pAB	1648
3994	Anti GST Serum	1648
3894	Anti His-HRP	1649
3742	Anti His pAB	1649
3735	Anti His Serum	1649
4667	Anti Myc pAB	1649
4666	Anti Myc Serum	1649

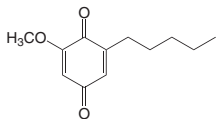
Primary Standards

Art. No.	Description	Page
NE36	Acetoxyvaleric acid	1608
NE33	Acteoside	1614
NE37	Apigenin	1651
NE19	Apigenin-7-glucoside	1651
NE38	p-Arbutin	1654
NE00	L-(+)-Ascorbic acid	1657
NE01	Benzaldehyde	1668
NE03	Benzoic acid	1670
NE11	Benzoic acid sodium salt	1671
NE02	Benzyl alcohol	1673
NE20	Bilobalid	1676
NE04	Butylated hydroxyanisole	1698
NE05	Butylated hydroxytoluene	1699
NE08	Caffeic acid	1704
NE39	Casticin	1720
NE06	Chlorogenic acid	1730
NE55	(+)-Dihydroquercetin	1777
NE52	3,4-Dihydroxybenzoic acid	1778
NE40	Echinacoside	1797
NE41	(-)-Epicatechin	1805
NE42	Eriocitrin	1806
NE43	Ginkgolide A	1849
NE44	Ginsenoside Rb1	1850
NE45	Ginsenoside Re	1851
NE62	Ginsenoside Rg1	1851
NE21	Harpagoside	1867
NE46	Hederacoside C	1868
NE47	Herniarin	1873
NE07	4-Hydroxybenzoic acid ethyl ester	1890
NE10	4-Hydroxybenzoic acid methyl ester	1890
NE13	4-Hydroxybenzoic acid propyl ester	1890
NE48	Hydroxyvaleric acid	1894
NE22	Hypericin	1895
NE23	Hyperoside	1895
NE24	Isoquercitrin	1912
NE25	Isovitexin	1913
NE26	Kaempferol	1915
NE49	Luteolin	1939
NE50	Oleanolic acid	2012
NE51	Osthol	2016
NE12	2-Phenoxyethanol	2035
NE09	Potassium sorbate	2062
NE27	Quercetin dihydrate	2076
NE28	Quercetin-3-O-β-Glucuronide	2077
NE29	Quercitrin	2077
NE30	Rosmarinic acid	2087
NE14	Rutin trihydrate	2115
NE53	Sennoside A	2125
NE54	Sennoside B	2126
NE31	Silybin	2138
NE15	Sorbic acid	2164
NE16	DL-α-Tocopherol	2212
NE18	RRR-α-Tocopherol	2213
NE17	DL-α-Tocopherol acetate	2213
NE32	Valeric acid	2234
NE56	Vitexin	2238
NE34	Vitexin-2''-O-rhamnoside	2238
NE35	Xanthohumol	2243

Primer

- ▶ Roth Hexanucleotide Random-Primer Mix see p. 2087
- ▶ Roth poly d(T)₁₂₋₁₈ Primer see p. 2087
- ▶ Roth Random-Primer kits for RAPD-PCR see p. 2087

Primin



Primin

with analytical records

Synthetic

C₁₂H₁₆O₃

M 208,26 g/mol

mp 77-79 °C

Storage temp.: +4 °C

[15121-94-5]

WGK 1



Danger

H334-H302+H312+H332-H317

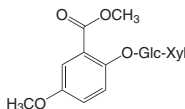
Type analysis:

Purity (HPLC). >99 %

Analytical records: HPLC, TLC, ¹H- NMR, ¹³C- NMR, UV, IR, MS, Melting point, Elemental analysis.

T898.1	20 mg	glass	446,15 €

Primulaverin



Primulaverin

ROTICHRON® HPLC

Reference substance for HPLC

From *Primula veris*.C₂₀H₂₈O₁₃

M 476,43 g/mol

Storage temp.: +4 °C

[154-61-0]



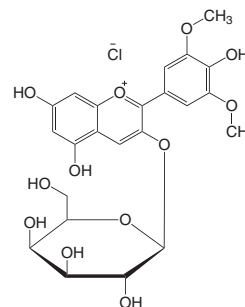
Warning H302

Type analysis:

Purity (HPLC). >99 %

1201.1	10 mg	glass	263,40 €

Primulin chloride



Primulin chloride

ROTICHRON® HPLC

From *Vitis vinifera*

Malvidin 3-galactoside chloride

C₂₃H₂₅O₁₂Cl

M 528,87 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

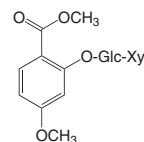
[30113-37-2]

Type analysis:

Purity (HPLC). ≥95 %

K014.1	5 mg	plastic	536,45 €

Primverin



Primverin

ROTICHRON® HPLC

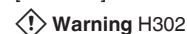
Reference substance for HPLC

From *Primula veris*.C₂₀H₂₈O₁₃

M 476,43 g/mol

Storage temp.: +4 °C

[154-60-9]



Warning H302

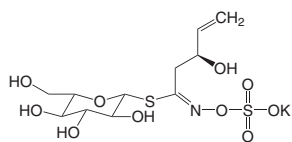
Type analysis:

Purity (HPLC). >99 %

1203.1	10 mg	glass	263,40 €

O/P

Progoitrin



Progoitrin

ROTICHRON® HPLC

Reference substance for HPLC.

From *Brassica napus*.

2-Hydroxybut-3-enylglucosinolate potassium salt

C₁₁H₁₈KNO₁₀S₂

M 427,48 g/mol

Storage temp.: +4 °C

[585-95-5]

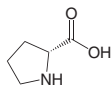
WGK 1

Type analysis:

Purity (HPLC)..... ≥97,0 %

2436.1	10 mg	glass	224,70 €

D-Proline



D-Proline

≥98,5 %, for biochemistry

(*R*)-Pyrrolidine-2-carboxylic acid, H-D-Pro-OH

C₅H₉NO₂

M 115,1 g/mol

Storage temp.: +4 °C

[344-25-2] • EC No. 206-452-7

WGK 1

Type analysis:

Appearance..... white to off-white powder

Assay..... ≥98,5 %

Specific rotation [α]_D²⁰ (c=4 in H₂O)..... +84,5° to +86,5°

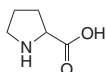
Loss on drying..... ≤0,2 %

7888.1	1 g	glass	22,50 €

7888.2	5 g	plastic	67,20 €

7888.3	25 g	plastic	179,45 €

DL-Proline



DL-Proline

≥99 %, for biochemistry

Pyrrolidine-2-carboxylic acid

C₅H₉NO₂

M 115,13 g/mol

mp 208-210 °C (dec.)

[609-36-9] • EC No. 210-189-3

WGK 1

Type analysis:

Assay (titr.)..... ≥99,0 %

Solution (5 % in H₂O)..... colourless, clear

Water (KF)..... ≤0,5 %

pH value (1 % in H₂O)..... 5,5-6,9

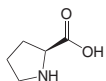
Heavy metals (as Pb)..... ≤0,002 %

5267.1	5 g	plastic	23,55 €

5267.2	10 g	plastic	42,50 €

5267.3	25 g	plastic	81,20 €

L-Proline



(*S*)-Pyrrolidine-2-carboxylic acid, H-L-Pro-OH

C₅H₉NO₂

M 115,13 g/mol

Solubility: 1500 g/l (H₂O, 20 °C)

[147-85-3] • EC No. 205-702-2

WGK 1

L-Proline

≥98,5 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins..... ≤6,0 E.U./g

Assay..... ≥98,5 %

Loss on drying..... ≤0,5 %

Specific rotation [α]_D²⁰..... -86,0° to -84,0°

Ammonium (NH₄)..... ≤0,02 %

Chloride (Cl)..... ≤0,02 %

Sulphate (SO₄)..... ≤0,03 %

Heavy metals (as Pb)..... ≤0,001 %

Iron (Fe)..... ≤0,001 %

1713.1	25 g	plastic	19,25 €

1713.2	100 g	plastic	40,75 €

1713.3	500 g	plastic	153,65 €

Original pack 6 x 500 g 145,97/500 g

L-Proline

≥98,5 %, Ph.Eur., for biochemistry

Guarantee analysis:

Assay (dry substance)..... 98,5-101,0 %

Identity..... complies

Specific rotation [α]_D²⁰..... -86° to -84°

Ammonium (NH₄)..... ≤0,02 %

Chloride (Cl)..... ≤0,02 %

Sulphate (SO₄)..... ≤0,03 %

Iron (Fe)..... ≤0,001 %

Heavy metals (as Pb)..... ≤0,001 %

Foreign amino acids..... ≤0,5 %

Loss on drying..... ≤0,5 %

Sulphated ash..... ≤0,1 %

T205.1	25 g	plastic	14,85 €

T205.2	100 g	plastic	29,60 €

T205.3	500 g	plastic	113,45 €

Original pack 6 x 500 g 107,78/500 g

1,2-Propanediol



1,2-Propanediol

≥99,5 %, for synthesis

Propyleneglycol, Methyl ethyl glycol

C₃H₈O₂

M 76,10 g/mol

D ~1,04 • bp 188 °C

mp -59 °C • flp 99 °C

[57-55-6] • EC No. 200-338-0

WGK 1

Type analysis:

Assay (GC)..... ≥99,5 %

Density (d 20 °C/20 °C)..... 1,035-1,040

Water..... ≤0,2 %

Chloride (Cl)..... ≤0,007 %

Sulphate (SO₄)..... ≤0,006 %

Heavy metals (as Pb)..... ≤0,0005 %

Arsenic (As)..... ≤0,0003 %

0340.1	1 l	plastic	21,40 €

Original pack 6 x 1 l 20,33/1 l

0340.2	2,5 l	plastic	41,40 €

Original pack 4 x 2,5 l 39,33/2,5 l

0340.3	5 l	plastic	75,80 €

Original pack 2 x 5 l 72,01/5 l

1,2-Propanediol cyclic carbonate

► Propylene carbonate see p. 2069

1,2-Propanediol diacetate

► Propylene glycol diacetate see p. 2069

Propane-1-sulphonic acid sodium salt



Propane-1-sulphonic acid sodium salt

≥98 %, for ion pair chromatography

Ion pair reagent for HPLC.

Sodium 1-propane sulphonate

$C_3H_7NaO_3S$

M 146,14 g/mol

[14533-63-2] • EC No. 238-564-7

WGK 2

Guarantee analysis:

Assay (acidim.)	≥98,0 %
Water	≤2 %
A 200 nm (0,005 M in water)	≤0,05 AU
A 210 nm (0,005 M in water)	≤0,03 AU
A 220 nm (0,005 M in water)	≤0,02 AU
A 230 nm (0,005 M in water)	≤0,02 AU
A 250 nm (0,005 M in water)	≤0,01 AU
A 260 nm (0,005 M in water)	≤0,01 AU

KK57.1	10 g	glass	49,35 €
KK57.2	25 g	glass	96,65 €
KK57.3	100 g	glass	299,95 €

1,2,3-Propanetriol

► Glycerol see p. 1858

Propanoic acid

► Propionic acid see p. 2069

n-Propanol

► 1-Propanol see p. 2067

1-Propanol



n-Propanol, 1-Hydroxypropane,
n-Propylalcohol

C_3H_8O

M 60,1 g/mol

D ~0,8 • bp 95,5-97,5 °C

mp -127 °C • flp 15 °C

[71-23-8] • EC No. 200-746-9

UN No. 1274 • ADR 3 II • WGK 1

Danger H225-H318-H336

1-Propanol

ROTIPURAN® ≥99,5 %, p.a.

Guarantee analysis:

Assay (GC)	≥99,5 %
Water (KF)	≤0,05 %
Density (d 20 °C/20 °C)	0,802-0,806
Acetone (GC)	≤0,01 %
Ethanol (GC)	≤0,05 %
Methanol (GC)	≤0,05 %
2-Propanol (GC)	≤0,05 %
Propionaldehyde (GC)	≤0,01 %
Evaporation residue	≤0,001 %
Lead (Pb)	≤0,00001 %
Cadmium (Cd)	≤0,000005 %
Calcium (Ca)	≤0,00005 %
Chromium (Cr)	≤0,000002 %
Iron (Fe)	≤0,00001 %

Cobalt (Co)	≤0,000002 %
Copper (Cu)	≤0,000002 %
Magnesium (Mg)	≤0,00001 %
Manganese (Mn)	≤0,000002 %
Nickel (Ni)	≤0,000002 %
Zinc (Zn)	≤0,00001 %

6776.1	1 l	glass	48,95 €
Original pack 6 x 1 l			46,50/1 l
6776.2	2,5 l	glass	98,40 €
Original pack 4 x 2,5 l			93,48/2,5 l

1-Propanol

>99,5 %, for synthesis

Type analysis:

Assay (GC)	>99,5 %
Colour (APHA)	≤10
Water (KF)	<0,1 %
Density (20 °C)	0,803-0,805

9169.1	1 l	glass	23,15 €
Original pack 6 x 1 l			21,99/1 l
9169.2	2,5 l	glass	41,85 €
Original pack 4 x 2,5 l			39,76/2,5 l
9169.3	10 l	tinplate	107,00 €
9169.4	25 l	tinplate	193,00 €

1-Propanol

ROTICHRON® GC

Reference substance for GC

Type analysis:

Purity (GC)	≥99 %

4916.1	1 g	glass	23,15 €

2-Propanol



Isopropanol, Isopropyl alcohol, Dimethyl
carbinol, IPA, 2-Hydroxypropane

C_3H_8O

M 60,10 g/mol

D 0,78 • bp ~82 °C

mp -90 °C • flp 12 °C

[67-63-0] • EC No. 200-661-7

UN No. 1219 • ADR 3 II • WGK 1

Danger H225-H319-H336

2-Propanol

ROTISOLV® ≥99,95 %, LC-MS Grade

Guarantee analysis:

Assay (GC)	≥99,95 %
Colour (APHA)	≤5
Water (KF)	≤0,05 %
Free acid (as CH_3COOH)	≤0,001 %
Free alkali (as NH_3)	≤0,0005 %
Non volatile matter	≤0,0001 %
Transmission:	
260 nm	≥98 %
220 nm	≥60 %
210 nm	≥30 %
Gradient test:	
UV-absorption of the greatest eluted peak.	
254 nm	≤0,001 AU
Fluorescence (as quinine):	
254 nm	≤0,5 ppb
365 nm	≤0,5 ppb

Trace impurities:

Aluminium (Al)	≤0,05 ppm
Calcium (Ca)	≤0,05 ppm
Iron (Fe)	≤0,05 ppm
Potassium (K)	≤0,05 ppm
Magnesium (Mg)	≤0,05 ppm
Sodium (Na)	≤0,05 ppm
LC-MS suitability test	complies
Filtered through 0,2 µm membrane and filled under protective gas.	

AE73.1	1 l	glass	35,40 €
Original pack 6 x 1 l			33,63/1 l
AE73.2	2,5 l	glass	70,85 €
Original pack 4 x 2,5 l			67,31/2,5 l

2-Propanol

ROTISOLV® HPLC

Guarantee analysis:

Assay (GC)	≥99,9 %
Water (KF)	≤0,05 %
Free acid	≤0,001 %
Non volatile matter	≤0,0001 %
Transmission:	
255 nm	≥99 %
240 nm	≥90 %
210 nm	≥40 %
Filtered through 0,2 µm membrane and filled under protective gas.	

7343.2	1 l	glass	30,35 €
Original pack 6 x 1 l			28,83/1 l
7343.1	2,5 l	glass	63,45 €
Original pack 4 x 2,5 l			60,28/2,5 l

For further information, please see page 1515

2-Propanol

ROTISOLV® ≥99,9 %, Pestilyse® plus

For determination of dioxins, furans, PCBs,
pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC)	≥99,9 %
Colour (APHA)	≤10
Water (KF)	≤0,03 %
Free acid (as CH_3COOH)	≤0,001 %
Free alkali (as NH_3)	≤0,0001 %
Evaporation residue	≤0,0003 %
GC/ECD suitability (as heptachloro epoxide)	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane)	≤5 ng/l
GC/ECD pesticides (as lindane)	≤5 ng/l
GC/NPD pesticides (as parathion)	≤10 ng/l
PAH-test (less than 2 ppb, HPLC)	complies
Oil index (any hydrocarbon $C_{10}-C_{40}$)	≤0,1 mg/l
Fluorescence (as quinine):	
254 nm	≤1 ppb
365 nm	≤1 ppb
Transmission:	
220 nm	≥80 %

7590.1	2,5 l	glass	48,95 €
Original pack 4 x 2,5 l			46,50/2,5 l

2-Propanol

ROTISOLV® ≥99,8 %, Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Assay (GC)	≥99,8 %
Water (KF)	≤0,1 %
Acidity	≤0,0005 meq/g
Evaporation residue	≤0,0005 %
GC/ECD (individual signal as lindane)	≤5 ng/l
GC/PND (individual signal as ethylparathion)	≤10 ng/l

T902.1	2,5 l	glass	48,30 €
Original pack 4 x 2,5 l			45,89/2,5 l

0/p

2-Propanol**ROTISOLV® ≥99,9 %, UV/IR-Grade**

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Water (KF).....	≤0,05 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Fluorescence (as quinine):	
254 nm.....	≤1,0 ppb
365 nm.....	≤1,0 ppb
Transmission:	
260 nm.....	≥98 %
242 nm.....	≥90 %
232 nm.....	≥80 %
217 nm.....	≥50 %
207 nm.....	≥10 %

T910.1	2,5 l	glass	65,05 €
Original pack 4 x 2,5 l			61,80/2,5 l

2-Propanol**ROTIPURAN® ≥99,8 %, p.a., ACS, ISO****Guarantee analysis:**

Assay (GC).....	≥99,8 %
Colour (Hazen).....	≤10
Acidity.....	≤0,0001 meq/g
Solubility in H ₂ O.....	complies
Density (d 20 °C/4 °C).....	0,784-0,787
Water.....	≤0,05 %
Acetone (GC).....	≤0,01 %
Ethanol (GC).....	≤0,01 %
Methanol (GC).....	≤0,01 %
Evaporation residue.....	≤0,001 %
Carbonylic compounds (as CO).....	≤0,002 %
Matter discoloured by H ₂ SO ₄ (Hazen).....	≤10
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,00001 %
Boron (B).....	≤0,000002 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,000005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %
Tin (Sn).....	≤0,00001 %

6752.1	1 l	glass	22,80 €
Original pack 6 x 1 l			21,66/1 l
6752.3	1 l	plastic	21,75 €
Original pack 6 x 1 l			20,66/1 l
6752.2	2,5 l	glass	51,10 €
Original pack 4 x 2,5 l			48,55/2,5 l
6752.4	2,5 l	plastic	49,35 €
Original pack 4 x 2,5 l			46,88/2,5 l
6752.5	5 l	plastic	76,90 €
Original pack 2 x 5 l			73,06/5 l
6752.6	25 l	tinplate	220,40 €

2-Propanol**≥99,5 %, Ph.Eur., extra pure****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Identity.....	complies
Appearance.....	complies
Acid or alkaline react. substances.....	complies
Density (d 20 °C/20 °C).....	0,785-0,789
Refractive index n _D ²⁰	1,376-1,379
Water (KF).....	≤0,5 %
Benzene (UV).....	≤0,0002 %
Benzene and related substances.....	complies
Peroxides.....	complies
Evaporation residue.....	≤0,002 %

CP41.1	1 l	glass	20,25 €
Original pack 6 x 1 l			19,24/1 l
CP41.2	2,5 l	glass	41,85 €
Original pack 4 x 2,5 l			39,76/2,5 l
CP41.3	2,5 l	plastic	39,25 €
Original pack 4 x 2,5 l			37,29/2,5 l
CP41.4	5 l	plastic	59,05 €
Original pack 2 x 5 l			56,10/5 l
CP41.5	10 l	tinplate	97,30 €
CP41.6	25 l	tinplate	166,65 €

2-Propanol**≥99,5 %, for synthesis****Type analysis:**

Assay (GC).....	≥99,5 %
Colour (Hazen).....	≤10
Water.....	≤0,1 %
Density (20 °C).....	0,784-0,786
Acid (as CH ₃ COOH).....	≤0,001 %
Refractive index n _D ²⁰	1,376-1,379

9866.1	1 l	glass	16,05 €
Original pack 6 x 1 l			15,25/1 l
9866.2	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
9866.5	2,5 l	plastic	36,45 €
Original pack 4 x 2,5 l			34,63/2,5 l
9866.6	5 l	plastic	52,60 €
Original pack 2 x 5 l			49,97/5 l
9866.3	10 l	tinplate	80,10 €
9866.4	25 l	tinplate	160,75 €

2-Propanol 70 %**2-Propanol 70 %****70 %, pure**

Isopropanol, Isopropyl alcohol, Dimethyl carbinol, IPA, 2-Hydroxypropane

C₃H₈O

M 60,10 g/mol

D ~0,87 • bp ~82 °C

flp +12 °C

[67-63-0] • EC No. 200-661-7

UN No. 1219 • ADR 3 II • WGK 1

  **Danger** H225-H319-H336**Type analysis:**

Assay (V/V).....	~70 %
Density (20 °C).....	0,857-0,875
Refractive index (20 °C).....	1,371-1,375

CN09.1	1 l	plastic	14,95 €
Original pack 6 x 1 l			14,20/1 l
CN09.2	2,5 l	plastic	23,15 €
Original pack 4 x 2,5 l			21,99/2,5 l
CN09.3	5 l	plastic	36,05 €
Original pack 2 x 5 l			34,25/5 l
CN09.4	10 l	plastic	52,60 €
CN09.5	25 l	plastic	115,60 €

2-Propanone

▶ Acetone see p. 1604

Propenamide

▶ Acrylamide see p. 1613

2-Propenamide

▶ Acrylamide see p. 1613

trans-Propene-1,2,3-tri-carboxylic acid

▶ trans-Aconitic acid see p. 1613

1,2,3-Propenetricarboxylic acid

▶ trans-Aconitic acid see p. 1613

p-Propenylanisole

▶ Anethole see p. 1646

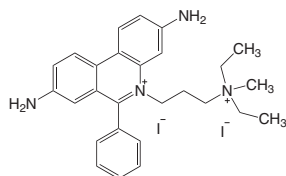
Propenyl heptanoate

▶ Allyl heptanoate see p. 1625

2-Propenyl octanoate

▶ Allyl caprylate see p. 1625

Propidiumiodide



Propidiumiodide

≥95 %, p.a.

For fluorescence staining of DNA.

3,8-Diamino-5-(3-diethylaminopropyl)-6-phenyl-phenanthridinium iodide methiodide

 $C_{27}H_{34}I_2N_4$

M 668,4 g/mol

Storage temp.: +4 °C

[25535-16-4] • EC No. 247-081-0

WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC) ≥95 %

CN74.1	25 mg	glass	61,85 €
CN74.2	50 mg	glass	107,40 €
CN74.3	100 mg	glass	192,45 €

For further information, please see page 1411

Propionic acid



Propionic acid

≥99,5 %, for synthesis

Methylacetic acid

 $C_3H_6O_2$

M 74,08 g/mol

D 0,99 • bp 141-142 °C

mp -20 °C • flp 52 °C

Solubility: 370 g/l (H_2O , 20 °C)

[79-09-4] • EC No. 201-176-3

UN No. 3463 • ADR 8 (3) II • WGK 1

⚠ ⚠ ⚠ Danger H226-H314-H335

Type analysis:

Assay ≥99,5 %

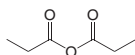
Colour (APHA) ≤10

Water ≤0,15 %

6026.2	500 ml	glass	13,90 €
6026.1	1 l	glass	20,65 €
Original pack 6 x 1 l			19,62/1 l
6026.3	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l

For further information, please see page 1449

Propionic anhydride



Propionic anhydride

≥98,5 %, for synthesis

Propanoic anhydride

 $C_6H_{10}O_3$

M 130,14 g/mol

D 1,02 • bp 167 °C

mp -45 °C

[123-62-6] • EC No. 204-638-2

UN No. 2496 • ADR 8 III • WGK 1

⚠ Danger H314

Type analysis:

Assay ≥98,5 %

Identity (IR) complies

Acetic anhydride ($(CH_3CO)_2O$) <0,05 %

7432.1	100 ml	glass	13,15 €
7432.2	500 ml	glass	30,00 €
7432.3	1 l	glass	48,30 €
Original pack 6 x 1 l			45,89/1 l
7432.4	2,5 l	glass	104,85 €
Original pack 4 x 2,5 l			99,61/2,5 l

n-Propyl alcohol

► 1-Propanol see p. 2067

4-iso-Propylbenzaldehyde

► Cuminaldehyde see p. 1751

Propyl bromide



Propyl bromide

>98 %

Bromopropane

 C_3H_7Br

M 123,01 g/mol

D 1,35 • bp 71 °C

mp -108 °C • flp -10 °C

[106-94-5] • EC No. 203-445-0

UN No. 2344 • ADR 3 II • WGK 2

⚠ ⚠ ⚠ Danger

H225-H360FD-H373-H315-H319-H335-H336

Type analysis:

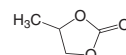
Appearance light brown, clear liquid

Assay (GC) >98 %

Refractive index n_D^{20} 1,434

4631.1	100 ml	glass	34,30 €

Propylene carbonate



Propylene carbonate

≥99,7 %

1,2-Propanediol cyclic carbonate

 $C_4H_6O_3$

M 102,09 g/mol

D 1,21 • bp 243 °C

mp -49 °C • flp 132 °C

Solubility: 240 g/l (H_2O , 20 °C)

[108-32-7] • EC No. 203-572-1

WGK 1

⚠ Warning H319

Type analysis:

Appearance colourless liquid

Assay (GC) ≥99,7 %

Water ≤0,1 %

Colour (Hazen) ≤10

5022.2	100 ml	glass	12,70 €
5022.1	250 ml	glass	20,35 €
5022.3	1 l	glass	31,75 €
Original pack 6 x 1 l			30,16/1 l
5022.4	2,5 l	glass	55,40 €
Original pack 4 x 2,5 l			52,63/2,5 l

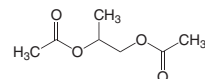
(±)-1,2-Propylene carbonate

► Propylene carbonate see p. 2069

Propylene glycol

► 1,2-Propanediol see p. 2066

Propylene glycol diacetate



NEW

Propylene glycol diacetate

≥99 %, pure

1,2-Propanediol diacetate, PGDA

 $C_7H_{12}O_4$

M 160,17 g/mol

D 1,05 • bp 191 °C

mp -75 °C • flp 86 °C

[623-84-7] • EC No. 210-817-6

WGK 1

Type analysis:

Assay ≥99,0 %

Colour (Hazen) ≤20

Density (20 °C/20 °C) 1,055-1,060

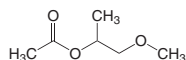
7657.1	1 l	plastic	38,60 €
Original pack 6 x 1 l			36,67/1 l
7657.2	2,5 l	plastic	74,10 €
Original pack 4 x 2,5 l			70,40/2,5 l

O/P

Propylene glycol methyl ether

► 1-Methoxy-2-propanol see p. 1964

Propylene glycol methyl ether acetate



Propylene glycol methyl ether acetate

≥99 %, pure

1-Methoxy-2-propyl acetate, PMA

C₆H₁₂O₃

M 132,16 g/mol

D 0,97 • bp 146 °C

mp -67 °C • flp 45 °C

[108-65-6] • EC No. 203-603-9

UN No. 3272 • ADR 3 III • WGK 1

Warning H226

Type analysis:

Assay (GC)..... ≥99,0 %

Colour (Hazen)..... ≤10

2-Methoxy-1-propyl acetate..... ≤0,3 %

7966.1	1 l	glass	38,60 €

Original pack 6 x 1 l	36,67/1 l

7966.2	2,5 l	glass	74,10 €

Original pack 4 x 2,5 l	70,40/2,5 l

Propyl 4-hydroxybenzoate

► 4-Hydroxybenzoic acid propyl ester see p. 1890

Propylparaben

► 4-Hydroxybenzoic acid propyl ester see p. 1890

Protaminsulphate

► Salmine sulphate see p. 2118

Protective Groups

Art. No.	Description	Page
4483	Acetic acid anhydride	1600
7456	Benzoylchloride	1672
6985	Di-tert-butyl dicarbonate	1769
9671	4,4'-Dimethoxytrityl chloride	1781
2201	9-Fluorenylmethoxycarbonyl chloride	1829
2338	Trimethylchlorosilane	2221

Proteicolor®

► Silver nitrate see p. 2136

Protein A affinity columns

► Roti®garose-Protein A MINI columns see p. 2098

Protein A agarose beads

► Roti®garose-Protein A Beads see p. 2098

Proteinase K

Proteinase K

lyophil., ≥30 mAnson U/mg

Isolated from fungi (*Tritirachium album*).

Art. No. 7528.3: A stock solution with a concentration of 20 mg/ml can be prepared directly by adding 25 ml buffer or water.

Storage temp.: +4 °C

[39450-01-6] • EC No. 254-457-8

WGK 1

Danger H315-H319-H334-H317-H335

Guarantee analysis:

Activity (Hemoglobin, 37 °C)..... ≥30 U/mg

DNases, RNases..... not detected

Endonucleases..... not detected

7528.1	100 mg	glass	83,75 €

7528.5	250 mg	glass	160,20 €

7528.2	500 mg	glass	284,90 €

7528.3	500 mg	(in a 30 ml glass bottle)	317,15 €

7528.4	1 g	glass	478,40 €

7528.6	5 g	glass	1908,15 €

Protein glycerol

Protein glycerol

for microscopy

For fixing and stretching of the cuts.

WGK 1

Type analysis:

Appearance... turbid, colourless to light yellow solution

P049.1	100 ml	glass	16,05 €

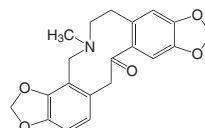
Protocatechualdehyde

► 3,4-Dihydroxybenzaldehyde see p. 1778

Protocatechuic acid

► 3,4-Dihydroxybenzoic acid see p. 1778

Protopine



Protopine

ROTICHRON® HPLC

Reference substance for HPLC.

From *Chelidonium majus*.

Fumarine, Biflorine, Macleyine

C₂₀H₁₉NO₅

M 353,37 g/mol

mp 198-203 °C

Storage temp.: +4 °C

[130-86-9]

UN No. 1544 • ADR 6.1 III • WGK 3

Warning H302

Type analysis:

Purity (HPLC)..... ≥98 %

6690.1	10 mg	glass	239,20 €

Prunetol

► Genistein see p. 1847

PSA

► Silica gel 60 modified phases see p. 2128

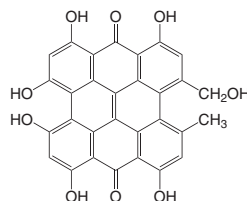
Pseudocef

► Cefsulodin sodium salt see p. 1722

Pseudocumene

► 1,2,4-Trimethylbenzene see p. 2221

Pseudohypericin



Pseudohypericin

ROTICHRON® HPLC

Reference substance for HPLC.

From *Hypericum perforatum*.

C₃₀H₁₈O₉

M 520,43 g/mol

Storage temp.: +4 °C

[55954-61-5]

WGK 2

Type analysis:

Purity (HPLC)..... ≥97 %

2846.1 5 mg glass 478,40 €

Pseudomonas chromogenic Agar**Pseudomonas chromogenic Agar****for microbiology**For detection and isolation of *Pseudomonas*.

Application: Use 37 g for 1 l agar. Do not overheat!

Storage temp.: +4 °C

Formulation:

Nutrients..... 14 g/l
 Peptone..... 10 g/l
 Chromogene Mixture..... 1 g/l
 Bromothymol blue..... 0,02 g/l
 Agar..... 12 g/l
 pH value..... 7,2 ±0,2

3075.1 100 g plastic 105,90 €

For further information, please see page 1338

Pseudomonas Selective Agar (Base)**Pseudomonas Selective Agar (Base)****DEV, EN ISO 16266:2008, for microbiology**For determination and enumeration of *Pseudomonas aeruginosa* from water samples by membrane filtration method.

Application: Use 50,6 g for 990 ml agar. Add 10 ml glycerol.

CN Agar

Storage temp.: +20 °C

UN No. 3077 • ADR 9 III • WGK 2

⚠ Warning H410

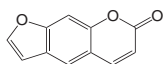
Guarantee analysis:

Gelatine peptone..... 16 g/l
 Casein hydrolysed..... 10 g/l
 Anhydrous potassium sulphate..... 10 g/l
 Anhydrous magnesium chloride..... 1,4 g/l
 Cetrimide..... 0,2 g/l
 Nalidixic acid..... 0,015 g/l
 Agar..... 13 g/l
 pH value..... 7,1 ±0,2

CP67.1 500 g plastic 130,65 €

Original pack 6 x 500 g 124,12/500 g

For further information, please see page 1339

Psoralen**Psoralen****ROTICHROM® HPLC**

Reference substance for HPLC

7-*H*-Furo[3,2-*g*]benzopyran-7-oneC₁₁H₆O₃

M 186,16 g/mol

mp ~165 °C

Storage temp.: +4 °C

[66-97-7] • EC No. 200-639-7

WGK 1

⚠ Warning H302-H315-H319-H335

Type analysis:

Purity (HPLC)..... ≥98,5 %

7415.1 10 mg glass 155,90 €

Pteroyl glutamic acid

► Folic acid see p. 1837

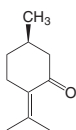
PTFE paste**PTFE paste**

Paste for sealing and gliding.

May be used at temperatures up to 300 °C

0124.1 100 g plastic 117,75 €

For further information, please see page 1100

(+)-Pulegone**(+)-Pulegone****ROTICHROM® GC**

Reference substance for GC

C₁₀H₁₆O

M 152,24 g/mol

D ~0,936 • bp 224 °C

mp <25 °C • flp 82 °C

Storage temp.: +4 °C

[89-82-7] • EC No. 201-943-2

WGK 2

⚠ Warning H302

Type analysis:

Purity (GC)..... ≥98 %

5168.2 100 mg glass 106,45 €

Pumice stone**Pumice stone**

finely granulated <0,5 mm

Bulk density 350-900 g/l

[1332-09-8] • EC No. 215-108-5

5832.2 1 kg plastic 17,10 €

Original pack 6 x 1 kg 16,25/1 kg

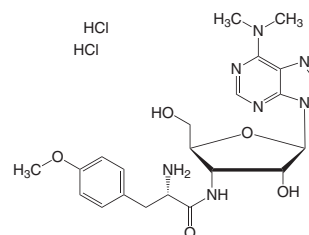
5832.1 2,5 kg plastic 27,45 €

Purimycin

► Puromycin dihydrochloride see p. 2071

1H-Purine-6-amine

► Adenine see p. 1615

Puromycin dihydrochloride**Puromycin dihydrochloride**

≥99 %, for biochemistry

Inhibitor of protein biosynthesis, aminonucleoside antibiotic.

Purimycin

C₂₂H₂₉N₇O₅ · 2 HCl

M 544,44 g/mol

mp ~178 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[58-58-2] • EC No. 200-387-8

⚠ Warning H302

Type analysis:

Assay (HPLC)..... ≥99,0 %
 Solubility (50 mg/ml, H₂O)..... clear, colourless to light yellow solution

0240.1 5 mg glass 18,10 €

0240.2 10 mg glass 28,50 €

0240.3 25 mg glass 62,25 €

0240.4 50 mg glass 114,50 €

For further information, please see page 1379

Putrescin



Putrescin

≥99 %, for biochemistry

1,4-Diaminobutane, Tetramethylenediamine

$\text{C}_4\text{H}_{12}\text{N}_2$

M 88,15 g/mol

D 0,874

mp 26 °C • flp 64 °C

[110-60-1] • EC No. 203-782-3

UN No. 2923 • ADR 8 (6.1) II • WGK 1

Danger

H290-H302+H312-H331-H314

Type analysis:

Appearance..... colourless liquid or white solid

Assay (GC)..... ≥99,0 %

Water (KF)..... ≤1,0 %

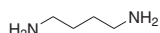
8379.1	25 g	glass	20,10 €

8379.2	100 g	glass	40,35 €

8379.3	500 g	glass	127,95 €

Original pack 6 x 500 g 121,55/500 g

Putrescin dihydrochloride



• 2 HCl

Putrescin dihydrochloride

≥97 %, for biochemistry

1,4-Diaminobutane dihydrochloride,
Tetramethylenediamine dihydrochloride

$\text{C}_4\text{H}_{12}\text{N}_2 \cdot 2 \text{HCl}$

M 161,08 g/mol

[333-93-7] • EC No. 206-375-9

WGK 1

Warning H315-H319-H335

Type analysis:

Assay (titr.)..... ≥97 %

Solution (10 % in water)..... colourless, clear

Water (KF)..... ≤2 %

Loss on drying (3 h, 105 °C, vacuum)..... ≤3 %

pH value (10 % in H_2O)..... 4,0-7,0

Heavy metals (as Pb)..... ≤0,002 %

4141.1	10 g	glass	22,80 €

4141.2	25 g	glass	45,05 €

4141.3	50 g	glass	79,45 €

PVA

► Mowiol® 4-88 see p. 1976

PVC

► Polyvinyl chloride see p. 2048

PVP

► Polyvinylpyrrolidone K 12 see p. 2049

► Polyvinylpyrrolidone K 25 see p. 2049

► Polyvinylpyrrolidone K 30 see p. 2049

► Polyvinylpyrrolidone K 90 see p. 2049

PyBOP®

► Benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBOP®) see p. 1672

PyBrOP®

► Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBrOP®) see p. 1692

PyClock®

► 6-Chloro-benzotriazole-1-yl-oxy-tris-pyrrolidinophosphonium hexafluorophosphate (PyClock®) see p. 1730

PyOxim

► (Ethylcyano(hydroxyimino)-acetato- O^2)tri-1-pyrrolidinylphosphonium hexafluorophosphate see p. 1813

Pyracidosorb-ROTH®

Pyracidosorb-ROTH®

For neutralizing acids.

Warning H319

0411.1	5 kg	plastic	39,70 €

For further information, please see page 676

Pyridine



$\text{C}_5\text{H}_5\text{N}$

M 79,10 g/mol

D 0,98 • bp ~115 °C

mp -42 °C • flp 17 °C

[110-86-1] • EC No. 203-809-9

UN No. 1282 • ADR 3 II • WGK 2

Danger H225-H302+H312+H332

Pyridine

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC)..... ≥99,5 %

Water..... ≤0,1 %

Piperidine (GC)..... ≤0,01 %

2-Methylpyridine (GC)..... ≤0,1 %

Evaporation residue..... ≤0,001 %

KMnO_4 reducing substances (as O)..... ≤0,0005 %

Chloride (Cl)..... ≤0,001 %

Sulphate (SO_4)..... ≤0,001 %

Aluminium (Al)..... ≤0,00005 %

Ammonia (NH_3)..... ≤0,002 %

Barium (Ba)..... ≤0,00001 %

Lead (Pb)..... ≤0,00001 %

Boron (B)..... ≤0,000002 %

Cadmium (Cd)..... ≤0,000005 %

Calcium (Ca)..... ≤0,00005 %

Chromium (Cr)..... ≤0,000002 %

Iron (Fe)..... ≤0,00001 %

Cobalt (Co)..... ≤0,000002 %

Copper (Cu)..... ≤0,000002 %

Magnesium (Mg)..... ≤0,00001 %

Manganese (Mn)..... ≤0,000002 %

Nickel (Ni)..... ≤0,000002 %

Zinc (Zn)..... ≤0,00001 %

Tin (Sn)..... ≤0,00001 %

9729.3	500 ml	glass	58,60 €

9729.1	1 l	glass	109,15 €

Original pack 6 x 1 l 103,69/1 l

9729.2	2,5 l	glass	238,65 €

Original pack 4 x 2,5 l 226,72/2,5 l

For further information, please see page 1215

Pyridine

≥99 %, for synthesis

Type analysis:

Assay (GC)..... ≥99,0 %

Water..... ≤0,1 %

Evaporation residue..... ≤0,01 %

CP07.1	500 ml	glass	31,10 €

CP07.2	1 l	glass	61,20 €

Original pack 6 x 1 l 58,14/1 l

CP07.3	2,5 l	glass	123,55 €

Original pack 4 x 2,5 l 117,37/2,5 l

Pyridine D5

$\text{C}_5\text{D}_5\text{N}$

M 84,13 g/mol

D 1,05 • bp 114 °C

mp -41 °C • flp 20 °C

[7291-22-7] • EC No. 230-720-2

UN No. 1282 • ADR 3 II • WGK 2

Danger H225-H302+H312+H332

Pyridine D5

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree..... ≥99,8 %

Water (KF, $\text{H}_2\text{O}+\text{D}_2\text{O}$)..... ≤0,03 %

7922.1	10 ml	glass	109,55 €

7922.2	10 x 0,75 ml	glass ampoule	111,70 €

Pyridine D5

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree..... ≥99,5 %

Water (KF, $\text{H}_2\text{O}+\text{D}_2\text{O}$)..... ≤0,05 %

CP94.1	10 ml	glass	83,35 €

CP94.2	10 ml	septum bottle	84,40 €

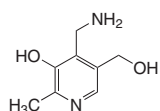
CP94.3	10 x 0,75 ml	glass ampoule	87,65 €

3-Pyridine carboxylic acid

► Nicotinic acid see p. 1986

1-(3-Pyridinyl)-ethanone

▶ 3-Acetylpyridine see p. 1611

Pyridoxamine dihydrochloride

· 2 HCl

Pyridoxamine dihydrochloride

≥99 %

4-(Aminomethyl)-5-hydroxy-6-methyl-3-pyridinemethanol dihydrochloride

 $C_8H_{14}Cl_2N_2O_2$

M 241,12 g/mol

mp 223-229 °C (dec.)

[524-36-7] • EC No. 208-357-6

WGK 1

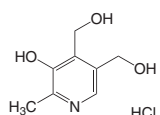
⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.) ≥99,0 %
 Solution (10 % in H_2O) colourless
 Water (KF) ≤8,0 %
 Melting point 223-229 °C

5254.1	1 g	glass	46,80 €

5254.2	5 g	plastic	203,20 €

Pyridoxine hydrochloride

HCl

Pyridoxine hydrochloride

≥99 %, for biochemistry

Vitamin B₆-hydrochloride, Adermine hydrochloride $C_8H_{12}ClNO_3$

M 205,6 g/mol

[58-56-0] • EC No. 200-386-2

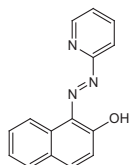
WGK 1

Type analysis:

Appearance white to almost white cryst. powder
 Assay (titr. dry substance) 99,0-101,0 %
 pH value (5 % in H_2O) 2,4-3,0
 Related substances complies
 Loss on drying ≤0,5 %
 Heavy metals ≤0,002 %
 Sulphated ash ≤0,1 %

T914.1	50 g	plastic	27,10 €

T914.2	100 g	plastic	45,05 €

1-(2-Pyridylazo)-2-naphthol**1-(2-Pyridylazo)-2-naphthol**

≥98 %, p.a., ACS

For titration of metal ions.

PAN

 $C_{15}H_{11}N_3O$

M 249,27 g/mol

mp 128-143 °C

Solubility: insoluble (H_2O , 20 °C)

[85-85-8] • EC No. 201-637-9

WGK 3

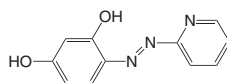
⚠ Warning H315-H319-H335

Guarantee analysis:

Assay ≥98,0 %
 Melting point 128-143 °C
 Loss on drying (110 °C) ≤5,0 %
 Suitability as indicator for complexometry complies

KK12.1	1 g	glass	17,75 €

KK12.2	5 g	glass	59,05 €

4-(2'-Pyridylazo)-resorcinol**4-(2'-Pyridylazo)-resorcinol**

p.a., ACS

Metal indicator

PAR

 $C_{11}H_8N_2O_2$

M 215,21 g/mol

mp 188 °C

[1141-59-9] • EC No. 214-528-6

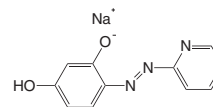
WGK 1

Guarantee analysis:

Appearance orange powder
 Appearance of solution (ACS) complies
 Loss on drying ≤5 %
 Suitability as indicator for complexometry complies

2564.1	5 g	glass	72,60 €

2564.2	25 g	glass	263,40 €

4-(2'-Pyridylazo)-resorcinol monosodium salt**4-(2'-Pyridylazo)-resorcinol monosodium salt**

p.a., ACS

Metal indicator

PAR monosodium salt

 $C_{11}H_8N_2NaO_2$

M 237,21 g/mol

Solubility: 38 g/l (H_2O , 20 °C)

[16593-81-0] • EC No. 236-339-8

WGK 1

Guarantee analysis:

Appearance dark orange to brown cryst. powder
 Appearance of solution (ACS) complies
 Loss on drying ≤10 %
 Suitability as indicator for complexometry complies

2565.1	5 g	glass	79,45 €

2565.2	25 g	glass	299,95 €

Pyrocatechol**Pyrocatechol**

>99 %, for biochemistry

1,2-Dihydroxybenzene

 $C_6H_6O_2$

M 110,11 g/mol

D 1,37 • bp 246 °C

mp 105 °C • flp 127 °C

Solubility: 430 g/l (H_2O , 20 °C)

[120-80-9] • EC No. 204-427-5

UN No. 2811 • ADR 6.1 III • WGK 2

⚠ ⚠ ⚠ Danger

H301+H311-H315-H318-H341

Type analysis:

Assay (GC, area %) ≥99 %
 Melting range 103-105 °C

4249.1	25 g	glass	18,20 €

Pyrocatechol-3,5-disulfonic acid disodium salt

▶ Tiron see p. 2211

Pyrogallol acid

▶ Pyrogallol see p. 2074

Pyrogallol



Pyrogallol acid, 1,2,3-Trihydroxybenzene

$C_6H_6O_3$

M 126,11 g/mol

mp ~134 °C

Solubility: 400 g/l (H_2O , 25 °C)

[87-66-1] • EC No. 201-762-9

WGK 2

Warning

H341-H302+H312+H332-H412

Pyrogallol

ROTIPURAN® ≥99 %, p.a., ACS

Guarantee analysis:

Assay	≥99 %
Melting point	131-135 °C
Insoluble matter	≤0,01 %
Ash content (as SO_4)	≤0,005 %
Chloride (Cl)	≤0,001 %
Sulphate (SO_4)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Lead (Pb)	≤0,0005 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,0005 %
Nickel (Ni)	≤0,0005 %

4364.1	50 g	glass	36,05 €

4364.2	100 g	glass	57,55 €

4364.3	250 g	glass	120,95 €

4364.4	1 kg	glass	428,95 €

Original pack 6 x 1 kg 407,50/1 kg

Pyrogallol

≥98 %

Type analysis:

Assay (HPLC)	≥98 %
Ash content	≤0,05 %
Melting point	131-135 °C

3963.2	50 g	glass	23,55 €

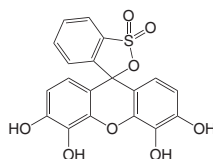
3963.1	100 g	glass	43,55 €

3963.3	250 g	glass	84,85 €

3963.4	1 kg	glass	310,70 €

Original pack 6 x 1 kg 295,17/1 kg

Pyrogallol red



Pyrogallol red

p.a.

Indicator for metal titration

Pyrogallol sulphonic phthalein, Sulfogallein

$C_{19}H_{12}O_8S$

M 400,36 g/mol

mp >300 °C

[32638-88-3] • EC No. 251-134-3

WGK 3

Type analysis:

Sulphated ash <0,5 %

Solubility (10 mg/ml in 1 M NH_4OH) dark, purple solution

Absorption max. (in EtOH) 475-515 nm

Suitability as indicator complies

0287.1	1 g	glass	22,50 €

0287.2	5 g	glass	44,00 €

Pyrogallol sulphonic phthalein

► Pyrogallol red see p. 2074

Pyrogenous silicic acid

► Aerosil® see p. 1616

Pyrroldiazole

► 1,2,4-Triazole see p. 2216

Pyrrolidine-2-carboxylic acid

► D-Proline see p. 2066

► DL-Proline see p. 2066

► L-Proline see p. 2066

2-Pyrrolidone



2-Pyrrolidone

≥99,5 %, for synthesis

γ-Butyrolactame, γ-Lactame

C_4H_7NO

M 85,11 g/mol

D 1,11 • bp 250 °C

mp 25,5 °C • flp 138 °C

[616-45-5] • EC No. 210-483-1

WGK 1

Warning H319

Type analysis:

Assay (GC) ≥99,5 %

Colour (APHA) ≤50

1,4-Butanediol ≤0,1 %

Butyrolactone ≤0,1 %

Water (KF) ≤0,1 %



8779.1	500 ml	plastic	31,10 €

8779.2	1 l	plastic	49,35 €

Original pack 6 x 1 l 46,88/1 l

8779.3	2,5 l	plastic	100,95 €

Original pack 4 x 2,5 l 95,90/2,5 l

8779.4	5 l	plastic	198,90 €

Original pack 2 x 5 l 188,96/5 l

Pyrrolizidine Alkaloids

Art. No.	Description	Page
7975	7-O-Acetylintermediate	1610
7980	7-O-Acetylintermediate N-oxide	1610
7992	Echimidine	1797
8011	Echimidine N-oxide	1797
1657	(Z)-Erucifoline	1807
1664	(Z)-Erucifoline N-oxide	1807
1676	Europine hydrochloride	1821
1687	Europine N-oxide	1821
1929	Heliotrine	1868
1944	Heliotrine N-oxide	1868
1960	Indicine hydrochloride	1898
1961	Indicine N-oxide	1898
1962	Intermedine	1901
8018	Intermedine N-oxide	1901
1963	Jacobine	1914
1970	Jacobine N-oxide	1914
2090	Lasiocarpine	1924
2202	Lasiocarpine N-oxide	1924
2208	Lycopsamine	1940
8022	Lycopsamine N-oxide	1940
2249	Monocrotaline N-oxide	1974
1213	Retrorsine	2083
6733	Retrorsine N-oxide	2083
2261	Senecionine	2124
6734	Senecionine N-oxide	2124
6414	Seneciphylline	2124
1214	Seneciphylline	2124
6735	Seneciphylline N-oxide	2124
2209	Senecivernine	2124
2215	Senecivernine N-oxide	2125
4934	Senkirkine	2125

1H-Pyrrolo[2,3-b]pyridine

► 7-Azaindole see p. 1660

Pyrvaldehyde

► Methylglyoxal see p. 1967

Pyruvate solution

► Roti®-CELL Pyruvate solution see p. 2093

Pyruvic acid



Pyruvic acid

≥98 %

α-Ketopropionic acid, 2-Oxopropanoic acid

C₃H₄O₃

M 88,06 g/mol

D 1,27

mp 12 °C • flp 82 °C

Storage temp.: +4 °C

[127-17-3] • EC No. 204-824-3

UN No. 3265 • ADR 8 III • WGK 1

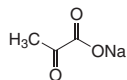
Danger H314

Type analysis:

Assay (titr.) ≥98 %

8788.1	25 ml	glass	26,35 €

Pyruvic acid sodium salt



Pyruvic acid sodium salt

≥99 %, for biochemistry

Sodium pyruvate

C₃H₃NaO₃

M 110,04 g/mol

[113-24-6] • EC No. 204-024-4

WGK 1

Type analysis:

Appearance white powder

Assay ≥99 %

Heavy metals ≤0,01 %

Loss on drying ≤0,5 %

8793.1	25 g	plastic	16,45 €

8793.2	250 g	plastic	75,80 €

Quantum Dots, hydrophilic

CdTe

mp 2150-2200 °C

Storage temp.: +4 °C

[1306-25-8] • EC No. 215-149-9

UN No. 2570 • ADR 6.1 III • WGK 3

Warning

H302+H312+H332-H400-H410

Cadmium telluride

ROTI®nanoMETIC, λ max. 510 ±5 nm

Type analysis:

Fluorescence λ max. 505-515 nm

8256.1	5 mg	glass	57,95 €

8256.2	10 mg	glass	93,00 €

Cadmium telluride

ROTI®nanoMETIC, λ max. 570 ±5 nm

Type analysis:

Fluorescence λ max. 565-575 nm

8257.1	5 mg	glass	57,95 €

8257.2	10 mg	glass	93,00 €

Cadmium telluride

ROTI®nanoMETIC, λ max. 610 ±5 nm

Type analysis:

Fluorescence λ max. 605-615 nm

8258.1	5 mg	glass	57,95 €

8258.2	10 mg	glass	93,00 €

Cadmium telluride

ROTI®nanoMETIC, λ max. 710 ±5 nm

Type analysis:

Fluorescence λ max. 705-715 nm

8260.1	5 mg	glass	57,95 €

8260.2	10 mg	glass	93,00 €

Cadmium telluride

ROTI®nanoMETIC, λ max. 780 ±5 nm

Type analysis:

Fluorescence λ max. 775-785 nm

8261.1	5 mg	glass	57,95 €

8261.2	10 mg	glass	93,00 €

Quantum Dots, hydrophobic

WGK 3

Warning H302+H332-H315-H319-H335

Zn-Cu-In-S/ZnS

ROTI®nanoMETIC Cd-free, λ max. 530 ±15 nm

Type analysis:

Fluorescence λ max. 515-545 nm

8609.1	5 mg	glass	46,80 €

8609.2	10 mg	glass	69,80 €

Zn-Cu-In-S/ZnS

ROTI®nanoMETIC Cd-free, λ max. 560 ±15 nm

Type analysis:

Fluorescence λ max. 545-575 nm

8610.1	5 mg	glass	46,80 €

8610.2	10 mg	glass	69,80 €

Zn-Cu-In-S/ZnS

ROTI®nanoMETIC Cd-free, λ max. 590 ±15 nm

Type analysis:

Fluorescence λ max. 575-605 nm

8618.1	5 mg	glass	46,80 €

8618.2	10 mg	glass	69,80 €

Zn-Cu-In-S/ZnS

ROTI®nanoMETIC Cd-free, λ max. 610 ±15 nm

Type analysis:

Fluorescence λ max. 595-625 nm

8614.1	5 mg	glass	46,80 €

8614.2	10 mg	glass	69,80 €

Zn-Cu-In-S/ZnS

ROTI®nanoMETIC Cd-free, λ max. 650 ±15 nm

Type analysis:

Fluorescence λ max. 635-665 nm

8616.1	5 mg	glass	46,80 €

8616.2	10 mg	glass	69,80 €

Zn-Cu-In-S/ZnS

ROTI®nanoMETIC Cd-free, λ max. 700 ±15 nm

Type analysis:

Fluorescence λ max. 685-715 nm

8615.1	5 mg	glass	46,80 €

8615.2	10 mg	glass	69,80 €

Quarz

Sea sand

SiO₂

M 60,08 g/mol

D 2,65 • bp 2230 °C

mp 1710 °C

[14808-60-7] • EC No. 238-878-4

Quarz

>99 % powdered, <125 μm

Resistant to chemicals
(except very strong alkalis)

Danger H372

Type analysis:

Assay >99 %

Al₂O₃ 0,3 %Fe₂O₃ 0,05 %

CaO + MgO 0,1 %

Na₂O + K₂O 0,2 %

Loss on ignition 0,25 %

Particle size:

>125 μm 0,1 %

>100 μm 0,5 %

>63 μm 1-3 %

>40 μm 12 %

4651.2	500 g	plastic	15,80 €

Original pack 6 x 500 g	15,01/500 g

4651.1	1 kg	plastic	21,75 €

Original pack 6 x 1 kg	20,66/1 kg

4651.3	5 kg	plastic	47,85 €

Quarz

fine, cryst., 0,4-0,8 mm

Filtration aids

7897.1	2,5 kg	plastic	18,20 €
7897.2	20 kg	plastic	54,75 €

Quarz

cryst., 0,6-1,3 mm

Filtration aids

7898.1	2,5 kg	plastic	19,25 €
7898.2	20 kg	plastic	56,90 €

Quarz

► Sea sand see p. 2123

Quarz wool

Quarz wool

chemically pure

Ideal for elementary analysis or as a final stopper in chromatography columns; filter aid. Fibre size 5 to 30 µm.

9208.1	10 g	plastic	20,35 €
9208.2	100 g	plastic	131,05 €

QuEChERS Mixtures

WGK 1

QuEChERS Extraction Mix I

CHROMABOND® Citrate mix

For pesticide residue analysis in food.

Formulation:

Magnesium sulphate anhydrous..... 4 g
Sodium chloride..... 1 g
di-Sodium hydrogen citrate 1,5-hydrate..... 0,5 g
tri-Sodium citrate dihydrate..... 1 g

4867.1	50 x 15 ml	plastic	140,50 €

For further information, please see page 1541

QuEChERS Extraction Mix II

CHROMABOND® Acetate mix

For pesticide residue analysis in food.

Formulation:

Magnesium sulphate anhydrous..... 6 g
Sodium acetate..... 1,5 g

4868.1	50 x 15 ml	plastic	140,50 €

For further information, please see page 1541

QuEChERS Clean-up Mix III

CHROMABOND® Diamino mix

For pesticide residue analysis in food.

Formulation:

Magnesium sulphate anhydrous..... 0,9 g
CHROMABOND® Diamino..... 0,15 g

4870.1	50 x 15 ml	plastic	94,90 €

For further information, please see page 1542

QuEChERS Clean-up Mix IV

CHROMABOND® Diamino/Carbon mix

For pesticide residue analysis in food.

Formulation:

Magnesium sulphate anhydrous..... 0,9 g
CHROMABOND® Diamino..... 0,15 g
CHROMABOND® Carbon..... 0,015 g

4871.1	50 x 15 ml	plastic	94,90 €

For further information, please see page 1542

QuEChERS Clean-up Mix V

CHROMABOND® Diamino/Carbon mix

For pesticide residue analysis in food.

Formulation:

Magnesium sulphate anhydrous..... 0,9 g
CHROMABOND® Diamino..... 0,15 g
CHROMABOND® Carbon..... 0,045 g

4875.1	50 x 15 ml	plastic	94,90 €

For further information, please see page 1542

QuEChERS Clean-up Mix VI

CHROMABOND® Diamino/C₁₈ ec mix

For pesticide residue analysis in food.

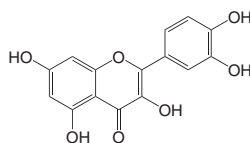
Formulation:

Magnesium sulphate anhydrous..... 0,9 g
CHROMABOND® Diamino..... 0,15 g
CHROMABOND® C₁₈ ec..... 0,15 g

4877.1	50 x 15 ml	plastic	94,90 €

For further information, please see page 1542

Quercetin



Quercetin

with analytical records

Synthetical from Rutin.

Sophoretin, Meletin

C₁₅H₁₀O₇

M 302,24 g/mol

Storage temp.: +4 °C

[117-39-5] • EC No. 204-187-1

UN No. 2811 • ADR 6.1 III • WGK 3

⚠ Danger H301

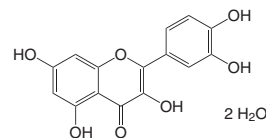
Type analysis:

Purity (HPLC)..... >99 %

Analytical records: HPLC, TLC, ¹H-NMR, ¹³C-NMR, UV, IR, MS, melting point.

1210.1	50 mg	glass	424,65 €

Quercetin dihydrate



Sophoretin, Meletin

C₁₅H₁₀O₇ · 2 H₂O

M 338,27 g/mol

bp 314 °C (dec.)

mp 305-310 °C

[6151-25-3] • EC No. 204-187-1

UN No. 2811 • ADR 6.1 III • WGK 3

⚠ ⚠ Danger H301-H341

Quercetin dihydrate (C.I. 75670)

≥98 %

Storage temp.: +4 °C

Type analysis:

Appearance..... yellow-brown powder

Assay..... ≥98 %

7138.1	25 g	plastic	46,15 €

7138.2	100 g	plastic	149,45 €

Quercetin dihydrate (C.I. 75670)

≥95 %

Storage temp.: +4 °C

Type analysis:

Assay (HPLC)..... ≥95,0 %

Water (KF)..... ≤12 %

2629.1	25 g	plastic	35,40 €

2629.2	50 g	plastic	64,40 €

2629.3	100 g	plastic	117,75 €

Quercetin dihydrate

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤1,0 %

Water (KF)..... ≤15,0 %

Assay (qNMR)..... ≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE27.1	50 mg	glass	704,15 €

Quercetin dihydrate

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC)..... ≥80,0 %

Identity..... complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC27.1	100 mg	glass	217,70 €

Quercetin dihydrate

ROTICHROM® HPLC

Reference substance for HPLC

Synthetic, from rutin.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>99 %

7417.1	10 mg	glass	96,65 €

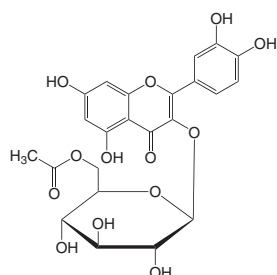
Quercetin-3-arabinoglucoside

► Peltatoside see p. 2024

Quercetin-3-galactoside

► Hyperoside see p. 1895

Quercetin-3-O-glucose-6''-acetate



Quercetin-3-O-glucose-6''-acetate

ROTICHROM® ~CHR

C₂₃H₂₂O₁₃

M 506,42 g/mol

[54542-51-7]

9419.1	10 mg	glass	289,20 €

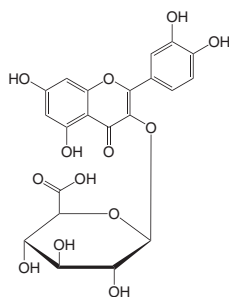
Quercetin-3-glucoside

► Isoquercitrin see p. 1912

Quercetin-4'-glucoside

► Spiraeoside see p. 2165

Quercetin-3-O-β-Glucuronide



C₂₁H₁₈O₁₃

M 478,37 g/mol

[22688-79-5]

WGK 3

Quercetin-3-O-β-Glucuronide

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥90,0 %

Residual solvents (GC).≤2,0 %

Water (KF).....≤8,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE28.1	25 mg	glass	1009,45 €

Quercetin-3-O-β-Glucuronide

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC).....≥80,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC28.1	50 mg	Glas	267,70 €

Quercetin-4'-methyl ether

► Tamarixetin see p. 2196

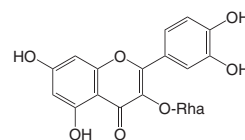
Quercetin-3-rhamnoside

► Quercitrin see p. 2077

Quercetin-3-rutinoside

► Rutin trihydrate see p. 2115

Quercitrin



Quercetin-3-rhamnoside

C₂₁H₂₀O₁₁

M 448,39 g/mol

[522-12-3] • EC No. 208-322-5

WGK 3

Quercitrin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).≤7,0 %

Water (KF).....≤10,0 %

Assay (qNMR).≥80,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE29.1	25 mg	glass	783,70 €

Quercitrin

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC).....≥70,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC29.1	100 mg	glass	334,35 €

Quercitrin

ROTICHROM® HPLC

Reference substance for HPLC

From *Aesculus hippocastanum*

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥99 %

9417.1	10 mg	glass	185,45 €

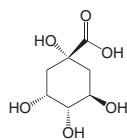
Quicklime

► Calcium oxide see p. 1708

Quinghaosu

► Artemisinin see p. 1656

(-)-Quinic acid



(-)-Quinic acid

≥98 %

For resolutions of racemates for synthesis.

$C_7H_{12}O_6$

M 192,17 g/mol • mp ~160 °C

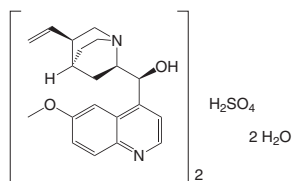
[77-95-2] • EC No. 201-072-8 • WGK 1

Type analysis:

Assay (acidim.) ≥98 %
Melting range 160-165 °C
Specific rotation $[\alpha]_D^{20}$ (c=10 in H_2O) -42° to -44°

8835.1	25 g	plastic	83,35 €
8835.2	100 g	plastic	267,70 €

Quinidine sulphate dihydrate



Quinidine sulphate dihydrate

≥99 %

$(C_{20}H_{24}N_2O_2)_2 \cdot H_2SO_4 \cdot 2 H_2O$

M 782,96 g/mol • bp 212-214 °C

[6591-63-5] • EC No. 200-046-3 • WGK 1

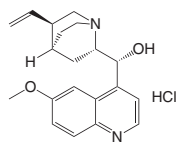
⚠ Warning H302-H317

Type analysis:

Assay ≥99,0 %
pH value 6,0-6,8
Specific rotation $[\alpha]_D^{20}$ +275° to +290°
Loss on drying ≤5,0 %

3348.1	10 g	glass	30,00 €

Quinine hydrochloride dihydrate



Quinine hydrochloride dihydrate

ROTICHRON® CHR

$C_{20}H_{25}ClN_2O_2 \cdot 2 H_2O$

M 396,92 g/mol

mp 115 °C (dec.) • flp 122 °C

Solubility: 62,5 g/l (H_2O , 20 °C)

[6119-47-7] • EC No. 231-437-7 • WGK 1

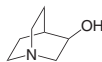
⚠ ⚠ Danger H334-H302-H317

6225.1	25 g	plastic	39,25 €

8-Quinololinol

► 8-Hydroxyquinoline see p. 1893

(R)-3-Quinuclidinol



(R)-3-Quinuclidinol

≥99 %

Chiral building block

$C_7H_{13}NO$

M 127,19 g/mol

[25333-42-0] • EC No. 246-857-6

UN No. 3263 • ADR 8 II • WGK 3

⚠ Danger H314

Type analysis:

Appearance white to off-white solid
Assay (GC) ≥99 %
Enantiomeric excess (GC) ≤1 % (S)-3-Quinuclidinol

7483.1	1 g	glass	27,85 €
7483.2	5 g	glass	81,60 €
7483.3	10 g	glass	134,40 €

R2A-Agar

R2A-Agar

Ph.Eur., for microbiology

For enumeration of heterotrophic bacteria from water samples.

Application: Use 18,1 g for 1 l agar.

Agar medium S (Ph.Eur. 6.0), Reasoner's 2A

Agar

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Yeast extract 0,5 g/l
Peptone 0,5 g/l
Casein hydrolysed 0,5 g/l
Glucose 0,5 g/l
Starch 0,5 g/l
di-Potassium hydrogen phosphate 0,3 g/l
Magnesium sulphate ($MgSO_4$) 0,024 g/l
Sodium pyruvate 0,3 g/l
Agar 15 g/l
pH value 7,2 ± 0,2

CL01.1	500 g	plastic	114,50 €
Original pack 6 x 500 g			108,78/500 g

For further information, please see page 1339

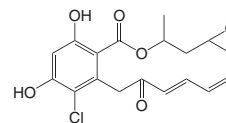
Rabbit Plasma Fibrinogen Supplement

► RPF Supplement see p. 2114

Racemic acid

► DL-Tartaric acid see p. 2197

Radicicol



Radicicol

≥98 %, for biochemistry

Strong HSP90 inhibitor, macrolactone antibiotic. Binds specifically to the heat shock protein HSP90.

$C_{18}H_{17}ClO_6$

M 364,79 g/mol

mp ~207 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[12772-57-5]

⚠ Danger H301-H315-H319-H335

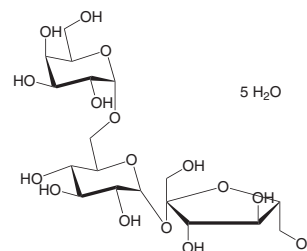
Type analysis:

Assay (HPLC) ≥98 %
Melting point ~207 °C

HN72.1	1 mg	glass	87,00 €
HN72.2	5 mg	glass	349,40 €
HN72.3	10 mg	glass	536,45 €

For further information, please see page 1233

D(+)-Raffinose pentahydrate



D(+)-Raffinose pentahydrate

≥98 %, for biochemistry

Melitose, Melitriose

$C_{18}H_{32}O_{16} \cdot 5 H_2O$

M 594,5 g/mol

mp 78-82 °C

[512-69-6] • EC No. 208-146-9

WGK 1

Type analysis:

Appearance white to almost white powder
Assay (HPLC) ≥98,0 %
Water (KF) ≤16 %
Specific rotation $[\alpha]_D^{20}$ (1 % in H_2O) +103° to +107°
Heavy metals (as Pb) ≤0,001 %
Sulphated ash ≤0,1 %

5241.1	10 g	plastic	32,80 €
5241.4	25 g	plastic	51,50 €
5241.2	50 g	plastic	87,00 €
5241.3	100 g	plastic	134,40 €

Rappaport Vassiliadis Broth

Rappaport Vassiliadis Broth

Ph.Eur., for microbiology

For selective enrichment of *Salmonellae* in foods, water- and other samples.

Application: Use 27,1 g for 1 l broth.

R10 Broth, Rappaport Vassiliadis *Salmonella* Enrichment Broth (Ph.Eur. 6.3, 7.0 and 8.0), RVS Broth

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Anhydrous magnesium chloride.	13,58 g/l
Sodium chloride (NaCl).	8,0 g/l
Soy peptone.	4,5 g/l
Potassium dihydrogen phosphate.	0,6 g/l
di-Potassium hydrogen phosphate.	0,4 g/l
Malachite green.	0,036 g/l
pH value.	5,2 ± 0,2

CL03.1	500 g	plastic	87,65 €

Original pack 6 x 500 g 83,27/500 g

For further information, please see page 1340

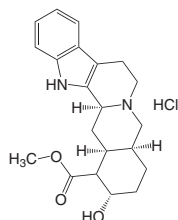
Raubasine

► Ajmalicine see p. 1619

Rauhimbine

► Corynanthine see p. 1748

Rauwolscline hydrochloride



Rauwolscline hydrochloride

ROTICHRON® ~CHR

α-Yohimbine hydrochloride

C₂₁H₂₆N₂O₃ · HCl

M 390,91 g/mol

mp 270-280 °C

[6211-32-1] • EC No. 228-279-6

UN No. 1544 • ADR 6.1 II • WGK 1

⚠ Danger H301

7144.1	100 mg	glass	16,70 €

7144.2	1 g	glass	94,10 €

RBC Agar

► Bengal Red Agar (with chloroamphenicol) see p. 1668

RBS® 25

RBS® 25

concentrated liquid, pH 13

For manual, automatic and ultrasonic bath cleaning.

D 1,094

UN No. 3266 • ADR 8 II • WGK 1

⚠ Danger H290-H314-EUH031

AL89.1	5 l	plastic	57,95 €

For further information, please see page 1065

RBS® 35

RBS® 35

concentrated liquid, pH 12,9

For manual or automatic cleaning

D 1,09

UN No. 1824 • ADR 8 III

⚠ Danger H290-H314-EUH031

9238.1	1 l	plastic	15,90 €

9238.2	5 l	plastic	65,40 €

9238.4	20 kg	plastic	188,15 €

For further information, please see page 1065

RBS® 50

RBS® 50

concentrated liquid, pH 13,6

Universal cleaner

D 1,244

UN No. 3266 • ADR 8 I

⚠ Danger H290-H314-EUH031

9232.1	1 l	plastic	20,70 €

9232.2	5 l	plastic	92,45 €

9232.4	20 kg	plastic	260,15 €

For further information, please see page 1065

RBS® A 375

RBS® A 375

pH ~1

Liquid, acidic pre-rinse and neutralisation agent for automatic dishwashers.

D 1,14

WGK 1

⚠ Danger H315-H318

TK44.1	5 l	plastic	42,80 €

For further information, please see page 1067

RBS® B 210 T

RBS® B 210 T

pH 9,7

Mildly alkaline detergent for dishwashers.

D 1,178

WGK 2

⚠ Danger H318

KC19.1	5 l	plastic	64,20 €

For further information, please see page 1067

RBS® IND 470

RBS® IND 470

Alkaline liquid cleaning concentrate, pH 14,0

D 1,06

UN No. 1814 • ADR 8 II • WGK 2

⚠ Danger H290-H314

TA00.1	5 l	plastic	49,25 €

TA00.2	20 kg	plastic	149,45 €

For further information, please see page 1066

RBS® NA 2

RBS® NA 2

concentrated liquid pH 1

For prewash and neutralisation in lab washing systems.

D 1,378

UN No. 1805 • ADR 8 III • WGK 1

⚠ Danger H290-H314

AL93.1	5 l	plastic	53,55 €

For further information, please see page 1067

RBS® Neutral T

RBS® Neutral T

concentrated liquid, pH 6,3

For manual or automatic cleaning of sensitive objects

D 1,072

WGK 1

 **Danger** H318

0180.1	1 l	plastic	16,15 €
0180.2	5 l	plastic	61,85 €
0180.4	20 kg	plastic	192,45 €

For further information, please see page 1065

RBS® pF T

RBS® pF T

concentrated liquid, pH 13,1

Phosphates-free detergent for manual and automatic cleaning.

D 1,072

UN No. 1824 • ADR 8 III

 **Danger** H290-H314

9243.1	1 l	plastic	15,60 €
9243.2	5 l	plastic	65,05 €
9243.4	20 kg	plastic	209,65 €

For further information, please see page 1066

RBS® R 60

RBS® R 60

concentrated liquid, pH 1,3

For secondary cleaning and neutralisation in lab washing systems.

D 1,016

UN No. 2924 • ADR 3 III • WGK 1

  **Warning**

H226-H290-H315-H319-H412

AL94.1	5 l	plastic	53,55 €

For further information, please see page 1067

RBS® R 60 pF

RBS® R 60 pF

concentrated liquid, pH ~1

For secondary cleaning and neutralisation in lab washing systems, phosphate free.

D 1,013

UN No. 1987 • ADR 3 III • WGK 1

  **Warning** H226-H315-H319-H412

AL96.1	5 l	plastic	64,30 €

For further information, please see page 1067

RBS® Solid

RBS® Solid

pH (3 g/l) ~11

Powder-based, alkaline high-performance detergent for laboratory dishwashers.

D 1,03

UN No. 1759 • ADR 8 II

   **Danger**

H290-H332-H314-H335-H411-EUH031

5715.1	5 kg	plastic	54,30 €

For further information, please see page 1067

RBS® T 105

RBS® T 105

Alkaline liquid cleaning concentrate, pH 13,3

D 1,12

WGK 1

 **Warning** H319

PY99.1	5 l	plastic	36,35 €

For further information, please see page 1066

RBS® T 115

RBS® T 115

Alkaline, liquid cleaning concentrate

UN No. 1824 • ADR 8 III

 **Danger** H290-H314

LY18.1	5 l	plastic	38,20 €

For further information, please see page 1066

RBS® T 230

RBS® T 230

Neutral, liquid cleaning concentrate

WGK 1

 **Danger** H318

LY17.1	5 l	plastic	36,05 €

For further information, please see page 1066

RBS® T 305

RBS® T 305

concentrated liquid, pH 1,0

For cleaning in immersion baths and ultrasonic baths

D 1,4

UN No. 1805 • ADR 8 III • WGK 2

 **Danger** H290-H314

KT39.1	5 l	plastic	47,20 €

For further information, please see page 1066

RCM

► Reinforced Clostridial Medium see p. 2082

Ready made gels

► Roti®-PAGE gels ready-to-use see p. 2106

Ready made media

- Compact Dry see p. 1743
- Roti®-Aquatest Plates see p. 2087
- Roti®-ContiPlates see p. 2094
- Roti®-DipSlides see p. 2095

Ready made primers

- Roth Hexanucleotide Random-Primer Mix see p. 2087
- Roth poly d(T)₁₂₋₁₈ Primer see p. 2087
- Roth Random-Primer kits for RAPD-PCR see p. 2087

Ready made Solutions

Art. No.	Description	Page
3130	Ammonium iron(III) citrate solution	1348
6484	Decalcifier soft	1383
6483	Decalcifier standard	1383
CP11	Geneticin disulphate (G418)-solution	1374
2039	Geneticin disulphate (G418)-solution	1375
HN09	Gentamycin sulphate solution	1375
2475	Gentamycin sulphate solution	1375
9465	Guanidine hydrochloride solution	1864
6477	HCl-ethanol solution 3 %	1382
CP12	Hygromycin B solution	1376
1287	Hygromycin B solution	1376
2950	Kovacs' Reagent	1354
P049	Protein glycerol	2070
X985	Roti®-Aqua-P/C/I	2107
A980	Roti®-Aqua-Phenol	2107
A151	Roti®-Block	2089
L509	Roti®-Blot 1	2089
P039	Roti®-Blot 2	2089
X984	Roti®-C/I	2089
A538	Roticlear®	2094
2913	Roti®-Fect RNAi Buffer	2097
CL85	Roti®-Fix spray fixative	2097
3337	Roti®-Free Stripping Buffer 2.2 plus	2097
3319	Roti®-Free Stripping Buffer 2.0	2097
0083	Roti®-Free Stripping Buffer	2097
6640	Roti®-Histol	2099
A981	Roti®-Hybri-Quick	2099
T144	Roti®-ImmunoBlock	2099
AN91	Roti®-Liquid Barrier Marker, colourless	2100
AN92	Roti®-Liquid Barrier Marker, red	2100
3734	Roti®-Lumin ultra	2101
3692	Roti®-Lumin plus	2101
P078	Roti®-Lumin	2101
K880	Roti®-Nanoquant	2106
HP69	Roti® Nucleic Acid-free	2106
0038	Roti®-Phenol	2107
A156	Roti®-Phenol/Chloroform/Isoamyl alcohol	2107
HP54	Roti®-PinkDNA	2109
K015	Roti®-Quant	2110
0120	Roti®-Quant universal	2110
0642	Roti®-Sep 1077	2111
1058	Roti®-Stock 10x PBS	2112
1059	Roti®-Stock 10x PBST	2112

1057	Roti®-Stock 20 % SDS	2112
1054	Roti®-Stock 20x SSC	2112
1060	Roti®-Stock 10x TBS	2112
1061	Roti®-Stock 10x TBST	2112
1052	Roti®-Stock 100x TE	2112
0016	Rotisint® eco plus	2113
7735	Rotitest®-Annexin V	2113
0069	Rotitest® Vital	2113
T143	Water	2241

Ready made solutions, others

- ▶ Embedding- / Inclusion Media see p. 1803
- ▶ Staining Solutions for Histology / Microscopy see p. 2166
- ▶ Formaldehyde Solutions, Phosphate Buffered see p. 1839
- ▶ Gel Staining Solutions and Kits see p. 1847
- ▶ Gel Media and Additives see p. 1846
- ▶ Gel Loading Buffer see p. 1846
- ▶ Gel Running Buffer see p. 1846
- ▶ Nucleotides / Nucleosides see p. 1846
- ▶ Cell Culture Ready Made Solutions see p. 1723
- ▶ Cell Culture Media see p. 1722

Reagents for water analysis

- ▶ Karl Fischer Roti®hydroquant C2 see p. 1916
- ▶ Karl Fischer Roti®hydroquant S see p. 1916
- ▶ Karl Fischer Roti®hydroquant T see p. 1917
- ▶ Karl Fischer methanol see p. 1916
- ▶ Karl Fischer Roti®hydroquant C5 K see p. 1916

Reagents for Peptide Synthesis

Art. No.	Description	Page
4483	Acetic acid anhydride	1600
4380	Acetonitrile	1439
2131	O-(7-Azabenzotriazol-1-yl)-N,N,N',N'-tetra-methyluronium hexafluorophosphate (HATU)	1660
2148	O-(7-Azabenzotriazole-1-yl)-N,N,N',N'-tetra-methyluronium tetrafluoroborate (TATU)	1660
2168	Benzotriazole-1-yl-oxy-tris-(dimethylamino)-phosphonium hexafluorophosphate (BOP)	1671
2178	Benzotriazole-1-yl-oxy-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBOP®)	1672
2132	O-(Benzotriazol-1-yl)-N,N,N',N'-tetra-methyluronium hexafluorophosphate (HBTU)	1672
2140	O-(Benzotriazol-1-yl)-N,N,N',N'-tetra-methyluronium tetrafluoroborate (TBTU)	1672
6907	Boc-L-Alanine	1681
6914	Boc-L-Arginine hydrochloride monohydrate	1681
6915	Boc-L-Asparagine	1681
8846	Boc-L-Aspartic acid-(OBenzyl)	1682
6917	Boc-L-Glutamic acid	1682
6916	Boc-L-Glutamine	1682
6918	Boc-Glycine	1682
6920	Boc-L-Histidine	1682
6921	Boc-L-Hydroxyproline	1682
6923	Boc-L-Isoleucine monohydrate	1683
6924	Boc-L-Leucine monohydrate	1683

6942	Boc-L-tert-Leucine	1683
6926	Boc-L-Lysine	1683
6928	Boc-L-Methionine	1683
6931	Boc-L-Phenylalanine	1683
6932	Boc-L-Proline	1684
6933	Boc-L-Serine	1684
6935	Boc-L-Threonine	1684
6945	Boc-L-Tryptophan	1684
6949	Boc-L-Tyrosine	1684
6950	Boc-L-Valine	1684
2200	Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate (PyBOP®)	1692
6992	1,1'-Carbonyldiimidazole (CDI)	1715
6636	Cbz-cyclohexyl-L-glycine	1721
2112	O-(1H-6-Chlorobenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate (HCTU)	1729
6893	4-((6-Chloro-1H-benzo[d][1,2,3]triazol-1-yl)oxy)(dimethylamino)methylene)morpholin-4-ium hexafluorophosphate (HDMC)	1730
2123	6-Chloro-benzotriazole-1-yl-oxy-tris-pyrrolidinophosphonium hexafluorophosphate (PyClock®)	1730
6890	O-(6-Chlorobenzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TCTU)	1730
7405	2-Chlorotriyl chloride resin	1732
2100	1-[(1-(Cyano-2-ethoxy-2-oxo-ethylideneaminoxy)dimethylamino-morpholino)] uronium hexafluorophosphate (COMU®)	1752
6985	Di-tert-butyl dicarbonate	1769
P089	Dichloromethane	1439
4193	N,N'-Dicyclohexylcarbodiimide (DCC)	1772
2103	3-(Diethoxy-phosphoryloxy)-1,2,3-benzotriazin-4-(3H)-one (DEPBT)	1773
6981	N,N'-Diisopropylcarbodiimide (DIC)	1780
2474	N,N-Diisopropylethylamine (DIPEA)	1439
3617	N,N-Dimethylacetamide	1439
6888	1-[(Dimethylamino)(morpholino)methylene]-1H-[1,2,3]triazolo[4,5-b]pyridine-1-ium 3-oxide hexafluorophosphate (HDMMA)	1782
6988	4-(Dimethylamino)pyridine (DMAP)	1783
A529	N,N-Dimethylformamide (DMF)	1439
2110	N,N'-Disuccinimidyl carbonate (DSC)	1789
2125	O-[(Ethoxycarbonyl)cyanomethylenamino]-N,N,N',N'-tetramethyluronium tetrafluoroborate (TOTU)	1812
6891	Ethyl cyanoglyxylate-2-oxyme potassium salt (K-Oxyma)	1813
2120	(Ethylcyano(hydroxyimino)-acetato-O ² -)-tri-1-pyrrolidinylphosphonium hexafluorophosphate (PyOxim)	1813
2156	1-Ethyl-3-(3-dimethylamino-propyl)carbodiimide hydrochloride (EDC-HCl)	1814
2118	Ethyl(hydroxyimino)-cyanoacetate (Oxyma Pure)	1818
2201	9-Fluorenylmethoxycarbonyl chloride	1829
6646	Fmoc-L-Alanine monohydrate	1831
7400	Fmoc-8-Amino-3,6-dioxaoctanoic acid	1831
8833	Fmoc-L-Arginine-(Pbf)	1831
6897	Fmoc-L-Asparagine	1831
9652	Fmoc-L-Asparagine-(Trityl)	1831
6641	Fmoc-L-Aspartic acid-(OAllyl)	1832
9654	Fmoc-L-Aspartic acid-(OtBu)	1832
7369	Fmoc-L-β-Azidoalanine	1832
7363	Fmoc-L-γ-Azidoalanine	1832
7357	Fmoc-L-Azidolysine	1832
7362	Fmoc-L-Azidoornithine	1832
7485	Fmoc-L-4-Azidophenylalanine	1833
7367	Fmoc-L-4-Azidoproline (2S,4R)	1833
8842	Fmoc-L-Cysteine-(Acetamidomethyl)	1833
8841	Fmoc-L-Cysteine-(Trityl)	1833

9655	Fmoc-L-Glutamic acid-(OtBu) monohydrate	1833
6898	Fmoc-L-Glutamine	1834
9653	Fmoc-L-Glutamine-(Trityl)	1834
6899	Fmoc-Glycine	1834
8843	Fmoc-L-Histidine-(Trityl)	1834
6647	Fmoc-L-Isoleucine	1834
6896	Fmoc-L-Arginine	1834
6654	Fmoc-L-Leucine	1835
6900	Fmoc-L-Lysine	1835
8840	Fmoc-L-Lysine-(Boc)	1835
6656	Fmoc-L-Methionine	1835
6658	Fmoc-L-Phenylalanine	1835
6659	Fmoc-L-Proline	1836
7491	Fmoc-L-Propargylglycine	1836
6901	Fmoc-L-Serine monohydrate	1836
9666	Fmoc-L-Serine-(tBu)	1836
9659	Fmoc-L-Threonine-(tBu)	1836
6903	Fmoc-L-Tryptophan	1837
9668	Fmoc-L-Tryptophan-(Boc)	1837
6906	Fmoc-L-Tyrosine	1837
9669	Fmoc-L-Tyrosine-(tBu)	1837
6660	Fmoc-L-Valine	1837
6665	N-Formyl-L-leucine	1840
2473	1,1,1,3,3,3-Hexafluoro-2-propanol	1439
6662	L-Hydroxyproline methylester hydrochloride	1892
9670	N-Hydroxysuccinimide	1893
6664	L-tert-Leucine methylester hydrochloride	1930
P052	N-Methyl-2-pyrrolidone (NMP)	1970
7840	H ₂ N-PEG4-Alkyne	2022
7842	HOOC-PEG4-Alkyne	2022
7838	NHS-PEG5-Alkyne	2022
7830	H ₂ N-PEG3-Azide	2022
7829	H ₂ N-PEG8-Azide	2023
7823	NHS-PEG4-Azide	2022
A122	Piperidine	2043
7515	Rink amide resin	2086
7408	Sieber amide resin	2127
2130	O-(N-Succinimidyl)-N,N,N',N'-tetra-methyluronium tetrafluoroborate (TSTU)	2187
P088	Trifluoroacetic acid	2220
7506	Wang resin	2240
3478	Water	2241

Red prussiate of potash

- ▶ Potassium hexacyanoferrate(III) see p. 2055

Reinecke salt monohydrate

Reinecke salt monohydrate

≥93%, p.a., ACS

Ammonium tetrathiocyanato-diamminechromate(III) monohydrate

$\text{NH}_4[\text{Cr}(\text{SCN})_4(\text{NH}_3)_2] \cdot \text{H}_2\text{O}$

M 354,45 g/mol

mp 268-272 °C (dec.)

[13573-17-6] • EC No. 237-003-3

WGK 3

⚠ **Warning** H302+H312+H332-H315-H319-H335-H412-EU032

Guarantee analysis:

Appearance..... red-brown to purple powder

Assay..... ≥93,0 %

In diluted HCl insoluble matter..... ≤0,05 %

Sensitivity..... complies

6629.1	25 g	glass	53,25 €

6629.2	100 g	glass	156,85 €

Reinforced Clostridial Medium

Reinforced Clostridial Medium

Ph.Eur., for microbiology

For enrichment and enumeration of *Clostridia* and other anaerobes from foods and other specimens.

Application: Use 38 g for 1 l broth.

Medium P (Ph.Eur. 6.0), Reinforced Medium for *Clostridia* (Ph.Eur. 6.3, 7.0 and 8.0), **RCM**

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Beef extract..... 10 g/l

Peptone..... 10 g/l

Yeast extract..... 3 g/l

Soluble starch..... 1 g/l

Glucose monohydrate..... 5 g/l

Cystein hydrochloride..... 0,5 g/l

Sodium chloride (NaCl)..... 5 g/l

Sodium acetate..... 3 g/l

Agar..... 0,5 g/l

pH value..... 6,8 ±0,2

AE66.1	500 g	plastic	97,30 €

Original pack 6 x 500 g 92,44/500 g

For further information, please see page 1340

Renardin

► Senkirkine see p. 2125

Q/R

Rennase

► Rennin see p. 2082

Rennin

Rennin

for biochemistry

Chymosin, rennase, lab

M ~31000 g/mol

Storage temp.: +4 °C

[9001-98-3] • EC No. 232-645-0

⚠ ⚠ **Danger** H334-H335-H315-H319

Type analysis:

Appearance..... light brown, saline powder

Odour..... typical odour of rennin

Chymosin..... ≥95 %

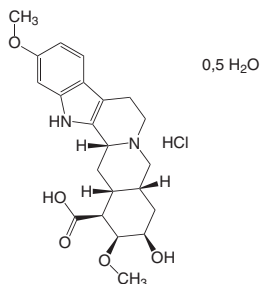
Pepsin..... ≤5 %

Rennet strength..... ≥800 IMCU/g

Preserved with benzoic acid. From the fourth calf stomach.

8178.1	50 g	plastic	54,75 €

Reserpine acid hydrochloride hemihydrate



Reserpine acid hydrochloride hemihydrate

ROTICHRON® ~CHR

$\text{C}_{22}\text{H}_{28}\text{N}_2\text{O}_5 \cdot \text{HCl} \cdot 0,5 \text{H}_2\text{O}$

M 445,91 g/mol

mp 259-265 °C

UN No. 1544 • ADR 6.1 II

⚠ **Danger** H301

4295.1	100 mg	glass	42,90 €

Resorcin blue

► Lacmoid see p. 4000

Resorcinol



Resorcinol

≥99 %, for biochemistry

Reagent on alkaloids, aldehydes and invert sugar.

1,3-Dihydroxybenzene, 1,3-Benzenediol

$\text{C}_6\text{H}_6\text{O}_2$

M 110,11 g/mol

bp 281 °C

mp 109-111 °C • flp 127 °C

Solubility: 1400 g/l (H_2O , 20 °C)

[108-46-3] • EC No. 203-585-2

UN No. 2876 • ADR 6.1 III • WGK 2

⚠ ⚠ **Warning** H400-H302-H315-H319

Type analysis:

Assay..... ≥99,0 %

In H_2O insoluble matter..... ≤0,01 %

Melting range..... 109-111 °C

Loss on drying..... ≤1,0 %

5727.1	100 g	plastic	19,25 €

5727.2	500 g	plastic	49,35 €

Original pack 6 x 500 g 46,88/500 g

5727.3	1 kg	plastic	84,85 €

Original pack 6 x 1 kg 80,61/1 kg

5727.4	2,5 kg	plastic	184,40 €

Resorcinol

► Resorcinol see p. 2082

Resorcinol-Fuchsine-solution acc. to Weigert

Resorcinol-Fuchsine-solution acc. to Weigert

for microscopy

For visualising elastic fibres.

WEIGERT'S Resorcinol-Fuchsine-solution

UN No. 1993 • ADR 3 II • WGK 1

⚠ ⚠ ⚠ **Danger** H225-H302+H312+H332-H319-H317-H370-H336

Type analysis:

Suitability for microscopy (tissue section)..... complies

X877.1	500 ml	glass	31,10 €

X877.2	1 l	glass	52,15 €

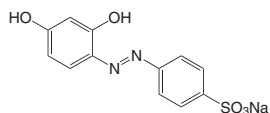
Original pack 6 x 1 l 49,54/1 l

X877.3	2,5 l	plastic	107,40 €

Original pack 4 x 2,5 l 102,03/2,5 l

For further information, please see page 1394

Resorcinol yellow (C.I. 14270)



Resorcinol yellow (C.I. 14270)

extra pure

Indicator pH 11,0-12,7

Tropaeolin O sodium salt

 $C_{12}H_9NaN_2O_5S$

M 316,27 g/mol

[547-57-9]

WGK 3

Type analysis:

Appearance: dark orange to rust colored powder

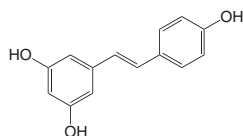
Appearance of solution (10 mg/ml in 1 N NH_3):

.....clear, red brown

pH-transition range: 11,0 (yellow)-12,7 (red)

7741.1	5 g	glass	13,15 €
7741.2	25 g	glass	22,50 €
7741.3	100 g	glass	55,80 €

Resveratrol



Resveratrol

≥98 %

trans-3,4',5'-Trihydroxystilbene

 $C_{14}H_{12}O_3$

M 228,25 g/mol

Storage temp.: +4 °C

[501-36-0]

⚠ Warning H319

Type analysis:

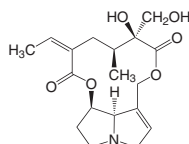
Appearance: white powder

Assay (HPLC, dry substance): ≥98,0 %

Loss on drying: ≤7,0 %

N811.1	500 mg	glass	42,90 €
N811.2	1 g	glass	69,80 €
N811.3	5 g	glass	148,90 €

Retrorsine



Retrorsine

ROTICHRUM® HPLC

Reference substance for HPLC

From *Senecio retrorsus*.

β-Longilobin, 12,18-Dihydroxysenecionan-11,16-dione

 $C_{18}H_{25}NO_6$

M 351,40 g/mol

Storage temp.: +4 °C

[480-54-6]

UN No. 1544 • ADR 6.1 II • WGK 1

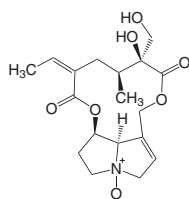
⚠ Danger H300+H330-H311

Type analysis:

Purity (HPLC): >98 %

1213.1	20 mg	glass	241,90 €

Retrorsine-N-oxide



Retrorsine N-oxide

ROTICHRUM® HPLC

Reference substance for HPLC.

From *Senecio retrorsus*.

12,18-Dihydroxysenecionan-11,16-dione-4-oxide, Isatidine

 $C_{18}H_{25}NO_7$

M 367,40 g/mol

mp 140-144 °C

Storage temp.: +4 °C

[15503-86-3]

UN No. 1544 • ADR 6.1 II • WGK 1

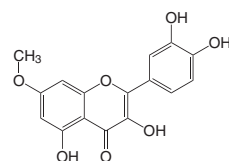
⚠ ⚠ Danger H300-H373

Type analysis:

Purity (HPLC): ≥97 %

6733.1	10 mg	glass	252,65 €

Rhamnetin



Rhamnetin

ROTICHRUM® HPLC

Reference substance for HPLC

7-Methylquercetin, β-Rhamnocitrin

 $C_{16}H_{12}O_7$

M 316,27 g/mol

Storage temp.: +4 °C

[90-19-7] • EC No. 201-974-1

Type analysis:

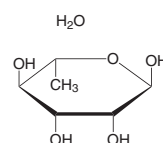
Purity (HPLC): ≥99 %

7418.1	10 mg	glass	209,65 €

β-Rhamnocitrin

► Rhamnetin see p. 2083

L(+)-Rhamnose monohydrate



L(+)-Rhamnose monohydrate

≥99 %, for biochemistry

Isodulcitol, L-Mannomethylose

 $C_6H_{12}O_5 \cdot H_2O$

M 182,17 g/mol

mp 88-92 °C

[3615-41-6] • EC No. 222-793-4

Type analysis:

Assay (HPLC): ≥99 %

Water (KF): 8,5-10,5 %

Melting point: 88-92 °C

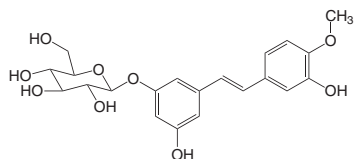
Specific rotation $[\alpha]_D^{20}$ (10 % in H_2O): +8,5° to +9,5°

4655.1	5 g	glass	28,50 €
4655.2	25 g	plastic	77,30 €

Rhamnoxanthine

► Frangulin (A+B) see p. 1841

Rhaponticin



Rhapontin
 $C_{21}H_{24}O_9$
 M 420,40 g/mol
 mp 233-237 °C
 Storage temp.: +4 °C
 [155-58-8] • EC No. 205-845-0

Rhaponticin

ROTICHRON® TLC

Reference substance for thin layer chromatography

5804.1	100 mg	glass	52,60 €

Rhaponticin

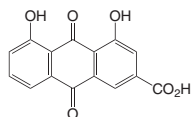
ROTICHRON® ~CHR

7152.1	1 g	glass	40,75 €

Rhapontin

► Rhaponticin see p. 2084

Rhein



Cassia acid, Monorhein
 $C_{15}H_8O_6$
 M 284,23 g/mol
 mp 321-324 °C
 Storage temp.: +4 °C
 [478-43-3] • EC No. 207-521-4
 WGK 2

⚠ Warning H315-H319-H335

Rhein

ROTICHRON® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

7419.1	10 mg	glass	170,95 €

Rhein

ROTICHRON® CHR

8868.1	50 mg	glass	51,10 €

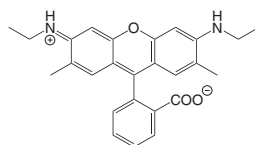
Rhenium Standards

- Rhenium ICP Standard Solution see p. 2172
- Rhenium ICP Standard Solution see p. 2177

Rhinanthin

► Aucubin see p. 1659

Rhodamine 575



Rhodamine 575

≥98 %

Laser and scintillation dye

Rhodamine 19

$C_{26}H_{26}N_2O_3$

M 414,51 g/mol

mp 313-317 °C

Solubility: insoluble (H_2O , 20 °C)

[25152-49-2] • EC No. 246-666-8

WGK 3

Type analysis:

Appearance..... coralred cryst. powder

Assay (HPLC)..... ≥98 %

Maximum absorption..... 518 ±2 nm (MeOH)

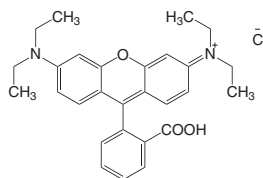
7310.1	100 mg	glass	22,25 €

7310.2	500 mg	glass	38,60 €

Rhodamine 19

► Rhodamine 575 see p. 2084

Rhodamine B (C.I. 45170)



Rhodamine B (C.I. 45170)

for microscopy

Oil-soluble red A, Safraniline, Rosaceine

$C_{28}H_{31}ClN_2O_3$

M 479,02 g/mol

D 1,31

mp 199-201 °C

Solubility: 15 g/l (H_2O , 20 °C)

[81-88-9] • EC No. 201-383-9

WGK 2

⚠ Danger H318-H412

Type analysis:

Dye content..... ~80 %

Maximum absorption..... 540-560 nm

Loss on drying (60 °C)..... ≤5,0 %

T130.1	25 g	glass	30,00 €

Rhodamine B-spray solution

Rhodamine B-spray solution

for TLC

Ready-to-use spray solution for detection of lipids.

0,1 g Rhodamine B dissolved in 100 ml ethanol.

UN No. 1170 • ADR 3 II • WGK 2

⚠ Danger H225

Type analysis:

TLC-application..... complies

CP37.1	100 ml	glass	34,50 €

Rhodamine-12-dUTP

Rhodamine-12-dUTP

≥95 %, 1 mM solution

For non-radioactive, enzymatic labelling of DNA.

Rhodamine-6-carboxyaminoacroyl-[5-(3-aminoallyl)-2'-desoxyuridine-5'-triphosphate]

$C_{39}H_{41}N_6O_{19}P_3$

M 990,7 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

1049.1	25 nmol (25 µl)	plastic	166,65 €

1049.2	50 nmol (50 µl)	plastic	289,20 €

For further information, please see page 1212

Rhodium Standards

► Rhodium ICP Standard Solution see p. 2172

Rhodium(III)ammonium chloride

► Ammonium hexachlororhodate(III) see p. 1638

Rhodium(III) chloride hydrate

Rhodium(III) chloride hydrate

ROTI®METIC 99,95 % (3N5)

Rhodium trichloride hydrate

$RhCl_3 \cdot x H_2O$

M 209,26 + x H_2O g/mol

[20765-98-4] • EC No. 233-165-4

UN No. 3260 • ADR 8 III • WGK 1

⚠ ⚠ Danger H302-H318

Type analysis:

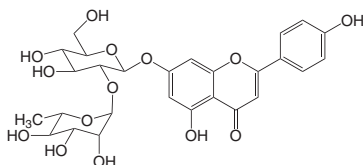
Assay (metals basis)..... 99,95 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5668.1	1 g	plastic	482,70 €

Rhodium trichloride hydrate

► Rhodium(III) chloride hydrate see p. 2084

Rhoifolin

Apigenin-7-rhamnogluconide
 $C_{27}H_{30}O_{14}$
 M 578,54 g/mol
 mp 190-200 °C
 Storage temp.: +4 °C
 [17306-46-6] • EC No. 241-335-4

Rhoifolin

ROTICHROM® HPLC

Reference substance for HPLC

Type analysis:

Purity (HPLC)..... ≥99 %

7420.1	25 mg	glass	428,95 €

Rhoifolin

ROTICHROM® ~CHR

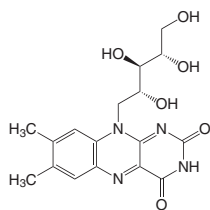
Type analysis:

Appearance..... yellow powder
 Melting point..... 190-200 °C

9247.1	500 mg	glass	170,95 €

Ribitol

▶ Adonitol see p. 1616

Riboflavin**Riboflavin**

≥97 %, Ph.Eur., for biochemistry

Lactoflavin, Vitamin B₂

$C_{17}H_{20}N_4O_6$
 M 376,37 g/mol
 mp ~280 °C

[83-88-5] • EC No. 201-507-1
 WGK 1

Guarantee analysis:

Appearance..... yellow to orange-yellow cryst. powder
 Assay (UV-absorption, dry substance)..... 97,0-103,0 %
 Specific rotation $[\alpha]_D^{20}$ (0,5 % in 0,05 N NaOH)..... -115° to -135°
 Absorption..... complies
 Sulphated ash..... ≤0,1 %
 Loss on drying (105 °C)..... ≤1,5 %
 Related substances..... complies

9607.1	25 g	plastic	27,85 €

Riboflavin-5'-adenosine-diphosphate disodium salt

▶ Flavin-adenine-dinucleotide disodium salt
 see p. 1828

D(-)-Ribofuranose

▶ D(-)-Ribose see p. 2085

D-Ribofuranose 5-phosphate disodium salt

▶ D-Ribose-5-phosphate disodium salt
 see p. 2085

9-β-D-Ribofuranosyladenine

▶ Adenosine see p. 1615

Ribonuclease**Ribonuclease**

>70 U/mg (Kunitz), free from salt and protease

Purified by chromatography, for biochemistry.

RNase

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-99-4] • EC No. 232-646-6

WGK 1

⚠ Danger H334

Type analysis:

Appearance..... white, freeze-dried powder
 Activity (Kunitz)..... >70 U/mg

7164.1	100 mg	glass	27,85 €

7164.2	1 g	glass	181,70 €

For further information, please see page 1194

Ribonuclease A**Ribonuclease A**

90 U/mg (Kunitz), BioScience-Grade,
 free from salt

Acc. to Hirs, extracted from bovine pancreas.

RNase A

M ~13 700 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[9001-99-4] • EC No. 232-646-6

WGK 1

⚠ Danger H334

Type analysis:

Appearance..... white, freeze-dried powder
 Assay (IEC, Amberlit CG50)..... >95 %
 Solubility (2 mg/ml, H₂O)..... clear, soluble
 Activity (Kunitz)..... ~90 U/mg
 DNase..... none detected
 Protease..... none detected

7156.1	100 mg	glass	67,20 €

7156.2	500 mg	glass	299,95 €

7156.3	1 g	glass	493,45 €

For further information, please see page 1194

Ribonucleic acid sodium salt**Ribonucleic acid sodium salt**

for biochemistry

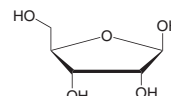
Sodium nucleinate

Storage temp.: +4 °C

Type analysis:

Appearance..... yellowish powder

4362.1	25 g	plastic	35,40 €

D(-)-Ribose**D(-)-Ribose**

≥98 %, for biochemistry

D(-)-Ribofuranose

 $C_5H_{10}O_5$

M 150,13 g/mol

D 0,80

mp 90-95 °C

Storage temp.: +4 °C

[50-69-1] • EC No. 200-059-4

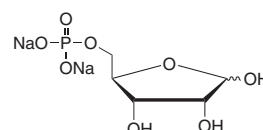
Type analysis:

Appearance..... colourless to light yellow, cryst. powder
 Assay (HPLC, dry substance)..... ≥98,0 %
 Specific rotation $[\alpha]_D^{20}$ -18° to -22°
 Loss on drying..... ≤3,0 %
 Heavy metals..... ≤0,001 %
 Sulphated ash..... ≤0,2 %

7168.1	10 g	plastic	27,85 €

7168.3	25 g	plastic	44,85 €

7168.2	100 g	plastic	142,45 €

D-Ribose-5-phosphate disodium salt**D-Ribose-5-phosphate disodium salt**

≥85 %, for biochemistry

D-Ribofuranose 5-phosphate disodium salt,
 R-5-P-Na₂

 $C_5H_9Na_2O_8P$

M 274,08 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[18265-46-8] • EC No. 242-140-7

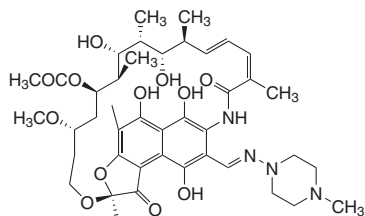
Type analysis:

Assay (titr.)..... ≥85,0 %
 Solution (5 % in H₂O)..... colourless to light yellow
 Water (KF)..... ≤15,0 %
 pH value (1 % in H₂O)..... 6,5-7,5
 Heavy metals (as Pb)..... ≤0,002 %

5253.1	250 mg	glass	24,20 €

5253.2	1 g	glass	55,80 €

Rifampicin



Rifampicin

≥90 %, for biochemistry

Bacteriostatic antibiotic

Art. No. 4163.3: A stock solution with a concentration of 100 mg/ml can be prepared directly by adding 5 ml DMSO.

3-(4-Methylpiperazinyliminomethyl)rifamycin SV

C₄₃H₅₈N₄O₁₂

M 822,94 g/mol

Storage temp.: +4 °C

[13292-46-1] • EC No. 236-312-0

WGK 1

⚠ Warning H302-H315-H319-H335

Type analysis:

Assay (HPLC) ≥90 %
Solution (5% in chloroform) orange to dark brown
Loss on drying (80 °C, vacuum) ≤2 %
Sulphated ash ≤0,1 %

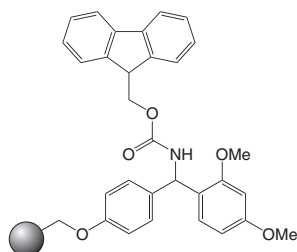
4163.1	500 mg	glass	28,95 €

4163.3	500 mg (in a 10 ml glass bottle)		36,05 €

4163.2	1 g	glass	50,00 €

For further information, please see page 1379

Rink amide resin



Rink amide resin

100-200 mesh, 1 % DVB

For peptide synthesis

4-(2',4'-Dimethoxyphenyl-Fmoc-aminomethyl)phenoxy resin
WGK 1

Type analysis:

Appearance white to slightly yellow beads
Loading 0,3-0,8 mmol/g
Identity (IR) complies
Swelling 4,0-7,0 ml/g (DMF, 24 h)
Swelling 4,5-8,5 ml/g (CH₂Cl₂, 24 h)
Kaiser test negative
Loss on drying ≤2 %

7515.1	1 g	glass	32,15 €

7515.2	5 g	plastic	132,15 €

RNA-isolation kit

▶ Roti®-Quick kit see p. 2110

RNase

▶ Ribonuclease A see p. 2085

▶ Ribonuclease see p. 2085

RNase AWAY®

RNase AWAY®

ready-to-use solution for removal of

RNase-contaminations

UN No. 1824 • ADR 8 III

⚠ Warning H315-H319

A998.1	250 ml	plastic	46,55 €

A998.4	475 ml	spray bottle	71,65 €

A998.2	1 l	plastic	96,65 €

Original pack 6 x 1 l			91,82/1 l

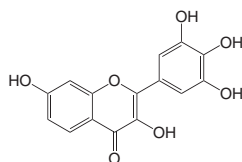
A998.3	4 l	plastic	181,70 €

For further information, please see page 1207

Robigenin

▶ Kaempferol see p. 1915

Robinetin



Robinetin

ROTICHRON® HPLC

Reference substance for HPLC

Norkanugin, 5'-Oxyfisetin

C₁₅H₁₀O₇

M 302,23 g/mol

mp ~300 °C

Storage temp.: +4 °C

[490-31-3] • EC No. 207-709-6

Type analysis:

Purity (HPLC) ≥99 %

7421.1	10 mg	glass	213,95 €

Rogosa Agar

Rogosa Agar

for microbiology

For selective cultivation of lactobacilli.

Application: Use 75 g for 1 l agar.

Lactobacillus Selective Agar acc. to Rogosa

Storage temp.: +20 °C

WGK 1

Formulation:

Sodium acetate 15 g/l
Tryptone 10 g/l
Dextrose 10 g/l
Potassium phosphate 6 g/l
Yeast extract 5 g/l
Sucrose 5 g/l

Arabinose 5 g/l
Ammonium citrate 2 g/l
Polysorbate 80 1 g/l
Magnesium sulphate (MgSO₄) 0,57 g/l
Manganese sulphate 0,12 g/l
Iron sulphate 0,03 g/l
Agar 15 g/l
pH value 5,4 ±0,2

8329.1	500 g	plastic	128,50 €

Original pack 6 x 500 g			122,08/500 g

For further information, please see page 1340

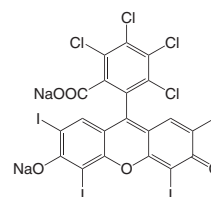
Rongalit®

▶ Sodium formaldehyde sulphonylate dihydrate see p. 2147

Rosaceine

▶ Rhodamine B (C.I. 45170) see p. 2084

Rose Bengale B (C.I. 45440)



Rose Bengale B (C.I. 45440)

for microscopy

4,5,6,7-Tetrachloro-2',4',5',7'-tetraiodo-fluorescein-dipotassium salt

C₂₀H₂Cl₄I₄Na₂O₅

M 1017,65 g/mol

Solubility: 1 g/l (H₂O, 20 °C)

[632-69-9] • EC No. 211-183-3

WGK 2

Type analysis:

Maximum absorption 540-555 nm
Loss on drying (110 °C) ≤5 %

3162.1	50 g	plastic	85,90 €

For further information, please see page 1408

Rose-Gal

▶ 6-Chloro-3-indoxyl-β-D-galactopyranoside see p. 1731

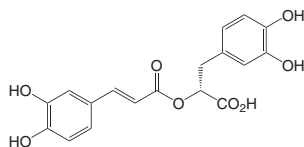
Rose-Glucuro CHASalt

▶ 6-Chloro-3-indoxyl-β-D-glucuronic acid cyclohexylammonium salt see p. 1731

Rose-Phos p-toluidine salt

▶ 6-Chloro-3-indoxyl phosphate p-toluidine salt see p. 1731

Rosmarinic acid



C₁₈H₁₆O₈
M 360,34 g/mol
D 0,91
mp ~170 °C
[20283-92-5]

Rosmarinic acid

ROTI®STAR Primary Standard

Storage temp.: -20 °C
Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥85,0 %
Residual solvents (GC)..... ≤2,0 %
Water (KF)..... ≤5,0 %
Assay (qNMR)..... ≥80,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE30.1	50 mg	glass	891,20 €

Rosmarinic acid

ROTICHROM® Working Standard

Storage temp.: -20 °C • Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥85,0 %
Identity..... complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC30.1	100 mg	glass	284,90 €

Rosmarinic acid

ROTICHROM® HPLC

Reference substance for HPLC
Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... ≥99 %

N816.1	10 mg	glass	149,45 €

Rosmarinic acid

ROTICHROM® ~CHR

Storage temp.: +4 °C

A558.1	100 mg	glass	224,70 €

Roth Hexanucleotide Random-Primer Mix

Roth Hexanucleotide Random-Primer Mix

HPLC-purified, lyophilised

For random priming during probe generation or during total genome-amplification.

N₆ mix (N for A, G, C, T). 10 OD₂₆₀ units.

Storage temp.: -20 °C

Transport temp.: room temp.

HP28.1	1 kit	62,90 €

For further information, please see page 1215

Roth poly d(T)₁₂₋₁₈ Primer

Roth poly d(T)₁₂₋₁₈ Primer

HPLC-purified, lyophilised

For sequence unspecific priming during reverse transcription.

Mix of d(T) 12 to 18mers. 5 OD₂₆₀ units.

Storage temp.: -20 °C

Transport temp.: room temp.

HP27.1	1 kit	47,20 €

For further information, please see page 1215

Roth Random-Primer kits for RAPD-PCR

Roth Random-Primer kits for RAPD-PCR

20 x 10mer/kit. 2.0 OD₂₆₀ units per primer, aliquoted in 2 vials each. Desalted and lyophilised.

Storage temp.: -20 °C

Transport temp.: room temp.

HP22.1	1 kit	Kit A	182,65 €

HP23.1	1 kit	Kit B	182,65 €

HP24.1	1 kit	Kit C	182,65 €

HP25.1	1 kit	Kit D	182,65 €

For further information, please see page 1215

Roti®-Aqua-P/C/I

► Roti®-Phenol/Chloroform/Isoamyl alcohol see p. 2107

Roti®-Aqua-Phenol

► Roti®-Phenol see p. 2107

Roti®-Aquatest Plates

Storage temp.: +4-15 °C

Transport temp.: cooled

Roti®-Aquatest Plate Cetr



Ph.Eur., ready-to-use, sterile, for microbiology

For isolation of *Pseudomonas aeruginosa*.

UN No. 3077 • ADR 9 III • WGK 3

⚠ Warning H400

Formulation:

Gelatin peptone (Pancreas hydrolysate).....	20 g/l
Magnesium chloride.....	1,4 g/l
Potassium sulphate.....	10 g/l
Cetrimide.....	0,3 g/l
Glycerol.....	10 ml/l
Agar.....	13,6 g/l
pH value.....	7,2 ±0,2
Colour.....	opaque white
Growth of test strains.....	complies
Diameter.....	55 mm

9646.1	20 pieces	box	30,65 €

For further information, please see page 1310

Roti®-Aquatest Plate Colichrom



ready-to-use, sterile, for microbiology

For detection and enumeration of *E. coli* and other coliforms.

WGK 1

Formulation:

Sodium chloride (NaCl).....	5 g/l
Casein, enzymatically digested.....	3 g/l
di-Sodium hydrogen phosphate.....	2,7 g/l
Sodium dihydrogen phosphate.....	2,2 g/l
Sodium pyruvate.....	1 g/l
Tryptophane.....	1 g/l
Sorbitol.....	1 g/l
Chromogene Mixture.....	0,4 g/l
Sodium heptadecyl sulphate (Tergitol-7).....	0,15 g/l
Vancomycin.....	0,005 g/l
Cefsulodin.....	0,005 g/l
Agar.....	10 g/l
pH value.....	6,8 ±0,2
Colour.....	amber
Growth of test strains.....	complies
Diameter.....	55 mm

9641.1	20 pieces	box	73,65 €

For further information, please see page 1310

Roti-Aquatest Plate

Roti®-Aquatest Plate m-CP

NEW

TWVO 2001, ready-to-use, sterile, for microbiology

For enumeration of *Clostridium perfringens*.
WGK 1

Formulation:

Saccharose.....	5 g/l
L-Cysteine hydrochloride.....	1 g/l
Magnesium sulphate heptahydrate.....	0,1 g/l
Iron(III)-chloride hexahydrate (FeCl ₃ · 6 H ₂ O).....	0,09 g/l
Bromocresol purple.....	0,04 g/l
Chromogene Mixture.....	0,16 g/l
D-Cycloserine.....	0,4 g/l
Polymyxin B sulphate.....	0,025 g/l
Tryptose.....	30 g/l
Yeast extract.....	20 g/l
Agar.....	15 g/l
pH value.....	7,6 ±0,2
Colour.....	purple
Growth of test strains.....	complies
Diameter.....	55 mm

9649.1	20 pieces	box	50,45 €

For further information, please see page 1312

Roti®-Aquatest Plate PCA

NEW

APHA, ISO 4833, ready-to-use, sterile, for microbiology

For enumeration of the aerobic microbial flora.
WGK 1

Formulation:

Casein peptone.....	5 g/l
Yeast extract.....	2,5 g/l
Glucose.....	1 g/l
Agar.....	15 g/l
pH value.....	7,0 ±0,2
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Diameter.....	55 mm

9640.1	20 pieces	box	30,65 €

For further information, please see page 1310

Roti®-Aquatest Plate R2A

NEW

Ph.Eur., ready-to-use, sterile, for microbiology

For enumeration of heterotrophic bacteria.
WGK 1

Formulation:

Yeast extract.....	0,5 g/l
Peptone.....	0,5 g/l
Casein hydrolysed.....	0,5 g/l
Glucose.....	0,5 g/l
Starch.....	0,5 g/l
di-Potassium hydrogen phosphate.....	0,3 g/l
Magnesium sulphate (MgSO ₄).....	0,024 g/l
Sodium pyruvate.....	0,3 g/l
Agar.....	15 g/l
pH value.....	7,2 ±0,2
Colour.....	amber
Growth of test strains.....	complies
Diameter.....	55 mm

9644.1	20 pieces	box	30,65 €

For further information, please see page 1311

Roti®-Aquatest Plate Sab4

NEW

Ph.Eur., ready-to-use, sterile, for microbiology

For cultivation of yeasts and fungi.
WGK 1

Formulation:

Meat and casein peptone.....	10 g/l
Glucose monohydrate.....	40 g/l
Agar.....	15 g/l
pH value.....	5,6 ±0,2
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Diameter.....	55 mm

9643.1	20 pieces	box	30,65 €

For further information, please see page 1311

Roti®-Aquatest Plate Staph

NEW

Ph.Eur., ready-to-use, sterile, for microbiology

For isolation of pathogenic staphylococci.
WGK 2

Formulation:

Pancreatic digest of casein.....	5 g/l
Peptone (peptic digest of animal tissue).....	5 g/l
Beef extract.....	1 g/l
Sodium chloride (NaCl).....	75 g/l
D-Mannitol.....	10 g/l
Phenol red.....	0,025 g/l
Agar.....	15 g/l
pH value.....	7,4 ±0,2
Colour.....	purple
Growth of test strains.....	complies
Diameter.....	55 mm

9650.1	20 pieces	box	30,65 €

For further information, please see page 1312

Roti®-Aquatest Plate Strep

NEW

DEV, ISO 7899-2, ready-to-use, sterile, for microbiology

For enumeration of intestinal streptococci.
WGK 2

 **Warning** H312-H412-EUH032

Formulation:

di-Potassium hydrogen phosphate.....	4 g/l
Sodium azide.....	0,4 g/l
Tetrazolium chloride (TTC).....	0,1 g/l
Tryptose.....	20 g/l
Yeast extract.....	5 g/l
Glucose.....	2 g/l
Agar.....	10 g/l
pH value.....	7,2 ±0,1
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Diameter.....	55 mm

9648.1	20 pieces	box	34,95 €

For further information, please see page 1312

Roti®-Aquatest Plate YE

NEW

DEV, ISO 6222, ready-to-use, sterile, for microbiology

For enumeration of microorganisms in general, e.g. bacteria, moulds or yeast.
WGK 1

Formulation:

Tryptone.....	6 g/l
Yeast extract.....	3 g/l
Agar.....	15 g/l
pH value.....	7,2 ±0,2
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Diameter.....	55 mm

9642.1	20 pieces	box	30,65 €

For further information, please see page 1310

Roti®-Black N

Roti®-Black N

silver staining kit for DNA-polyacrylamide gels

UN No. 3316 • ADR 9 II • WGK 3



Danger H272-H301+H311+H331-H314-H317-H341-H350-H370-H410

N769.1	for 10 gels of max. 10 ml gel volume	85,90 €

N769.2	for 10 gels of max. 40 ml gel volume	150,40 €

For further information, please see page 1147

Roti®-Black NSeq

Roti®-Black NSeq

silver staining kit for sequencing gels

UN No. 3316 • ADR 9 II • WGK 3



Danger H272-H301+H311+H331-H314-H317-H341-H350-H370-H410

P081.1	for 10 gels of max. 48 ml gel volume	126,35 €

For further information, please see page 1148

Roti®-Black P

Roti®-Black P

silver staining kit for proteins

UN No. 3316 • ADR 9 II • WGK 3



Danger H272-H301+H311+H331-H314-H317-H341-H350-H370-H410

L533.1	for 10 gels of 10 ml vol. each	68,70 €

L533.2	for 10 gels of 40 ml vol. each	83,75 €

For further information, please see page 1146

Roti®-Bleach

Roti®-Bleach

decolorisation kit for silver staining

Storage temp.: +20 °C

WGK 2

N766.1	for 10 gels with 10 ml or 5 gels with 40 ml vol. each	56,90 €

For further information, please see page 1146

Roti®-Block

Roti®-Block

ready-to-use, 10x conc.

Protein free blocking solution.

D 1,086

Storage temp.: +20 °C

WGK 1

A151.1	250 ml	glass	46,15 €
A151.4	500 ml	glass	78,40 €
A151.2	1 l	glass	143,55 €
Original pack 6 x 1 l			136,37/1 l
A151.3	2,5 l	glass	271,45 €
Original pack 4 x 2,5 l			257,88/2,5 l

For further information, please see page 1259

Roti®-Blot 1

Roti®-Blot 1

Discontinuous transfer buffer for semi dry blotting.

Storage temp.: +20 °C

WGK 1

⚠ Warning H315-H319

L509.1	1 Set	glass	94,50 €

For further information, please see page 1186

Roti®-Blot A

Roti®-Blot A

anode buffer to Roti®-Blot 1, 10x conc.

Storage temp.: +20 °C

WGK 1

⚠ Warning H315-H319

L510.1	1 l	glass	56,90 €
Original pack 6 x 1 l			54,06/1 l

For further information, please see page 1186

Roti®-Blot K

Roti®-Blot K

cathode buffer to Roti®-Blot 1, 10x conc.

Storage temp.: +20 °C

WGK 1

L511.1	1 l	glass	59,05 €
Original pack 6 x 1 l			56,10/1 l

For further information, please see page 1186

Roti®-Blot 2

Roti®-Blot 2

discontinuous transfer buffer for semi dry blotting of hydrophobic proteins

Special formulation for hydrophobic proteins.

WGK 2

⚠ Warning H315-H319

P039.1	1 Set	glass	72,60 €

For further information, please see page 1187

Roti®-Blot 2A

Roti®-Blot 2A

anode buffer to Roti®-Blot 2, 10x conc.

Storage temp.: +20 °C

WGK 2

⚠ Warning H315-H319

P037.1	1 l	glass	47,00 €
Original pack 6 x 1 l			44,65/1 l

For further information, please see page 1187

Roti®-Blot 2K

Roti®-Blot 2K

cathode buffer to Roti®-Blot 2, 10x conc.

Storage temp.: +20 °C

WGK 2

⚠ Warning H319

P038.1	1 l	glass	47,00 €
Original pack 6 x 1 l			44,65/1 l

For further information, please see page 1187

Roti®-Blue

Roti®-Blue

5x concentrated

Colloidal Coomassie staining solution for protein gels.

1 l concentrate is sufficient for 50 mini gels.

Storage temp.: +20 °C

WGK 1

A152.2	250 ml	plastic	28,95 €
A152.1	1 l	plastic	84,40 €

Original pack 6 x 1 l 80,18/1 l
For further information, please see page 1145

Roti®-Blue quick

Roti®-Blue quick

ready-to-use 1x conc. solution

Solution for rapid, sensitive staining of protein gels.

1 l solution is sufficient for approx. 40 mini gels.

Storage temp.: +4 °C

WGK 1

4829.1	250 ml	glass	60,10 €
4829.2	1 l	glass	205,90 €

Original pack 6 x 1 l 195,61/1 l
For further information, please see page 1144

Roti®-C/I

Roti®-C/I

for extraction of nucleic acids

Chloroform/Isoamyl alcohol at a ratio of 24:1.

Storage temp.: +20 °C

UN No. 1888 • ADR 6.1 III • WGK 3

⚠ ⚠ ⚠ Danger H331-H372-H351-H361d-
H302-H315-H319

X984.3	100 ml	glass	10,65 €
X984.1	250 ml	glass	15,60 €
X984.2	500 ml	glass	24,20 €

For further information, please see page 1180

Roti®-CELL Bicarbonate solution

Roti®-CELL Bicarbonate solution

CELLPURE® sterile, 7,5 %

For cell culture

Sodium bicarbonate solution in water

Type analysis:

Sodium bicarbonate.....7,5 %
pH value.....7,5-8,1
Osmolality.....266-354 mOsm/kg
Endotoxins.....<1,0 EU/ml
Toxicity.....none detected
Sterility.....complies

9165.1	100 ml	plastic	12,05 €

For further information, please see page 1269

Roti®-CELL DMEM : F12

Roti®-CELL DMEM : F12

CELLPURE® ready-to-use, sterile, with glutamine, with pyruvate, with HEPES

Medium for analysis of hormones and growth factors in cell culture.

Dulbecco's Modified Eagle Medium + Ham's F12 medium (1:1)

Storage temp.: +4 °C

Type analysis:

Glucose.....3,15 g/l
HEPES.....15 mM
pH value.....7,0-7,4
Osmolality.....286-356 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9031.1	500 ml	plastic	14,55 €

For further information, please see page 1266

Roti®-CELL DMEM High Glucose

Dulbecco's Modified Eagle Medium
Storage temp.: +4 °C

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, with glutamine, with pyruvate
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
L-Glutamine complies
pH value 7,0-7,4
Osmolality 324-352 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9005.1	500 ml	plastic	12,05 €

For further information, please see page 1266

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, with glutamine, w/o pyruvate
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
L-Glutamine complies
pH value 7,0-7,4
Osmolality 318-360 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9006.1	500 ml	plastic	12,05 €

For further information, please see page 1266

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, with stable glutamine, with pyruvate
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
L-Glutamine, stable complies
pH value 7,0-7,4
Osmolality 324-352 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9007.1	500 ml	plastic	12,80 €

For further information, please see page 1266

Q/R

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
pH value 7,0-7,4
Osmolality 324-352 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9010.1	500 ml	plastic	12,05 €

For further information, please see page 1266

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate, with HEPES
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
HEPES 25 mM
pH value 7,0-7,4
Osmolality 321-351 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9011.1	500 ml	plastic	14,95 €

For further information, please see page 1266

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, w/o glutamine, w/o pyruvate
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
pH value 7,0-7,4
Osmolality 318-360 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9019.1	500 ml	plastic	12,05 €

For further information, please see page 1266

Roti®-CELL DMEM High Glucose

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate, w/o phenol red
Medium for a wide range of mammalian cell culture applications

Type analysis:

Glucose 4,5 g/l
pH value 7,0-7,4
Osmolality 324-352 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9023.1	500 ml	plastic	17,75 €

For further information, please see page 1266

Roti®-CELL DMEM Low Glucose

Dulbecco's Modified Eagle Medium
Storage temp.: +4 °C

Roti®-CELL DMEM Low Glucose

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate
Medium for culturing of adherent mammalian cell lines.

Type analysis:

Glucose 1,0 g/l
pH value 7,0-7,4
Osmolality 306-346 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9027.1	500 ml	plastic	12,05 €

For further information, please see page 1266

Roti®-CELL DMEM Low Glucose

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate, with HEPES
Medium for culturing of adherent mammalian cell lines.

Type analysis:

Glucose 1,0 g/l
HEPES 25 mM
pH value 7,0-7,4
Osmolality 300-326 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9030.1	500 ml	plastic	14,95 €

For further information, please see page 1266

Roti®-CELL DPBS

Phosphate buffered saline acc. to Dulbecco, DPBS

Roti®-CELL DPBS

CELLPURE® ready-to-use, sterile, w/o Ca/Mg
Balanced salt solution for cell culture

Type analysis:

pH value 7,3-7,7
Osmolality 271-287 mOsm/kg
Endotoxins ≤1,0 EU/ml
Toxicity none detected
Sterility complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9124.1	500 ml	plastic	12,40 €

9124.2	1 l	plastic	18,85 €

Original pack 6 x 1 l 17,91/1 l

For further information, please see page 1270

Roti®-CELL 10x DPBS

CELLPURE® sterile, w/o Ca/Mg
Balanced salt solution for cell culture
10x ready-made solution

Type analysis:

pH value 7,3-7,7
Osmolality 271-287 mOsm/kg
Endotoxins ≤1,0 EU/ml
Toxicity none detected
Sterility complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9130.1	500 ml	plastic	16,70 €

9130.2	1 l	plastic	19,90 €

Original pack 6 x 1 l 18,91/1 l

For further information, please see page 1270

Roti®-CELL DPBS

CELLPURE® ready-to-use, sterile, with Ca/Mg

Balanced salt solution for cell culture

Type analysis:

pH value.....6,9-7,2
Osmolality.....275-292 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Toxicity.....none detected
Sterility.....complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9131.1	500 ml	plastic	12,40 €
9131.2	1 l	plastic	18,85 €
Original pack 6 x 1 l			17,91/1 l

For further information, please see page 1270

Roti®-CELL DPBS/EDTA

Roti®-CELL DPBS/EDTA

CELLPURE® sterile, 0,02 % EDTA (Versene®), w/o Ca/Mg

Balanced salt solution with EDTA for cell culture. EDTA solution in DPBS

Type analysis:

EDTA (Versene®).....0,02 %
pH value.....7,0-7,5
Osmolality.....275-291 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Toxicity.....none detected
Sterility.....complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9135.1	100 ml	plastic	14,55 €

For further information, please see page 1277

Roti®-CELL Eagle's MEM-Alpha

Minimum Essential Medium acc. to Eagle, Alpha modification

Storage temp.: +4 °C

Roti®-CELL Eagle's MEM-Alpha

CELLPURE® ready-to-use, sterile, w/o glutamine, w/o nucleosides

Medium for culturing of bone marrow and amniotic cells.

Type analysis:

Alpha modification.....complies
pH value.....6,9-7,3
Osmolality.....281-317 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9058.1	500 ml	plastic	13,45 €

For further information, please see page 1267

Roti®-CELL Eagle's MEM-Alpha

CELLPURE® ready-to-use, sterile, with stable glutamine, with nucleosides

Medium for culturing of bone marrow and amniotic cells.

Type analysis:

L-Glutamine, stable.....complies
Alpha modification.....complies
Ribonucleosides.....complies
Deoxyribonucleosides.....complies
pH value.....6,7-7,3
Osmolality.....285-315 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9082.1	500 ml	plastic	26,35 €

For further information, please see page 1267

Roti®-CELL Eagle's MEM / Earle's

Minimum Essential Medium acc. to Eagle with Earle's salts

Storage temp.: +4 °C

Roti®-CELL Eagle's MEM / Earle's

CELLPURE® ready-to-use, sterile, with glutamine

Medium for a wide range of mammalian cell culture applications.

Type analysis:

L-Glutamine.....complies
Salts acc. to Earle.....complies
pH value.....6,9-7,3
Osmolality.....280-308 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9044.1	500 ml	plastic	12,80 €

For further information, please see page 1267

Roti®-CELL Eagle's MEM / Earle's

CELLPURE® ready-to-use, sterile, w/o glutamine

Medium for a wide range of mammalian cell culture applications.

Type analysis:

Salts acc. to Earle.....complies
pH value.....6,7-7,3
Osmolality.....285-301 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9047.1	500 ml	plastic	12,05 €

For further information, please see page 1267

Roti®-CELL Eagle's MEM / Earle's

CELLPURE® ready-to-use, sterile, w/o glutamine, with HEPES

Medium for a wide range of mammalian cell culture applications.

Type analysis:

HEPES.....25 mM
Salts acc. to Earle.....complies
pH value.....6,8-7,3
Osmolality.....284-305 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9048.1	500 ml	plastic	13,90 €

For further information, please see page 1267

Roti®-CELL Eagle's MEM / Earle's

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate, with NEAA

Medium for a wide range of mammalian cell culture applications.

Type analysis:

Salts acc. to Earle.....complies
Non essential amino acids.....complies
pH value.....7,0-7,3
Osmolality.....287-303 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9049.1	500 ml	plastic	13,45 €

For further information, please see page 1267

Roti®-CELL Eagle's MEM / Hanks'

Roti®-CELL Eagle's MEM / Hanks'

CELLPURE® ready-to-use, sterile, w/o glutamine

Medium for a wide range of mammalian cell culture applications.

Minimum Essential Medium acc. to Eagle with Hanks' salts

Storage temp.: +4 °C

Type analysis:

Salts acc. to Hanks.....complies
pH value.....6,9-7,4
Osmolality.....286-307 mOsm/kg
Endotoxins.....≤1,0 EU/ml
Sterility.....complies

9056.1	500 ml	plastic	14,95 €

For further information, please see page 1267

Roti®-CELL Glucose solution

Roti®-CELL Glucose solution

CELLPURE® sterile, 100 mg/ml

For cell culture

Glucose solution in water

Type analysis:

Glucose.....100 g/l
Endotoxins.....tested
Sterility.....complies

9155.1	100 ml	plastic	26,80 €

For further information, please see page 1269

Roti®-CELL Glutamine solution

Roti®-CELL Glutamine solution

CELLPURE® sterile, 200 mM

For cell culture

Alanyl-L-glutamine solution in 145 mM NaCl

Type analysis:

Glutamin, stable.....200 mM
pH value.....5,58-6,78
Osmolality.....423-499 mOsm/kg
Endotoxins.....<1,0 EU/ml
Sterility.....complies

9183.1	100 ml	plastic	15,60 €

For further information, please see page 1269

Roti®-CELL Ham's F12

Roti®-CELL Ham's F12

CELLPURE® ready-to-use, sterile, with glutamine, with pyruvate

Medium for culturing of a variety of mammalian- and hybridoma cells, especially CHO cells.

Ham's F12 cell culture medium

Storage temp.: +4 °C

Type analysis:

L-Glutamine.....	complies
pH value.....	7,0-7,4
Osmolality.....	286-305 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9108.1	500 ml	plastic	13,45 €

For further information, please see page 1268

Roti®-CELL Hanks' BSS

Hanks' salt solution, HBSS

Roti®-CELL Hanks' BSS

CELLPURE® ready-to-use, sterile, w/o Ca/Mg, w/o phenol red

Balanced salt solution for cell culture

Type analysis:

Glucose.....	1,0 g/l
pH value.....	7,1-7,5
Osmolality.....	270-286 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Toxicity.....	none detected
Sterility.....	complies

For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9117.1	500 ml	plastic	10,65 €

For further information, please see page 1270

Roti®-CELL Hanks' BSS

CELLPURE® ready-to-use, sterile, w/o Ca/Mg, with phenol red

Balanced salt solution for cell culture

Type analysis:

Glucose.....	1,0 g/l
pH value.....	7,1-7,5
Osmolality.....	270-286 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Toxicity.....	none detected
Sterility.....	complies

For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9118.1	500 ml	plastic	10,65 €

For further information, please see page 1270

Q/R

Roti®-CELL Hanks' BSS

CELLPURE® ready-to-use, sterile, with Ca/Mg, w/o phenol red

Balanced salt solution for cell culture

Type analysis:

Glucose.....	1,0 g/l
pH value.....	7,0-7,4
Osmolality.....	274-290 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Toxicity.....	none detected
Sterility.....	complies

For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9119.1	500 ml	plastic	10,65 €

For further information, please see page 1270

Roti®-CELL Hanks' BSS

CELLPURE® ready-to-use, sterile, with Ca/Mg, with phenol red

Balanced salt solution for cell culture

Type analysis:

Glucose.....	1,0 g/l
pH value.....	7,1-7,4
Osmolality.....	277-299 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Toxicity.....	none detected
Sterility.....	complies

For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9122.1	500 ml	plastic	13,90 €

For further information, please see page 1270

Roti®-CELL HEPES solution

Roti®-CELL HEPES solution

CELLPURE® sterile, 1 M

For cell culture

HEPES solution in 145 mM NaCl

Type analysis:

HEPES.....	1 M
pH value.....	6,98-7,3
Osmolality.....	265-341 mOsm/kg
Toxicity.....	none detected
Sterility.....	complies

9157.1	100 ml	plastic	21,00 €

For further information, please see page 1269

Roti®-CELL Iscove's MDM

Iscove's Modified Dulbecco's Medium

Storage temp.: +4 °C

Roti®-CELL Iscove's MDM

CELLPURE® ready-to-use, sterile, with glutamine, with pyruvate, with HEPES

Medium for a wide range of mammalian cell culture applications.

Type analysis:

Glucose.....	4,5 g/l
L-Glutamine.....	complies
HEPES.....	25 mM
pH value.....	6,95-7,15
Osmolality.....	275-305 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9033.1	500 ml	plastic	15,60 €

For further information, please see page 1266

Roti®-CELL Iscove's MDM

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate, with HEPES

Medium for a wide range of mammalian cell culture applications.

Type analysis:

Glucose.....	4,5 g/l
HEPES.....	25 mM
pH value.....	6,95-7,15
Osmolality.....	275-305 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9035.1	500 ml	plastic	15,60 €

For further information, please see page 1266

Roti®-CELL Leibovitz's L15

Roti®-CELL Leibovitz's L15

CELLPURE® ready-to-use, sterile, w/o glutamine, with galactose

Medium for culture of mammalian cells without CO₂ atmosphere.

Leibovitz's cell culture medium

Storage temp.: +4 °C

Type analysis:

Galactose.....	0,9 g/l
pH value.....	7,3-7,75
Osmolality.....	309-332 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9109.1	500 ml	plastic	21,00 €

For further information, please see page 1268

Roti®-CELL McCoy's 5A

Roti®-CELL McCoy's 5A

CELLPURE® ready-to-use, sterile, with glutamine

Medium for culturing of a variety of mammalian cell lines and primary cells.

McCoy's 5A cell culture medium

Storage temp.: +4 °C

Type analysis:

L-Glutamine.....	complies
pH value.....	6,9-7,2
Osmolality.....	290-307 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9111.1	500 ml	plastic	19,90 €

For further information, please see page 1268

Roti®-CELL Medium 199 / Earle's

Roti®-CELL Medium 199 / Earle's

CELLPURE® ready-to-use, sterile, with glutamine, with HEPES

Medium for cell culture in virology and vaccine production.

Medium 199 with Earle's salts

Storage temp.: +4 °C

Type analysis:

L-Glutamine.....	complies
HEPES.....	25 mM
Salts acc. to Earle.....	complies
pH value.....	6,9-7,3
Osmolality.....	294-333 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9112.1	500 ml	plastic	17,75 €

For further information, please see page 1268

Roti®-CELL MEM-NEAA solution

Roti®-CELL MEM-NEAA solution

CELLPURE® sterile, 100x conc., 10 mM each

For cell culture

Non essential amino acids, solution in water

Storage temp.: +4 °C

Type analysis:

L-Alanine.....	0,89 g/l
L-Asparagine.....	1,321 g/l
L-Aspartic acid.....	1,33 g/l
L-Glutamic acid.....	1,47 g/l
Glycine.....	0,75 g/l
L-Proline.....	1,15 g/l
L-Serine.....	1,05 g/l
pH value.....	2,15-3,35
Osmolality.....	72-105 mOsm/kg
Endotoxins.....	<1,0 EU/ml
Sterility.....	complies

9185.1	100 ml	plastic	15,60 €

For further information, please see page 1269

Roti®-CELL PBS

Phosphate buffered saline, PBS

Roti®-CELL PBS

CELLPURE® ready-to-use, sterile

Balanced salt solution for cell culture

Type analysis:

pH value.....	7,3-7,5
Osmolality.....	287-309 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Toxicity.....	none detected
Sterility.....	complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or <i>in vitro</i> procedures.	

9143.1	500 ml	plastic	11,75 €

9143.2	1 l	plastic	14,20 €

Original pack 6 x 1 l	13,49/1 l

For further information, please see page 1272

Roti®-CELL 10x PBS

CELLPURE® sterile

Balanced salt solution for cell culture

10x ready-made solution

Type analysis:

pH value.....	7,3-7,5
Osmolality.....	287-309 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Toxicity.....	none detected
Sterility.....	complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or <i>in vitro</i> procedures.	

9150.1	1 l	plastic	17,75 €

Original pack 6 x 1 l	16,86/1 l

For further information, please see page 1272

Roti®-CELL PBS/EDTA

Roti®-CELL PBS/EDTA

CELLPURE® sterile, 0,046 % EDTA

Balanced salt solution with EDTA for cell culture.

EDTA solution in PBS

Type analysis:

EDTA.....	0,046 %
pH value.....	7,4-7,6
Osmolality.....	290-320 mOsm/kg
Endotoxins.....	≤0,25 EU/ml
Sterility.....	complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or <i>in vitro</i> procedures.	

9152.1	500 ml	plastic	11,00 €

For further information, please see page 1277

Roti®-CELL Pyruvate solution

Roti®-CELL Pyruvate solution

CELLPURE® sterile, 100 mM

For cell culture

Sodium pyruvate solution in water

Storage temp.: +4 °C

Type analysis:

Sodium pyruvate.....	100 mM
Osmolality.....	178-198 mOsm/kg
Endotoxins.....	<1,0 EU/ml
Sterility.....	complies

9182.1	100 ml	plastic	9,60 €

For further information, please see page 1269

Roti®-CELL RPMI-1640

RPMI cell culture medium

Storage temp.: +4 °C

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, with glutamine

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

L-Glutamine.....	complies
pH value.....	6,9-7,3
Osmolality.....	271-295 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9085.1	500 ml	plastic	12,05 €

For further information, please see page 1267

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, with glutamine, with HEPES

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

L-Glutamine.....	complies
HEPES.....	25 mM
pH value.....	7,1-7,4
Osmolality.....	271-315 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9086.1	500 ml	plastic	13,45 €

For further information, please see page 1267

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, with stable glutamine

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

L-Glutamine, stable.....	complies
pH value.....	6,9-7,3
Osmolality.....	271-295 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9091.1	500 ml	plastic	12,80 €

For further information, please see page 1267

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, with stable glutamine, with HEPES

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

L-Glutamine, stable.....	complies
HEPES.....	25 mM
pH value.....	7,1-7,5
Osmolality.....	271-315 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9093.1	500 ml	plastic	14,55 €

For further information, please see page 1267

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, with glutamine, w/o glucose

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

L-Glutamine.....	complies
pH value.....	6,9-7,3
Osmolality.....	260-282 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9094.1	500 ml	plastic	48,95 €

For further information, please see page 1267

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, w/o glutamine

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

pH value.....	6,9-7,4
Osmolality.....	270-293 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9099.1	500 ml	plastic	11,30 €

For further information, please see page 1267

Roti®-CELL RPMI-1640

CELLPURE® ready-to-use, sterile, w/o glutamine, w/o phenol red

Medium for a wide range of mammalian cell culture applications, mainly of leucocytes

Type analysis:

pH value.....	6,9-7,4
Osmolality.....	270-293 mOsm/kg
Endotoxins.....	≤1,0 EU/ml
Sterility.....	complies

9104.1	500 ml	plastic	14,95 €

For further information, please see page 1267

Roti®-CELL TC100

Roti®-CELL TC100

CELLPURE® ready-to-use, sterile, with glutamine

Medium for culture of Sf9 cells.

TC100 cell culture medium; BML-TC/100

Storage temp.: +4 °C

Type analysis:

L-Glutamine complies
pH value 6,1-6,7
Osmolality 332-368 mOsm/kg
Sterility complies

9114.1	500 ml	plastic	24,65 €

For further information, please see page 1268

Roti®-CELL Water

Roti®-CELL Water

CELLPURE® sterile, USP

For cell culture

Type analysis:

Particulate matter complies
Conductivity complies
Oxidizable substances complies
Endotoxins <0,25 EU/ml
Sterility complies
For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

9186.1	500 ml	plastic	8,85 €

9186.2	1 l	plastic	14,20 €

Original pack 6 x 1 l 13,49/1 l

Roti®-CELL William's E

Roti®-CELL William's E

CELLPURE® ready-to-use, sterile, w/o glutamine, with pyruvate

Medium for long-term culturing of adult, primary liver epithelial cells.

William's E cell culture medium

Storage temp.: +4 °C

Type analysis:

Pyruvate complies
pH value 7,0-7,4
Osmolality 290-318 mOsm/kg
Endotoxins ≤1,0 EU/ml
Sterility complies

9116.1	500 ml	plastic	19,90 €

For further information, please see page 1268

Roticlear®

Roticlear®

for histology

Clearing agent of aliphatic hydrocarbons, practically free from aromatic compounds. For dewaxing histological sections. Alternative product for xylene.

D 0,755 • bp 135-170 °C

mp -60 °C • flp >23 °C

[64742-48-9] • EC No. 265-150-3

UN No. 3295 • ADR 3 III • WGK 1

 **Danger**

H226-H304-H336-H412-EUH066

Type analysis:

Density (15 °C) 0,7460-0,7638
Colour (Hazen) <10
Flash point >23 °C
Boiling range 135-145/153-170 °C
Aromatic compounds ≤0,005 %

A538.1	1 l	glass	14,95 €

Original pack 6 x 1 l 14,20/1 l

A538.5	2,5 l	glass	27,65 €

Original pack 4 x 2,5 l 26,27/2,5 l

A538.2	10 l	tinplate	81,60 €

A538.3	25 l	tinplate	166,65 €

A538.4	200 l	barrel	704,15 €

For further information, please see page 1379

Roticlear® ECO Plus

Roticlear® ECO Plus

for histology

Non-hazardous solvent. For removal of paraffin residues on surfaces. Suitable for paraffin embedding and dewaxing of histological sections. Alternative product for xylene.

D 0,86-0,9 • bp >320 °C

mp -8 °C • flp 180 °C

Storage temp.: +15 °C to +30 °C

WGK 1

Type analysis:

Appearance light yellowish liquid
Odour slightly odorant

6476.1	1 l	glass	43,55 €

Original pack 6 x 1 l 41,37/1 l

6476.2	2,5 l	glass	93,55 €

Original pack 4 x 2,5 l 88,87/2,5 l

For further information, please see page 1377

Roti®-ContiPlates

Storage temp.: +4-15 °C

Transport temp.: cooled

Roti®-ContiPlate m-CP

ready-to-use, sterile, for microbiology

For enumeration of *Clostridium perfringens* on surfaces.

WGK 1

Formulation:

Saccharose 5 g/l
L-Cysteine hydrochloride 1 g/l
Magnesium sulphate heptahydrate 0,1 g/l
Tryptose 30 g/l

Polymyxin B sulphate	0,025 g/l
Bromocresol purple	0,04 g/l
Iron(III) chloride hexahydrate (FeCl ₃ · 6 H ₂ O)	0,09 g/l
Chromogene Mixture	0,16 g/l
D-Cycloserine	0,4 g/l
Yeast extract	20 g/l
Agar	15 g/l
pH value	7,6 ±0,2
Colour	violet
Growth of test strains	complies
Diameter	60 mm

9635.1	20 pieces	box	39,80 €

For further information, please see page 1307

Roti®-ContiPlate PCA

ready-to-use, sterile, for microbiology

For total germ count on surfaces.

WGK 1

Formulation:

Casein peptone	5 g/l
Yeast extract	2,5 g/l
Glucose	1 g/l
Agar	15 g/l
pH value	7,0 ±0,2
Colour	amber, slightly opalescent
Growth of test strains	complies
Diameter	60 mm

9630.1	20 pieces	box	39,80 €

For further information, please see page 1308

Roti®-ContiPlate RBC

ready-to-use, sterile, for microbiology

For counting yeasts and moulds on surfaces.

WGK 3

 **Danger** H318-H350

Formulation:

Glucose	10 g/l
Peptone	5 g/l
Potassium phosphate	1 g/l
Magnesium sulphate (MgSO ₄)	0,5 g/l
Chloroamphenicol	0,1 g/l
Bengal red	0,05 g/l
Agar	15 g/l
pH value	7,2 ±0,2
Colour	intense pink
Growth of test strains	complies
Diameter	60 mm

9632.1	20 pieces	box	39,80 €

For further information, please see page 1308

Roti®-ContiPlate Sab4plus

ready-to-use, sterile, for microbiology

For selective detection of yeasts and pathogenic fungi on surfaces.

WGK 3

 **Danger** H350

Formulation:

Glucose	40 g/l
Meat and casein peptone	10 g/l
Chloroamphenicol	0,5 g/l
Agar	15 g/l
pH value	5,6 ±0,2
Colour	amber, slightly opalescent
Growth of test strains	complies
Diameter	60 mm

9633.1	20 pieces	box	39,80 €

For further information, please see page 1309

Roti®-ContiPlate TSA-Letheen



ready-to-use, sterile, for microbiology

For detection of microorganisms on disinfected surfaces.

WGK 1

Formulation:

Pancreatic digest of casein.....	15 g/l
Soy peptone (papain hydrolysate).....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Lecithin.....	0,7 g/l
Polysorbate 80.....	5 g/l
Agar.....	15 g/l
pH value.....	7,2 ±0,2
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Diameter.....	60 mm

9634.1	20 pieces	box	39,80 €

For further information, please see page 1309

Roti®-ContiPlate VRBD



ready-to-use, sterile, for microbiology

For detection of enterobacteria on surfaces.

WGK 1

Formulation:

Glucose monohydrate.....	10 g/l
Gelatine peptone.....	7 g/l
Sodium chloride (NaCl).....	5 g/l
Yeast extract.....	3 g/l
Bile salts.....	1,5 g/l
Neutral red.....	0,03 g/l
Crystal Violet.....	0,002 g/l
Agar.....	15 g/l
pH value.....	7,4 ±0,2
Colour.....	purple-red
Growth of test strains.....	complies
Diameter.....	60 mm

9631.1	20 pieces	box	39,80 €

For further information, please see page 1308

Roti®-DipSlides

Storage temp.: +4-15 °C

Transport temp.: cooled

Roti®-DipSlide CASO-TTC/ RBCenr

ready-to-use, sterile, for microbiology

For total germ count and for detection of yeasts and moulds in solution or on surface. Suitable for analysis of water-mixable cooling lubricants, air conditions, water-soluble paint, and cosmetics.

Formulation:

Agar side 1 (CASO-TTC):	
Caseine peptone.....	15 g/l
Soja peptone.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
TTC.....	0,02 g/l
Agar.....	15 g/l
pH value.....	7,3
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Agar side 2 (RBCenr):Meat peptone.....	5 g/l
Casein peptone.....	5 g/l
Glucose.....	40 g/l
Bengal red.....	0,05 g/l
Trimethoprim.....	0,03 g/l
Gentamycin.....	0,03 g/l
Agar.....	15 g/l
pH value.....	7,2
Colour.....	intense pink
Growth of test strains.....	complies

3934.1	20 pieces	box	56,45 €

For further information, please see page 1303

Roti®-DipSlide CLED/MacCon

ready-to-use, sterile, for microbiology

For detection of bacteria of the urinary tract and of enterobacteria/Coliforms in liquids or on surfaces.

Formulation:

Agar side 1 (CLED):	
Casein peptone.....	4 g/l
Gelatine peptone.....	4 g/l
Beef extract.....	3 g/l
Lactose.....	10 g/l
L-Cysteine.....	0,128 g/l
Bromothymol blue.....	0,02 g/l
Agar.....	15 g/l
pH value.....	7,3
Colour.....	green
Growth of test strains.....	complies
Agar side 2 (MacCon):	
Gelatin peptone (Pancreas hydrolysate).....	17 g/l
Meat and casein peptone.....	3 g/l
Lactose monohydrate.....	10 g/l
Bile salt (Cholate).....	1,5 g/l
Sodium chloride (NaCl).....	5 g/l
Neutral red.....	0,03 g/l
Crystal Violet.....	0,001 g/l
Agar.....	13,5 g/l
pH value.....	7,1
Colour.....	violet-red
Growth of test strains.....	complies

2957.1	20 slides	box	56,45 €

For further information, please see page 1305

Roti®-DipSlide D/Eneutral



ready-to-use, sterile, for microbiology

For total germ count on surface after disinfection. For hygiene monitoring. Contains 5 neutralizers.

WGK 1

Formulation:

Agar both sides (D/Eneutral):	
Dextrose.....	10 g/l
Lecithin.....	7 g/l
Sodium thiosulphate.....	6 g/l
Casein peptone.....	5 g/l
Polysorbate 80.....	5 g/l
Yeast extract.....	2,5 g/l
Sodium bisulfite.....	2,5 g/l
Sodium thioglycolate.....	1 g/l
Bromocresol purple.....	0,02 g/l
Agar.....	15 g/l
pH value.....	7,6 ±0,2
Colour.....	purple
Growth of test strains.....	complies

8023.1	20 slides	box	56,45 €

For further information, please see page 1301

Roti®-DipSlide MacCon/Cetr



ready-to-use, sterile, for microbiology

For detection of enterobacteria like salmonellae or shigellae and pseudomonads in liquids or on surfaces.

WGK 1

Formulation:

Agar side 1 (MacCon):	
Gelatine peptone.....	17,0 g/l
Meat and casein peptone.....	3,0 g/l
Lactose monohydrate.....	10,0 g/l
Sodium chloride (NaCl).....	5,0 g/l
Bile salt (Cholate).....	1,5 g/l
Neutral red.....	0,03 g/l
Crystal Violet.....	0,001 g/l
Agar.....	13,5 g/l
pH value.....	7,1 ± 0,2
Colour.....	violet-red
Growth of test strains.....	complies

Agar side 2 (Cetr):

Pancreas hydrolysate made from gelatin.....	20,0 g/l
Magnesium chloride.....	1,4 g/l
Potassium sulphate.....	10,0 g/l
Cetrimide.....	0,3 g/l
Agar.....	13,6 g/l
pH value.....	7,2 ±0,2
Colour.....	opaque white
Growth of test strains.....	complies

8045.1	20 slides	box	56,45 €

For further information, please see page 1302

Roti®-DipSlide Nutrient-TTC

ready-to-use, sterile, for microbiology

For total germ count in liquids or on surfaces.

Formulation:

Agar side 1 (Nutrient):	
Meat peptone.....	5 g/l
Meat extract.....	3 g/l
Agar.....	12 g/l
pH value.....	7,0
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Agar side 2 (Nutrient-TTC):	
Meat peptone.....	5 g/l
Meat extract.....	3 g/l
TTC.....	0,05 g/l
Agar.....	12 g/l
pH value.....	7,0
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies

2837.1	20 pieces	box	56,45 €

For further information, please see page 1304

Roti®-DipSlide PCA

ready-to-use, sterile, for microbiology

For total germ count in liquids or on surfaces.

Formulation:

Agar both sides (PCA):	
Casein peptone.....	5 g/l
Yeast extract.....	2,5 g/l
Glucose.....	1 g/l
Agar.....	15 g/l
pH value.....	7,0
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies

2927.1	20 slides	box	56,45 €

For further information, please see page 1305

Roti®-DipSlide PCA/Legionella

ready-to-use, sterile, for microbiology

For total germ count and for detection of legionells in solution or on surface.

Formulation:

Agar side 1 (PCA):	
Casein peptone.....	5 g/l
Yeast extract.....	2,5 g/l
Glucose.....	1 g/l
Agar.....	15 g/l
pH value.....	7,0
Colour.....	amber, slightly opalescent
Growth of test strains.....	complies
Agar side 2 (Legionella):	
Yeast extract.....	10 g/l
Charcoal activated.....	2 g/l
GVPC selective additive.....	complies
Growth additive.....	complies
Agar.....	13 g/l
pH value.....	6,9
Colour.....	black
Growth of test strains.....	complies

2493.1	20 pieces	box	56,45 €

For further information, please see page 1303

Roti-DipSlides

Roti®-DipSlide PCA/RBCplus

ready-to-use, sterile, for microbiology

For total germ count and for detection of yeasts and moulds in liquids or on surfaces.

Formulation:

Agar side 1 (PCA):	
Casein peptone	5 g/l
Yeast extract	2,5 g/l
Glucose	1 g/l
Agar	15 g/l
pH value	7,0
Colour	amber, slightly opalescent
Growth of test strains	complies
Agar side 2 (RBCplus):	
Peptone	5 g/l
Glucose	10 g/l
Potassium phosphate	1 g/l
Magnesium sulphate (MgSO ₄)	0,5 g/l
Chloroamphenicol	0,1 g/l
Bengal red	0,05 g/l
Agar	15 g/l
pH value	7,2
Colour	intense pink
Growth of test strains	complies

2926.1 20 slides box 56,45 €

For further information, please see page 1304

Roti®-DipSlide PCA/TSA-Lettheen



ready-to-use, sterile, for microbiology

For total germ count in liquids or on surfaces.

Suitable for analysis of cosmetics and of preservative containing products or after disinfection. Contains two neutralizers.

WGK 1

Formulation:

Agar side 1 (PCA):	
Casein peptone	5,0 g/l
Glucose	1,0 g/l
Yeast extract	2,5 g/l
Agar	15,0 g/l
pH value	7,0 ± 0,2
Colour	amber, slightly opalescent
Growth of test strains	complies
Agar side 2 (TSA-Lettheen):	
Pancreatic digest of casein	15,0 g/l
Soy peptone (papain hydrolysate)	5,0 g/l
Sodium chloride (NaCl)	5,0 g/l
Lecithin	0,7 g/l
Polysorbate 80	5 g/l
Agar	15,0 g/l
pH value	7,2 ± 0,2
Colour	amber, slightly opalescent
Growth of test strains	complies

8715.1 20 slides box 56,45 €

For further information, please see page 1302

Roti®-DipSlide PCA/VRB

ready-to-use, sterile, for microbiology

For total germ count and for detection of Coliforms in liquids or on surfaces.

Formulation:

Agar side 1 (PCA):	
Casein peptone	5 g/l
Yeast extract	2,5 g/l
Glucose	1 g/l
Agar	15 g/l
pH value	7,0
Colour	amber, slightly opalescent
Growth of test strains	complies
Agar side 2 (VRB):	
Yeast extract	3 g/l
Pancreas hydrolysate made from gelatin	7 g/l
Sodium chloride (NaCl)	5 g/l
Bile salts	1,5 g/l
Lactose	10 g/l
Neutral red	0,03 g/l

Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4
Colour	purple-red
Growth of test strains	complies

2925.1 20 slides box 56,45 €

For further information, please see page 1306

Roti®-DipSlide PCA/VRBD

ready-to-use, sterile, for microbiology

For total germ count and for detection of enterobacteria in liquids or on surfaces.

Formulation:

Agar side 1 (PCA):	
Casein peptone	5 g/l
Yeast extract	2,5 g/l
Glucose	1 g/l
Agar	15 g/l
pH value	7,0
Colour	amber, slightly opalescent
Growth of test strains	complies
Agar side 2 (VRBD):	
Yeast extract	3 g/l
Pancreas hydrolysate made from gelatin	7 g/l
Sodium chloride (NaCl)	5 g/l
Bile salts	1,5 g/l
Glucose monohydrate	10 g/l
Neutral red	0,03 g/l
Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4
Colour	purple-red
Growth of test strains	complies

2924.1 20 slides box 56,45 €

For further information, please see page 1307

Roti®-DipSlide Sab4plus

ready-to-use, sterile, for microbiology

For detection of yeasts and moulds in liquids or on surfaces.

Formulation:

Agar both sides (Sab4plus):	
Meat and casein peptone	10 g/l
Glucose	40 g/l
Chloroamphenicol	0,5 g/l
Agar	15 g/l
pH value	5,6
Colour	amber, slightly opalescent
Growth of test strains	complies

2956.1 20 slides box 56,45 €

For further information, please see page 1305

Roti®-DipSlide VRB

ready-to-use, sterile, for microbiology

For detection of Coliforms in liquids or on surfaces.

Formulation:

Agar both sides (VRB):	
Yeast extract	3 g/l
Pancreas hydrolysate made from gelatin	7 g/l
Sodium chloride (NaCl)	5 g/l
Bile salts	1,5 g/l
Lactose	10 g/l
Neutral red	0,03 g/l
Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4
Colour	purple-red
Growth of test strains	complies

2955.1 20 slides box 56,45 €

For further information, please see page 1306

Roti®-DipSlide VRBD

ready-to-use, sterile, for microbiology

For detection of enterobacteria in liquids or on surfaces.

Formulation:

Agar both sides (VRBD):	
Yeast extract	3 g/l
Pancreas hydrolysate made from gelatin	7 g/l
Sodium chloride (NaCl)	5 g/l
Bile salts	1,5 g/l
Glucose monohydrate	10 g/l
Neutral red	0,03 g/l
Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4
Colour	purple-red
Growth of test strains	complies

2954.1 20 slides box 56,45 €

For further information, please see page 1307

ROTIDRY® Sept Dried Solvents in a Septum Bottle

Art. No.	Description	Page
5175	Acetonitrile	1457
5176	Dichloromethane	1771
5177	Diethyl ether	1775
5179	Dimethyl sulphoxide	1785
5180	n-Hexane	1876
5181	Methanol	1961
5182	Tetrahydrofuran	2203
5191	Toluene	2214

ROTIDRY® Dry Solvents

Art. No.	Description	Page
4424	Acetic acid ethyl ester	1601
AE00	Acetonitrile	1606
AE03	Dichloromethane	1771
AE05	n-Hexane	1876
AE01	Methanol	1961
AE07	Tetrahydrofuran	2203
AE06	Toluene	2214
4423	Trichloromethane/Chloroform	2218

Roti®-Fect

Roti®-Fect

for transfection, CELLPURE®

Reagent for liposoma-mediated transfection of eukaryotic cells.

Approx. 400 assays per ml in 24wells.

Dependent on the cell line used.

Storage temp.: +4 °C

WGK 1

P001.1	0,2 ml	plastic	64,40 €
P001.2	0,5 ml	plastic	143,55 €
P001.3	1 ml	plastic	224,70 €
P001.4	5 x 1 ml	plastic	977,20 €

For further information, please see page 1280

Q/R

Roti®-Fect Plus

Roti®-Fect Plus

for transfection, CELLPURE®

Reagent for transfection of all eukaryotic cells in culture, particularly suited for hard-to-transfect cell lines.

Approx. 500 assays per ml in 24wells.

Dependent on the cell line used.

Storage temp.: +4 °C

WGK 1

CL21.1	0,2 ml	plastic	85,90 €
CL21.2	1 ml	plastic	321,45 €

For further information, please see page 1280

Roti®-Fect RNAi Buffer

Roti®-Fect RNAi Buffer

sterile, for transfection, CELLPURE®

RNAse-free buffer for RNA transfection, 10x conc.

Storage temp.: -20 °C

Transport temp.: room temp.

Type analysis:

Appearance..... clear, colourless solution
Concentration..... 10x conc.
pH value..... 6,8 ±0,1
RNAse..... none detected
Transfection assay..... complies

2913.1	0,4 ml	plastic	14,95 €
2913.2	2 ml	plastic	61,85 €

For further information, please see page 1272

Roti®-Fect RNAi Kit

Roti®-Fect RNAi Kit

for transfection, CELLPURE®

Reagent for transfection of mammalian cells with siRNA and miRNA, for efficient gene silencing.

Approx. 250 assays per ml in 24wells.

Dependent on the cell line used.

Storage temp.: -20 °C

Transport temp.: room temp.

3129.1	1 mini set	plastic	97,30 €
3129.2	1 set	plastic	342,95 €

For further information, please see page 1279

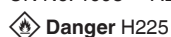
Roti®-Fix spray fixative

Roti®-Fix spray fixative

for cytology

For fixation of samples from cytological material.

UN No. 1993 • ADR 3 II • WGK 1



Danger H225

Type analysis:

Alcoholic solution of ethanol and 2-propanol

CL85.1	100 ml	spray bottle	14,95 €

For further information, please see page 1387

Rotifluid®

Rotifluid®

Fine mechanic oil. Liquid lubricant for fine mechanical instruments. Excellent price quality.

D 0,88

WGK 1

1264.1	200 ml	spray bottle plastic	8,00 €
1266.1	1 l	plastic	18,60 €

For further information, please see page 1100

Roti®-Free Stripping Buffer 2.2 plus

Roti®-Free Stripping Buffer 2.2 plus

ready-to-use

Premixed buffer for efficient stripping of Western-Blot membranes after Chemoluminescence detection, even with hard-to-remove antibodies.

Storage temp.: +20 °C

WGK 1

3337.1	250 ml	glass	46,15 €
3337.2	1 l	glass	116,00 €
Original pack 6 x 1 l			110,20/1 l

For further information, please see page 1265

Roti®-Free Stripping Buffer 2.0

Roti®-Free Stripping Buffer 2.0

ready-to-use

Premixed buffer for gentle stripping of Western-Blot membranes after Chemoluminescence detection.

Storage temp.: +20 °C

WGK 1



Warning H319

3319.1	250 ml	glass	40,35 €
3319.2	1 l	glass	104,85 €
Original pack 6 x 1 l			99,61/1 l

For further information, please see page 1265

Roti®-Free Stripping Buffer

Roti®-Free Stripping Buffer

ready-to-use

Premixed buffer for stripping of Western-Blot membranes.

Storage temp.: +20 °C

WGK 2



Warning H319-H412

0083.2	250 ml	glass	18,20 €
0083.1	1 l	glass	54,75 €
Original pack 6 x 1 l			52,01/1 l
0083.3	2,5 l	glass	98,40 €
Original pack 4 x 2,5 l			93,48/2,5 l

For further information, please see page 1265

Roti®garose-His/Co

Storage temp.: +4 °C

UN No. 1170 • ADR 3 II • WGK 1



Danger H225

Roti®garose-His/Co Beads

for biochemistry

For isolation of His-tagged proteins by affinity chromatography.

Agarose beads for affinity chromatography, IMAC matrix/cobalt charged

Type analysis:

Particle size..... 50-150 µm
Beads (cross-linked agarose)..... 6 %
Ligand..... IDA
Metal ion..... Cobalt
Binding capacity (DHAK-6xHis)..... 135 mg/ml
Activating agent..... Epichlorohydrin
Stabilizer..... 20 % ethanol

1235.1	25 ml	plastic	260,70 €
1235.2	100 ml	plastic	676,20 €

For further information, please see page 1250

Roti®garose-His/Co Columns

for biochemistry

For isolation of His-tagged proteins by affinity chromatography.

Affinity chromatography columns/cobalt charged, IMAC columns

Type analysis:

Particle size..... 50-150 µm
Beads (cross-linked agarose)..... 6 %
Ligand..... IDA
Metal ion..... Cobalt
Binding capacity (DHAK-6xHis)..... 135 mg/ml
Activating agent..... Epichlorohydrin
Stabilizer..... 20 % ethanol

1267.1	8x1 ml		198,90 €
1267.2	5x5 ml		499,90 €

For further information, please see page 1250

Roti®garose-His/Ni

Storage temp.: +4 °C

UN No. 1170 • ADR 3 III • WGK 1



Danger H225

Roti®garose-His/Ni Beads

for biochemistry

For isolation of His-tagged proteins by affinity chromatography.

Agarose beads for affinity chromatography, IMAC matrix/nickel charged

Type analysis:

Particle size..... 50-150 µm
Beads (cross-linked agarose)..... 6 %
Ligand..... IDA
Metal ion..... nickel
Binding capacity (DHAK-6xHis)..... 117 mg/ml
Activating agent..... Epichlorohydrin
Stabilizer..... 20 % ethanol

1308.1	25 ml	plastic	259,65 €
1308.2	100 ml	plastic	676,20 €

For further information, please see page 1249

Roti garose

Roti®garose-His/Ni Cartridges for biochemistry

For isolation of His-tagged proteins by high pressure affinity chromatography.
Affinity chromatography columns/nickel charged, IMAC columns

Type analysis:

Particle size. 20-50 µm
Beads (cross-linked agarose). 6 %
Ligand. IDA
Metal ion. nickel
Binding capacity (DHAK-6xHis). 110 mg/ml
Stabilizer. 20 % ethanol

1318.1	1x5 ml	147,30 €

1318.2	5x5 ml	623,50 €

For further information, please see page 1248

Roti®garose-His/Ni Columns for biochemistry

For isolation of His-tagged proteins by affinity chromatography.
Affinity chromatography columns/nickel charged, IMAC columns

Type analysis:

Particle size. 50-150 µm
Beads (cross-linked agarose). 6 %
Ligand. IDA
Metal ion. nickel
Binding capacity (DHAK-6xHis). 117 mg/ml
Activating agent. Epichlorohydrin
Stabilizer. 20 % ethanol

1314.1	8x1 ml	198,90 €

1314.2	5x5 ml	499,90 €

For further information, please see page 1249

Roti®garose-Protein A

Storage temp.: +4 °C

UN No. 1170 • ADR 3 II • WGK 1

 **Danger** H225

Roti®garose-Protein A Beads for biochemistry

For purification of immunoglobulins by affinity chromatography.
Agarose beads for affinity chromatography, IMAC matrix/Protein A conjugated

Type analysis:

Particle size. 50-150 µm
Beads (cross-linked agarose). 4 %
Ligand. recombinant protein A
Chemical bonding. covalent
Ligand density (Protein A). ca. 3 mg/ml
Binding capacity (humane IgG). ca. 25 mg/ml
Stabilizer. 20 % ethanol

1278.1	5 ml	plastic	461,20 €

1278.2	25 ml	plastic	1601,75 €

For further information, please see page 1251

Roti®garose-Protein A MAXI columns for biochemistry

For purification of immunoglobulins by affinity chromatography.
Affinity chromatography columns/protein A conjugated

Type analysis:

Particle size. 50-150 µm
Beads (cross-linked agarose). 4 %
Ligand. recombinant protein A
Chemical bonding. covalent
Ligand density (Protein A). ca. 3 mg/ml
Binding capacity (humane IgG). ca. 25 mg/ml
Stabilizer. 20 % ethanol

4070.1	1x5 ml	499,90 €

For further information, please see page 1251

Roti®garose-Protein A MIDI columns for biochemistry

For purification of immunoglobulins by affinity chromatography.
Affinity chromatography columns/protein A conjugated

Type analysis:

Particle size. 50-150 µm
Beads (cross-linked agarose). 4 %
Ligand. recombinant protein A
Chemical bonding. covalent
Ligand density (Protein A). ca. 3 mg/ml
Binding capacity (humane IgG). ca. 25 mg/ml
Stabilizer. 20 % ethanol

4066.1	1x1 ml	212,35 €

For further information, please see page 1251

Roti®garose-Protein A MINI columns for biochemistry

For purification of immunoglobulins by affinity chromatography.
Affinity chromatography columns/protein A conjugated

Type analysis:

Particle size. 50-150 µm
Beads (cross-linked agarose). 4 %
Ligand. recombinant protein A
Chemical bonding. covalent
Ligand density (Protein A). ca. 3 mg/ml
Binding capacity (humane IgG). ca. 25 mg/ml
Stabilizer. 20 % ethanol

4065.1	5x100 µl	220,40 €

For further information, please see page 1251

Roti®-GelStain

Roti®-GelStain

Fluorescent staining, ready-to-use, for electrophoresis

For non-toxic fluorescent staining of nucleic acids in agarose gels.

1 ml is sufficient for staining of approx. 600 minigels (with 30 ml agarose each).

Storage temp.: +4 °C

3865.1	1 ml	plastic	84,40 €

3865.2	5 x 1 ml	plastic	385,95 €

For further information, please see page 1149

Roti®-Histofix 4 %

Roti®-Histofix 4 %

acid free (pH 7), phosphate-buffered formaldehyde solution 4 %

Fixative for histology, stabilized with methanol.
bp 100 °C

Storage temp.: +15-25 °C

WGK 2

  **Danger** H350-H341-H302-H317

Type analysis:

Appearance. clear, colourless solution
Assay (formaldehyde). 4,0 %
pH value. 7,0 ±0,5
Stabilised with methanol

P087.4	500 ml	plastic	9,60 €

P087.5	2,5 l	plastic	15,30 €

Original pack 4 x 2,5 l	14,54/2,5 l

P087.3	5 l	plastic	24,20 €

Original pack 2 x 5 l	22,99/5 l

P087.1	10 l	plastic	44,65 €

P087.2	30 l	plastic	117,20 €

For further information, please see page 1386

Roti®-Histofix 4 %, prefilled containers

Roti®-Histofix 4 %, prefilled containers

acid free (pH 7), phosphate-buffered formaldehyde solution 4 %

Fixative for histology, prefilled in screw cap containers.

Storage temp.: +15-25 °C

WGK 2

  **Danger** H350-H341-H302-H317

Type analysis:

Appearance. clear, colourless solution
Assay (formaldehyde). 4,0 %
pH value. 7,0 ±0,5
Stabilised with methanol

3105.1	100 x 10 ml (in 20 ml-container)	carton	75,15 €

3105.2	54 x 50 ml (in 100 ml-container)	carton	51,50 €

For further information, please see page 1385

Roti®-Histofix 4,5 %

Roti®-Histofix 4,5 %

acid free (pH 7), phosphate-buffered formaldehyde solution 4,5 %

Fixative for histology, stabilized with methanol.

D 1,019

Storage temp.: +15-25 °C

WGK 2

 **Danger** H302-H317-H341-H350

Type analysis:

Appearance..... clear, colourless solution
Assay (formaldehyde)..... 4,5 %
pH value..... 7,0 ±0,5
Stabilized with methanol.

2213.4	500 ml	plastic	10,25 €
2213.5	2,5 l	plastic	17,45 €
Original pack 4 x 2,5 l			
2213.3	5 l	plastic	25,70 €
Original pack 2 x 5 l			
2213.1	10 l	plastic	45,90 €
2213.2	30 l	plastic	115,60 €

For further information, please see page 1386

Roti®-Histofix 10 %

Roti®-Histofix 10 %

acid free (pH 7), phosphate-buffered formaldehyde solution 10 %

Fixative for histology, stabilized with methanol.

D 1,042

Storage temp.: +15-25 °C

WGK 2

 **Danger** H302+H312+H332-H315-H317-H319-H335-H341-H350

Type analysis:

Appearance..... clear, colourless solution
Assay (formaldehyde)..... 10 %
pH value..... 7,0 ±0,5
Stabilised with methanol

A146.4	500 ml	plastic	11,50 €
A146.5	2,5 l	plastic	23,15 €
Original pack 4 x 2,5 l			
A146.3	5 l	plastic	39,25 €
Original pack 2 x 5 l			
A146.1	10 l	plastic	62,90 €
A146.2	30 l	plastic	155,90 €

For further information, please see page 1386

Roti®-Histofix ECO Plus

Roti®-Histofix ECO Plus

Fixing agent without formalin

For fixing of histological specimens.
Formalin substitute.

D 1,054 • bp >100 °C

mp <0 °C

Storage temp.: +20 °C

WGK 1

NEW

Type analysis:

Appearance..... clear, reddish liquid
Odour..... pleasantly aromatic

8907.1	500 ml	plastic	12,80 €
8907.2	2,5 l	plastic	42,50 €
Original pack 4 x 2,5 l			
8907.3	5 l	plastic	79,05 €
Original pack 2 x 5 l			
			75,10/5 l

Roti®-Histokitt

Roti®-Histokitt

mounting medium, for histology

Compatible with Roti®-Histol
(Art. No. 6640).

D 0,945

UN No. 1866 • ADR 3 III • WGK 2

 **Danger**

H225-H304-H361d-H373-H315-H336

Type analysis:

Appearance..... clear, viscous liquid
Identity..... complies
Refractive index n_D²⁰..... 1,4930-1,4960

6638.1	100 ml	glass	12,05 €
6638.2	500 ml	glass	33,90 €

For further information, please see page 1413

Roti®-Histokitt II

Roti®-Histokitt II

mounting medium, for histology

Compatible with xylene (e.g. Art. No. 9713).

D 0,95

UN No. 1866 • ADR 3 III • WGK 2

 **Warning** H226-H315-H312+H332

Type analysis:

Appearance..... clear, viscous liquid
Density (d 20 °C/4 °C)..... 0,95
Viscosity (20 °C)..... 250-450 mPa s

T160.1	100 ml	glass	12,05 €
T160.2	500 ml	glass	33,25 €

For further information, please see page 1413

Roti®-Histol

Roti®-Histol

for histology

Clearing agent on base of limonene.

For dewaxing histological sections.

Alternative product for xylene.

D 0,84 • bp 177 °C

flp 50 °C

UN No. 2319 • ADR 3 III • WGK 2

 **Danger**

H304-H226-H400-H410-H315-H317

Type analysis:

Density (20 °C)..... 0,836-0,848
Refractive index n_D²⁰..... 1,468-1,478
Flash point..... 50 °C

6640.1	1 l	glass	26,55 €
Original pack 6 x 1 l			
6640.4	2,5 l	glass	51,50 €
Original pack 4 x 2,5 l			
6640.2	10 l	tinplate	150,40 €
6640.5	5 l	aluminium	84,95 €
Original pack 2 x 5 l			
6640.3	22 kg	tinplate	360,15 €

For further information, please see page 1379

Roti®-Hybri-Quick

Roti®-Hybri-Quick

BioScience-Grade, ready-to-use, for molecular biology

Solution for DNA- and RNA hybridisation.

D 1,034

WGK 1

 **Danger** H318

A981.1	1 l	glass	47,20 €
Original pack 6 x 1 l			
A981.2	2,5 l	glass	85,90 €
Original pack 4 x 2,5 l			
			81,61/2,5 l

For further information, please see page 1200

Roti®-ImmunoBlock

Roti®-ImmunoBlock

ready-to-use, 10x conc.

Protein free blocking reagent for immunocytological assays.

WGK 1

T144.1	250 ml	glass	42,90 €

For further information, please see page 1285

Roti®-Insectofect

Roti®-Insectofect

for transfection, CELLPURE®

For transfection of insect cells in culture.

Approx. 1000 assays per ml in 24wells.

Storage temp.: +4 °C

WGK 1

AE29.1	0,5 ml	plastic	123,10 €
AE29.2	1 ml	plastic	188,15 €

For further information, please see page 1281

ROTI® Kits

Art. No.	Description	Page
7773	EdU Click-488	1799
7775	EdU Click-555	1800
7776	EdU Click-594	1800
7777	EdU Click-647	1800
7779	EdU Click FC-488	1800
7780	EdU Click FC-555	1800
7781	EdU Click FC-594	1800
7783	EdU Click FC-647	1800
7786	EdU Click HTS 2-488	1800
7789	EdU Click HTS 2-555	1800
7793	EdU Click HTS 2-594	1801
7796	EdU Click HTS 2-647	1801
7787	EdU Click HTS 4-488	1801
7791	EdU Click HTS 4-555	1801
7794	EdU Click HTS 4-594	1801
7797	EdU Click HTS 4-647	1801
7788	EdU Click HTS 20-488	1801
7792	EdU Click HTS 20-555	1801
7795	EdU Click HTS 20-594	1801
7798	EdU Click HTS 20-647	1802
HP02	Gram staining kit	1863
9194	H&E fast staining kit	1868
3459	Masson-Goldner's trichrome staining kit	1952
7767	Oligo Click M-488	2013
7770	Oligo Click M-555	2013
7772	Oligo Click M-Biotin	2013
7765	Oligo Click M Reload	2013
7766	Oligo Click S-488	2013
7769	Oligo Click S-555	2013
7771	Oligo Click S-Biotin	2014
7764	Oligo Click S Reload	2014
6487	Panoptical fast staining kit	2019
9195	PAP fast staining kit	2020
HP01	PAS staining kit	2021
N769	Roti®-Black N	2088
P081	Roti®-Black NSeq	2088
L533	Roti®-Black P	2088
N766	Roti®-Bleach	2089
L509	Roti®-Blot 1	2089
P039	Roti®-Blot 2	2089
3129	Roti®-Fect RNAi Kit	2097
3734	Roti®-Lumin ultra	2101
3692	Roti®-Lumin plus	2101
P078	Roti®-Lumin	2101
0947	Roti®-Mark WESTERN Set	2104
A431	Rotiphorese® DNA sequencing system	2108
8620	Roti®-Prep Blood Genomic DNA MINI	2109
8510	Roti®-Prep Gel Extraction	2109
8472	Roti®-Prep Genomic DNA MINI	2110
8503	Roti®-Prep PCR Purification	2110
HP29	Roti®-Prep Plasmid MINI	2110
8546	Roti®-Prep Plasmid MINI-XL	2110
8485	Roti®-Prep RNA MINI	2110
8547	Roti®-Prep Viral RNA/DNA MINI	2110
0120	Roti®-Quant universal	2110
7735	Rotitest®-Annexin V	2113
P043	Roti®-Transform	2114
K063	Roti®-White	2114

Roti®-Liquid Barrier Marker, colourless

Roti®-Liquid Barrier Marker, colourless

For immunology, histology and molecular biology. Glass bottle with brush.

For use with solvents as ethanol or acetone. **Also available: Roti®-Liquid Barrier Marker, red (Art. No. AN92)** for use without solvents.

UN No. 1268 • ADR 3 II • WGK 3

 **Danger**

H225-H304-H315-H336-H411

AN91.1	10 ml	glass	31,10 €

AN91.2	5 x 10 ml	glass	121,40 €

For further information, please see page 1412

Roti®-Liquid Barrier Marker, red

Roti®-Liquid Barrier Marker, red

For immunology, histology and molecular biology. Glass bottle with brush.

For use without solvents as ethanol or acetone, for the red dye in the stained solution is not solvent resistant.

Also available: Roti®-Liquid Barrier Marker, colourless (Art. No. AN91) for use with solvents.

UN No. 1268 • ADR 3 II • WGK 3

 **Danger**

H225-H304-H315-H336-H411

AN92.1	10 ml	glass	31,10 €

AN92.2	5 x 10 ml	glass	121,40 €

For further information, please see page 1412

Roti®-Load 1

Roti®-Load 1

reducing, 4x conc.

Protein gel loading buffer, modified formulation acc. to Lämmli.

D 1,172

Storage temp.: +15-25 °C

UN No. 2810 • ADR 6.1 III • WGK 3

 **Danger**

H318-H311+H331-H302-H315-H411

Type analysis:

Appearance..... dark blue, clear solution
pH value (1x sol.)..... 6,6-7,2

K929.1	10 ml	glass	16,90 €

K929.2	4 x 10 ml	glass	48,30 €

K929.3	10 x 10 ml	glass	112,90 €

For further information, please see page 1126

Roti®-Load 2

Roti®-Load 2

non reducing, 4x conc.

Protein gel loading buffer, modified formulation acc. to Lämmli. For protein complexes, secondary structures, and for native gels.

D 1,158

Storage temp.: +20 °C

WGK 2

 **Danger** H318

Type analysis:

Appearance..... dark blue, clear solution
pH value (1x sol.)..... 6,7-7,2

K930.1	10 ml	glass	14,20 €

For further information, please see page 1126

Roti®-Load 3 (LDS)

Roti®-Load 3 (LDS)

non reducing, 4x conc.

Protein gel loading buffer for ready-made gels and cooled gels.

Storage temp.: +20 °C

WGK 1

 **Warning** H315-H319

Type analysis:

Appearance..... green-blue, clear solution
pH value (1x sol.)..... 7,7 ±0,1

3359.1	10 ml	glass	19,90 €

For further information, please see page 1127

Roti®-Load DNA

Storage temp.: -20 °C
Transport temp.: room temp.
WGK 1

Roti®-Load DNA (with ficoll)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis of small DNA amounts, produces especially sharp bands.

X905.1	5 x 1,8 ml	plastic	38,20 €

For further information, please see page 1125

Roti®-Load DNA (with saccharose)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis of big sample volumes. For big fragments.

T847.1	5 x 1,0 ml	plastic	57,55 €

For further information, please see page 1125

Roti®-Load DNA (with glycerol)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis of routine gels.

X904.1	5 x 1,8 ml	plastic	34,95 €

For further information, please see page 1125

Roti®-Load DNA 1x (with glycerol)

1x conc. gel loading buffer, ready-to-use, DNase-free

For DNA gel electrophoresis, excellent for resolubilisation of DNA pellets.

0100.1	5 x 1,0 ml	plastic	29,60 €

For further information, please see page 1125

Roti®-Load DNA short-run (with glycerol)

6x conc. gel loading buffer, DNase-free

For high-throughput DNA-electrophoresis and short separation distance. For fast gels.

0095.1	5 x 1,8 ml	plastic	38,20 €

For further information, please see page 1125

Roti®-Load DNA short-run 1x (with glycerol)

1x conc. gel loading buffer, ready-to-use, DNase-free

For high-throughput DNA-electrophoresis and short separation distance. Especially suitable for resolubilisation of pelleted DNA. For fast gels.

0099.1	5 x 1,0 ml	plastic	28,95 €

For further information, please see page 1125

Roti®-Load DNA small (with glycerol)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis of small or very big fragments.

HP03.1	5 x 1,8 ml	plastic	41,40 €

For further information, please see page 1125

Roti®-Load DNA orange 1 (with glycerol)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis, optimised for very short separation distances and small fragments. Suitable for high concentrated or High Resolution agarose.

HP04.1	5 x 1,8 ml	plastic	45,05 €

For further information, please see page 1125

Roti®-Load DNA-orange 2 (with glycerol)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis, suitable for mixtures of small and big fragments.

HP05.1	5 x 1,8 ml	plastic	45,05 €

For further information, please see page 1125

Roti®-Load DNA-tricolor (with glycerol)

6x conc. gel loading buffer, DNase-free

For DNA gel electrophoresis, suitable for a broad range of fragments.

HP06.1	5 x 1,8 ml	plastic	45,05 €

For further information, please see page 1125

Roti®-Load DNASTain

Storage temp.: -20 °C

Transport temp.: room temp.

WGK 3

Roti®-Load DNASTain 1

6x conc. gel loading buffer, ready-to-use, DNase-free

DNA-gel loading buffer with fluorescent DNA-dye EvaGreen®. For fragments >500 bp. 1 ml is sufficient for running and staining of approx. 500 lanes.

5783.1	1,0 ml	plastic	34,30 €

5783.2	5 x 1,0 ml	plastic	103,10 €

For further information, please see page 1129 1149

Roti®-Load DNASTain 2

6x conc. gel loading buffer, ready-to-use, DNase-free

DNA-gel loading buffer with fluorescent DNA-dye EvaGreen®. For fragments of 100-2000 bp. 1 ml is sufficient for running and staining of approx. 500 lanes.

5784.1	1,0 ml	plastic	34,30 €

5784.2	5 x 1,0 ml	plastic	103,10 €

For further information, please see page 1129 1149

Roti®-Load DNASTain 3

6x conc. gel loading buffer, ready-to-use, DNase-free

DNA-gel loading buffer with fluorescent DNA-dye EvaGreen®. For fragments <500 bp. 1 ml is sufficient for running and staining of approx. 500 lanes.

6472.1	1 ml	plastic	34,30 €

6472.2	5 x 1 ml	plastic	103,10 €

For further information, please see page 1129 1149

Roti®-Load RNA

Roti®-Load RNA

1,3x conc. gel loading buffer, RNase-free

For RNA gel electrophoresis.

Storage temp.: -20 °C • Transport temp.:

room temp.

WGK 2

Danger H302-H315-H317-H319-H341-H350-H360FD-H373

T848.1	2 x 0,5 ml	plastic	55,80 €

For further information, please see page 1125

Roti®-Lumin ultra

Roti®-Lumin ultra

ready-to-use, spray

Superior chemoluminescence spray substrate for HRP-mediated Western-Blot detection systems.

HRP substrate

Storage temp.: +4 °C

Transport temp.: cooled

Type analysis:

Solution 1. colourless to light yellow, clear

Solution 2. colourless

Light emission after 0, 5, 30 minutes (RLU). ...complies

3734.1	1 mini kit (spray) plastic	213,95 €

3734.2	1 kit (spray) plastic	869,70 €

For further information, please see page 1236

Roti®-Lumin plus

Roti®-Lumin plus

ready-to-use, spray

Highly efficient chemoluminescence spray substrate for HRP-mediated Western-Blot detection systems.

HRP substrate

Storage temp.: +4 °C

Transport temp.: cooled

Type analysis:

Solution 1. colourless to light yellow, clear

Solution 2. colourless

Light emission after 5 and 30 minutes (RLU). ...complies

3692.1	1 mini kit (spray) plastic	121,40 €

3692.2	1 kit (spray) plastic	251,55 €

3692.3	1 kit (bottles) plastic	407,45 €

For further information, please see page 1236

Roti®-Lumin

Roti®-Lumin

ready-to-use

Chemoluminescence substrate for peroxidase mediated detection systems.

HRP substrate

Storage temp.: +4 °C

P078.2	1 mini kit plastic	53,65 €

P078.1	1 kit plastic	198,80 €

For further information, please see page 1235

Roti®lyte Carrier Ampholyte

Storage temp.: +4 °C
Transport temp.: room temp.
WGK 1

Roti®lyte pH 3-5

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 3,7-4,3
Conductivity (2,0 % in H₂O, 20 °C)..... 0,10-0,30 mS/cm
pH range..... 3,0 ±0,5 to 5,1 ±0,5
pH gradient performed..... min. 70 %

5834.1	10 ml	glass	187,05 €

5834.2	25 ml	glass	413,90 €

For further information, please see page 1123

Roti®lyte pH 3-6

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 4,6-5,4
Conductivity (2,0 % in H₂O, 20 °C)..... 0,05-0,50 mS/cm
pH range..... 3,3 ±0,3 to 6,2 ±0,5
pH gradient performed..... min. 70 %

5835.1	10 ml	glass	174,70 €

5835.2	25 ml	glass	389,70 €

For further information, please see page 1123

Roti®lyte pH 3-7

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 4,5-5,5
Conductivity (2,0 % in H₂O, 20 °C)..... 0,20-0,70 mS/cm
pH range..... 3,3 ±0,3 to 7,0 ±0,5
pH gradient performed..... min. 70 %

5839.1	10 ml	glass	174,70 €

5839.2	25 ml	glass	389,70 €

For further information, please see page 1123

Roti®lyte pH 3-10

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 6,6-7,4
Conductivity (2,5 % in H₂O, 20 °C)..... 0,20-0,90 mS/cm
pH range..... 3,3 ±0,3 to 10,0 ±0,6
pH gradient performed..... min. 60 %

5841.1	10 ml	glass	151,60 €

5841.2	25 ml	glass	342,95 €

For further information, please see page 1123

Roti®lyte pH 4-6

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 4,8-5,6
Conductivity (2,0 % in H₂O, 20 °C)..... 0,10-0,20 mS/cm
pH range..... 4,0 ±0,5 to 6,1 ±0,5
pH gradient performed..... min. 60 %

5845.1	10 ml	glass	187,05 €

5845.2	25 ml	glass	413,90 €

For further information, please see page 1123

Roti®lyte pH 4-7

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 5,8-6,2
Conductivity (2,5 % in H₂O, 20 °C)..... 0,1-0,2 mS/cm
pH range..... 4,0 ±0,2 to 7,0 ±0,2
pH gradient performed..... min. 70 %

5850.1	10 ml	glass	174,70 €

5850.2	25 ml	glass	389,70 €

For further information, please see page 1123

Roti®lyte pH 5-6

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,0 % in H₂O, 20 °C)..... 5,3-5,7
Conductivity (2,0 % in H₂O, 20 °C)..... 0,05-0,50 mS/cm
pH range..... 4,5 ±0,2 to 6,5 ±0,2
pH gradient performed..... min. 70 %

5851.1	10 ml	glass	213,95 €

5851.2	25 ml	glass	413,90 €

For further information, please see page 1123

Roti®lyte pH 5-7

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 5,8-6,6
Conductivity (2,5 % in H₂O, 20 °C)..... 0,1-0,2 mS/cm
pH range..... 5,0 ±0,5 to 7,1 ±0,5
pH gradient performed..... min. 60 %

5856.1	10 ml	glass	187,60 €

5856.2	25 ml	glass	413,90 €

For further information, please see page 1123

Roti®lyte pH 5-8

**40 % solution in water,
sterile filtered (0,2 µm)**

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 6,2-7,0
Conductivity (2,5 % in H₂O, 20 °C)..... 0,1-0,5 mS/cm
pH range..... 5,0 ±0,5 to 8,0 ±0,6
pH gradient performed..... min. 70 %

5857.1	10 ml	glass	174,70 €

5857.2	25 ml	glass	389,70 €

For further information, please see page 1123

Roti®lyte pH 6-7

40 % solution in water,
sterile filtered (0,2 µm)

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3 % to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 6,2-7,0
Conductivity (2,5 % in H₂O, 20 °C)..... 0,1-0,2 mS/cm
pH range..... 6,0 ± 0,2 to 7,0 ± 0,2
pH gradient performed..... min. 70 %

5858.1	10 ml	glass	174,70 €
5858.2	25 ml	glass	389,70 €

For further information, please see page 1123

Roti®lyte pH 6-8

40 % solution in water,
sterile filtered (0,2 µm)

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 7,2-8,0
Conductivity (2,5 % in H₂O, 20 °C)..... 0,15-0,55 mS/cm
pH range..... 6,2 ± 0,4 to 8,0 ± 0,5
pH gradient performed..... min. 60 %

5860.1	10 ml	glass	187,05 €
5860.2	25 ml	glass	413,90 €

For further information, please see page 1123

Roti®lyte pH 7-9

40 % solution in water,
sterile filtered (0,2 µm)

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 7,6-8,1
Conductivity (2,0 % in H₂O, 20 °C)..... 0,20-0,90 mS/cm
pH range..... 7,0 ± 0,3 to 9,0 ± 0,3
pH gradient performed..... min. 70 %

5861.1	10 ml	glass	187,05 €
5861.2	25 ml	Glas	413,90 €

For further information, please see page 1123

Roti®lyte pH 8-10

40 % solution in water,
sterile filtered (0,2 µm)

Carrier ampholytes for isoelectric focussing (IEF).

Added in 3-5 % working concentration to acrylamide- or agarose gel solution.

Type analysis:

Appearance..... clear solution
Content (w/v)..... 40 %
pH value (2,5 % in H₂O, 20 °C)..... 7,8-9,2
Conductivity (2,0 % in H₂O, 20 °C)..... 0,10-0,30 mS/cm
pH range..... 7,5 ± 0,5 to 9,5 ± 0,6
pH gradient performed..... min. 80 %

5864.1	10 ml	glass	187,05 €
5864.2	25 ml	glass	413,90 €

For further information, please see page 1124

Roti®-MagBeads

Storage temp.: +4 °C

Roti®-MagBeads COOH

10 mg/ml, for biochemistry and molecular biology

Activated magnetic silica gel beads for covalent coupling of chosen ligands.

Type analysis:

Concentration..... 10 ± 0,5 mg/ml
Size distribution..... 0,7-1,4 µm
Mean particle sizing (CI90 %)..... 1,0 ± 0,05 µm
Bead number..... 6-12 x 10⁹ Beads/ml
Magnetic iron content..... ≥ 50 %
Suspension in PBS (pH 7,4); 0,05 % sodium azide

HP58.2	50 µl	plastic	12,05 €
HP58.1	2 ml	plastic	83,75 €

For further information, please see page 1245

Roti®-MagBeads DNA

20 mg/ml, ready-to-use, DNase- and DNA-free, for molecular biology

Magnetic silica gel beads for isolation of genomic DNA.

Type analysis:

Concentration..... 20 ± 1 mg/ml
Size distribution..... 0,7-2,5 µm
Mean particle sizing..... 1,2 ± 0,1 µm
Bead number..... 0,6-2 x 10¹⁰ Beads/ml
Magnetic iron content..... ≥ 50 %
DNA binding capacity (whole blood)..... ~2 µg/100 µg Beads
Suspension in ultrapure water (*aqua ad injectabilia*) with 0,05 % sodium azide.

2787.2	50 µl	plastic	13,15 €
2787.1	2 ml	plastic	120,95 €

For further information, please see page 1181

Roti®-MagBeads Protein A

10 mg/ml, ready-to-use, for biochemistry

Magnetic silica gel beads for binding and isolation of immunoglobulins.

Type analysis:

Concentration..... 10 ± 0,5 mg/ml
Size distribution..... 0,7-1,4 µm
Mean particle sizing (CI90 %)..... 1,0 ± 0,05 µm
Bead number..... 6-12 x 10⁹ Beads/ml
Magnetic iron content..... ≥ 50 %
Suspension in PBS (pH 7,4); 0,05 % sodium azide

HP59.2	50 µl	plastic	16,70 €
HP59.1	1 ml	plastic	166,65 €

For further information, please see page 1245

Roti®-MagBeads Protein G

10 mg/ml, ready-to-use, for biochemistry

Magnetic silica gel beads for binding and isolation of immunoglobulins.

Type analysis:

Concentration..... 10 ± 0,5 mg/ml
Size distribution..... 0,7-1,4 µm
Mean particle sizing (CI90 %)..... 1,0 ± 0,05 µm
Bead number..... 6-12 x 10⁹ Beads/ml
Magnetic iron content..... ≥ 50 %
Suspension in PBS (pH 7,4); 0,05 % sodium azide

HP60.2	50 µl	plastic	16,70 €
HP60.1	1 ml	plastic	166,65 €

For further information, please see page 1246

Roti®-MagBeads Streptavidin

10 mg/ml, ready-to-use, for biochemistry

Magnetic silica gel beads for isolation of biotin-coupled biomolecules.

Type analysis:

Concentration..... 10 ± 0,5 mg/ml
Size distribution..... 0,7-1,4 µm
Mean particle sizing (CI90 %)..... 1,0 ± 0,05 µm
Bead number..... 6-12 x 10⁹ Beads/ml
Magnetic iron content..... ≥ 50 %
Biotin binding capacity..... 3-7 nMol/mg
Suspension in PBS (pH 7,4); 0,05 % Tween 20; 0,05 % sodium azide

HP57.2	50 µl	plastic	18,85 €
HP57.3	1 ml	plastic	203,20 €
HP57.1	2 ml	plastic	342,95 €

For further information, please see page 1245

Roti®-Mark, not prestained

Storage temp.: -20 °C

Transport temp.: room temp.

WGK 1

Roti®-Mark 10-150

Protein marker, not prestained

Size range: 10-150 kD

Number of protein bands: 8

Number of lanes/ml: approx. 200 (mini gels)

⚠ Warning H319

T850.2	100 µl	plastic	47,85 €
T850.1	500 µl	plastic	109,55 €

For further information, please see page 1134

Roti®-Mark 10-150 PLUS

Protein marker with additional prestained protein
Size range: 10-150 kD
Number of protein bands: 9
Number of lanes/ml: approx. 200 (mini gels)

⚠ Warning H319

X879.2	100 µl	plastic	53,65 €
X879.1	500 µl	plastic	133,85 €

For further information, please see page 1134

Roti®-Mark PETIT

Protein marker, not prestained 
Size range: 3,5-40 kD
Number of protein bands: 7
Number of lanes/ml: approx. 200 (mini gels)

9299.1	100 µl	plastic	57,00 €
9299.2	500 µl	plastic	166,65 €

For further information, please see page 1133

Roti®-Mark STANDARD

Protein marker, not prestained
Size range: 14-212 kD
Number of protein bands: 7
Number of lanes/ml: approx. 200 (mini gels)

⚠ Warning H319

T851.3	200 µl	plastic	32,15 €
T851.1	1 ml	plastic	90,20 €
T851.2	4 x 1 ml	plastic	317,15 €

For further information, please see page 1133

Roti®-Mark WESTERN-Marker

Protein marker, not prestained
Size range: 10-120 kD
Number of protein bands: 8
Number of lanes/ml: approx. 200 (mini gels)

⚠ Warning H319

0948.1	500 µl	plastic	177,40 €

For further information, please see page 1134

Roti®-Mark, prestained

Storage temp.: -20 °C
Transport temp.: room temp.
WGK 1

Q/R

Roti®-Mark PRESTAINED

Protein marker, prestained
Size range: 17-245 kD
Number of protein bands: 7
Number of lanes/ml: approx. 200 (mini gels)

⚠ Warning H319

T852.3	100 µl	plastic	53,65 €
T852.1	250 µl	plastic	89,80 €
T852.2	4 x 250 µl	plastic	313,90 €

For further information, please see page 1132

Roti®-Mark BICOLOR

Protein marker, prestained
Size range: 17-245 kD
Number of protein bands: 9
Number of lanes/ml: approx. 200 (mini gels)

⚠ Warning H319

2806.1	100 µl	plastic	55,40 €
2806.2	250 µl	plastic	100,55 €

For further information, please see page 1133

Roti®-Mark BI-PINK

Protein marker, prestained
Size range: 10-175 kD
Number of protein bands: 11
Number of lanes/ml: approx. 200 (mini gels)

8269.1	500 µl	plastic	151,05 €

For further information, please see page 1133

Roti®-Mark TRICOLOR

Protein marker, prestained
Size range: 10-245 kD
Number of protein bands: 12
Number of lanes/ml: approx. 200 (mini gels)

8271.1	500 µl	plastic	151,05 €

For further information, please see page 1133

Roti®-Mark WESTERN HRP Conjugate

Roti®-Mark WESTERN HRP Conjugate

0,2 mg/ml
For HRP mediated detection of Roti®-Mark WESTERN Marker.
Storage temp.: -20 °C
Transport temp.: room temp.
WGK 1

0949.1	500 µl	glass	180,60 €

For further information, please see page 1254

Roti®-Mark WESTERN Set

Roti®-Mark WESTERN Set

Set of protein marker and antibody for gel and Western-Blot
Size range: 10-120 kD
Number of protein bands: 8
Number of lanes: approx. 100 or 10 (mini gels)
Storage temp.: -20 °C
Transport temp.: room temp.
WGK 1

⚠ Warning H319

0947.2	1 mini kit	plastic	37,55 €
0947.1	1 kit	plastic	299,95 €

For further information, please see page 1254

Roti®-Methylene blue staining concentrate

Roti®-Methylene blue staining concentrate

For reversible staining of DNA in agarose gels, 200x concentrate.
12 ml Roti®-methylene blue staining concentrate is sufficient for more than 50 mini gels.

Storage temp.: +4 °C
UN No. 1993 • ADR 3 III • WGK 2

⚠ ⚠ Danger H225-H302

0648.1	3 ml	plastic	33,25 €
0648.2	12 ml	plastic	100,95 €

For further information, please see page 1148

ROTİ®METIC, High-Purity Metals and Metal Compounds

Art. No.	Description	Page
5577	Aluminium granulate	1626
5368	Aluminium chloride hexahydrate	1626
5395	Aluminium fluoride	1627
5567	Aluminium nitrate nonahydrate	1627
5575	Aluminium oxide	1627
5050	Ammonium chloride	1636
5580	Ammonium dihydrogen phosphate	1637
5585	Ammonium hexachloroosmate (IV)	1638
5586	Ammonium hexachlororhodate(III)	1638
5587	Ammonium hexafluorosilicate	1638
5589	Ammonium hexafluorotitanate(IV)	1638
5363	Ammonium hydrogen fluoride	1639
5596	di-Ammonium hydrogen phosphate	1639
5591	Ammonium molybdate(VI)	1641
5365	Ammonium nitrate	1641
5606	Ammonium sulphate	1643
5396	Ammonium tetraborate tetrahydrate	1644
5608	Ammonium tetrathiomolybdate	1644
5397	Ammonium tetrathiotungstate	1644
4516	Antimony shot	1650
5103	Arsenic pieces	1656
5321	Barium carbonate	1665
5051	Barium chloride	1666
5115	Barium chloride dihydrate	1666
5055	Barium fluoride	1666
5609	Barium hydroxide hydrate	1666
5138	Barium nitrate	1667
5612	Beryllium acetate basic	1674
5614	Boric acid	1685
5247	Cadmium acetate	1702
5618	Caesium carbonate	1702
5061	Caesium chloride	1703
4505	Caesium nitrate	1703
5616	Calcium carbonate	1705
5056	Calcium chloride hydrate	1706
5617	Calcium hydroxide	1707
5058	Calcium nitrate hydrate	1708
5372	Cerium(III) acetate hydrate	1724
5312	Cerium(III) nitrate hexahydrate	1724
5603	Cerium(III) sulphate	1725
5601	Cerium(III) sulphate octahydrate	1725
5619	Chromium(III) nitrate nonahydrate	1734
4498	Chromium(III) oxide	1734
5620	Cobalt powder	1740
5291	Cobalt(II) nitrate hexahydrate	1740
5326	Cobalt(II) sulphate hydrate	1741

5621	Copper shot	1744
5386	Copper powder	1745
5379	Copper(I) chloride	1745
5300	Copper(I) iodide	1746
5394	Europium(III) oxide	1822
4507	Gallium	1845
5548	Gallium(III) nitrate hydrate	1845
5377	Gallium(III) oxide	1845
5622	Gold shot	1862
5624	Gold(III) chloride	1862
5338	Holmium(III) oxide	1880
5626	Hydrogen hexachloroplatinate(IV) hydrate	1888
5628	Hydrogen tetrachloroaurate(III) hydrate	1889
5629	Indium shot	1898
5322	Indium(III) bromide	1898
5384	Indium(III) nitrate pentahydrate	1898
5630	Indium(III) oxide	1899
5364	Iodine(V) oxide	1902
5631	Iron granules	1905
5632	Iron(III) nitrate nonahydrate	1907
5634	Iron(III) oxide	1907
5366	Lanthanum(III) nitrate hexahydrate	1923
5062	Lithium bromide	1935
5635	Lithium carbonate	1935
5079	Lithium chloride	1935
5082	Lithium fluoride	1936
5281	Lithium nitrate	1937
5296	Lutetium(III) oxide	1940
5347	Magnesium chloride hexahydrate	1943
5420	Magnesium nitrate hexahydrate	1944
5639	Magnesium oxide	1945
4509	Manganese flakes	1948
5641	Manganese(II) acetate tetrahydrate	1948
5304	Manganese(II) chloride tetrahydrate	1949
5383	Manganese(IV) oxide	1949
5392	Manganese(II) nitrate hydrate	1949
4548	Molybdenum(VI) oxide	1974
5643	Nickel powder	1985
5373	Nickel(II) chloride hexahydrate	1985
5387	Nickel(II) nitrate hexahydrate	1985
5388	Nickel(II) oxide	1986
5648	Palladium powder	2018
5653	Palladium(II) chloride	2018
5393	Palladium(II) oxide	2019
5654	Platinum powder	2044
5064	Potassium bromide	2051
5335	Potassium carbonate	2052
5346	Potassium chloride	2052
5656	Potassium fluoride	2055
5066	di-Potassium hydrogen phosphate	2056
5658	Potassium hydroxide	2057
5067	Potassium iodide	2059
5659	Potassium nitrate	2060
5325	Potassium persulphate	2062
5071	Potassium sulphate	2063
5114	Potassium tetrachloroaurate(III)	2063
5660	Potassium tetrachloroplatinate(II)	2063
5668	Rhodium(III) chloride hydrate	2084
5679	Rubidium chloride	2114
5293	Rubidium nitrate	2114
5686	Ruthenium(III) chloride	2115
5735	Scandium(III) oxide	2121
5737	Selenious acid	2123
4547	Selenium pellets	2123
5324	Selenium(IV) oxide	2124
5738	Silicon dioxide	2131
5739	Silver bromide	2135
5302	Silver chloride	2135
4500	Silver nitrate	2136
5065	Silver nitrite	2137

5380	Sodium acetate	2140
5086	Sodium bromide	2142
5740	Sodium carbonate	2142
5741	Sodium chloride	2143
5075	Sodium dihydrogen phosphate	2145
4503	Sodium fluoride	2147
5742	Sodium nitrate	2154
5076	Sodium sulphate	2157
5376	Strontium carbonate	2185
5078	Strontium nitrate	2185
5745	Tellurium(IV) oxide	2199
5746	Tetraammineplatinum(II) nitrate	2201
5097	Tin shot	2210
5747	Titanium(IV) oxide	2212
5399	Tungsten(VI) oxide	2228
5370	Vanadium(V) oxide	2235
5749	Ytterbium(III) chloride hexahydrate	2249
5303	Ytterbium(III) oxide	2250
5751	Yttrium(III) oxide	2250
5345	Zinc shot	2250
5421	Zinc oxide	2252
4502	Zirconyl chloride octahydrate	2254
5415	Zirconyl nitrate hydrate	2254

Roti®-Mix PCR

Storage temp.: -20 °C
Transport temp.: cooled

Roti®-Mix PCR 1

2 mM (per dNTP) dATP, dTTP, dGTP, dCTP
Roti®-Mix PCR 1, nucleotide-mixture containing dATP, dTTP, dGTP, dCTP.
Concentration: 2 mM per dNTP.

L541.1	1 ml	plastic	22,50 €
L541.2	5 x 1 ml	plastic	87,65 €

For further information, please see page 1211

Roti®-Mix PCR 2

2 mM (per dNTP) dATP, dUTP, dGTP, dCTP
Roti®-Mix PCR 2, nucleotide-mixture containing dATP, dUTP, dGTP, dCTP.
Concentration: 2 mM per dNTP.

L542.1	1 ml	plastic	22,50 €
L542.2	5 x 1 ml	plastic	87,65 €

For further information, please see page 1211

Roti®-Mix PCR 3

10 mM (per dNTP) dATP, dTTP, dGTP, dCTP
Roti®-Mix PCR 3, nucleotide-mixture containing dATP, dTTP, dGTP, dCTP.
Concentration: 10 mM per dNTP.

L785.1	0,2 ml	plastic	22,50 €
L785.2	5 x 0,2 ml	plastic	87,65 €
L785.3	5 x 1 ml	plastic	368,75 €

For further information, please see page 1211

Roti®-Mix PCR 3 (pH 7)

10 mM (pro dNTP) dATP, dTTP, dGTP, dCTP
Roti®-Mix PCR 3 (pH 7), nucleotide-mixture containing dATP, dTTP, dGTP, dCTP.
Concentration: 10 mM per dNTP, pH 7,0 ± 0,1

0179.1	0,2 ml	plastic	22,50 €
0179.2	5 x 0,2 ml	plastic	87,65 €

For further information, please see page 1211

Roti®-Mix PCR 4

10 mM (per dNTP) dATP, dUTP, dGTP, dCTP
Roti®-Mix PCR 4, nucleotide-mixture containing dATP, dUTP, dGTP, dCTP.
Concentration: 10 mM per dNTP.

L786.1	0,2 ml	plastic	22,50 €
L786.2	5 x 0,2 ml	plastic	87,65 €

For further information, please see page 1211

Roti®-Mount

Roti®-Mount

Mountant for microscopy, free from xylene and toluene.

Compatible with Roticlear® (Art. No. A538) and n-Butyl acetate (Art. No. P036).

D 0,88 • bp 110-130 °C
mp <-17 °C • flp 17,8 °C
UN No. 1993 • ADR 3 II • WGK 1

⚠ Danger H225

Type analysis:

Appearance: colourless to light yellowish, viscous liquid
Viscosity (20 °C): 1000-1200 mPa
Refractive index (20 °C): 1,43-1,46
Density (20 °C): 0,850-900

HP68.1	100 ml	glass	19,25 €
HP68.2	500 ml	glass	57,55 €

For further information, please see page 1413

Roti®-Mount Aqua

Roti®-Mount Aqua

for microscopy

Aqueous mounting medium

D 1,05-1,18
Storage temp.: +4 °C
WGK 1

Type analysis:

Appearance: colourless, viscous liquid
Viscosity (20 °C): 170-220 mPa
Refractive index (20 °C): 1,440-1,465
Density (20 °C): 1,05-1,18

2848.1	15 ml	dropp. bottle	20,10 €
2848.2	50 ml	glass	37,55 €

For further information, please see page 1414

Roti®-Mount FluorCare

Storage temp.: +4 °C
WGK 1

Roti®-Mount FluorCare

for fluorescence microscopy

Aqueous mounting medium with antifading effect.

Type analysis:

Appearance: clear, viscous liquid
Viscosity (20 °C): 170-220 mPa
Refractive index (20 °C): 1,44-1,465
Density (20 °C): 1,05-1,18

HP19.1	15 ml	dropp. bottle	51,10 €

For further information, please see page 1409

Roti-Mount

Roti®-Mount FluorCare DAPI for fluorescence microscopy

Aqueous mounting medium with antifading effect. Contains DAPI for counterstaining.

Type analysis:

Appearance: clear, viscous liquid
Viscosity (20 °C): 170-220 mPas
Refractive index (20 °C): 1,44-1,465
Density (20 °C): 1,05-1,18

HP20.1	15 ml	dropp. bottle	62,90 €

For further information, please see page 1409

Roti®-Mount FluorCare PI for fluorescence microscopy

Aqueous mounting medium with antifading effect. Contains propidiumiodide (PI) for counterstaining.

Type analysis:

Appearance: viscous, slightly reddish liquid
Viscosity (20 °C): 170-220 mPas
Refractive index (20 °C): 1,44-1,465
Density (20 °C): 1,05-1,18

HP21.1	15 ml	dropp. bottle	62,90 €

For further information, please see page 1410

Roti®-Nanoquant

Roti®-Nanoquant

5x conc.

For protein quantitation acc. to Bradford, for extremely small protein amounts.

D 1,371

Storage temp.: +4 °C

UN No. 2920 • ADR 8 (3) II • WGK 1

  **Danger** H226-H314

K880.2	50 ml	plastic	14,20 €

K880.3	200 ml	plastic	42,90 €

K880.1	500 ml	plastic	85,50 €

For further information, please see page 1256

Roti® Nucleic Acid-free

Roti® Nucleic Acid-free ready-to-use

Ready-to-use solution for removal of nucleic acid contaminations from surfaces.

UN No. 1824 • ADR 8 III

 **Warning** H315-H319

HP69.1	500 ml	spray bottle	63,35 €

HP69.2	1 l	plastic	84,40 €

Original pack 6 x 1 l 80,18/1 l

HP69.3	2,5 l	plastic	188,15 €

Original pack 4 x 2,5 l 178,74/2,5 l

For further information, please see page 1206

Roti®-PAGE gels ready-to-use

Storage temp.: +4 °C

Transport temp.: cooled

WGK 1

Roti®-PAGE 10 %

ready-to-use, 9 x 10 cm, 10 % polyacrylamide, 10 wells

Precast mini gels with 10 % polyacrylamide, for rapid and easy gel electrophoresis of proteins of 25 to 200 kD.

Gel parameters:

Gel plates 9 x 10 cm (l x w), gel size 7,1 x 8,3 cm (l x w), gel thickness 1 mm, 10 wells, separation gel 10 % polyacrylamide, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2838.1	2 gels	plastic	38,60 €

2838.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-PAGE 10 %

ready-to-use, 10 x 10 cm, 10 % polyacrylamide, 10 wells

Precast mini gels with 10 % polyacrylamide, for rapid and easy gel electrophoresis of proteins of 25 to 200 kD.

Gel parameters:

Gel plates 10 x 10 cm (l x w), gel size 8,1 x 8,3 cm (l x w), gel thickness 1 mm, 10 wells, separation gel 10 % polyacrylamide, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2839.1	2 gels	plastic	38,60 €

2839.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-PAGE 12 %

ready-to-use, 9 x 10 cm, 12 % polyacrylamide, 10 wells

Precast mini gels with 12 % polyacrylamide, for rapid and easy gel electrophoresis of proteins of 20 to 100 kD.

Gel parameters:

Gel plates 9 x 10 cm (l x w), gel size 7,1 x 8,3 cm (l x w), gel thickness 1 mm, 10 wells, separation gel 12 % polyacrylamide, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2840.1	2 gels	plastic	38,60 €

2840.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-PAGE 12 %

ready-to-use, 10 x 10 cm, 12 % polyacrylamide, 10 wells

Precast mini gels with 12 % polyacrylamide, for rapid and easy gel electrophoresis of proteins of 20 to 100 kD.

Gel parameters:

Gel plates 10 x 10 cm (l x w), gel size 8,1 x 8,3 cm (l x w), gel thickness 1 mm, 10 wells, separation gel 12 % polyacrylamide, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2841.1	2 gels	plastic	38,60 €

2841.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-PAGE Gradient (4-20 %)

ready-to-use, 9 x 10 cm, 4-20 % polyacrylamide, 10 wells

Precast mini gels with 4-20 % polyacrylamide gradient, for rapid and easy gel electrophoresis of proteins of 5 to 200 kD.

Gel parameters:

Gel plates 9 x 10 cm (l x w), gel size 7,1 x 8,3 cm (l x w), gel thickness 1 mm, 10 wells, separation gel 4-20 % polyacrylamide gradient, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2842.1	2 gels	plastic	38,60 €

2842.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-PAGE Gradient (4-20 %)

ready-to-use, 10 x 10 cm, 4-20 % polyacrylamide, 10 wells

Precast mini gels with 4-20 % polyacrylamide gradient, for rapid and easy gel electrophoresis of proteins of 5 to 200 kD.

Gel parameters:

Gel plates 10 x 10 cm (l x w), gel size 8,1 x 8,3 cm (l x w), gel thickness 1 mm, 10 wells, separation gel 4-20 % polyacrylamide gradient, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2843.1	2 gels	plastic	38,60 €

2843.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-PAGE Gradient (4-20 %)

ready-to-use, 9 x 10 cm, 4-20 % polyacrylamide, 12 wells

Precast mini gels with 4-20 % polyacrylamide gradient, for rapid and easy gel electrophoresis of proteins of 5 to 200 kD.

Gel parameters:

Gel plates 9 x 10 cm (l x w), gel size 7,1 x 8,3 cm (l x w), gel thickness 1 mm, 12 wells, separation gel 4-20 % polyacrylamide gradient, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2844.1	2 gels	plastic	38,60 €

2844.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Q/R

Roti®-PAGE Gradient (4-20 %)

ready-to-use, 10 x 10 cm, 4-20 % polyacrylamide, 12 wells

Precast mini gels with 4-20 % polyacrylamide gradient, for rapid and easy gel electrophoresis of proteins of 5 to 200 kD.

Gel parameters:

Gel plates 10 x 10 cm (l x w), gel size 8,1 x 8,3 cm (l x w), gel thickness 1 mm, 12 wells, separation gel 4-20 % polyacrylamide gradient, stacking gel 4 % polyacrylamide, buffer system Tris/Glycine. Does not contain SDS. Package contains Tris/Glycine buffer with 0,02 % sodium azide.

2845.1	2 gels	plastic	38,60 €
2845.2	10 gels	plastic	161,15 €

For further information, please see page 1110

Roti®-Phenol

D 1,06

Storage temp.: +4 °C

UN No. 2821 • ADR 6.1 II • WGK 2

Danger

H314-H341-H373-H301+H311+H331

Roti®-Aqua-Phenol

for RNA extraction

Redistilled, in water saturated phenol, pH 4,5-5.

Draw solution from lower phase. Do not shake before use!

A980.2	100 ml	glass	20,35 €
A980.1	250 ml	glass	40,35 €
A980.3	500 ml	glass	60,10 €

For further information, please see page 1180

Roti®-Phenol

for extraction of nucleic acids

Redistilled, in TE buffer equilibrated phenol, pH 7,5-8,0.

Draw solution from lower phase. Do not shake before use!

0038.1	100 ml	glass	24,20 €
0038.2	250 ml	glass	48,30 €
0038.3	500 ml	glass	73,00 €

For further information, please see page 1179

Roti®-Phenol/Chloroform/Isoamyl alcohol

Storage temp.: +4 °C

UN No. 2821 • ADR 6.1 III • WGK 3

Danger H301+H311-H330-H314-H341-H351-H361d-H372

Roti®-Aqua-P/C/I

for RNA extraction

Redistilled, in water saturated phenol, chloroform and isoamyl alcohol at a ratio of 25:24:1, pH 4,5-5.

Draw solution from lower phase. Do not shake before use!

X985.3	100 ml	glass	26,35 €
X985.1	250 ml	glass	45,70 €
X985.2	500 ml	glass	69,80 €

For further information, please see page 1180

Roti®-Phenol/Chloroform/Isoamyl alcohol

for extraction of nucleic acids

Redistilled, in TE-buffer equilibrated phenol, chloroform and isoamyl alcohol at a ratio of 25:24:1, pH 7,5-8,0.

Draw solution from lower phase. Do not shake before use!

A156.3	100 ml	glass	34,30 €
A156.1	250 ml	glass	69,35 €
A156.2	500 ml	glass	115,60 €

For further information, please see page 1179

Rotiphorese® Blue R

Rotiphorese® Blue R

Brilliant Blue R concentrate

For Coomassie staining of protein gels.

600 ml concentrate are sufficient for approx. 12 mini gels.

D 0,826

flp 11 °C

UN No. 3286 • ADR 3 (6.1) (8) II • WGK 1

Danger

H225-H370-H315-H319-H311+H331+H301

3074.1	600 ml	glass	29,60 €

For further information, please see page 1145

Rotiphorese® Gel solution 30 %

D 1,024

Storage temp.: +8 °C

UN No. 3426 • ADR 6.1 III • WGK 3

Danger H302-H315-H317-H319-H340-H350-H361f-H372

Rotiphorese® Gel 30 (37,5:1)

ready-to-use, gas stabilised, aqueous 30 % acrylamide and bisacrylamide stock solution at a ratio of 37,5:1

For preparation of protein gels in electrophoresis.

3029.3	250 ml	glass	23,15 €
3029.2	500 ml	glass	36,05 €
3029.1	1 l	glass	60,75 €

Original pack 6 x 1 l

57,71/1 l

For further information, please see page 1111

Rotiphorese® NF-Acrylamide/Bis-solution 30 % (29:1)

ready-to-use, gas stabilised, aqueous 30 % acrylamide and bisacrylamide stock solution at a ratio of 29:1, fluorescence free

Made from 4x crystallised acrylamide. Tested for automatic sequencers.

A124.1	250 ml	glass	44,00 €
A124.2	1 l	glass	134,40 €

Original pack 6 x 1 l

127,68/1 l

For further information, please see page 1113

Rotiphorese® Gel solution 40 %

D 1,03

Storage temp.: +8 °C

UN No. 3426 • ADR 6.1 III • WGK 3

Danger H302+H332-H315-H317-H319-H340-H350-H361f-H372

Rotiphorese® Gel 40 (19:1)

ready-to-use, gas stabilised, aqueous 40 % acrylamide and bisacrylamide stock solution at a ratio of 19:1

Ideal for the preparation of sequencing gels and other DNA gels used for separating small DNA fragments.

3030.2	250 ml	glass	28,95 €
3030.1	1 l	glass	70,45 €

Original pack 6 x 1 l

66,93/1 l

For further information, please see page 1111

Rotiphorese® Gel 40 (29:1)

ready-to-use, gas stabilised, aqueous 40 % acrylamide and bisacrylamide stock solution at a ratio of 29:1

For preparation of protein- or DNA gels. Particularly ideal for the analysis of protein/DNA interactions, or peptides.

A515.2	250 ml	glass	31,10 €
A515.1	1 l	glass	76,25 €

Original pack 6 x 1 l

72,44/1 l

For further information, please see page 1111

Rotiphorese

Rotiphorese® Gel 40 (37,5:1)

ready-to-use, gas stabilised, aqueous 40 % acrylamide and bisacrylamide stock solution at a ratio of 37,5:1

For preparation of protein gels.

T802.2	250 ml	glass	27,85 €

T802.1	1 l	glass	67,20 €

Original pack 6 x 1 l 63,84/1 l

For further information, please see page 1111

Rotiphorese® NF-Acrylamide/ Bis-solution 40 % (19:1)

ready-to-use, gas stabilised, aqueous 40 % acrylamide and bisacrylamide stock solution at a ratio of 19:1, fluorescence free

Made from 4x crystallised acrylamide. Tested for automatic sequencers.

A516.1	250 ml	glass	45,70 €

For further information, please see page 1113

Rotiphorese® NF-Acrylamide/ Bis-solution 40 % (29:1)

ready-to-use, gas stabilised, aqueous 40 % acrylamide and bisacrylamide stock solution at a ratio of 29:1, fluorescence free

Made from 4x crystallised acrylamide. Tested for automatic sequencers.

A121.1	250 ml	glass	37,10 €

For further information, please see page 1113

Rotiphorese® Gel A

Rotiphorese® Gel A

30 % acrylamide solution

D 1,023

Storage temp.: +8 °C

WGK 3

  **Danger** H302-H315-H317-H372

3037.2	250 ml	glass	20,10 €

3037.1	1 l	glass	49,15 €

Original pack 6 x 1 l 46,69/1 l

For further information, please see page 1112

Rotiphorese® Gel A

Rotiphorese® Gel B

Rotiphorese® Gel B

2 % bisacrylamide solution

D 1,001

Storage temp.: +8 °C

WGK 2

3039.2	250 ml	glass	18,20 €

3039.1	1 l	glass	43,55 €

Original pack 6 x 1 l 41,37/1 l

For further information, please see page 1112

Rotiphorese® NF 10 x TBE Buffer

Rotiphorese® NF 10 x TBE Buffer

Ready-to-use 10x TBE-buffer for preparing sequencing gels, also tested and optimised as running buffer in electrophoresis for automatic sequencers, fluorescence-free.

D 1,061

Storage temp.: +20 °C

WGK 1

 **Warning** H315-H319

A118.1	2,5 l	glass	93,00 €

Original pack 4 x 2,5 l 88,35/2,5 l

For further information, please see page 1125

Rotiphorese® NF-Urea

Rotiphorese® NF-Urea

tested for automatic sequencers, fluorescence free

CH₄N₂O

M 60,06 g/mol

mp 132-134 °C

Storage temp.: +4 °C

[57-13-6]

WGK 1

A120.1	1 kg	plastic	58,60 €

Original pack 6 x 1 kg 55,67/1 kg

For further information, please see page 1115

Rotiphorese® 10x SDS-PAGE

Rotiphorese® 10x SDS-PAGE

10x concentrated SDS-PAGE running buffer, for electrophoresis.

D 1,06

WGK 1

Composition:

0,25 M TRIS; 1,92 M Glycine
1 % (g/v) SDS; distilled, deionized water

3060.1	1 l	glass	34,30 €

Original pack 6 x 1 l 32,59/1 l

3060.3	2,5 l	glass	63,35 €

Original pack 4 x 2,5 l 60,18/2,5 l

3060.2	5 l	plastic	89,80 €

Original pack 2 x 5 l 85,31/5 l

For further information, please see page 1125

Rotiphorese® DNA sequencing system

Rotiphorese® DNA sequencing system

Set of ready-to-use solutions for preparation of DNA sequencing gels.

Storage temp.: +4-15 °C

UN No. 3426 • ADR 6.1 III • WGK 3

  **Danger** H340-H350-H372-H361f-

H302-H315-H319-H317

A431.1	1 kit	glass	98,40 €

For further information, please see page 1113

Rotiphorese® Sequencing gel concentrate

Rotiphorese® Sequencing gel concentrate

Ready-to-use solution (19:1) for the preparation of gels containing 0-20 % monomer, for electrophoresis.

Also part of the DNA sequencing system (Art. No. A431.1).

D 1,140 • bp 100 °C

Storage temp.: +4-15 °C

UN No. 3426 • ADR 6.1 III • WGK 3

  **Danger** H302-H315-H319-H317-

H340-H350-H361f-H372

Formulation:

Acrylamide.....	237,5 g
Methylenebisacrylamide.....	12,5 g
Urea.....	500 g
per 1 l	

3043.2	100 ml	glass	12,60 €

3043.1	1 l	glass	55,40 €

Original pack 6 x 1 l 52,63/1 l

For further information, please see page 1113

Rotiphorese® Sequencing gel diluent

Rotiphorese® Sequencing gel diluent

50 % (g/v; 8,3 M) solution of urea in water for diluting Rotiphorese® Sequencing gel concentrate.

Also part of the DNA sequencing system (Art. No. A431.1).

D 1,120

Storage temp.: +4-15 °C

WGK 1

3047.1	1 l	glass	34,30 €

Original pack 6 x 1 l 32,59/1 l

For further information, please see page 1113

Q/R

Rotiphorese® Gel A-40

40 % acrylamide solution

D 1,031

Storage temp.: +8 °C

UN No. 3426 • ADR 6.1 III • WGK 3

  **Danger** H302+H332-H315-H319-

H317-H340-H350-H361f-H372

7748.1	250 ml	glass	27,45 €

7748.2	1 l	glass	65,50 €

Original pack 6 x 1 l 62,23/1 l

For further information, please see page 1112

Rotiphorese® Sequencing gel buffer concentrate

Rotiphorese® Sequencing gel buffer concentrate

50 % (g/v; 8,3 M) solution of urea in 10x TBE (1 M Tris-borate, 20 mM EDTA buffer, pH 8,3), for electrophoresis.

Also part of the DNA sequencing system (Art. No. A431.1).

D 1,185

Storage temp.: +4-15 °C

WGK 1

 **Warning** H315-H319

3050.1	250 ml	glass	22,50 €

For further information, please see page 1114

Rotiphorese® 10x TAE Buffer

Storage temp.: +20 °C

Rotiphorese® 10x TAE Buffer

Buffer concentrate for DNA electrophoresis.

Composition:

0,4 M TRIS-acetate

0,01 M EDTA

distilled, deionized water

T845.1	1 l	glass	28,95 €

Original pack 6 x 1 l 27,50/1 l

T845.2	5 l	plastic	65,05 €

Original pack 2 x 5 l 61,80/5 l

For further information, please see page 1126

Rotiphorese® 10x TAE Buffer light

with reduced EDTA concentration

Buffer concentrate for DNA electrophoresis, ideal for DNA elution gels or in-gel-applications.

0122.1	1 l	glass	24,20 €

Original pack 6 x 1 l 22,99/1 l

For further information, please see page 1126

Rotiphorese® 50x TAE Buffer

Rotiphorese® 50x TAE Buffer

Buffer concentrate for DNA electrophoresis.

Storage temp.: +20 °C

WGK 2

 **Warning** H315-H319-H335

CL86.1	1 l	glass	54,30 €

Original pack 6 x 1 l 51,59/1 l

CL86.3	2,5 l	glass	106,45 €

Original pack 4 x 2,5 l 101,13/2,5 l

CL86.2	5 l	plastic	160,20 €

Original pack 2 x 5 l 152,19/5 l

For further information, please see page 1126

Rotiphorese® 10x TBE Buffer

Rotiphorese® 10x TBE Buffer

10-times concentrated buffer

Ideal for the preparation of sequencing gels and as running buffer in electrophoresis.

D 1,067

Storage temp.: +20 °C

WGK 1

  **Danger** H315-H319-H360FD

Composition:

1,0 M TRIS-borate (pH 8,3), 20 mM EDTA

distilled, deionized water

3061.1	1 l	glass	25,70 €

Original pack 6 x 1 l 24,42/1 l

3061.3	2,5 l	glass	52,60 €

Original pack 4 x 2,5 l 49,97/2,5 l

3061.2	5 l	plastic	83,35 €

Original pack 2 x 5 l 79,18/5 l

For further information, please see page 1125

Roti®-PinkDNA

Roti®-PinkDNA

for molecular biology

Synthetic co-precipitant with dye for efficient precipitation of nucleic acids.

Storage temp.: +4 °C

WGK 1

Guarantee analysis:

Linear Polyacrylamide..... 5 mg/ml

DNA/RNA..... free

Dye..... complies

HP54.1	0,5 ml	plastic	38,20 €

HP54.2	1,5 ml	plastic	107,40 €

HP54.3	3 ml	plastic	192,45 €

For further information, please see page 1196

Roti®-Plast

Roti®-Plast

100 % paraffin, for histology

Melting range: 54-56 °C

D 0,8 • bp 371 °C

flp > 199 °C

[8002-74-2] • EC No. 232-315-6

Type analysis:

Appearance..... white pastilles

Solidification point..... 54-56 °C

6642.1	1 kg	plastic	14,95 €

Original pack 6 x 1 kg 14,20/1 kg

6642.5	2,5 kg	plastic	28,50 €

6642.2	10 kg	plastic	95,60 €

6642.6	20 kg	plastic	158,05 €

For further information, please see page 1389

Roti®-Plast with DMSO

Roti®-Plast with DMSO

paraffin, for histology

Melting range: 56-58 °C

D 0,9

flp > 100 °C

Type analysis:

Appearance..... white droplets

Solidification point..... 56-58 °C

6643.1	1 kg	carton	31,75 €

Original pack 6 x 1 kg 30,16/1 kg

6643.2	2 kg	plastic	51,10 €

6643.3	20 x 1 kg	carton	439,70 €

For further information, please see page 1389

Roti-Plasticlean®

Roti-Plasticlean®

plastic cleaner with antistatic effect, pH 9

D 0,98 • bp 82 °C

UN No. 1987 • ADR 3 III

  **Warning** H226-H319

1953.1	500 ml	plastic	18,85 €

For further information, please see page 1081

Roti®-Prep Blood Genomic DNA MINI

Roti®-Prep Blood Genomic DNA MINI

for molecular biology

For isolation of DNA from whole blood

Storage temp.: +20 °C

UN No. 1219 • ADR 3 II • WGK 2

    **Danger** H225-H317-H319-

H315-H334-H335-H336-H400

8620.1	10 prep.	32,15 €

8620.2	50 prep.	120,95 €

8620.3	250 prep.	478,40 €

For further information, please see page 1183

Roti®-Prep Gel Extraction

Roti®-Prep Gel Extraction

for molecular biology

For DNA extraction from agarose gels.

Storage temp.: +20 °C

UN No. 3316 • ADR 9 III • WGK 2

    **Warning** H290-H302+H312+H332-

H315-H319-H412-EUH032

8510.1	10 prep.	18,85 €

8510.2	50 prep.	70,45 €

8510.3	250 prep.	273,60 €

For further information, please see page 1186

Roti®-Prep Genomic DNA MINI

Roti®-Prep Genomic DNA MINI for molecular biology

For isolation of genomic DNA from tissues, rodent tails, FFPE tissues, buccal swabs, cell cultures.

Storage temp.: +20 °C

UN No. 3316 • ADR 9 II • WGK 2

 **Danger** H225-H315-H317-H318-H334-H335-H336-H411

8472.1	10 prep.	35,40 €
8472.2	50 prep.	134,30 €
8472.3	250 prep.	525,70 €

For further information, please see page 1183

Roti®-Prep PCR Purification

Roti®-Prep PCR Purification for molecular biology

For concentration and purification of PCR products.

Storage temp.: +20 °C

UN No. 3316 • ADR 9 II • WGK 1

 **Danger** H225-H319-H336

8503.1	10 prep.	18,85 €
8503.2	50 prep.	70,45 €
8503.3	250 prep.	273,60 €

For further information, please see page 1185

Roti®-Prep Plasmid MINI

Roti®-Prep Plasmid MINI for molecular biology

For fast and easy isolation of plasmid and cosmid DNA from recombinant bacteria.

Storage temp.: +20 °C

UN No. 3266 • ADR 8 II • WGK 2

 **Danger** H290-H302+H312+H332-H314-H334-H412-EUH032

HP29.3	5 prep.	16,70 €
HP29.1	50 prep.	64,40 €
HP29.2	250 prep.	249,95 €

For further information, please see page 1182

Roti®-Prep Plasmid MINI-XL

Roti®-Prep Plasmid MINI-XL for molecular biology

For easy isolation of plasmids from up to 15 ml bacterial culture.

Storage temp.: +20 °C

UN No. 3316 • ADR 9 II • WGK 1

 **Danger**

H225-H290-H302-H315-H318-H336

8546.1	10 prep.	23,55 €
8546.2	50 prep.	83,75 €
8546.3	250 prep.	321,45 €

For further information, please see page 1182

Roti®-Prep RNA MINI

Roti®-Prep RNA MINI for molecular biology

For RNA isolation from eukaryotic cells, tissues, bacteria, biopsies.

Storage temp.: +20 °C

WGK 1

 **Warning** H302+H312-H412-EUH032

8485.1	10 prep.	52,15 €
8485.2	50 prep.	198,90 €
8485.3	250 prep.	783,70 €

For further information, please see page 1184

Roti®-Prep Viral RNA/DNA MINI

Roti®-Prep Viral RNA/DNA MINI for molecular biology

For isolation of viral DNA and RNA

Storage temp.: +20 °C

WGK 2

 **Danger** H225-H315-H317-H319-H334-H335-H336-H411-EUH032

8547.1	50 prep.	198,90 €

For further information, please see page 1185

Roti®-Quant

Roti®-Quant

5x conc.

For protein quantitation acc. to Bradford.

D 1,37

Storage temp.: +4 °C

UN No. 2920 • ADR 8 (3) II • WGK 1

 **Danger** H226-H314

K015.2	50 ml	plastic	13,90 €
K015.3	200 ml	plastic	44,65 €
K015.1	500 ml	plastic	89,15 €

For further information, please see page 1255

Roti®-Quant universal

Roti®-Quant universal

For protein quantitation (PCA enhanced Biuret reaction). High tolerance against detergents, salts and alcohols.

D 1,37

Storage temp.: +20 °C

UN No. 3082 • ADR 9 III • WGK 2

 **Danger** H315-H318-H411

0120.2	1 kit (200 assays)	79,45 €
0120.1	1 kit (500 assays)	170,95 €

For further information, please see page 1256

Roti®-Quick kit

Roti®-Quick kit for molecular biology

For RNA-isolation from cells and tissues.

The Roti®-Quick Kit is sufficient for 20 isolations from 0,2 g of tissue.

Storage temp.: +4 °C

UN No. 1992 • ADR 3 (6.1) II • WGK 3

 **Danger**

H225-H314-H301+H311-H330-H341-H351-H373-H336-H412-EUH032

A979.1	1 kit	cardboard	83,35 €

For further information, please see page 1184

ROTI®REMETIC

Art. No.	Description	Page
7084	Cerium(III) acetate hydrate	1724
7078	Cerium(III) chloride	1724
7049	Cerium(III) nitrate hexahydrate	1724
7067	Cerium(III) oxalate hydrate	1725
7042	Cerium(IV) oxide	1725
7145	Dysprosium(III) oxide	1796
7160	Erbium(III) oxide	1806
7134	Europium(III) fluoride	1822
7127	Europium(III) oxide	1822
7187	Europium(III) oxide	1822
7209	Gadolinium(III) chloride hexahydrate	1843
7189	Gadolinium(III) oxide	1843
7136	Gadolinium(III) oxide	1843
7155	Holmium(III) fluoride	1879
7149	Holmium(III) oxide	1880
7031	Lanthanum(III) acetate hydrate	1922
7182	Lanthanum(III) carbonate hydrate	1922
7026	Lanthanum(III) carbonate hydrate	1922
7184	Lanthanum(III) chloride hydrate	1923
7030	Lanthanum(III) chloride hydrate	1923
7028	Lanthanum(III) fluoride	1923
7019	Lanthanum(III) nitrate hexahydrate	1923
7180	Lanthanum(III) nitrate hexahydrate	1923
7191	Lanthanum(III) oxalate	1923
7410	Lanthanum(III) oxide	1923
7203	Lanthanum(III) phosphate hydrate	1924
7265	Lutetium(III) nitrate hydrate	1940
7177	Lutetium(III) oxide	1940
7107	Neodymium(III) acetate hydrate	1983
7103	Neodymium(III) carbonate hydrate	1983
7283	Neodymium(III) chloride hexahydrate	1983
7092	Neodymium(III) oxide	1983
7097	Neodymium(III) nitrate hexahydrate	1983
7090	Praseodymium(III) carbonate octahydrate	2064
7088	Praseodymium(III) nitrate pentahydrate	2064
7087	Praseodymium(III,IV) oxide	2064
7120	Samarium(III) carbonate hydrate	2120
7108	Samarium(III) oxide	2120
7186	Samarium(III) oxide	2120
7011	Scandium(III) oxide	2121
7141	Terbium(III) nitrate pentahydrate	2199
7140	Terbium(III,IV) oxide	2199
7223	Thulium(III) fluoride	2209
7282	Thulium(III) nitrate pentahydrate	2209
7172	Thulium(III) oxide	2209
7257	Ytterbium(III) nitrate pentahydrate	2250
7353	Ytterbium(III) oxide	2250
7284	Yttrium(III) carbonate hydrate	2250
7352	Yttrium(III) oxide	2250

Roti®-Seal

Roti®-Seal

for microscopy

Aqueous cover slip sealant.

Melt on a water bath (50-55 °C) prior to use.

D 1,02

mp 45 °C

WGK 1

Type analysis:

Appearance: light yellowish coloured, solid medium

6473.1	20 ml	glass	10,25 €

For further information, please see page 1413

Roti®-Sep 1077

Roti®-Sep 1077

CELLPURE® for density gradient centrifugation

Polysucrose based medium for separation of lymphocytes from whole blood.

Polysucrose solution, lymphocyte separation medium

M ~400000 g/mol

D 1,077

Storage temp.: +4 °C

WGK 1

 **Danger** H317-H334

Type analysis:

Appearance of solution: clear, colourless

Density: 1,077 ± 0,001 g/ml

pH value: 7,15 ± 0,35

Osmolality: 315 ± 25 mOsm/kg

Sterility: complies

Endotoxins: <0,1 E.U./ml

Suitability for cell cultur.: complies

0642.1	100 ml	plastic	39,25 €

0642.2	500 ml	plastic	106,45 €

For further information, please see page 1191

Rotisol®

Rotisol®

≥99 %

Universal alcoholic solvent

D ~0,79 • bp 56-80 °C

flp 12 °C

UN No. 1170 • ADR 3 II • WGK 1

  **Danger** H225-H319-EUH066

Type analysis:

Appearance: clear, colourless liquid

Assay (EtOH): ≥99 %

Methyl ethyl ketone (MEK): ~1 %

Acetone: ~5 %

Methanol: ≤0,1 %

Aldehyde content (as acetaldehyde): ≤0,003 %

Sum of other impurities: ≤0,03 %

Acid content (as CH₃COOH): ≤0,001 %

Evaporation residue: ≤0,003 %

7917.3	1 l	glass	17,55 €

Original pack 6 x 1 l			16,67/1 l

7917.1	2,5 l	glass	31,30 €

Original pack 4 x 2,5 l			29,74/2,5 l

7917.2	25 l	tinplate	174,05 €

For further information, please see page 1081 1107

ROTISOLV® GC Ultra Grade

Art. No.	Description	Page
KK42	Acetic acid ethyl ester	1601
KK40	Acetone	1604
KK41	Cyclohexane	1753
KK47	Dichloromethane	1771
KK48	n-Hexane	1875
KK44	Methanol	1960
KK45	n-Pentane	2025
KK46	Toluene	2213

ROTISOLV® Headspace Grade

Art. No.	Description	Page
HN45	N,N-Dimethylacetamide	1781
HN46	N,N-Dimethylformamide (DMF)	1783
HN48	1,3-Dimethyl-2-imidazolidinone	1785
HN47	Dimethyl sulphoxide	1785

ROTISOLV® HPLC Grade

Art. No.	Description	Page
7336	Acetic acid ethyl ester	1601
7328	Acetone	1604
T195	Acetonitrile	1605
8825	Acetonitrile	1606
HN44	Acetonitrile	1606
7330	Acetonitrile	1606
CN20	Acetonitrile	1606
6827	Acetonitrile	1606
T178	1-Butanol	1696
T175	tert-Butyl methyl ether	1699
7333	Cyclohexane	1753
7334	Dichloromethane	1770
X949	1,4-Dioxane	1787
P076	Ethanol	1809
6828	n-Heptane	1871
7337	n-Heptane	1871
7339	n-Hexane	1875
T176	Isohexane	1910
7340	Isooctane	1911
X948	Methanol	1960
7342	Methanol	1960
KK39	Methanol	1960
P717	Methanol	1960
CN99	n-Pentane	2025
7343	2-Propanol	2067
7344	Tetrahydrofuran	2203
7346	Toluene	2213
7331	Trichloromethane/Chloroform	2217
A511	Water	2241

ROTISOLV® LC-MS Eluent Mixtures

Art. No.	Description	Page
CP01	Acetonitrile with 0,1 % acetic acid	1607
CP00	Acetonitrile with 0,1 % formic acid	1607
CP02	Acetonitrile with 0,1 % trifluoroacetic acid	1607
CP06	Methanol with 0,1 % trifluoroacetic acid	1962
CP04	Water with 0,1 % acetic acid	2242
CP03	Water with 0,1 % formic acid	2241
CP05	Water with 0,1 % trifluoroacetic acid	2242

ROTISOLV® LC-MS Grade

Art. No.	Description	Page
AE69	Acetic acid ethyl ester	1601
AE70	Acetonitrile	1605
AE71	Methanol	1960
AE73	2-Propanol	2067
AE72	Water	2240

ROTISOLV® Pestilyse®

Art. No.	Description	Page
T164	Acetic acid ethyl ester	1601
T161	Acetone	1604
T168	Acetonitrile	1606
T163	Cyclohexane	1753
T162	Dichloromethane	1771
T900	Diethyl ether	1774
X878	n-Heptane	1871
T861	n-Hexane	1875
T165	n-Hexane	1876
T904	Isohexane	1910
T167	Isooctane	1911
T169	Methanol	1961
T903	n-Pentane	2025
T170	Petroleum ether 40-60 °C	2032
T902	2-Propanol	2067
T166	Toluene	2214
T901	Trichloromethane/Chloroform	2218
T905	Water	2241

ROTISOLV® Pestilyse® plus

Art. No.	Description	Page
7565	Acetic acid ethyl ester	1601
7535	Acetone	1604
7542	Cyclohexane	1753
7562	Dichloromethane	1771
7566	n-Heptane	1871
7573	n-Hexane	1875
7567	n-Hexane	1876
7576	Isohexane	1910
7580	Isooctane	1911
7583	Methanol	1961
7587	n-Pentane	2025
7588	Petroleum ether 40-60 °C	2032
7590	2-Propanol	2067
7591	Toluene	2214
7554	Trichloromethane/Chloroform	2218

ROTISOLV® Ultra LC-MS

Art. No.	Description	Page
HN40	Acetonitrile	1605
HN41	Methanol	1960
HN43	Water	2240

ROTISOLV® UV/IR Grade

Art. No.	Description	Page
4442	Acetic acid ethyl ester	1601
T906	Acetone	1604
T907	Acetonitrile	1606
CP81	Cyclohexane	1753
4433	Dichloromethane	1771
CP79	N,N-Dimethylformamide (DMF)	1783
CP78	n-Heptane	1871
T908	n-Hexane	1876
CP80	Isooctane	1911
T909	Methanol	1961
4443	n-Pentane	2025
T910	2-Propanol	2068
CP82	Tetrahydrofuran	2203
4445	Toluene	2214
4432	Trichloromethane/Chloroform	2218

Roti®-Splish P

Roti®-Splish P intensive cleaning powder for dishwashers

pH 12
D 1,02
UN No. 3262 • ADR 8 III
 **Danger** H314-H335-H412

N047.1	5 kg	plastic	20,35 €

For further information, please see page 1071

Roti®-Splish KS

Roti®-Splish KS

Clear rinsing agent
pH 2
D 0,9964
WGK 1

 **Warning** H319

N048.1	1 l	plastic	6,40 €

For further information, please see page 1071

Roti®-Splish RS

Roti®-Splish RS

regenerating salt for dishwashers
pH (50 g/l) 6-9
D 2,16
Solubility: 358 g/l
WGK 1

N049.1	2 kg	plastic	7,50 €

For further information, please see page 1071

Roti®-Stock 10x PBS

Roti®-Stock 10x PBS

BioScience-Grade, ready-to-use, filtered and steam sterilised

For protein biochemistry, cytology, and molecular biology.

PBS 10x ready-to-use solution

WGK 1

Composition:

1,37 M NaCl, 27 mM KCl, 100 mM Na₂HPO₄, 20 mM KH₂PO₄ in deionised water, pH value 7,4, 0,2 µm filtered and steam sterilised

1058.1	1 l	glass	106,45 €

Original pack 6 x 1 l 101,13/1 l

For further information, please see page 1260

Roti®-Stock 10x PBST

Roti®-Stock 10x PBST

BioScience-Grade, ready-to-use, filtered and steam sterilised

For protein biochemistry, cytology, and molecular biology.

PBST 10x ready-to-use solution

bp 100 °C

WGK 1

Composition:

1,37 M NaCl, 27 mM KCl, 100 mM Na₂HPO₄, 20 mM KH₂PO₄, 0,5 % Tween 20 in deionised water, pH value 7,4, 0,2 µm filtered and steam sterilised

1059.1	1 l	glass	113,95 €

Original pack 6 x 1 l 108,25/1 l

Roti®-Stock 20 % SDS

Roti®-Stock 20 % SDS

BioScience-Grade, ready-to-use, 0,2 µm filtered

For molecular biology and electrophoresis.

SDS 20 % ready-to-use solution

WGK 2

 **Danger** H318-H315-H335

Composition:

20 % SDS in deionised water, 0,2 µm filtered

1057.1	1 l	glass	127,95 €

Original pack 6 x 1 l 121,55/1 l

For further information, please see page 1218

Roti®-Stock 20x SSC

Roti®-Stock 20x SSC

BioScience-Grade, ready-to-use, steam sterilised

For molecular biology.

SSC 20x ready-to-use solution

WGK 1

Composition:

3 M NaCl, 300 mM sodium citrate in deionised water, pH value 7,0, steam sterilised

1054.1	1 l	glass	61,20 €

Original pack 6 x 1 l 58,14/1 l

For further information, please see page 1212

Roti®-Stock 10x TBS

Roti®-Stock 10x TBS

BioScience-Grade, ready-to-use, filtered and steam sterilised

For protein biochemistry, cytology, and molecular biology.

TBS 10x ready-to-use solution

WGK 1

Composition:

1,5 M NaCl, 30 mM KCl, 250 mM Tris in deionised water, pH value 7,4, 0,2 µm filtered and steam sterilised

1060.1	1 l	glass	111,70 €

Original pack 6 x 1 l 106,12/1 l

Roti®-Stock 10x TBST

Roti®-Stock 10x TBST

BioScience-Grade, ready-to-use, filtered and steam sterilised

For protein biochemistry, cytology, and molecular biology.

TBST 10x ready-to-use solution

WGK 1

Composition:

1,5 M NaCl, 30 mM KCl, 250 mM Tris, 0,5 % Tween 20 in deionised water, pH value 7,4, 0,2 µm filtered and steam sterilised

1061.1	1 l	glass	115,60 €

Original pack 6 x 1 l 109,82/1 l

Roti®-Stock 100x TE

Roti®-Stock 100x TE

BioScience-Grade, ready-to-use, steam sterilised

For molecular biology.

TE 100x ready-to-use solution

WGK 1

 **Warning** H315-H319

Composition:

1 M Tris (pH 8,0), 100 mM EDTA (pH 8,0) in deionised water, steam sterilised

1052.1	1 l	glass	75,15 €

Original pack 6 x 1 l 71,39/1 l

For further information, please see page 1212

Roti®-Store cryo vials

Storage temp.: +4 °C

WGK 1

Roti®-Store cryo vials

Sterile. Suitable for freezing all types of microorganisms, including recombinant bacteria.

P730.1	50 vials, with 25 glass globules each	99,45 €

P730.2	250 vials, with 25 glass globules each	471,95 €

For further information, please see page 1381

Roti®-Store yeast cryo vials

Sterile. Ideal for freezing yeast and monocellular fungi.

X983.1	50 cryo vials, with 25 glass globules each	123,65 €

For further information, please see page 1382

Rotiszint® eco plus

Rotiszint® eco plus

LSC-universal cocktail

For hydrophilic and lipophilic samples.

D 0,96 • bp 290 °C

mp -47 °C • flp 148 °C

UN No. 3082 • ADR 9 III • WGK 2

⚠️ Danger H318-H315-H413-H302

0016.4	100 ml	glass	17,10 €

0016.3	5 l	plastic	241,90 €
Original pack 2 x 5 l 229,81/5 l			

For further information, please see page 1251

Rotitest®-Annexin V

Rotitest®-Annexin V

Rotitest® Bio Analysis

For detection and enumeration of apoptotic cells and simultaneous differentiation from necrosis.

1 set is sufficient for analysis of 50 samples of 10⁵ cells each

Annexin-FITC conjugate, Apoptosis detection Kit

Storage temp.: +4 °C

WGK 3

Type analysis:

Appearance (test solution).....colourless to yellowish
Appearance PI solution.....orange to red
Dye content.....complies
Appearance Binding Buffer.....colourless
pH value Binding Buffer.....7,3-7,5

7735.1	50 Assays	195,55 €

For further information, please see page 1284

Rotitest® Coliform

Rotitest® Coliform

Rotitest® Bio Analysis

Detection system for exclusion, or affirmation, of contamination by coliforms.

Suitable for testing of any surface.

Storage temp.: +20 °C

WGK 1

Type analysis:

Appearance (nutrient medium).....red-brown
Sterility test.....complies
Growth of bacterial test strains.....complies

4806.1	25 swabs	117,20 €

For further information, please see page 1298

Rotitest® Listeria

Rotitest® Listeria

Rotitest® Bio Analysis

Detection system for exclusion, or affirmation, of contamination by listeriae.

Suitable for testing of any surface.

Storage temp.: +20 °C

WGK 1

Type analysis:

Appearance (nutrient medium).....brown
Sterility test.....complies
Growth of bacterial test strains.....complies

4805.1	25 swabs	117,20 €

For further information, please see page 1298

Rotitest® Oxidase strips

Rotitest® Oxidase strips

Rotitest® Bio Analysis

Rapid test system for detection of cytochrome oxidase in microorganisms.

Storage temp.: +4 °C

Type analysis:

Paper colour.....white
Labelling reaction area.....green
Colour shift to blue.....complies
Colour shift test germs.....complies

8469.1	100 pieces	tube	32,80 €

For further information, please see page 1355

Rotitest® Phosphatase paper

Rotitest® Phosphatase paper

Rotitest® Bio Analysis

For detection of phosphatase in Milk.

Storage temp.: +4 °C

Type analysis:

Paper colour.....white
Colour shift to yellow.....complies
Sensitivity.....complies

8470.1	10 pieces	18,85 €

For further information, please see page 1297

Rotitest® Protein

Rotitest® Protein

Rotitest® Bio Analysis

Protein detection system for rapid control of surfaces after the cleaning process.

Suitable for testing of any surface.

Protein quick test

Storage temp.: +20 °C

UN No. 1170 • ADR 3, III • WGK 1

⚠️ Warning H226

Type analysis:

Appearance (test solution).....yellow-orange
Turbidity.....transparent
Test (milk protein).....complies

4803.1	20 swabs	84,40 €

Rotitest® Vital

Rotitest® Vital

Rotitest® Bio Analysis

Colorimetric test solution for evaluation of cell proliferation and -viability.

1 ml is sufficient for enumeration of 100 cell samples.

Cell proliferation test solution

Storage temp.: +4 °C

WGK 2

Type analysis:

Appearance (test solution).....red
Turbidity.....transparent
Absorption.....complies

0069.3	1 ml	plastic	55,80 €

0069.1	5 ml	plastic	160,20 €

0069.2	4 x 5 ml	plastic	482,70 €

For further information, please see page 1282

Rotitherm® H 250

Rotitherm® H 250

Silicone oil for heating baths.

D 1,03

mp -55 °C

WGK 1

1670.1	1 l	plastic	117,20 €

1670.2	10 l	plastic	987,95 €

For further information, please see page 1107

Rotitherm® M 220

Rotitherm® M 220

Silicone oil for heating baths. Brown.

D 0,97

WGK 1

0991.1	1 l	plastic	40,35 €

For further information, please see page 1107

Rotitherm® M 150

Rotitherm® M 150

Silicone oil for heating baths.

D 1,00

WGK 1

0990.1	1 l	plastic	29,80 €

0990.2	5 l	plastic	128,50 €

For further information, please see page 1107

Q/R

Rotitherm® K + H

Rotitherm® K + H

Heat transfer fluid for heating baths. Usage temperature from approx. +10 to +200 °C. Can be mixed with water in any ratio. No susceptibility to water hardness. Does not form build-up even when heated and can easily be removed using water.

WGK 1

0244.1	1 l	plastic	36,45 €
0244.2	5 l	plastic	132,15 €

For further information, please see page 1107

Roti®-Transform

Roti®-Transform

Sterile. For preparation of competent *E. coli*.

Storage temp.: -20 °C

Transport temp.: room temp. • WGK 1

P043.1	1 kit	58,60 €

For further information, please see page 1384

Roti®VOLUM volumetric solutions in ampoules

► Chapter anorganic and analytical reagents see p. 1547

ROTI®VOLUM Volumetric Solutions in Ampoules

Art. No.	Description	Page
CN50	Ammonium thiocyanate solution (0,1 N)	1644
CN52	EDTA disodium salt solution (0,01 N)	1798
CN51	EDTA disodium salt solution (0,1 N)	1799
CN61	Hydrochloric acid (0,1 N)	1886
CN62	Hydrochloric acid (0,5 N)	1886
CN63	Hydrochloric acid (1 N)	1886
CN69	Nitric acid (0,1 N)	1990
CN60	Nitric acid (1 N)	1990
CN59	Oxalic acid solution (0,1 N)	2017
CN53	Potassium hydroxide solution (0,1 N)	2058
CN54	Potassium hydroxide solution (1 N)	2058
CN66	Silver nitrate solution (0,1 N)	2137
CN68	Sodium carbonate solution (0,1 N)	2143
CN67	Sodium chloride solution (0,1 N)	2144
CN56	Sodium hydroxide solution (0,1 N)	2152
CN57	Sodium hydroxide solution (0,5 N)	2152
CN58	Sodium hydroxide solution (1 N)	2153
CN55	Sodium thiosulphate solution (0,1 N)	2160
CN64	Sulphuric acid (0,1 N)	2193
CN65	Sulphuric acid (1 N)	2194

Roti®-White

Roti®-White

zinc staining kit for protein gels

Sufficient for 50 gels with up to 24 ml.

Storage temp.: +20 °C

UN No. 1760 • ADR 8 III • WGK 3

Danger

H302-H314-H361-H400-H410

K063.1	1 kit	83,75 €

For further information, please see page 1147

RPF Supplement

RPF Supplement

lyophilised

Media supplement for identification and enumeration of *Staphylococcus aureus*.

One box of 10 vials RPF Supplement is sufficient for 10x 100 ml Baird Parker Agar.

Rabbit Plasma Fibrinogen Supplement

Storage temp.: +4 °C

WGK 1

Warning H302+H312+H332

Formulation:

Rabbit plasma.	2,5 ml
Bovine fibrinogen.	380 mg
Trypsin inhibitor.	2,5 mg
Potassium tellurite.	2,5 mg per vial

6064.1	10 vials	glass	385,95 €

For further information, please see page 1352

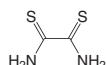
RPMI cell culture medium

► Roti®-CELL RPMI-1640 see p. 2093

R-5-P-Na₂

► D-Ribose-5-phosphate disodium salt see p. 2085

Rubeanic acid spray solution



Rubeanic acid spray solution for TLC

Ready-to-use spray solution for detection of heavy metal ions.

0,2 g Rubeanic acid dissolved in 100 ml ethanol.

UN No. 1170 • ADR 3 II • WGK 1

Danger H225

Type analysis:

TLC-application. complies

CP32.1	100 ml	glass	34,50 €

Rubidium Standards

► Rubidium ICP Standard Solution see p. 2172

► Rubidium ICP Standard Solution see p. 2177

Rubidium chloride

RbCl

M 120,92 g/mol

D 2,76 • bp 1390 °C

mp 715 °C

Solubility: 910 g/l (H₂O, 20 °C)

[7791-11-9] • EC No. 232-240-9

WGK 1

Rubidium chloride

ROTI®METIC 99,98 % (3N8)

Type analysis:

Assay (metals basis). 99,98 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5679.1	5 g	plastic	192,45 €
5679.2	10 g	plastic	321,45 €

Rubidium chloride

≥99 %, p.a.

Guarantee analysis:

Appearance. white powder
Assay. ≥99 %
Aluminium (Al). ≤0,001 %
Calcium (Ca). ≤0,02 %
Iron (Fe). ≤0,005 %
Potassium (K). ≤0,1 %
Sodium (Na). ≤0,05 %
Magnesium (Mg). ≤0,005 %
Lithium (Li). ≤0,005 %

4471.2	5 g	plastic	57,95 €
4471.1	10 g	plastic	107,40 €

Rubidium nitrate

Rubidium nitrate

ROTI®METIC 99,99 % (4N)

RbNO₃

M 147,47 g/mol

D 3,11

mp 310 °C (dec.)

Solubility: 650 g/l (H₂O, 20 °C)

[13126-12-0] • EC No. 236-06-1

UN No. 1477 • ADR 5.1 II • WGK 1

Danger H272-H315-H319-H335

Type analysis:

Assay (metals basis). 99,99 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5293.1	5 g	plastic	138,70 €
5293.2	25 g	plastic	600,95 €

Ruthenium Standards

► Ruthenium ICP Standard Solution see p. 2173

► Ruthenium ICP Standard Solution see p. 2177

Ruthenium(III) chloride

Ruthenium trichloride

RuCl₃

M 207,43 g/mol

D 3,11

mp >500 °C

[10049-08-8] • EC No. 233-167-5

UN No. 3260 • ADR 8 II • WGK 2

Danger H314-H302-H412
Ruthenium(III) chloride**ROTI®METIC 99,9 % (3N), anhydrous****Type analysis:**

Assay (metals basis).....99,9 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5686.1	1 g	plastic	81,60 €

5686.2	5 g	plastic	353,70 €

Ruthenium(III) chloride**pure, anhydrous****Type analysis:**

Assay (Ru).....≥48 %

4659.1	1 g	glass	49,35 €

Ruthenium(III) chloride hydrate**Ruthenium(III) chloride hydrate****pure**

Contains 10-15 % water.

RuCl₃ · x H₂OM 207,43 + x H₂O g/mol

[14898-67-0] • EC No. 233-167-5

UN No. 3260 • ADR 8 II • WGK 2

Danger H314-H302
Type analysis:

Assay (Ru).....40,0-43,0 %

Calcium (Ca).....≤0,005 %

Iron (Fe).....≤0,01 %

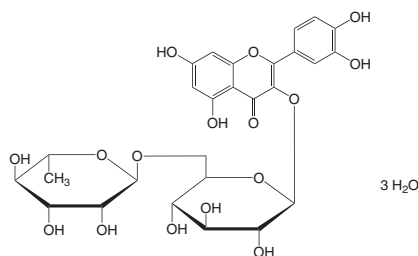
Sodium (Na).....≤0,01 %

Palladium (Pd).....≤0,01 %

7910.1	1 g	glass	65,50 €

Ruthenium trichloride

▶ Ruthenium(III) chloride see p. 2115

Rutin trihydrate

Rutoside, Quercetin-3-rutinoside, Sophorin

C₂₇H₃₀O₁₆ · 3 H₂O

M 664,58 g/mol

mp ~210 °C

[250249-75-3] • EC No. 205-814-1

WGK 3

Rutin trihydrate**≥95 %, Ph.Eur.****Guarantee analysis:**

Assay (titr. dry substance).....95,0-101,0 %

Identity.....complies

Water (KF).....7,5-9,5 %

Insoluble matter.....≤3,0 %

Absorption (450-800 nm).....≤0,1 %

Sulphated ash.....≤0,1 %

Related substances.....complies

5154.1	25 g	plastic	25,30 €

5154.2	100 g	plastic	77,30 €

Rutin trihydrate**ROTI®STAR Primary Standard****Type analysis:**

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤1,0 %

Water (KF).....≤10,0 %

Assay (qNMR).....≥90,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE14.1	50 mg	glass	467,65 €

Rutin trihydrate**ROTI®CHROM® Working Standard****Type analysis:**

Assay (HPLC).....≥85,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC14.1	100 mg	glass	89,80 €

Rutin trihydrate**ROTI®CHROM® HPLC**

Reference substance for HPLC

Type analysis:

Purity (HPLC).....≥99 %

7422.2	50 mg	glass	166,65 €

Rutinosyl-7-iso-sakuranetin

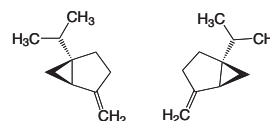
▶ Didymine see p. 1772

Rutoside

▶ Rutin trihydrate see p. 2115

RVS Broth

▶ Rappaport Vassiliadis Broth see p. 2079

Sabinene**Sabinene****ROTI®CHROM® GC**

Reference substance for GC

C₁₀H₁₆

M 136,23 g/mol

bp 163-165 °C

Storage temp.: +4 °C

[3387-41-5] • EC No. 222-212-4

UN No. 1993 • ADR 3 III • WGK 3

Warning H226
Type analysis:

Purity (GC).....≥98,5 %

7188.2	1 g	glass	127,95 €

Sabouraud 2 % Glucose Agar**Sabouraud 2 % Glucose Agar****for microbiology**

Selective agar for taxonomic analysis of pathogenic fungi.

Application: Use 47 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Meat and casein peptone.....10 g/l

Glucose.....20 g/l

Agar.....17 g/l

pH value.....5,6 ±0,2

AE22.1	500 g	plastic	69,35 €

Original pack 6 x 500 g 65,88/500 g

For further information, please see page 1340

Sabouraud 2 % Glucose Bouillon

Sabouraud 2 % Glucose Bouillon

Ph.Eur., for microbiology

Selective media for taxonomic analysis of pathogenic fungi.

Application: Use 30 g for 1 l broth.

Sabouraud Dextrose Broth (Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

Guarantee analysis:

Meat and casein peptone.	10 g/l
Glucose.	20 g/l
pH value.	5,6 ±0,2

AE23.1	500 g	plastic	60,75 €

Original pack 6 x 500 g	57,71/500 g

For further information, please see page 1340

Sabouraud 4 % Glucose Agar

Sabouraud 4 % Glucose Agar

Ph.Eur., for microbiology

For isolation, differentiation and cultivation of yeasts and fungi.

Application: Use 65 g for 1 l agar.

Agar medium C (Ph.Eur. 6.0), Sabouraud Dextrose Agar (Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Meat and casein peptone.	10 g/l
Glucose monohydrate.	40 g/l
Agar.	15 g/l
pH value.	5,6 ±0,2

X932.1	500 g	plastic	59,70 €

Original pack 6 x 500 g	56,72/500 g

X932.2	1 kg	plastic	103,75 €

Original pack 6 x 1 kg	98,56/1 kg

For further information, please see page 1341

Sabouraud 4 % Glucose Agar (with chloroamphenicol)

Sabouraud 4 % Glucose Agar (with chloroamphenicol)

Ph.Eur., for microbiology

Selective agar for cultivation and isolation of yeasts and pathogenic fungi.

Application: Use 65 g for 1 l agar.

Agar medium C with chloroamphenicol (Ph.Eur. 6.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Meat and casein peptone.	10 g/l
Glucose monohydrate.	40 g/l
Chloroamphenicol.	0,05 g/l
Agar.	15 g/l
pH value.	5,6 ±0,2

AE48.1	500 g	plastic	73,65 €

Original pack 6 x 500 g	69,97/500 g

For further information, please see page 1341

Sabouraud 4 % Glucose Agar (with chloroamphenicol)

Sabouraud 4 % Glucose Agar (with chloroamphenicol)

for microbiology

For selective isolation of yeasts and pathogenic fungi.

Application: Use 65,5 g for 1 l agar.

Storage temp.: +20 °C • WGK 2

Danger H340-H350

Formulation:

Meat and casein peptone.	10 g/l
Glucose.	40 g/l
Chloroamphenicol.	0,5 g/l
Agar.	15 g/l
pH value.	5,6 ±0,2

X933.1	500 g	plastic	69,35 €

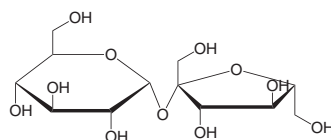
Original pack 6 x 500 g	65,88/500 g

For further information, please see page 1341

Saccharin sodium salt

► o-Benzic sulphimide sodium salt see p. 1671

D(+)-Saccharose



D-Sucrose

C₁₂H₂₂O₁₁

M 342,30 g/mol • mp 185-187 °C

Solubility: ~1970 g/l (H₂O, 15 °C)

[57-50-1] • EC No. 200-334-9

D(+)-Saccharose

≥99,5 %, p.a.

For microbiology and molecular biology.

Guarantee analysis:

Assay.	≥99,5 %
Invert sugar.	≤0,04 %
Loss on drying.	≤0,1 %
Sulfite (as SO ₂).	≤0,001 %
Chloride (Cl).	≤0,005 %
Arsenic (As).	≤0,00001 %
Lead (Pb).	≤0,00005 %
Cadmium (Cd).	≤0,00001 %
Chromium (Cr).	≤0,0005 %
Calcium (Ca).	≤0,001 %
Iron (Fe).	≤0,0005 %
Potassium (K).	≤0,005 %
Cobalt (Co).	≤0,0005 %
Copper (Cu).	≤0,0005 %
Magnesium (Mg).	≤0,0005 %
Manganese (Mn).	≤0,0005 %
Sodium (Na).	≤0,005 %
Nickel (Ni).	≤0,0005 %
Mercury (Hg).	≤0,000005 %
Zinc (Zn).	≤0,0005 %

4621.1	1 kg	plastic	18,85 €

Original pack 6 x 1 kg	17,91/1 kg

4621.2	5 kg	plastic	78,40 €

4621.3	10 kg	plastic	99,45 €

4621.5	25 kg	plastic	181,70 €

D(+)-Saccharose

≥99,5 %, Ph.Eur.

For density gradient centrifugation; for biochemical applications.

Guarantee analysis:

Assay.	≥99,5 %
Appearance of solution.	complies
Identity.	complies
Conductivity.	≤35 µS/cm
Colour.	≤45
Reducing sugar.	complies
Specific rotation [α] _D ²⁰	+66,3° to +67,0°
Loss on drying (105 °C).	≤0,1 %
Sulfite (as SO ₂).	complies

4661.1	1 kg	plastic	18,20 €

Original pack 6 x 1 kg	17,29/1 kg

4661.2	5 kg	plastic	74,10 €

4661.4	10 kg	plastic	91,30 €

4661.3	50 kg	carton	295,65 €

For further information, please see page 1561

D(+)-Saccharose

≥99,7 %, powdered

For column chromatography.

Type analysis:

Appearance.	fine white powder
Assay.	≥99,7 %
Water (KF).	0,06 %
Reducing substances (invert sugar).	≤0,04 %
Melting point.	185-187 °C
Grain size 80 µm under 100 µm	

9286.1	1 kg	plastic	17,10 €

Original pack 6 x 1 kg	16,25/1 kg

9286.2	5 kg	plastic	60,75 €

D(+)-Saccharose

≥99,5 %, RNase/DNase free

Reagent for density gradient centrifugation.

Guarantee analysis:

Assay.	≥99,5 %

9097.1	1 kg	plastic	33,90 €

Original pack 6 x 1 kg	32,21/1 kg

9097.2	5 kg	plastic	144,05 €

For further information, please see page 1194

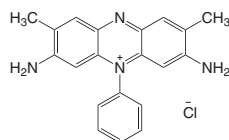
Saffron yellow

► Martius yellow (C.I. 10315) see p. 1951

Safraniline

► Rhodamine B (C.I. 45170) see p. 2084

Safranin O (C.I. 50240)



Safranin O (C.I. 50240)

for microscopy

Safranin T

 $C_{20}H_{19}ClN_4$

M 350,85 g/mol

Solubility: 50 g/l (H_2O , 20 °C)

[477-73-6] • EC No. 207-518-8

WGK 2

⚠ Warning H315-H319

Type analysis:

Absorption max. (ethanol 50 %)..... 530-534 nm
Loss on drying (110 °C)..... ≤15 %

T129.1	10 g	glass	37,55 €

For further information, please see page 1405

Safranin solution

Safranin solution

for Gram staining

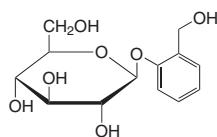
[477-73-6] • EC No. 207-518-8

WGK 2

CN01.1	500 ml	glass	30,00 €

For further information, please see page 1399

D(-)-Salicin



D(-)-Salicin

≥90 %, for biochemistry

Saligenin-β-D-glucopyranoside, Salicoside

 $C_{13}H_{18}O_7$

M 286,27 g/mol

mp 198-200 °C

Solubility: 250 g/l (H_2O , 60 °C)

[138-52-3] • EC No. 205-331-6

⚠ Warning H317

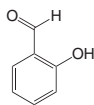
Type analysis:

Appearance..... white powder
Assay (HPLC)..... ≥90 %
Specific rotation $[\alpha]_D^{20}$ (in H_2O)..... -62,5° ±2°
Loss on drying..... ≤0,5 %

7192.1	5 g	plastic	26,80 €

7192.2	50 g	plastic	166,65 €

Salicylaldehyde



Salicylaldehyde

≥99 %, for synthesis

2-Hydroxybenzaldehyde

 $C_7H_6O_2$

M 122,12 g/mol

D ~1,16 • bp 197 °C

mp -7 °C • flp 79 °C

Solubility: 14 g/l (H_2O , 20 °C)

[90-02-8] • EC No. 201-961-0

WGK 2

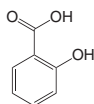
⚠ Warning H302-H315-H319

Type analysis:

Assay (GC)..... ≥99 %
Density (d 20 °C/4 °C)..... 1,165-1,167

4662.1	100 ml	glass	29,60 €

Salicylic acid



2-Hydroxybenzoic acid

 $C_7H_6O_3$

M 138,12 g/mol

D 1,44 • bp 336 °C

mp 158-161 °C • flp 157 °C

Solubility: ~2 g/l (H_2O , 20 °C)

[69-72-7] • EC No. 200-712-3

WGK 1

⚠ ⚠ Danger H318-H302

Salicylic acid

≥99 %, p.a., ACS

Guarantee analysis:

Assay..... ≥99,0 %
Melting point..... 158-161 °C
Chloride (Cl)..... ≤0,001 %
Sulphate (SO_4)..... ≤0,003 %
Heavy metals (as Pb)..... ≤0,0005 %
Iron (Fe)..... ≤0,0002 %
Matter discoloured by H_2SO_4 complies
Ash content..... ≤0,01 %

2723.1	250 g	plastic	24,20 €

2723.2	500 g	plastic	34,95 €

Original pack 6 x 500 g 33,20/500 g

2723.3	1 kg	plastic	55,80 €

Original pack 6 x 1 kg 53,01/1 kg

Salicylic acid

≥99 %, Ph.Eur.

NEW

Guarantee analysis:

Appearance..... white to off-white cryst. powder
Assay..... 99,0-100,5 %
Identity..... complies
Appearance of solution..... clear, colourless
Chloride (Cl)..... ≤0,01 %
Sulphate (SO_4)..... ≤0,02 %
Sulphated ash..... ≤0,1 %
Heavy metals..... ≤0,002 %
Related substances:
Water (KF)..... ≤0,5 %
4-Hydroxybenzoic acid..... ≤0,1 %
4-Hydroxyisophthalic acid..... ≤0,05 %
Phenol..... ≤0,02 %
Any other impurities..... ≤0,05 %
Sum of all impurities..... ≤0,2 %

8626.1	250 g	plastic	19,25 €

8626.2	1 kg	plastic	53,65 €

Original pack 6 x 1 kg 50,97/1 kg

8626.3	2,5 kg	plastic	85,90 €

Salicylic acid

≥99 %, for biochemistry

Type analysis:

Assay (dry substance)..... 99,0-100,5 %
Water (KF)..... ≤0,5 %
Colour number (Hazen)..... ≤30
Chloride (Cl)..... ≤0,01 %
Sulphate (SO_4)..... ≤0,02 %
Heavy metals (as Pb)..... ≤0,002 %
Sulphated ash..... ≤0,1 %

9268.2	500 g	plastic	30,00 €

Original pack 6 x 500 g 28,50/500 g

9268.1	1 kg	plastic	51,50 €

Original pack 6 x 1 kg 48,93/1 kg

9268.3	2,5 kg	plastic	75,15 €

Salicylic acid

ROTI®CALIPURE

Melting point standard 158-160 °C

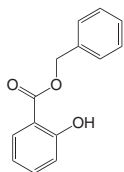
NEW

Type analysis:

Melting point..... 158-160 °C

9731.1	1 g	glass	28,95 €

Salicylic acid benzyl ester



Salicylic acid benzyl ester

≥99 %

Benzyl salicylate

C₁₄H₁₂O₃

M 228,24 g/mol

D ~1,18

flp 180 °C

[118-58-1] • EC No. 204-262-9

WGK 2

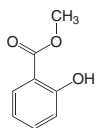
⚠ Warning H315-H319-H335

Type analysis:

Assay (GC) ≥99,0 %
 Refractive index n_D²⁰ 1,580-1,582

4184.1	100 ml	glass	34,95 €

Salicylic acid methyl ester



Methyl salicylate, 2-Hydroxybenzoic acid methyl ester

C₈H₈O₃

M 152,15 g/mol

D 1,18 • bp 223 °C

mp -8 °C • flp 101 °C

Solubility: 0,74 g/l (H₂O, 30 °C)

[119-36-8] • EC No. 204-317-7

WGK 1

⚠ Warning H302-H315-H319-H335

Salicylic acid methyl ester

≥99 %

Type analysis:

Appearance. clear, almost colourless to yellowish oil
 Assay ≥99 %
 Miscible. ethanol 96 %
 Density (20 °C). 1,180-1,186 g/cm³
 Refractive index (20 °C). 1,5350-1,5380
 Optical rotation (20 °C). -1° to +1°

4529.1	250 ml	glass	24,20 €

S

Salicylic acid methyl ester

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC) ≥95 %

3704.1	1 g	plastic	75,15 €

Salicylic acid sodium salt

▶ Sodium salicylate see p. 2157

5-Salicylsulphonic acid

▶ 5-Sulphosalicylic acid dihydrate see p. 2189

Salicyluric acid

▶ o-Hydroxyhippuric acid see p. 1891

Saligenin-β-D-glucopyranoside

▶ D(-)-Salicin see p. 2117

Salmiac

▶ Ammonium chloride see p. 1636

Salmiac salt

▶ Ammonium chloride see p. 1636

Salmiac solution

- ▶ Ammonia solution Ultra-quality see p. 1633
- ▶ Ammonia solution Supra-quality see p. 1634
- ▶ Ammonia solution 32 % see p. 1634
- ▶ Ammonia solution 30 % see p. 1634
- ▶ Ammonia solution 25 % see p. 1634
- ▶ Ammonia solution 15 % see p. 1635

Salmine sulphate

Salmine sulphate

for biochemistry

From salmon sperm.

Protamine sulphate

M ~9000 g/mol

[53597-25-4]

Type analysis:

Appearance. white to light yellowish powder
 Loss on drying. ≤5,0 %
 Nitrogen (N). 22-26 %
 Sulphate (SO₄). 16-21 %

7194.1	5 g	plastic	107,40 €

Salmonella chromogenic Agar

Salmonella chromogenic Agar

for microbiology

For isolation of *Salmonella* from foods, waters and other samples.

Application: Use 37,1 g for 1 l agar.

Storage temp.: +4 °C

WGK 1

Formulation:

Sodium citrate. 8,5 g/l
 Casein peptone. 5 g/l
 Beef extract. 5 g/l
 Chromogene Mixture. 5,81 g/l
 Agar. 12,8 g/l
 pH value. 7,2 ±0,2

CL46.2	100 g	plastic	137,10 €

CL46.1	575 g	plastic	456,90 €

For further information, please see page 1341

Salmonella-Shigella Agar

Salmonella-Shigella Agar

for microbiology

For isolation of pathogenic enterobacteria, especially *Salmonella* and *Shigella*.

Application: Use 60 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Beef extract. 5 g/l
 Peptone mixture. 5 g/l
 Lactose. 10 g/l
 Ferric citrate. 1 g/l
 Bile salts. 8,5 g/l
 Sodium citrate. 8,5 g/l
 Sodium thiosulphate. 8,5 g/l
 Brilliant green. 0,0003 g/l
 Neutral red. 0,025 g/l
 Agar. 13,5 g/l
 pH value. 7,0 ±0,2

X934.1	500 g	plastic	48,30 €

Original pack 6 x 500 g 45,89/500 g

For further information, please see page 1341

Salmon Sperm DNA sodium salt

Salmon Sperm DNA sodium salt

ex salmon testes

Deoxyribonucleic acid sodium salt, DNA from salmon sperm

Storage temp.: +4 °C

[9007-49-2]

Guarantee analysis:

Appearance. off-white to light brown powder
 Solution (10 % in H₂O at 40 °C). colourless to slightly yellow
 Loss on drying. ≤12,0 %
 Sodium (dry substance). ≥5,8 %
 Phosphorus (dry substance). ≥8,1 %
 Nitrogen (dry substance). ≥14,3 %
 Maximum absorption. 258-262 nm
 UV-Absorption (0,001 % in phosphate buffer pH 7). ≥0,155 AU

5434.1	5 g	plastic	25,30 €

5434.2	10 g	plastic	39,70 €

For further information, please see page 1201

Art. No.	Description	Page
X862	Aluminium ammonium sulphate dodecahydrate	1626
CN85	Aluminium nitrate nonahydrate	1627
5340	Aluminium sulphate hexadecahydrate	1628
7869	Ammonium acetate	1635
HN14	Ammonium bromide	1636
CP98	Ammonium carbonate	1636
4386	Ammonium cerium(IV) sulphate dihydrate	1636
K298	Ammonium chloride	1636
P727	Ammonium dihydrogen phosphate	1637
6549	Ammonium fluoride	1637
3666	Ammonium heptamolybdate tetrahydrate	1638
T871	Ammonium hydrogen carbonate	1639
P735	di-Ammonium hydrogen citrate	1639
P736	di-Ammonium hydrogen phosphate	1640
5485	Ammonium hydrogen sulphate	1640
P728	Ammonium iron(II) sulphate hexahydrate	1640
P734	Ammonium iron(III) sulphate dodecahydrate	1641
4232	Ammonium monovanadate	1641
K299	Ammonium nitrate	1642
P737	di-Ammonium oxalate monohydrate	1642
9592	Ammonium peroxydisulphate	1642
3746	Ammonium sulphate	1643
4477	Ammonium thiocyanate	1644
2553	Barium acetate	1665
P008	Barium carbonate	1665
4453	Barium chloride dihydrate	1666
P009	Barium hydroxide octahydrate	1666
4387	Barium nitrate	1667
4447	Bismuth(III) nitrate	1679
2554	Bismuth(III) nitrate pentahydrate	1679
6555	Bismuth(III) oxide	1679
KK06	Cadmium acetate dihydrate	1702
4482	Cadmium sulphate hydrate	1702
6873	Caesium carbonate	1703
8627	Caesium chloride	1703
9355	Caesium sulphate	1703
P011	Calcium acetate monohydrate	1705
P012	Calcium carbonate	1705
5239	Calcium chloride dihydrate	1706
T886	Calcium chloride hexahydrate	1707
CN87	Calcium hydroxide	1707
P740	Calcium nitrate tetrahydrate	1708
P741	Calcium sulphate dihydrate	1709
HN28	Cerium(IV) ammonium nitrate	1724
HN18	Cerium(III) nitrate hexahydrate	1725
P014	Cerium(IV) sulphate tetrahydrate	1725
8773	Chromium(III) nitrate nonahydrate	1734
4389	Chromium(III) potassium sulphate dodecahydrate	1734
HN29	Cobalt(II) acetate tetrahydrate	1740
T889	Cobalt(II) chloride hexahydrate	1740
HN16	Cobalt(II) nitrate hexahydrate	1740
4390	Cobalt(II) sulphate heptahydrate	1741
HN30	Copper(II) acetate monohydrate	1745
4391	Copper(I) chloride	1746
CN82	Copper(II) chloride dihydrate	1746
P754	Copper(II) nitrate trihydrate	1746
4467	Copper(II) oxide	1747
P023	Copper(II) sulphate	1747
P024	Copper(II) sulphate pentahydrate	1747
3053	Ethylenediamine tetraacetic acid dipotassium salt dihydrate	1815
8043	Ethylenediamine tetraacetic acid disodium salt dihydrate	1230

S

Salts in Pharmacopoeia Quality

Art. No.	Description	Page
CP88	Aluminium chloride hexahydrate	1626
P726	Ammonium chloride	1637
7094	Ammonium hydrogen carbonate	1639
4266	di-Ammonium oxalate monohydrate	1642
6551	Bismuth subcarbonate	1679
0260	Calcium acetate hydrate	1705
P013	Calcium carbonate	1705
T885	Calcium chloride dihydrate	1706
CP89	Calcium chloride hexahydrate	1707
HN70	Calcium hydrogen phosphate dihydrate	1707
8450	tri-Calcium phosphate	1709
0256	Calcium sulphate dihydrate	1709
CP86	Copper(II) sulphate	1747
P025	Copper(II) sulphate pentahydrate	1747
6506	Ethylenediamine tetraacetic acid calcium disodium salt dihydrate	1814
X986	Ethylenediamine tetraacetic acid disodium salt dihydrate	1815
3722	Iron(II) sulphate heptahydrate	1908
9443	tri-Lithium citrate tetrahydrate	1936
0275	Magnesium acetate tetrahydrate	1943
3530	Magnesium carbonate	1943
A537	Magnesium chloride hexahydrate	1944
9453	Magnesium hydroxide	1944
8280	Magnesium oxide	1945
T888	Magnesium sulphate heptahydrate	1945
X890	Manganese(II) sulphate monohydrate	1950
4986	Potassium acetate	2050
CN78	Potassium aluminium sulphate dodecahydrate	2051
9252	Potassium bromide	2051
X894	Potassium carbonate	2052
P017	Potassium chloride	2053
X888	tri-Potassium citrate monohydrate	2053
P018	Potassium dihydrogen phosphate	2054
X887	Potassium hydrogen carbonate	2056
T875	di-Potassium hydrogen phosphate	2056
8491	Potassium iodide	2060
4397	Potassium nitrate	2060
8004	Potassium permanganate	2061
7998	Potassium sodium tartrate tetrahydrate	2062
CN79	Potassium sulphate	2063
3856	Sodium acetate trihydrate	2140
P028	Sodium carbonate	2142
8566	Sodium carbonate decahydrate	2143
P029	Sodium chloride	2144
4088	tri-Sodium citrate dihydrate	2145
T878	Sodium dihydrogen phosphate monohydrate	2146
2370	Sodium dihydrogen phosphate dihydrate	2146
8551	Sodium hydrogen carbonate	2148
T876	di-Sodium hydrogen phosphate	2148
T877	di-Sodium hydrogen phosphate dihydrate	2149
N350	di-Sodium hydrogen phosphate dodecahydrate	2149
8783	Sodium iodide	2153
P032	Sodium sulphate	2158
X892	Sodium sulphate decahydrate	2158
CN07	di-Sodium tetraborate decahydrate	2159
T109	Sodium thiosulphate pentahydrate	2160
X893	Zinc acetate dihydrate	2251
T884	Zinc sulphate heptahydrate	2253
5297	Zinc oxide	2252

Salvinin

► Pelargonidin 3,5-diglucoside chloride
see p. 2023

Samarium Standards

► Samarium ICP Standard Solution
see p. 2173
► Samarium ICP Standard Solution
see p. 2177

Samarium(III) carbonate hydrate

Samarium(III) carbonate hydrate

ROTI®REMETIC 99,98 %

$\text{Sm}_2(\text{CO}_3)_3 \cdot x \text{H}_2\text{O}$

M 480,75 + x H₂O g/mol

[38245-37-3] • EC No. 227-581-5

WGK 3

Type analysis:

Assay (TREO*) 99,98 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7120.1 10 g plastic 85,90 €

7120.2 50 g plastic 289,20 €

Samarium(III) oxide

Samarium trioxide, Samaria

Sm_2O_3

M 348,72 g/mol

bp 3780 °C

mp 2269 °C

Solubility: insoluble (H₂O, 20 °C)

[12060-58-1] • EC No. 235-043-6

WGK 1

Samarium(III) oxide

ROTI®REMETIC 99,95 %

Type analysis:

Assay (TREO*) 99,95 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7108.1 5 g plastic 27,85 €

7108.2 25 g plastic 90,20 €

Samarium(III) oxide

ROTI®REMETIC 99,9 %

Type analysis:

Assay (TREO*) 99,9 %

*Total rare earth oxide

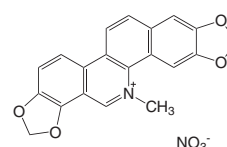
Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7186.1 10 g plastic 24,65 €

7186.2 50 g plastic 98,80 €

7186.3 100 g plastic 177,40 €

Sanguinarine nitrate



Sanguinarine nitrate

ROTICHRON® ~CHR

$\text{C}_{20}\text{H}_{14}\text{N}_2\text{O}_7$

M 394,33 g/mol

[4752-86-7] • EC No. 225-276-1

UN No. 1544 • ADR 6.1 II • WGK 3

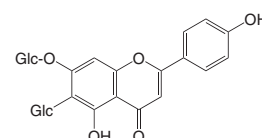
⚠ Danger H301

7200.2 10 mg glass 263,40 €

Saponaretin

► Isovitexin see p. 1913

Saponarin



Saponarin

ROTICHRON® HPLC

Reference substance for HPLC

From *Saponaria officinalis*

Isovitexin-7-O-glucoside

$\text{C}_{27}\text{H}_{30}\text{O}_{16}$

M 610,54 g/mol

Storage temp.: +4 °C

[20310-89-8]

Type analysis:

Purity (HPLC) ≥98 %

6413.1 5 mg plastic 185,45 €

Saponin

[8047-15-2] • EC No. 232-462-6

WGK 2

⚠ Warning H319-H335

Saponin

DAB

From quillaja bark. Special quality for hemolysis.

Guarantee analysis:

Appearance. whitish to pale yellow powder

Identity. complies

Extinction (5 %, water). ≤0,4

pH value (5 %, water). 4,0-7,0

Density (5 %, water). 1,01-1,02

Turbidity (5 %, water). ≤30 TE/F

Lather value (5 %, water). 6-17

Surface tension (20 °C, 1 % sol.). 35-55 dyn/cm

9622.1 100 g plastic 38,60 €

Saponin**free of tannic acid**

From quillaja bark. Sapagonin content 8,5 %.
Main aglycone: quilliac acid.

Type analysis:

Appearance: whitish to pale yellow powder
Extinction: $\leq 0,4$
pH value (5 %, water): 4,0-7,0
Density (5 %, water): 1,01-1,02

6857.1	100 g	plastic	30,00 €

Saponin**pure****Type analysis:**

Appearance: whitish to light yellow powder

4185.1	100 g	plastic	27,85 €

Sarcine

► Hypoxanthine see p. 1895

SB-8

► N-Octyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1999

SB-10

► N-Decyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1761

SB-12

► N-Dodecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1793

SB-14

► N-Tetradecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 2202

SB-16

► N-Hexadecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1874

Scandium Standards

► Scandium AAS Standard Solution see p. 2168

► Scandium ICP Standard Solution see p. 2173

Scandium(III) oxide

Scandium oxide

Sc_2O_3

M 137,91 g/mol

D 3,86

mp 2485 °C

[12060-08-1] • EC No. 235-042-0

WGK 3

Scandium(III) oxide

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis): 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5735.1	1 g	plastic	138,70 €

Scandium(III) oxide

ROTI®REMATIC 99,999 %

Type analysis:

Assay (TREC*) 99,999 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7011.1	1 g	plastic	127,95 €

7011.2	5 g	plastic	364,45 €

Scandium oxide

► Scandium(III) oxide see p. 2121

Scarlet red

► Sudan IV (C.I. 26105) see p. 2188

Schaedler Agar**Schaedler Agar****for microbiology**

For recovery and cultivation of anaerobic microorganisms.

Application: Use 41,9 g for 1 l agar.

Storage temp.: +20 °C

WGK 2

Formulation:

Casein peptone	5,66 g/l
Soy peptone	1 g/l
Sodium chloride	1,66 g/l
Dipotassium hydrogen phosphate	0,83 g/l
Peptone mixture	5 g/l
Yeast extract	5 g/l
Glucose	5,83 g/l
Tris (hydroxymethyl aminomethane)	3 g/l
L-Cystine	0,4 g/l
Hemin	0,01 g/l
Agar	13,5 g/l
pH value	7,6 ± 0,2

5771.1	500 g	plastic	109,15 €

Original pack 6 x 500 g	103,69/500 g

For further information, please see page 1342

Schaedler Broth**Schaedler Broth****for microbiology**

For enrichment and cultivation of anaerobic microorganisms.

Application: Use 28,4 g for 1 l broth.

Storage temp.: +20 °C

WGK 2

⚠ **Warning** H315-H319

Formulation:

Casein peptone	5,66 g/l
Soy peptone	1 g/l
Sodium chloride	1,66 g/l
Dipotassium hydrogen phosphate	0,83 g/l
Peptone mixture	5 g/l
Yeast extract	5 g/l
Glucose	5,83 g/l
Tris (hydroxymethyl aminomethane)	3 g/l
L-Cystine	0,4 g/l
Hemin	0,01 g/l
pH value	7,6 ± 0,2

5772.1	500 g	plastic	100,00 €

Original pack 6 x 500 g	95,00/500 g

For further information, please see page 1342

Schiff's reagent

Fuchsin sulphurous acid

WGK 1

⚠ **Danger** H350

Schiff's reagent**on aldehyde**

For the detection of aldehydes in the range of ppm.

N057.1	250 ml	glass	26,80 €

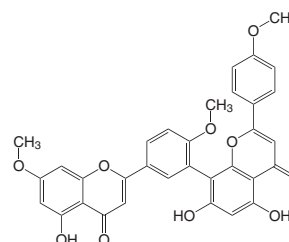
Schiff's reagent**for microscopy**

X900.1	500 ml	glass	21,20 €

X900.2	1 l	glass	27,65 €

Original pack 6 x 1 l	26,27/1 l

For further information, please see page 1397

Sciadopitysin**Sciadopitysin**

ROTICROM® HPLC

Reference substance for HPLC

$\text{C}_{33}\text{H}_{24}\text{O}_{10}$

M 580,54 g/mol

Storage temp.: +4 °C

[521-34-6] • EC No. 208-311-5

Type analysis:

Purity (HPLC): ≥ 99 %

9410.1	5 mg	plastic	198,90 €

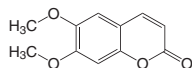
Scintillation cocktail

► Rotiszint® eco plus see p. 2113

Scintillation Products

Art. No.	Description	Page
3210	1,4-Bis[2-(5-phenyloxazolyl)]-benzene	1679
7029	Dimethyl sulphoxide	1785
3689	2,5-Diphenyloxazole	1788
0016	Rotiszint® eco plus	2113
3107	Toluene	2214
6683	Triton X 100	2225

Scoparone



Scoparone

≥97,5 %

Esculetin dimethyl ether,
6,7-Dimethoxycoumarin

C₁₁H₁₀O₄

M 206,18 g/mol

mp ~145 °C

[120-08-1] • EC No. 204-369-0

UN No. 2811 • ADR 6.1 II

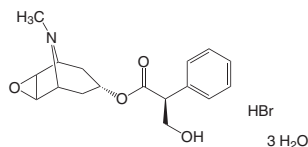
Danger H301-H319

Type analysis:

Assay ≥97,5 %

7494.1	500 mg	glass	203,20 €

Scopolamine hydrobromide trihydrate



Scopolamine hydrobromide trihydrate

≥98 %

C₁₇H₂₂BrNO₄ · 3 H₂O

M 438,31 g/mol

[6533-68-2]

UN No. 1544 • ADR 6.1 I • WGK 3

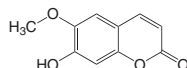
Danger H300+H310+H330

Type analysis:

Assay (HPLC) ≥98 %

7153.1	1 g	glass	104,20 €

Scopoletin



Scopoletin

≥98 %

β-Methylesculetin, Gelseminic acid,
Chrysatroptic acid, 7-Hydroxy-
6-methoxycoumarin

C₁₀H₈O₄

M 192,16 g/mol

mp 202-204 °C

[92-61-5] • EC No. 202-171-9

WGK 2

Warning H315-H319-H335

Type analysis:

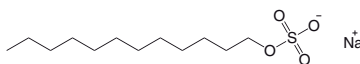
Appearance pale yellow powder

Assay (HPLC) ≥98 %

Water (KF) ≤1,0 %

7210.3	50 mg	glass	76,90 €
7210.1	100 mg	glass	123,10 €
7210.2	1 g	glass	1009,45 €

SDS



Sodium dodecyl sulphate, Sodium lauryl
sulphate, Dodecyl sulphate sodium salt, Lauryl
sulphate sodium salt, SLS

C₁₂H₂₅NaO₄S

M 288,38 g/mol

D 0,67

mp 204-207 °C • flp >100 °C

Solubility: ~150 g/l (H₂O, 20 °C)

[151-21-3] • EC No. 205-788-1

UN No. 1325 • ADR 4.1 III • WGK 2

Danger

H228-H302+H332-H315-H318-H335-H412

SDS

≥99,5 %, Blotting-Grade

For Western- and Southern blotting

Type analysis:

Appearance white cryst. powder

Assay (titr.) ≥99,5 %

Loss on drying ≤0,5 %

pH-value (10 % in water) 7,5-9,5

Solubility (10 % in H₂O) clear, colourless

Chloride (Cl) ≤0,025 %

Heavy metals (as Pb) ≤0,0005 %

UV absorption (0,1 M, water, 1 cm):

260 nm ≤0,05

280 nm ≤0,02

0183.1	100 g	plastic	44,00 €

0183.2	250 g	plastic	93,45 €

0183.3	500 g	plastic	152,15 €

Original pack 6 x 500 g 144,54/500 g

SDS ultra pure

≥99,5 %, for electrophoresis

Anionic detergent.

Guarantee analysis:

Assay (titr.) ≥99,5 %

pH-value (10 % in water) 7,5-9,5

Loss on drying ≤0,05 %

Chloride (Cl) ≤0,025 %

Heavy metals (as Pb) ≤0,0005 %

Absorption (0,1 M in H₂O)

260 nm ≤0,04

280 nm ≤0,02

2326.1	100 g	plastic	36,05 €

2326.2	500 g	plastic	138,70 €

Original pack 6 x 500 g 131,77/500 g

2326.3	500 g (in 2,5 l glass bottle for prep. of a 20 % sol.)	glass	145,15 €

2326.4	250 g	plastic	76,25 €

2326.5	1 kg	plastic	235,45 €

Original pack 6 x 1 kg 223,68/1 kg

SDS / Sodium lauryl sulphate

≥99 %, for biochemistry

Anionic detergent; active substance for studies
with surfactants.

Guarantee analysis:

Appearance white powder

Assay (GC) ≥99 %

pH-value (1 % in H₂O) 7,5-10,5

Absorption (10 %, water, 1 cm):

260 nm ≤1,5

280 nm ≤1,0

Solubility (10 % in H₂O) clear, ≤50 Hazen

4360.1	250 g	plastic	22,05 €

4360.2	1 kg	plastic	61,20 €

Original pack 6 x 1 kg 58,14/1 kg

SDS / Sodium lauryl sulphate

≥95 %

Active substance for studies with surfactants.

Guarantee analysis:

Appearance white to yellowish powder

Assay ≥95 %

Water (KF) ≤5,0 %

Unsulphated Matter ≤4,0 %

Heavy metals (as Pb) ≤0,002 %

5136.1	1 kg	plastic	46,15 €

Original pack 6 x 1 kg 43,84/1 kg

5136.2	5 kg	carton	149,45 €

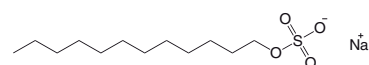
20 % SDS Ready-to-use solution

▶ Roti®-Stock 20 % SDS see p. 2112

SDS-Page-buffer

▶ Rotiphorese® 10x SDS-PAGE see p. 2108

SDS Pellets



[151-21-3] • EC No. 205-788-1 • WGK 2

Danger H302-H315-H318-H412

SDS Pellets

≥99,5 %, Rotiphorese®-Grade,
for electrophoresis

Anionic detergent

Guarantee analysis:

Appearance white rods

Assay (titration) ≥99,5 %

pH value (10 % in water) 6,5-9

Water (KF) ≤1,0 %

UV-absorption (20 % in H₂O):280 nm ≤0,28

410 nm ≤0,1

Solubility (10 % in H₂O) clear, colourless

Colour count (APHA, 10 % in H₂O) ≤10

Turbidity (10 %, water) ≤2,5 NTU

Chloride (Cl) ≤0,01 %

Heavy metals (as Pb) ≤2 ppm

Phosphate (PO₄) ≤1 ppm

8029.1	100 g	plastic	24,65 €

8029.2	250 g	plastic	49,35 €

8029.3	500 g	plastic	85,90 €

Original pack 6 x 500 g 81,61/500 g

8029.4	1 kg	plastic	161,15 €

Original pack 6 x 1 kg 153,09/1 kg

For further information, please see page 1219

SDS Pellets

≥99 %, for biochemistry

Anionic detergent.

Guarantee analysis:

Appearance: white to almost white pellets
 Assay (GC): ≥99 %
 pH value (1 % in H₂O): 7,5-10,5
 UV-absorption (10 % in H₂O):
 260 nm: ≤1,5
 280 nm: ≤1,0
 Solubility (10 % in H₂O): clear, ≤50 Hazen

CN30.1	250 g	plastic	24,40 €
CN30.2	500 g	plastic	38,60 €
Original pack 6 x 500 g			36,67/500 g
CN30.3	1 kg	plastic	62,25 €
Original pack 6 x 1 kg			59,14/1 kg
CN30.4	2,5 kg	plastic	113,45 €

Sea sandSiO₂

bp 2230 °C

mp 1710 °C

[14808-60-7] • EC No. 238-878-4

Sea sand

p.a., purified and calcinated

Filtration aids

Guarantee analysis:

Acid soluble iron (Fe): ≤0,01 %
 Loss on ignition (900 °C): ≤0,05 %
 Substances soluble in HCl: ≤0,2 %
 Chloride (Cl): ≤0,005 %
 Particle size (0,1-0,315 mm): ≥90 %

4309.2	500 g	plastic	57,55 €
Original pack 6 x 500 g			54,67/500 g
4309.1	1 kg	plastic	107,00 €
Original pack 6 x 1 kg			101,65/1 kg

Sea sand

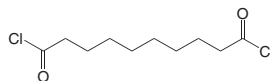
extra pure, purified by acid

Filtration aids

Type analysis:

Acid soluble iron (Fe): ≤0,01 %
 Loss on ignition (800 °C): ≤0,5 %
 Substances soluble in HCl: ≤0,5 %
 Chloride (Cl): ≤0,01 %

8441.3	500 g	plastic	26,80 €
Original pack 6 x 500 g			25,46/500 g
8441.1	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg
8441.2	5 kg	plastic	170,95 €

Sebacic acid dichloride**Sebacic acid dichloride**

≥98 %

Sebacoyl chloride

C₁₀H₁₆Cl₂O₂

M 239,14 g/mol

D ~1,12 • bp 161 °C (19 hPa)

mp -5 °C • flp 113 °C

[111-19-3] • EC No. 203-843-4

UN No. 3265 • ADR 8 II • WGK 2

⚠️! Danger H302-H314-H335

Type analysis:

Assay: ≥98,0 %

4472.2	10 ml	glass	22,50 €
4472.1	50 ml	glass	67,65 €
4472.3	250 ml	glass	213,95 €

Sebacoyl chloride

► Sebacic acid dichloride see p. 2123

Secondary Antibody

Art. No.	Description	Page
4754	Anti Human-AP	1649
4755	Anti Human FITC	1649
4753	Anti Human-HRP	1649
4760	Anti Mouse-AP	1649
4761	Anti Mouse FITC	1649
4759	Anti Mouse-HRP	1650
4751	Anti Rabbit-AP	1650
4752	Anti Rabbit FITC	1650
4750	Anti Rabbit-HRP	1650
4763	Anti Rat-AP	1650
4764	Anti Rat FITC	1650
4762	Anti Rat-HRP	1650

Seignette salt► Potassium sodium tartrate tetrahydrate
see p. 2062**Sekuroka® Decon-Bags****Sekuroka® Decon-Bags**

Absorber bags for removing ethidium bromide from liquids.

[7440-44-0]

T856.2	10 Bags	27,45 €
T856.1	50 Bags	113,85 €
T856.3	250 Bags	493,45 €

For further information, please see page 1151

Selenious acid**Selenious acid**

ROTI®METIC 99,999 % (5N)

H₂SeO₃

M 128,97 g/mol

D 3,00

mp 70 °C (dec.)

Solubility: 1670 g/l (H₂O, 20 °C)

[7783-00-8] • EC No. 231-974-7

UN No. 3283 • ADR 6.1 II • WGK 3

⚠️! Danger

H301+H331-H373-H400-H410

Type analysis:

Assay (metals basis): 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5737.1	25 g	glass	84,95 €
5737.2	100 g	glass	321,45 €

Selenium pellets**Selenium pellets**

ROTI®METIC 99,999 % (5N)

Se

M 78,96 g/mol

D ~4,35 • bp 685 °C

mp 217 °C

[7782-49-2] • EC No. 231-957-4

UN No. 3283 • ADR 6.1 III • WGK 2

⚠️! Danger H301+H331-H373-H413

Type analysis:

Assay (metals basis): 99,999 %
 Particle size: 3-6 mm
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4547.1	10 g	plastic	42,90 €
4547.2	50 g	plastic	160,20 €

Selenium Standards

- Selenium AAS Standard Solution see p. 2168
- Selenium ICP Standard Solution see p. 2177
- Selenium ICP Standard Solution see p. 2173

Selenium dioxide

► Selenium(IV) oxide see p. 2124

Selenium(IV) oxide

Selenium(IV) oxide

ROTI[®]METIC 99,999 % (5N)

Selenium dioxide

SeO₂

M 110,96 g/mol

D 3,95

mp 315 °C (subl.)

Solubility: 2640 g/l (H₂O, 20 °C)

[7446-08-4] • EC No. 231-194-7

UN No. 3283 • ADR 6.1 II • WGK 2

Danger

H301+H331-H373-H400-H410

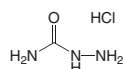
Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5324.1	10 g	glass	123,65 €

Semicarbazide hydrochloride



Semicarbazide hydrochloride

≥98 %, p.a.

Reagent for aldehydes and ketones.

N-Aminourea hydrochloride

CH₃N₃O · HCl

M 111,53 g/mol

mp 175-177 °C (dec.)

[563-41-7] • EC No. 209-247-0

UN No. 2811 • ADR 6.1 III • WGK 3

Danger H301-H315-H319

Guarantee analysis:

Assay..... ≥98,0 %

Solution (10 % in water)..... colourless

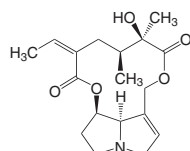
Loss on drying (105 °C)..... ≤6,0 %

4681.1	100 g	plastic	30,00 €

4681.2	500 g	plastic	107,40 €

Original pack 6 x 500 g 102,03/500 g

Senecionine



Senecionine

ROTI[®]CHROM[®] GC

Reference substance for GC

Aureine, 12-Hydroxysenecionan-11,16-dione

C₁₈H₂₅NO₅

M 335,17 g/mol

mp 232-233 °C

Storage temp.: +4 °C

[130-01-8]

UN No. 1544 • ADR 6.1 III

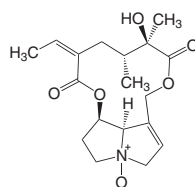
Danger H301+H311+H331-H373

Type analysis:

Purity (GC)..... ≥96 %

2261.1	10 mg	glass	89,80 €

Senecionine N-oxide



Senecionine N-oxide

ROTI[®]CHROM[®] HPLC

Reference substance for HPLC.

From *Senecio vulgaris*.

12-Hydroxysenecionan-11,16-dione-4-oxide

C₁₈H₂₅NO₆

M 351,39 g/mol

Storage temp.: +4 °C

[13268-67-2]

UN No. 1544 • ADR 6.1 III • WGK 1

Danger H301-H373

Type analysis:

Purity (HPLC)..... ≥95 %

6734.1	10 mg	glass	392,40 €

Senecionine/Seneciphylline

Senecionine/Seneciphylline

ROTI[®]CHROM[®] GC

Reference substance for GC

Storage temp.: +4 °C

UN No. 1544 • ADR 6.1 III

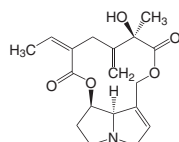
Danger H301+H311+H331-H373

Type analysis:

Purity (GC)..... ≥99 %

8830.1	10 mg	glass	70,45 €

Seneciphylline



Jacodine, α-Longilobine, 13,19-Didehydro-12-hydroxysenecionan-11,16-dione

C₁₈H₂₃NO₅

M 333,38 g/mol • Storage temp.: +4 °C

[480-81-9]

UN No. 1544 • ADR 6.1 III • WGK 3

Danger H301+H311+H331-H373

Seneciphylline

≥94 %

Type analysis:

Assay..... ≥94 %

6414.1	10 mg	glass	78,40 €

Seneciphylline

with analytical records

From *Senecio vulgaris*.

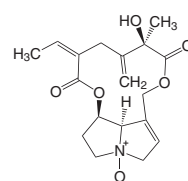
Type analysis:

Purity (HPLC)..... ≥99 %

Analytical records: HPLC, TLC, ¹H-NMR, ¹³C-NMR, UV, IR, MS, melting point.

1214.1	20 mg	glass	439,70 €

Seneciphylline N-oxide



Seneciphylline N-oxide

ROTI[®]CHROM[®] HPLC

Reference substance for HPLC.

From *Senecio vulgaris*.

C₁₈H₂₃NO₆

M 349,37 g/mol

Storage temp.: +4 °C

[38710-26-8]

UN No. 1544 • ADR 6.1 III • WGK 1

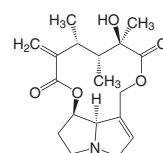
Danger H301-H373

Type analysis:

Purity (HPLC)..... ≥97 %

6735.1	10 mg	glass	439,70 €

Senecivernine



Senecivernine

ROTI[®]CHROM[®] HPLC

Reference substance for HPLC

From *Senecio inaequidens*

C₁₈H₂₅NO₅

M 335,39 g/mol

mp 103-108 °C

Storage temp.: +4 °C

[72755-25-0]

WGK 1

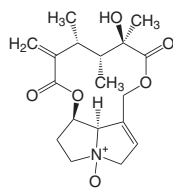
Warning H302

Type analysis:

Purity (HPLC)..... ≥95,0 %

2209.1	5 mg	glass	267,70 €

Senecivernine N-oxide



Senecivernine N-oxide

ROTICHROM® HPLC

Reference substance for HPLC
From *Senecio naevidens*C₁₈H₂₅NO₆

M 351,39 g/mol

Storage temp.: +4 °C • WGK 1

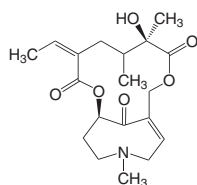
⚠ Warning H302

Type analysis:

Purity (HPLC).....≥95,0 %

2215.1	5 mg	glass	284,90 €

Senkirkine



Senkirkine

ROTICHROM® HPLC

Reference substance for HPLC

Renardin

C₁₉H₂₇NO₆

M 365,4 g/mol • mp 197,5-198 °C

Storage temp.: +4 °C

[6882-01-5] • UN No. 1544 • ADR 6.1 II

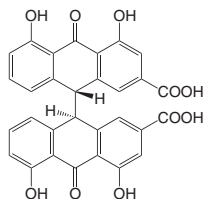
⚠ ⚠ ⚠ Danger H301+H311+H331-H373

Type analysis:

Purity (HPLC).....≥95 %

4934.1	10 mg	glass	317,15 €

Sennidine A



Sennidine A

ROTICHROM® ~CHR

C₃₀H₁₈O₁₀

M 538,46 g/mol

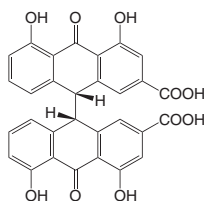
Storage temp.: +4 °C

[641-12-3] • EC No. 211-371-5

⚠ Warning H302

7012.1	10 mg	glass	198,90 €

Sennidine B



Sennidine B

ROTICHROM® ~CHR

C₃₀H₁₈O₁₀

M 538,46 g/mol

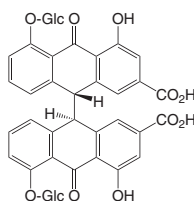
Storage temp.: +4 °C

[517-44-2] • EC No. 208-239-4

⚠ Warning H302

7016.1	10 mg	glass	246,20 €

Sennoside A

C₄₂H₃₈O₂₀

M 862,72 g/mol

[81-27-6] • EC No. 201-339-9

WGK 3

Sennoside A

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥80,0 %
 Residual solvents (GC).≤2,0 %
 Water (KF).....≤5,0 %
 Assay (qNMR).....≥75,0 %
 Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE53.1	50 mg	glass	929,90 €

Sennoside A

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC).....≥75,0 %
 Identity.....complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC53.1	50 mg	glass	321,45 €

Sennoside A

ROTICHROM® HPLC

Reference substance for HPLC
From *Cassia angustifolia*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....>98 %

7423.1	10 mg	glass	117,20 €

Sennoside A

ROTICHROM® ~CHR

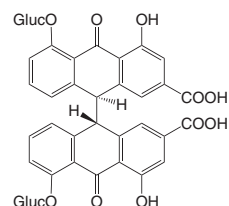
Storage temp.: +4 °C

9349.1	100 mg	glass	403,15 €

Sennoside A'

▶ Sennoside A1 see p. 2125

Sennoside A1



Sennoside A1

ROTICHROM® HPLC

Reference substance for HPLC.
From *Cassia angustifolia*.

Sennoside G, Sennoside A'

C₄₂H₃₈O₂₀

M 862,72 g/mol

Storage temp.: +4 °C

[66575-30-2]

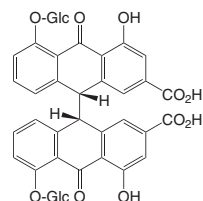
WGK 3

Type analysis:

Purity (HPLC).....≥95 %

6693.1	10 mg	glass	263,40 €

Sennoside B

C₄₂H₃₈O₂₀

M 862,72 g/mol

mp 200 °C

[128-57-4] • EC No. 204-895-0

WGK 1

Sennoside B

≥90 %

Storage temp.: +4 °C

Type analysis:

Appearance.....yellowish powder
 Assay.....≥90 %

9352.1	100 mg	glass	321,45 €

Sennoside B

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥85,0 %
Residual solvents (GC) ≤2,0 %
Water (KF) ≤5,0 %
Assay (qNMR) ≥80,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE54.1	50 mg	glass	929,90 €

Sennoside B

ROTICHRM® Working Standard

Type analysis:

Assay (HPLC) ≥80,0 %
Identity complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC54.1	50 mg	glass	346,70 €

Sennoside B

ROTICHRM® HPLC

Reference substance for HPLC
From *Cassia angustifolia*

Storage temp.: +4 °C

Type analysis:

Purity (HPLC) ≥98 %

7424.1	10 mg	glass	185,45 €

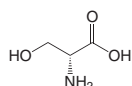
Sennoside G

► Sennoside A1 see p. 2125

Sequencing gel solutions

► Rotiphorese® DNA sequencing system see p. 2108

D-Serine



D-Serine

≥99 %, for biochemistry

C₃H₇NO₃
M 105,09 g/mol
mp 215-225 °C (dec.)
Solubility: 360 g/l (H₂O, 20 °C)
[312-84-5] • EC No. 206-229-4
WGK 1

Type analysis:

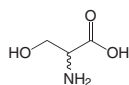
Appearance white, cryst. powder
Assay ≥99,0 %

7531.2	1 g	plastic	16,70 €

7531.1	5 g	glass	22,50 €

7531.3	25 g	plastic	88,70 €

DL-Serine



DL-Serine

≥99 %, for biochemistry

C₃H₇NO₃
M 105,09 g/mol
Storage temp.: +4 °C
[302-84-1] • EC No. 206-130-6
WGK 1

Type analysis:

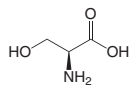
Appearance white cryst. powder
Assay ≥99,0 %
Identity (IR) complies
Heavy metals (as Pb) ≤0,001 %
Ash content ≤0,1 %
Loss on drying ≤0,5 %

8606.1	100 g	plastic	41,85 €

8606.2	500 g	plastic	181,70 €

Original pack 6 x 500 g	172,62/500 g

L-Serine



3-Hydroxy-L-alanine
C₃H₇NO₃
M 105,09 g/mol
Solubility: ~270 g/l (H₂O, 20 °C)
[56-45-1] • EC No. 200-274-3
WGK 1

L-Serine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins ≤6,0 E.U./g
Assay ≥99 %
Loss on drying ≤0,5 %
Specific rotation [α]_D²⁰ +14,0° to +16,0°
Foreign amino acids complies
Ammonium (NH₄) ≤0,02 %
Chloride (Cl) ≤0,02 %
Sulphate (SO₄) ≤0,03 %
Heavy metals (as Pb) ≤0,001 %
Iron (Fe) ≤0,001 %

1714.1	25 g	plastic	23,15 €

1714.2	100 g	plastic	56,45 €

1714.3	500 g	plastic	231,15 €

Original pack 6 x 500 g	219,59/500 g

L-Serine

≥98,5 %, Ph.Eur.

Guarantee analysis:

Appearance white, cryst. powder
Assay (dry substance) 98,5-101,0 %
Identity complies
Specific rotation [α]_D²⁰ +14,0° to +16,0°
Ammonium (NH₄) ≤0,02 %
Chloride (Cl) ≤0,02 %
Sulphate (SO₄) ≤0,03 %
Iron (Fe) ≤0,001 %
Heavy metals (as Pb) ≤0,001 %
Foreign amino acids complies
Loss on drying ≤0,5 %
Sulphated ash ≤0,1 %

4682.1	100 g	plastic	42,50 €

4682.3	250 g	plastic	81,20 €

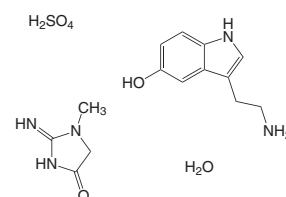
4682.4	500 g	plastic	152,15 €

Original pack 6 x 500 g	144,54/500 g

4682.2	1 kg	plastic	267,70 €

Original pack 6 x 1 kg	254,32/1 kg

Serotonin creatinine sulphate monohydrate



Serotonin creatinine sulphate monohydrate

≥99 %, for biochemistry

C₁₄H₂₁N₅O₆S · H₂O
M 405,44 g/mol
mp 218-222 °C (dec.)
Storage temp.: +4 °C
[971-74-4] • EC No. 213-539-3
WGK 1

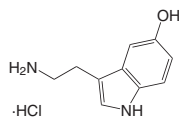
Warning H361-H302+H312+H332

Type analysis:

Assay (titr.) ≥99,0 %
Melting point (dec.) 218-222 °C
Water (KF) 3,4-5,4 %

8385.1	1 g	glass	112,90 €

Serotonin hydrochloride



Serotonin hydrochloride

≥98 %, for biochemistry

5-Hydroxytryptamine hydrochloride,
3-(2-Aminoethyl)-5-hydroxyindole
hydrochlorideC₁₀H₁₃ClN₂O

M 212,68 g/mol

mp 171 °C

Storage temp.: +4 °C

[153-98-0] • EC No. 244-464-4

UN No. 2811 • ADR 6.1 III • WGK 3

Danger H301

Type analysis:

Appearance: white to almost white cryst. powder
 Assay (arg.): ≥98,0 %
 Appearance of solution (1 % in MeOH): colourless
 Loss on drying (3 h, 115 °C, vacuum): ≤2,0 %

8367.1	100 mg	glass	17,75 €
8367.2	1 g	glass	32,80 €
8367.3	5 g	glass	107,40 €

Sheets of gold

Sheets of gold

22 carat, sheet 80 x 80 mm

[7440-57-5] • EC No. 231-165-9

7605.1	1 pieces(25 sheets)	100,55 €

Sheets of silver

Sheets of silver

thickness 0,004 mm, sheet 95 x 95 mm

[7440-22-4] • EC No. 231-131-3

9367.1	1 pieces(25 sheets)	34,10 €

Shellac

Shellac

orange lamella

mp 65-80 °C

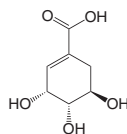
[9000-59-3] • EC No. 232-549-9

Type analysis:

Appearance: orange-coloured lamella
 Acid value (mg KOH/g): 60-75
 Melting point: 65-80 °C
 Loss on drying: ≤2 %
 Wax: ≤5,5 %

9298.2	100 g	plastic	15,60 €
9298.3	500 g	plastic	45,70 €
Original pack 6 x 500 g			43,42/500 g
9298.1	1 kg	plastic	77,95 €
Original pack 6 x 1 kg			74,05/1 kg

Shikimic acid



Shikimic acid

≥98 %, for biochemistry

C₇H₁₀O₅

M 174,15 g/mol

mp 190 °C

Solubility: 180 g/l (H₂O, 20 °C)

[138-59-0] • EC No. 205-334-2

Type analysis:

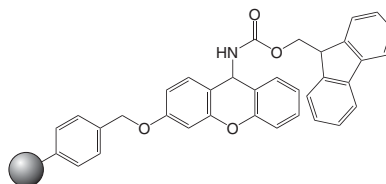
Appearance: white powder
 Assay (HPLC): ≥98 %
 Loss on drying: ≤5 %

7305.2	250 mg	glass	21,40 €
7305.1	1 g	glass	75,15 €

Sialic acid

► N-Acetylneuraminic acid see p. 1611

Sieber amide resin



Sieber amide resin

100-200 mesh

For peptide synthesis

9-Fmoc-amino-xanthen-3-yloxy-Merrifield resin

Storage temp.: +4 °C

WGK 3

Type analysis:

Appearance: white to slightly brown powder
 Loading: 0,5-0,8 mmol/g
 Swelling: 5-6 ml/g (DMF, 24 h)

7408.1	1 g	glass	81,60 €
7408.2	5 g	plastic	332,20 €

Silica acid, amorphous

► Silica gel 60 see p. 2127

Silica gel 35

Silica gel 35

0,04-0,063 mm (400-230 mesh)

For column chromatography.

Silicic acid amorphous, Siliciumdioxide

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Appearance: white powder
 Pore diameter: 29-40 Å
 Loss on drying (160 °C): ≤6 %
 SiO₂ content: ≥99,4 %
 Pore volume (N₂): 0,5-0,7 ml/g
 Specific surface: ≥550 m²/g
 pH value: 4,5-6,5
 Particle-size distribution:
 d10: <35 µm
 d50: <85 µm
 d90: <120 µm

5400.1	250 g	plastic	36,05 €
5400.2	500 g	plastic	63,45 €
Original pack 6 x 500 g			60,28/500 g
5400.3	1 kg	plastic	103,10 €
Original pack 6 x 1 kg			97,95/1 kg
5400.4	2,5 kg	plastic	203,20 €

Silica gel 60

Silicic acid amorphous, Siliciumdioxide

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Silica gel 60

0,02-0,045 mm

For column chromatography.

Type analysis:

Appearance: white powder
 Particle-size distribution:
 >16,0 µm: ≥98 %
 >20,2 µm: ≥90 %
 >64,0 µm: ≤4 %
 Loss on drying: ≤6 %
 Pore volume: 0,8-1,0 ml/g
 Specific surface: 500-600 m²/g
 pH value: 6,0-8,0

0712.1	250 g	plastic	25,30 €
0712.2	500 g	plastic	39,25 €
Original pack 6 x 500 g			37,29/500 g
0712.3	2,5 kg	plastic	150,50 €

For further information, please see page 1523

Silica gel 60**0,03-0,2 mm**

For column chromatography.

Type analysis:

Appearance..... white powder
 Particle-size distribution:
 d10..... >30 µm
 d50..... <110 µm
 d90..... <250 µm
 Loss on drying..... ≤6 %
 Pore volume..... 0,8-1,0 ml/g
 Specific surface..... 550-600 m²/g
 pH value..... 6,0-8,0

P090.1	500 g	plastic	31,10 €
Original pack 6 x 500 g			29,55/500 g
P090.2	1 kg	plastic	54,30 €
Original pack 6 x 1 kg			51,59/1 kg
P090.3	2,5 kg	plastic	128,50 €
P090.5	25 kg	plastic	557,95 €

Silica gel 60**0,035-0,07 mm (400-220 mesh)**

For column chromatography.

Type analysis:

Appearance..... white powder
 Pore diameter..... 53-80 Å
 Loss on drying (160 °C)..... ≤6 %
 SiO₂ content..... ≥99,4 %
 Pore volume (N₂)..... 0,8-1,0 ml/g
 Specific surface..... 500-600 m²/g
 pH value..... 6,0-8,0
 Particle-size distribution:
 d10..... <35 µm
 d50..... <85 µm
 d90..... <120 µm

5401.1	250 g	plastic	25,70 €
5401.2	500 g	plastic	41,40 €
Original pack 6 x 500 g			39,33/500 g
5401.3	1 kg	plastic	67,20 €
Original pack 6 x 1 kg			63,84/1 kg
5401.4	2,5 kg	plastic	152,55 €

Silica gel 60**0,04-0,063 mm (400-230 mesh)**For column chromatography.
Suitable for flash chromatography.**Type analysis:**

Appearance..... white powder
 Particle size..... 48,2-65,3 µm
 Loss on drying..... ≤6 %
 Pore volume..... 0,8-1,0 ml/g
 Specific surface..... 550-600 m²/g
 pH value..... 6,0-8,0

P091.1	250 g	plastic	27,45 €
P091.2	1 kg	plastic	76,25 €
Original pack 6 x 1 kg			72,44/1 kg
P091.3	2,5 kg	plastic	176,30 €
P091.5	25 kg	plastic	848,20 €

Silica gel 60**0,2-0,5 mm**

For column chromatography.

Type analysis:

Appearance..... white powder
 Particle-size distribution:
 <200µm..... ≤10 %
 >500 µm..... ≤1,0 %
 Loss on drying..... ≤6 %
 Pore volume..... ~0,9 ml/g
 Specific surface..... ~550 m²/g
 pH value..... ~7

CN18.1	500 g	plastic	34,30 €
Original pack 6 x 500 g			32,59/500 g
CN18.2	1 kg	plastic	56,45 €
Original pack 6 x 1 kg			53,63/1 kg
CN18.3	2,5 kg	plastic	128,50 €

Silica gel 60 modified phases

SiO₂
 [7631-86-9] • EC No. 231-545-4

Silica gel amino**0,035-0,07 mm (400-220 mesh)**For liquid chromatography.
Normal or reversed-phase separations.Silica gel NH₂**Type analysis:**

Appearance..... white powder
 Pore diameter..... 53-80 Å
 Carbon content..... ~4 %
 Pore volume (N₂)..... 0,8-1,0 ml/g
 Specific surface..... 500-600 m²/g
 Particle-size distribution:
 d10..... <35 µm
 d50..... <85 µm
 d90..... <120 µm

5475.1	50 g	glass	141,80 €
5475.2	100 g	glass	246,20 €
5475.3	250 g	glass	557,95 €

Silica gel C₁₈**0,01-0,014 mm**

For liquid chromatography. Reversed-phase separations.

Octadecyl-modified silica gel - endcapped

Type analysis:

Appearance..... white powder
 Pore diameter..... 53-80 Å
 Carbon content..... ~5 %
 Pore volume (N₂)..... 0,8-1,0 ml/g
 Specific surface..... 500-600 m²/g
 Particle-size distribution:
 d10..... <10 µm
 d50..... <15 µm
 d90..... <25 µm

5509.1	50 g	glass	127,95 €
5509.2	100 g	glass	241,90 €
5509.3	250 g	glass	504,20 €

Silica gel C₁₈**0,035-0,07 mm (400-220 mesh)**For liquid chromatography.
Reversed-phase separations.
Octadecyl-modified silica gel - endcapped**Type analysis:**

Appearance..... white powder
 Pore diameter..... 53-80 Å
 Carbon content..... ~17 %
 Pore volume (N₂)..... 0,8-1,0 ml/g
 Specific surface..... 500-600 m²/g
 Particle-size distribution:
 d10..... <35 µm
 d50..... <85 µm
 d90..... <120 µm

5504.1	50 g	glass	99,90 €
5504.2	100 g	glass	192,45 €
5504.3	250 g	glass	396,70 €

Silica gel 60 C₁₈ ec**0,045 mm**For SPE and QuEChERS method
Octadecyl-modified silica - endcapped**Type analysis:**

Mean pore diameter..... 60 Å
 Mean particle size..... 45 µm
 Capacity (mg caffeine/g sorbent)..... ≥90
 Loss on ignition..... ≤23 %

6070.1	10 g	glass	52,50 €
6070.2	25 g	glass	106,90 €

For further information, please see page 1523

Silica gel cyano**0,01-0,014 mm**

For liquid chromatography. Normal or reversed-phase separations.

Silica gel CN - endcapped

Type analysis:

Appearance..... white powder
 Pore diameter..... 53-80 Å
 Carbon content..... ~5 %
 Pore volume (N₂)..... 0,8-1,0 ml/g
 Specific surface..... 500-600 m²/g
 Particle-size distribution:
 d10..... <10 µm
 d50..... <15 µm
 d90..... <25 µm

5531.1	50 g	glass	161,15 €
5531.2	100 g	glass	278,45 €
5531.3	250 g	glass	633,20 €

Silica gel cyano**0,035-0,07 mm (400-220 mesh)**

For liquid chromatography.
Normal or reversed-phase separations.
Silica gel CN - endcapped

Type analysis:

Appearance..... white powder
Pore diameter..... 53-80 Å
Carbon content..... ~5 %
Pore volume (N₂)..... 0,8-1,0 ml/g
Specific surface..... 500-600 m²/g
Particle-size distribution:
d10..... <35 µm
d50..... <85 µm
d90..... <120 µm

5499.1	50 g	glass	146,10 €
5499.2	100 g	glass	256,95 €
5499.3	250 g	glass	596,65 €

Silica gel 60 diamino**0,045 mm**

For the QuEChERS method.
Aminopropylmodified silica gel for pesticide
residue analysis in food.
Aminopropyl-modified silica gel, PSA

Type analysis:

Mean pore diameter..... 60 Å
Mean particle size..... 45 µm
Capacity (mg caffeine/g sorbent)..... ≥15
Loss on ignition..... ≤15 %

4878.1	10 g	glass	72,50 €
4878.2	25 g	glass	155,50 €

For further information, please see page 1523

Silica gel diol**0,035-0,07 mm (400-220 mesh)**

For liquid chromatography.
Normal or reversed-phase separations.

Type analysis:

Appearance..... white powder
Pore diameter..... 53-80 Å
Carbon content..... ~6,5 %
Pore volume (N₂)..... 0,8-1,0 ml/g
Specific surface..... 500-600 m²/g
Particle-size distribution:
d10..... <35 µm
d50..... <85 µm
d90..... <120 µm

5458.1	50 g	glass	134,40 €
5458.2	100 g	glass	241,90 €
5458.3	250 g	glass	536,45 €

Silica gel 60 G**Silica gel 60 G****for TLC (with gypsum)**

For preparation of TLC plates.

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Loss on drying..... <9 %
Calcium sulphate (CaSO₄)..... 11-15 %
pH value..... 5,5-7,5
Pore volume..... 0,65-0,85 ml/g
Specific surface..... 350-450 m²/g

CN44.3	250 g	plastic	27,90 €
CN44.1	500 g	plastic	48,90 €
Original pack 6 x 500 g			46,46/500 g
CN44.2	1 kg	plastic	85,50 €
Original pack 6 x 1 kg			81,23/1 kg

For further information, please see page 1523

Silica gel 60 G/F₂₅₄**Silica gel 60 G/F₂₅₄****for TLC (with gypsum)**

For preparation of TLC plates.

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Particle size..... 0-50 µm
Loss on drying..... <9 %
Calcium sulphate (CaSO₄)..... 11-15 %
pH value (5 % suspension)..... 5,5-7,5
Specific surface..... 350-450 m²/g
With fluorescence indicator F₂₅₄

CN45.3	250 g	plastic	29,90 €
CN45.1	500 g	plastic	55,50 €
Original pack 6 x 500 g			52,73/500 g
CN45.2	1 kg	plastic	102,90 €
Original pack 6 x 1 kg			97,76/1 kg

For further information, please see page 1523

Silica gel 60 P**Silica gel 60 P****for preparative TLC**

For preparation of TLC plates.

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Particle size..... 0-40 µm
Loss on drying..... <6 %
pH value (5 % suspension)..... ~7
Pore volume..... ~0,8 ml/g
Specific surface..... ~500 m²/g

CN47.3	250 g	plastic	28,90 €
CN47.1	500 g	plastic	49,90 €
Original pack 6 x 500 g			47,41/500 g
CN47.2	1 kg	plastic	82,90 €
Original pack 6 x 1 kg			78,76/1 kg

For further information, please see page 1523

Silica gel 150

Silicic acid amorphous, Siliciumdioxide

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Silica gel 150**0,035-0,07 mm (400-220 mesh)**

For column chromatography.

Type analysis:

Appearance..... white powder
Pore diameter..... ~150 Å
Loss on drying (160 °C)..... ≤6 %
SiO₂ content..... ≥99,3 %
Pore volume (N₂)..... ≥1,05 ml/g
Specific surface..... 285-355 m²/g
pH value..... 6,0-8,0
Particle-size distribution:
d10..... <35 µm
d50..... <85 µm
d90..... <120 µm

5402.1	250 g	plastic	25,30 €
5402.2	500 g	plastic	39,25 €
Original pack 6 x 500 g			37,29/500 g
5402.3	1 kg	plastic	60,10 €
Original pack 6 x 1 kg			57,10/1 kg
5402.4	2,5 kg	plastic	131,70 €

Silica gel 150**0,07-0,2 mm (220-70 mesh)**

For column chromatography.

Type analysis:

Appearance..... white powder
Pore diameter..... ~150 Å
Loss on drying (160 °C)..... ≤6 %
SiO₂ content..... ≥99,3 %
Pore volume (N₂)..... ≥1,05 ml/g
Specific surface..... 285-355 m²/g
pH value..... 6,0-8,0
Particle-size distribution:
d10..... <80 µm
d50..... <170 µm
d90..... <250 µm

5403.1	250 g	plastic	25,30 €
5403.2	500 g	plastic	39,25 €
Original pack 6 x 500 g			37,29/500 g
5403.3	1 kg	plastic	60,10 €
Original pack 6 x 1 kg			57,10/1 kg
5403.4	2,5 kg	plastic	131,70 €

Silica gel 250**Silica gel 250****0,04-0,063 mm (400-230 mesh)**

For column chromatography.

Silicic acid amorphous, Siliciumdioxide

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Appearance..... white powder
 Pore diameter..... ~250 Å
 Loss on drying (160 °C)..... ≤6 %
 SiO₂ content..... ≥99,3 %
 Pore volume (N₂)..... 1,60-1,95 ml/g
 Specific surface..... 280-355 m²/g
 pH value..... 6,0-8,0
 Particle-size distribution:
 d10..... <35 µm
 d50..... <85 µm
 d90..... <120 µm

5405.1	250 g	plastic	45,05 €
5405.2	500 g	plastic	85,90 €
Original pack 6 x 500 g			
5405.3	1 kg	plastic	163,95 €
Original pack 6 x 1 kg			
5405.4	2,5 kg	plastic	396,70 €

Silica gel 500**Silica gel 500****0,035-0,07 mm (400-220 mesh)**

For column chromatography.

Silicic acid amorphous, Siliciumdioxide

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Appearance..... white powder
 Pore diameter..... ~500 Å
 Loss on drying (160 °C)..... ≤6 %
 SiO₂ content..... ≥99,3 %
 Pore volume (N₂)..... ≥1,0 ml/g
 Specific surface..... 70-90 m²/g
 Particle-size distribution:
 d10..... <35 µm
 d50..... <85 µm
 d90..... <120 µm

5407.1	250 g	plastic	107,40 €
5407.2	500 g	plastic	203,20 €
Original pack 6 x 500 g			
5407.3	1 kg	plastic	353,70 €
Original pack 6 x 1 kg			
5407.4	2,5 kg	plastic	837,45 €

Silica gel 1000**Silica gel 1000****0,035-0,07 mm (400-220 mesh)**

For column chromatography.

Silicic acid amorphous, Siliciumdioxide

SiO₂

M 60,09 g/mol

[7631-86-9] • EC No. 231-545-4

Type analysis:

Appearance..... white powder
 Pore diameter..... ~1000 Å
 Loss on drying (160 °C)..... ≤6 %
 SiO₂ content..... ≥99,3 %
 Pore volume (N₂)..... ≥1,0 ml/g
 Specific surface..... 30-55 m²/g
 Particle-size distribution:
 d10..... <35 µm
 d50..... <85 µm
 d90..... <120 µm

5409.1	250 g	plastic	107,40 €
5409.2	500 g	plastic	203,20 €
Original pack 6 x 500 g			
5409.3	1 kg	plastic	353,70 €
Original pack 6 x 1 kg			
5409.4	2,5 kg	plastic	837,45 €

Silica gel industry grade**Silica gel industry grade****pearls, without indicator**

Universal drying agent, drying of buildings.

[1327-36-2]

Type analysis:

Appearance..... pearls, colourless to brown
 Particle size..... 1-2,3 mm
 BET-surface..... approx. 750 m²/g
 Adsorption capacity:
 10 % rel. humidity..... approx. 6 weight %
 80 % rel. humidity..... approx. 45 weight %
 Regeneration at 130-150 °C.

CN70.1	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			
CN70.2	5 kg	plastic	131,70 €
CN70.3	10 kg	plastic	239,75 €
CN70.4	25 kg	plastic	547,20 €

For further information, please see page 1586

Silica gel orange**Silica gel orange****2-5 mm, with colour indicator, pearls**

Drying agent, Drying pearls orange.

Colour change from orange to colourless.

Type analysis:

Particle size..... 2-5 mm
 BET-surface..... approx. 750 m²/g
 Adsorptive capacity:
 10 % rel. humidity..... approx. 6,5 weight %
 80 % rel. humidity..... approx. 42 weight %
 Filled under protective gas. Colour change from orange to colourless at approx. 6 weight-% load. Regeneration at 130 °C, approx. 4 hours.

P077.4	500 g	plastic	23,90 €
Original pack 6 x 500 g			
P077.1	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			
P077.2	2,5 kg	plastic	69,80 €
P077.3	10 kg	plastic	211,80 €

For further information, please see page 1585

Silica gel blue**Silica gel blue****2-4 mm, with colour indicator, pearls**

Drying agent, drying pearls blue

Colour change from blue to fuchsia.

[7631-86-9] • EC No. 231-545-4

Type analysis:

Particle size..... 2-4 mm
 Adsorption capacity:
 20 % rel. humidity..... approx. 8 %
 50 % rel. humidity..... approx. 20 %
 Filled under protective gas. Change in colour from blue to fuchsia.
 Regeneration at ~130 °C, approximately 4 hours.

2440.1	500 g	plastic	16,70 €
Original pack 6 x 500 g			
2440.2	1 kg	plastic	25,30 €
Original pack 6 x 1 kg			
2440.3	2,5 kg	plastic	50,45 €
2440.4	10 kg	plastic	169,35 €

For further information, please see page 1585

Silica gel orange desiccant sachet

► Desiccant sachet Silica gel orange
 see p. 1764

Silica gel whiteSiO₂

[7631-86-9] • EC No. 231-545-4

Silica gel white**0,5-1 mm, granules**

Drying agent

Type analysis:

Absorption capacity:

10 % rel. humidity. approx. 5 weight %

80 % rel. humidity. approx. 28 weight %

Regeneration at ~130 °C, approximately 4 hours.

9376.1	1 kg	plastic	30,65 €

Original pack 6 x 1 kg	29,12 / 1 kg

9376.2	5 kg	plastic	107,40 €

For further information, please see page 1586

Silica gel white**1-3 mm, granules**

Drying agent

Type analysis:

Absorption capacity:

10 % rel. humidity. approx. 6 weight %

80 % rel. humidity. approx. 32 weight %

Regeneration at ~130 °C, approximately 4 hours.

T858.1	1 kg	plastic	34,95 €

Original pack 6 x 1 kg	33,20 / 1 kg

T858.2	5 kg	plastic	113,45 €

Silica gel water resistant**Silica gel water resistant****2-5 mm, bead form**

Drying agent water resistant,

Drying pearls water resistant,

Drying pearls WS

[1327-36-2] • EC No. 215-475-1

WGK 1

Type analysis:

Particle size. 2-5 mm

BET-surface. ca. 650 m²/g

Absorption capacity:

10 % rel. humidity. approx. 4 %

80 % rel. humidity. approx. 42 %

Regeneration at 130-150 °C.

8109.1	500 g	plastic	25,70 €

Original pack 6 x 500 g	24,42 / 500 g

8109.2	1 kg	plastic	38,60 €

Original pack 6 x 1 kg	36,67 / 1 kg

8109.3	2,5 kg	plastic	70,85 €

8109.4	10 kg	plastic	207,40 €

Silica gel with colour indicator

► Silica gel blue see p. 2130

► Silica gel orange see p. 2130

Silica gel with humidity indicator

► Silica gel orange see p. 2130

► Silica gel blue see p. 2130

Silica gel without humidity indicator

► Silica gel white see p. 2131

► Silica gel industry grade see p. 2130

Silica sol**Silica sol****15 % in water**

D ~1,09

Type analysis:

pH value (25 °C). ~9,9

Viscosity (25 °C). ≤7 mPa s

Density (20 °C). 1,09

Protect from frost.

8025.1	1 l	plastic	24,20 €

Original pack 6 x 1 l	22,99 / 1 l

Siliceous earth

► Infusorial earth see p. 1900

Silicic acid**Silicic acid****for chromatography**

Acc. to Ramsey and Patterson.

Silicone dioxide

SiO₂

M 60,09 g/mol

[1343-98-2] • EC No. 215-683-2

Type analysis:Silicate (SiO₂). ≥99,0 %

Loss on ignition. ≤13 %

0201.1	250 g	plastic	19,05 €

0201.2	1 kg	plastic	51,50 €

Original pack 6 x 1 kg	48,93 / 1 kg

Silicon Standards► Silicon AAS Standard Solution
see p. 2169

► Silicon AAS Standard Solution see p. 2169

► Silicon ICP Standard Solution see p. 2177

► Silicon ICP Standard Solution see p. 2173

Silicon dioxide**Silicon dioxide****ROTI®METIC 99,998 % (4N8)**SiO₂

M 60,09 g/mol

D 2,2 • bp 2950 °C

mp 1713 °C

[60676-86-0] • EC No. 262-373-8

⚠ Warning H319-H335

Type analysis:

Assay (metals basis). 99,998 %

Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5738.1	5 g	plastic	39,25 €

5738.2	25 g	plastic	97,75 €

Silicon dioxide

► Silicic acid see p. 2131

Silicone anti-foaming emulsion**Silicone anti-foaming emulsion**Useful as anti-foaming agent in aqueous
solutions of surfactants. Consists of
polydimethyl siloxane 30 % and non-ionogen
additives. Chemically inert. Admixture
10-1000 ppm.

WGK 1

Type analysis:

Defoaming effect (30 sec.). ≤80 mmS

Solids after 30 min./120 °C. 42,0-46,5 %

0865.1	250 ml	plastic	24,65 €

0865.2	1 l	plastic	61,85 €

Original pack 6 x 1 l	58,76 / 1 l

Silicone oils

Thermal stability

In the presence of air, silicone oils M are stable up to 150 °C for a long time. If you impede the air supply they are even stable up to higher temperatures. If you stop the air supply totally, i.e. the oil is used in a closed system or in an inert atmosphere, e.g. in an atmosphere of nitrogen or carbon dioxide, the oils can be used up to peak temperatures of about 300 °C, but the viscosity will decrease continuously.

Solubility

All silicone oils M can be solved easily in aliphatic and aromatic hydrocarbons, higher alcohols, ether, ester and chlorinated hydrocarbons, e.g.

petroleum benzin	ethyl acetate
benzene	butyl acetate
toluene	carbon tetrachloride
ether	chloroform
butyl alcohol	trichloroethylene
amyl alcohol	tetrachloroethane

Silicon oils are not soluble in water, methanol and ethylene glycol. The solubility in organic solvents increases with decreasing viscosity. Therefore, in addition, silicone oils M 50 and M 100 are soluble in isopropanol and n-butanol and partially miscible with n-propanol. Silicone oils M with a viscosity below 20 mm² · s⁻¹ can be solved in n-propanol and also in acetone and dioxane. Silicone oils M with a viscosity of 10 mm² · s⁻¹ are even soluble in ethanol.

Lubricant and gliding properties

The lubrication properties of silicone oils M depend on the bearing material to a high degree. They give the best results with plastics, e.g. polyamides, polystyrene, phenol resins and with rubber. They are also suited as lubricants for some special combinations of metallic materials, e.g. steel combined with bronze, brass, chromium, zinc or cadmium, also chromium combined with bronze.

However there is no lubricity when you combine steel with steel in the range of the critical friction. In each case you have to decide whether the use of pure silicone oils M is to be taken into account. It is necessary to distinguish between the lubricity and the gliding properties of the oils. Silicone oils M are excellent gliding agents in many cases, e.g. in the treatment of special plastics and man-made fibres. This property is not due to the building up of a load-bearing lubrication film, but to the separation effect of the silicone oils M.

Surface tension

The surface tension of the silicone oils M is in the range of about 19-21 mN · s⁻¹, so it is extremely low. It increases only a little with viscosity of the oils.

Refractive index

The refractive index of silicone oils M increases from 1,3941 for M 3 to 1,4000 for M 20, and it is almost constant at 1,4042 for M 1000 and higher.

Density

At 25 °C the densities of silicone oils M range between 0,90 and 0,97. So they are not very different from the density of water. With increasing viscosity the densities of the oils increase too. They depend on temperature nearly linear: The values mentioned above were measured between -40 °C and 175 °C.

Chemical inertness

Generally silicone oils M are inert. They are stable in contact with water, organic solvents, pure oxygen and many other chemicals. In contact with most metals they will not be changed, and on the other hand they will not corrode metals, wood, paper and plastics. Strong oxidising agents like concentrated nitric acid or elemental chlorine decompose silicone oils M especially at higher temperatures.

Main properties of silicone oils:

- Heat and cold resistance
- Low setting point
- Low temperature and pressure dependency of viscosity
- Low steam pressure
- Good dielectric strength, little depending on temperature and frequency
- High interfacial tension to water and organic polymers
- High surface activity
- High compressibility
- Chemical and physiological inertness

Due to these properties silicone oils M are ideal as:

- Heat transfer agents
- Hydraulic fluids
- Fluid dielectrics
- Surface agents
- Separating agents
- Gliding agents
- Defoamer
- Auxiliary agents in varnishes
- Damping fluids

Silicone oil M-series

Polydimethyl siloxane
WGK 1

Silicone oil M 3

low viscous, 3 cSt

Type analysis:

Viscosity (25 °C)..... 2,7-3,3 mm²/s
Density (25 °C)..... 0,90-0,91
Pour point..... ~-100 °C
Flash point..... ~-62 °C
Combustion point..... ~-110 °C

4106.1	1 kg	plastic	32,80 €
Original pack 6 x 1 kg			31,16/1 kg
4106.2	5 kg	plastic	117,20 €
4106.3	25 kg	plastic	471,95 €

Silicone oil M 5

low viscous, 5 cSt

Type analysis:

Viscosity (25 °C)..... 4,5-5,5 mm²/s
Density (25 °C)..... 0,911-0,919
Pour point..... ~-100 °C
Flash point..... ~-120 °C
Combustion point..... ~-160 °C

7844.1	1 l	plastic	31,10 €
Original pack 6 x 1 l			29,55/1 l
7844.2	5 l	plastic	124,60 €
Original pack 2 x 5 l			118,37/5 l
7844.3	10 l	plastic	231,15 €
7844.4	25 l	plastic	471,95 €

Silicone oil M 10

low viscous, 10 cSt

Type analysis:

Viscosity (25 °C)..... 9,0-11,0 mm²/s
Density (25 °C)..... 0,931-0,939
Pour point..... ~-90 °C
Flash point..... ~-170 °C
Combustion point..... ~-230 °C

4113.1	1 kg	plastic	33,25 €
Original pack 6 x 1 kg			31,59/1 kg
4113.2	5 kg	plastic	126,85 €
4113.4	10 kg	plastic	231,15 €
4113.3	25 kg	plastic	525,70 €

Silicone oil M 20

low viscous, 20 cSt

Type analysis:

Viscosity (25 °C)..... 18-22 mm²/s
Density (25 °C)..... 0,95-0,96
Pour point..... ~-70 °C
Flash point..... ~-240 °C
Combustion point..... ~-290 °C

4010.1	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			34,25/1 kg
4010.3	5 kg	plastic	141,40 €
4010.4	10 kg	plastic	246,20 €
4010.2	25 kg	plastic	611,70 €

Silicone oil M 50

medium viscous, 50 cSt

Type analysis:

Viscosity (25 °C)..... 45-55 mm²/s
Density (25 °C)..... 0,96-0,97
Pour point..... ~-60 °C
Flash point..... ~-280 °C
Combustion point..... ~-350 °C

4020.1	1 kg	plastic	27,85 €
Original pack 6 x 1 kg			26,46/1 kg
4020.4	5 kg	plastic	99,45 €
4020.2	10 kg	plastic	184,40 €
4020.3	25 kg	plastic	424,65 €

Silicone oil M 100

medium viscous, 100 cSt

Type analysis:

Viscosity (25 °C)..... 95-105 mm²/s
Density (25 °C)..... 0,962-0,970
Pour point..... ~-50 °C
Flash point..... ~-300 °C
Combustion point..... ~-370 °C

4025.1	1 kg	plastic	27,85 €
Original pack 6 x 1 kg			26,46/1 kg
4025.2	5 kg	plastic	103,75 €
4025.3	10 kg	plastic	171,50 €
4025.4	25 kg	plastic	385,95 €

Silicone oil M 200

medium viscous, 200 cSt

Type analysis:

Viscosity (25 °C).....	190-210 mm ² /s
Pour point.....	~50 °C
Flash point.....	~310 °C
Combustion point.....	~370 °C

4030.1	1 kg	plastic	37,10 €
Original pack 6 x 1 kg			35,25/1 kg
4030.2	5 kg	plastic	149,45 €
4030.3	10 kg	plastic	273,05 €
4030.4	25 kg	plastic	643,95 €

Silicone oil M 350

medium viscous, 350 cSt

Type analysis:

Viscosity (25 °C).....	333-368 mm ² /s
Pour point.....	~50 °C
Flash point.....	~315 °C
Combustion point.....	~380 °C

4035.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
4035.2	5 kg	plastic	107,40 €
4035.4	10 kg	plastic	192,45 €
4035.3	25 kg	plastic	450,45 €

Silicone oil M 500

medium viscous, 500 cSt

Type analysis:

Viscosity (25 °C).....	475-525 mm ² /s
Density (25 °C).....	0,967-0,975
Pour point.....	~47 °C
Flash point.....	>300 °C
Combustion point.....	~380 °C

4040.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
4040.2	5 kg	plastic	107,40 €
4040.4	10 kg	plastic	192,45 €
4040.3	25 kg	plastic	450,45 €

Silicone oil M 1000

medium viscous, 1000 cSt

Type analysis:

Viscosity (25 °C).....	950-1050 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~50 °C
Flash point.....	~320 °C
Combustion point.....	~390 °C

4045.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
4045.4	5 kg	plastic	107,40 €
4045.3	10 kg	plastic	192,45 €
4045.2	25 kg	plastic	450,45 €

Silicone oil M 5000

high viscous, 5000 cSt

Type analysis:

Viscosity (25 °C).....	4705-5250 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~50 °C
Flash point.....	~320 °C
Combustion point.....	~390 °C

4050.1	1 kg	plastic	53,65 €
Original pack 6 x 1 kg			50,97/1 kg
4050.2	5 kg	plastic	213,95 €
4050.3	10 kg	plastic	321,45 €
4050.4	25 kg	plastic	686,95 €

Silicone oil M 10 000

high viscous, 10 000 cSt

Type analysis:

Viscosity (25 °C).....	9500-11000 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~50 °C
Flash point.....	~320 °C
Combustion point.....	~390 °C

4055.1	1 kg	plastic	42,50 €
Original pack 6 x 1 kg			40,38/1 kg
4055.2	5 kg	plastic	160,20 €
4055.4	10 kg	plastic	252,65 €
4055.3	25 kg	plastic	600,95 €

Silicone oil M 20 000

high viscous, 20 000 cSt

Type analysis:

Viscosity (25 °C).....	19000-21000 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~50 °C
Flash point.....	~320 °C
Combustion point.....	~390 °C

4060.1	1 kg	plastic	36,45 €
Original pack 6 x 1 kg			34,63/1 kg
4060.3	5 kg	plastic	142,45 €
4060.4	10 kg	plastic	246,20 €
4060.2	25 kg	plastic	590,20 €

Silicone oil M 60 000

high viscous, 60 000 cSt

Type analysis:

Viscosity (25 °C).....	~54000-66000 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~50 °C
Flash point.....	~320 °C
Combustion point.....	~390 °C

4080.1	1 kg	plastic	42,50 €
Original pack 6 x 1 kg			40,38/1 kg
4080.2	5 kg	plastic	160,20 €
4080.3	10 kg	plastic	252,65 €
4080.4	25 kg	plastic	600,95 €

Silicone oil M 100 000

high viscous, 100 000 cSt

Type analysis:

Viscosity (25 °C).....	95000-105000 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~50 °C
Flash point.....	~320 °C
Combustion point.....	~400 °C

4085.1	1 kg	plastic	53,65 €
Original pack 6 x 1 kg			50,97/1 kg
4085.3	5 kg	plastic	181,70 €
4085.2	10 kg	plastic	299,95 €
4085.4	25 kg	plastic	665,45 €

Silicone oil M 250 000

high viscous, 250 000 cSt

Type analysis:

Viscosity (25 °C).....	225000-275000 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~40 °C
Flash point.....	~320 °C
Combustion point.....	~400 °C

4112.1	1 kg	plastic	103,10 €
Original pack 6 x 1 kg			97,95/1 kg
4112.2	5 kg	plastic	439,70 €
4112.3	10 kg	plastic	848,20 €

Silicone oil M 500 000

super-high viscous, 500 000 cSt

Type analysis:

Viscosity (25 °C).....	~500000 mm ² /s
Density (25 °C).....	0,97-0,98
Pour point.....	~40 °C
Flash point.....	~320 °C
Combustion point.....	~400 °C

4109.1	1 kg	plastic	96,65 €
Original pack 6 x 1 kg			91,82/1 kg
4109.3	5 kg	plastic	407,45 €
4109.4	10 kg	plastic	762,20 €
4109.2	25 kg	plastic	1773,75 €

Silicone oil M 1 000 000

super-high viscous, 1 000 000 cSt

Type analysis:

Viscosity (25 °C).....	900000-1100000 mm ² /s
Density (25 °C).....	0,97-0,98 g/cm ³
Pour point.....	~40 °C
Flash point.....	~320 °C
Combustion point.....	~400 °C

9375.1	1 kg	plastic	85,90 €
Original pack 6 x 1 kg			81,61/1 kg
9375.2	5 kg	plastic	385,95 €
9375.3	10 kg	plastic	729,95 €
9375.4	25 kg	plastic	1666,25 €

Silicone oil M-series, pharma

Polydimethyl siloxane
WGK 1

Silicone oil MPH 100
medium viscous, pharma**Guarantee analysis:**

Appearance.....complies
Viscosity (25 °C).....95-105 mm²/s
Acid content (HCl).....≤0,0001 %
Volatile parts (1 g, 2 h, 150 °C).....≤0,3 %
Odour.....complies
IR-spectrum.....complies
UV-spectrum.....complies
Heavy metals (as Pb).....≤0,0005 %

6822.1	25 kg	plastic	643,95 €

Silicone oil MPH 350
medium viscous, pharma**Guarantee analysis:**

Appearance.....complies
Viscosity (25 °C).....333-368 mm²/s
Acid content (HCl).....≤0,0001 %
Volatile parts (1 g, 2 h, 150 °C).....≤0,3 %
Odour.....complies
IR-spectrum.....complies
UV-spectrum.....complies
Heavy metals (as Pb).....≤0,0005 %

6825.1	25 kg	plastic	643,95 €

Silicone oil MPH 1000
medium viscous, pharma**Guarantee analysis:**

Appearance.....complies
Viscosity (25 °C).....950-1050 mm²/s
Acid content (HCl).....≤1 ppm
Volatile parts (1 g, 2 h, 150 °C).....≤0,3 %
Odour.....complies
IR-spectrum.....complies
UV-spectrum.....complies
Heavy metals.....≤0,0005 %

2190.3	25 kg	plastic	643,95 €

Silicone oil, stabilised

Polydimethyl siloxane
WGK 1

Silicone oil M 3
stabilised, low viscous

4217.1	25 kg	plastic	794,45 €

Silicone oil M 5
stabilised, low viscous

A413.1	25 kg	plastic	815,95 €

Silicone oil M 20
stabilised, low viscous

2188.1	25 kg	plastic	848,20 €

Silicone oil M 50
stabilised, medium viscous

4212.2	5 kg	plastic	160,75 €

4212.1	25 kg	plastic	719,20 €

Silicone oil M 100
stabilised, medium viscous

A528.1	25 kg	plastic	665,45 €

Silicone oil, organofunctional**Silicone oil OF-OH 50**
organo functional
WGK 1**Type analysis:**

Viscosity (25 °C).....40-70 mm²/s
OH-Assay.....2,7-3,3 %
Water.....≤0,1 %

4076.1	25 kg	plastic	2096,25 €

Silicone oil, phenylsubstituted

Polymethyl phenyl siloxane
WGK 1

Silicone oil PN 200
medium viscous, 200 cSt**Type analysis:**

Viscosity (25 °C).....180-220 mm²/s
Density (25 °C).....~1,03
Pour point.....~65 °C
Flash point.....~300 °C
Combustion point.....~360 °C

4130.1	1 kg	plastic	113,85 €

Original pack 6 x 1 kg	108,16/1 kg

4130.2	5 kg	plastic	471,95 €

4130.3	25 kg	plastic	2031,75 €

Silicone oil PN 1000
medium viscous, 1000 cSt**Type analysis:**

Viscosity (25 °C).....925-1075 mm²/s
Density (25 °C).....~1,07
Flash point.....~285 °C
Combustion point.....~425 °C

6826.1	1 kg	plastic	113,85 €

Original pack 6 x 1 kg	108,16/1 kg

6826.2	5 kg	plastic	471,95 €

6826.3	25 kg	plastic	2031,75 €

Silicone oil No. 1-100

WGK 1

Silicone oil No. 1
~100 cSt

0870.1	250 ml	plastic	18,50 €

Silicone oil No. 3
~440 cSt

0871.1	250 ml	plastic	18,50 €

Silicone oil No. 5
~500 cSt

0872.1	250 ml	plastic	18,50 €

Silicone oil No. 10
~1000 cSt

0873.1	250 ml	plastic	18,50 €

Silicone oil No. 100
~10 000 cSt

0876.1	250 ml	plastic	21,00 €

Silicone oil DC

WGK 1
H412

Silicone oil DC 702
~45 cSt

0885.1	50 ml	glass	39,70 €

Silicone oil DC 710
~500 cSt

0899.1	100 ml	plastic	40,75 €

0899.2	1 l	plastic	249,95 €

Original pack 6 x 1 l	237,45/1 l

Silicone paste

Heat resistance

Silicone pastes are stable within temperature range of -50 to +200 °C without any considerable change in their consistency.

Chemical resistance

Silicone pastes are resistant to steam, sulphur dioxide, diluted acids and alkaline solutions. They are chemically indifferent to metals and different kinds of metals.

Application range:

- Laboratory techniques as an antiseize agent and lubricant for stopcocks, taper ground joints and regulating valves. Also suitable for sealing various glass apparatus.
- Apparatus engineering
- Electrotechnology

Silicone paste

bp >315 °C

flp >300 °C

WGK 1

Silicone paste

low viscous

Type analysis:

Appearance.....whitish/translucent
Decrease in weight (30 h/200 °C).....<3 %
Penetration (acc. to Klein).....300 ±30
Consistency (30 h/200 °C).....stable

5872.3	500 g	plastic	33,90 €
Original pack 6 x 500 g 32,21/500 g			
5872.1	1 kg	plastic	56,45 €
Original pack 6 x 1 kg 53,63/1 kg			
5872.2	5 kg	plastic	246,20 €

Silicone paste

medium viscous

Type analysis:

Appearance.....whitish/translucent
Decrease in weight (30 h/200 °C).....<3 %
Penetration (acc. to Klein).....270 ±30
Consistency (30 h/200 °C).....stable

5874.3	500 g	plastic	33,90 €
Original pack 6 x 500 g 32,21/500 g			
5874.1	1 kg	plastic	56,45 €
Original pack 6 x 1 kg 53,63/1 kg			
5874.2	5 kg	plastic	246,20 €

Silicone paste

high viscous

Type analysis:

Appearance.....whitish/translucent
Decrease in weight (30 h/200 °C).....<3 %
Penetration (acc. to Klein).....200 ±30
Consistency (30 h/200 °C).....stable

5876.3	500 g	plastic	33,90 €
Original pack 6 x 500 g 32,21/500 g			
5876.1	1 kg	plastic	56,45 €
Original pack 6 x 1 kg 53,63/1 kg			
5876.2	5 kg	plastic	246,20 €

Silicone stripping agent M

Silicone stripping agent M

Aerosol 400 ml

UN No. 1950 • ADR 2.1 • WGK 2

 **Danger**

H222-H229-H315-H336-H411

0895.1	400 ml	spray bottle	8,55 €

For further information, please see page 1101

Silicone stripping agent SPM

Silicone stripping agent SPM

WGK 1

1824.3	25 kg	plastic	1181,45 €

Silvan

► 2-Methylfuran see p. 1966

Silver

Ag

bp 2163 °C

mp 960 °C

[7440-22-4] • EC No. 231-131-3

Silver sheet

Sheet 100 x 100 x 0,1 mm

Weight per sheet ~10,5 g

Type analysis:

Assay.....≥99,9 %

8816.1	1 sheet	cardboard	67,20 €

Silver wire

wire, Ø 0,1 mm

Weight per meter ~0,082 g

Type analysis:

Assay.....≥99,9 %

Length (m).....310 m (~25 g)

Diameter.....0,1 mm

8819.1	310 m	plastic	138,70 €

Silver wire

wire, Ø 0,5 mm

Weight per meter ~2,062 g

Type analysis:

Assay.....≥99,9 %

Diameter.....0,5 mm

8821.1	25 g	plastic	128,50 €

8821.2	100 g	plastic	435,40 €

Silver wool

≥99,9 %, for elementary analysis

Type analysis:

Assay (arg.).....≥99,9 %

Diameter.....~45-55 µm

9373.1	10 g	plastic	62,25 €

Silver

► Sheets of silver see p. 2127

Silver Standards

► Silver AAS Standard Solution see p. 2169

► Silver ICP Standard Solution see p. 2173

► Silver ICP Standard Solution see p. 2177

Silver bromide

Silver bromide

ROTI®METIC 99,999 % (5N)

AgBr

M 187,78 g/mol

D 6,47 • bp 700 °C

mp 432 °C

Solubility: ~0,14 mg/l (H₂O, 50 °C)

[7785-23-1] • EC No. 232-076-8

Type analysis:

Assay (metals basis).....99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5739.1	5 g	plastic	55,80 €

5739.2	25 g	plastic	203,20 €

Silver chloride

AgCl

M 143,32 g/mol

D 5,56 • bp 1550 °C

mp 455 °C

Solubility: ~1,9 mg/l (H₂O, 25 °C)

[7783-90-6] • EC No. 232-033-3

UN No. 3077 • ADR 9 III • WGK 2

 **Warning** H400

Silver chloride

ROTI®METIC 99,9999 % (6N)

Type analysis:

Assay (metals basis).....99,9999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5302.1	1 g	plastic	42,50 €

5302.2	5 g	plastic	75,15 €

5302.3	25 g	plastic	299,95 €

Silver chloride

≥99 %

Type analysis:

Assay.....≥99 %

Assay (metals basis).....74,51-75,26 %

Water.....≤0,2 %

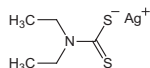
In NH₄OH insoluble matter.....≤0,1 %

6877.1	10 g	plastic	55,80 €

6877.2	25 g	plastic	99,90 €

6877.3	100 g	plastic	267,70 €

Silver diethyldithiocarbamate



Silver diethyldithiocarbamate

≥97 %, p.a.

Reagent for arsenic.

Diethyldithiocarbamic acid silver salt

C₅H₁₀AgNS₂

M 256,14 g/mol

mp 178-183 °C

[1470-61-7] • EC No. 216-003-7

WGK 3

Guarantee analysis:

Assay (titr.) ≥97,0 %
Solubility (0,5 % in pyridine) clearly soluble
Suitability for determination of arsenic. complies

KK25.1	5 g	glass	40,75 €
KK25.2	10 g	glass	72,60 €

Silver iodide

Silver iodide

≥99 %, extra pure

AgI

M 234,79 g/mol

mp 552 °C

[7783-96-2] • EC No. 232-038-0

UN No. 3077 • ADR 9 III • WGK 3

⚠ Warning H400-H410

Type analysis:

Appearance fine bright yellow powder
Assay ≥99,5 %
Chloride (Cl) ≤0,0002 %
Sulphate (SO₄) ≤0,005 %
Lead (Pb) ≤0,001 %
Iron (Fe) ≤0,0002 %
Copper (Cu) ≤0,005 %

6630.1	25 g	glass	76,90 €
6630.2	100 g	glass	246,20 €

Silver nitrate

AgNO₃

M 169,88 g/mol

D 4,35 • bp 290-440 °C (dec.)

mp 212 °C

Solubility: 2160 g/l (H₂O, 20 °C)

[7761-88-8] • EC No. 231-853-9

UN No. 1493 • ADR 5.1 II • WGK 3

⚠ ⚠ ⚠ Danger H272-H314-H400-H410

Silver nitrate

ROTI®METIC 99,9999 % (6N)

Type analysis:

Assay (metals basis) 99,9999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4500.1	10 g	plastic	66,55 €
4500.2	50 g	plastic	299,95 €

Silver nitrate

≥99,9 %, p.a., Ultra quality

Type analysis:

Appearance colorless to white cryst. powder
Assay ≥99,9 %
Water content ≤0,1 %
pH value (10 % in H₂O) 3,6-5,0
Nitrite (NO₂) ≤0,0002 %
Chloride (Cl) ≤0,001 %
Antimony (Sb) ≤0,00001 %
Bismuth (Bi) ≤0,00001 %
Cadmium (Cd) ≤0,00001 %
Calcium (Ca) ≤0,0005 %
Chromium (Cr) ≤0,00002 %
Copper (Cu) ≤0,00001 %
Gold (Au) ≤0,000001 %
Iridium (Ir) ≤0,0000005 %
Iron (Fe) ≤0,00004 %
Lead (Pb) ≤0,00002 %
Manganese (Mn) ≤0,00001 %
Nickel (Ni) ≤0,00002 %
Palladium (Pd) ≤0,000001 %
Platinum (Pt) ≤0,0000005 %
Potassium (K) ≤0,0005 %
Rhodium (Rh) ≤0,0000005 %
Ruthenium (Ru) ≤0,0000003 %
Selenium (Se) ≤0,00001 %
Sodium (Na) ≤0,0008 %
Sulphur (S) ≤0,0008 %
Tellur (Te) ≤0,00004 %
Tin (Sn) ≤0,00001 %
Zinc (Zn) ≤0,00001 %
Particle size >250 µm

6874.1	10 g	plastic	35,40 €
6874.2	50 g	plastic	134,40 €
6874.3	250 g	plastic	493,45 €

Silver nitrate

≥99,9 %, p.a.

For detection of halogenides. For volumetric solutions in argentometry. For protein staining. For molecular biology.

Guarantee analysis:

Assay ≥99,9 %
Water ≤0,1 %
Sulphate (SO₄) ≤0,002 %
Lead (Pb) ≤0,0001 %
Cadmium (Cd) ≤0,0001 %
Calcium (Ca) ≤0,0005 %
Iron (Fe) ≤0,0001 %
Potassium (K) ≤0,0005 %
Copper (Cu) ≤0,0001 %
Sodium (Na) ≤0,0005 %

7908.1	50 g	plastic	106,45 €
7908.2	250 g	plastic	439,70 €

Silver nitrate

≥99 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (titr.) 99,0-100,5 %
Identity complies
pH value (10 % in H₂O) 4,0-6,0
Appearance of solution complies
Acid or alkaline react. substances complies
Foreign salts ≤0,3 %
Al, Pb, Cu, Bi complies
Water content ≤0,1 %

9370.4	10 g	plastic	25,70 €
9370.1	50 g	plastic	90,20 €
9370.2	250 g	plastic	370,90 €
9370.3	1 kg	plastic	1396,45 €

Original pack 6 x 1 kg 1326,63/1 kg
For further information, please see page 1382

Silver nitrate

≥99,9 %, for staining of proteins, Protecolor®

Guarantee analysis:

Assay ≥99,9 %
Tested for protein gel staining.

6207.1	50 g	plastic	124,20 €

For further information, please see page 1146

Silver nitrate solution (5 %)

Silver nitrate solution

5 %

[7761-88-8] • EC No. 231-853-9

UN No. 1760 • ADR 8 III • WGK 3

⚠ ⚠ Warning H315-H319-H400-H410

N053.1	250 ml	plastic	36,80 €
N053.2	500 ml	plastic	57,55 €

Silver nitrate solution (0,01 N)

Silver nitrate solution

0,01 mol/l - 0,01 N volumetric standard solution

[7761-88-8] • EC No. 231-853-9

UN No. 1760 • ADR 8 III • WGK 3

⚠ ⚠ Danger H315-H318-H400-H410

Type analysis:

Amount-of-substance conc. (20 °C). 0,01 mol/l ±0,2 %
Titer 0,9980-1,0020

6838.1	250 ml	plastic	13,90 €
6838.2	500 ml	plastic	19,25 €
6838.3	1 l	plastic	27,85 €
Original pack 6 x 1 l			26,46/1 l
6838.4	2,5 l	plastic	55,80 €
Original pack 4 x 2,5 l			53,01/2,5 l

Silver nitrate solution (0,05 N)

Silver nitrate solution

0,05 mol/l - 0,05 N volumetric standard solution

[7761-88-8] • EC No. 231-853-9

UN No. 3082 • ADR 9 III • WGK 2

⚠ Warning H400-H410

Type analysis:

Amount-of-substance conc. (20 °C). 0,05 mol/l ±0,2 %
Titer 0,9980-1,0020

6835.1	250 ml	plastic	31,10 €
6835.2	500 ml	plastic	37,55 €
6835.3	1 l	plastic	52,60 €
Original pack 6 x 1 l			49,97/1 l
6835.4	2,5 l	plastic	96,65 €
Original pack 4 x 2,5 l			91,82/2,5 l

Silver nitrate solution (0,1 N)

Silver nitrate solution

0,1 mol/l - 0,1 N volumetric standard solution

AgNO₃

M 169,88 g/mol

D 1,005

[7761-88-8] • EC No. 231-853-9

UN No. 1760 • ADR 8 III • WGK 2

  **Warning** H315-H319-H400-H410

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

K713.2	250 ml	plastic	34,30 €

K713.4	500 ml	plastic	41,40 €

K713.1	1 l	plastic	69,35 €

Original pack 6 x 1 l 65,88/1 l

K713.3	2,5 l	plastic	107,40 €

Original pack 4 x 2,5 l 102,03/2,5 l

For further information, please see page 1546

Silver nitrate solution (0,1 N)

Silver nitrate solution

0,1 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.

AgNO₃

M 169,88 g/mol

UN No. 1760 • ADR 8 III • WGK 2

  **Warning** H315-H319-H410

Type analysis:

Amount-of-substance conc. 0,1 mol/l ±0,1 %

Titer. 0,999-1,001

9526.1	1 l	glass	77,30 €

Original pack 6 x 1 l 73,44/1 l

Silver nitrate solution (0,1 N)

Silver nitrate solution

ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

AgNO₃

M 169,88 g/mol

[7761-88-8] • EC No. 231-853-9

UN No. 1760 • ADR 8 II • WGK 3

  **Danger** H314-H290-H400-H410

Type analysis:

Amount-of-substance conc. (20 °C)....0,1 mol/l ±0,2 %

CN66.1	1 piece	plastic ampoule	54,30 €

For further information, please see page 1547

Silver nitrate solution (0,5 N)

Silver nitrate solution

0,5 mol/l - 0,5 N volumetric standard solution

[7761-88-8] • EC No. 231-853-9

UN No. 1760 • ADR 8 II • WGK 3

  **Danger** H314-H400-H410

Type analysis:

Amount-of-substance conc. (20 °C) ...0,5 mol/l ±0,2 %

Titer. 0,9980-1,0020

6839.1	250 ml	plastic	52,60 €

6839.2	500 ml	plastic	83,75 €

6839.3	1 l	plastic	133,85 €

Original pack 6 x 1 l 127,16/1 l

Silver nitrate solution (1 N)

Silver nitrate solution

1 mol/l - 1 N volumetric standard solution

AgNO₃

M 169,88 g/mol

[7761-88-8] • EC No. 231-853-9

UN No. 1760 • ADR 8 II • WGK 3

  **Danger** H314-H400-H410

Type analysis:

Amount-of-substance conc. (20 °C) 1 mol/l ±0,2 %

6841.1	250 ml	plastic	99,90 €

6841.2	500 ml	plastic	145,05 €

6841.3	1 l	plastic	276,85 €

Original pack 6 x 1 l 263,01/1 l

Silver nitrite

Silver nitrite

ROTI®METIC 99,99 % (4N)

AgNO₂

M 153,87 g/mol

D 4,453

mp 140 °C (dec.)

[7783-99-5] • EC No. 232-041-7

UN No. 2627 • ADR 5.1 II • WGK 3

  **Danger**

H272-H302-H315-H319-H400-H410

Type analysis:

Assay (metals basis) 99,99 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5065.1	10 g	plastic	149,45 €

5065.2	50 g	plastic	493,45 €

Silver oxide

Silver oxide

≥99 %, p.a.

Ag₂O

M 231,74 g/mol

D 7,2

mp 230 °C (dec.)

[20667-12-3] • EC No. 243-957-1

UN No. 3085 • ADR 5.1 (8) II • WGK 2

  **Danger** H272-H314-EUH044

Type analysis:

Assay (calculated on Ag) 99,0-101,0 %

Silver (Ag) 92,2-94,0 %

Copper (Cu)≤0,005 %

Iron (Fe)≤0,001 %

Aluminium (Al)≤0,001 %

Cadmium (Cd)≤0,001 %

Cobalt (Co)≤0,001 %

Chromium (Cr)≤0,001 %

Mercury (Hg)≤0,01 %

Iridium (Ir)≤0,01 %

Potassium (K)≤0,005 %

Magnesium (Mg)≤0,005 %

Manganese (Mn)≤0,001 %

Sodium (Na)≤0,01 %

Nickel (Ni)≤0,001 %

Osmium (Os)≤0,01 %

Lead (Pb)≤0,005 %

Palladium (Pd)≤0,01 %

Platinum (Pt)≤0,01 %

Rhodium (Rh)≤0,01 %

Ruthenium (Ru)≤0,01 %

Zinc (Zn)≤0,001 %

5309.1	10 g	glass	48,30 €

5309.2	50 g	glass	163,95 €

Silver staining

▶ Roti®-Black N see p. 2088

▶ Roti®-Black NSeq see p. 2088

▶ Roti®-Black P see p. 2088

Silver sulphate

Silver sulphate

≥99,5 %, p.a.

For COD analysis.

Ag₂SO₄

M 311,80 g/mol

D 5,45 • bp 1085 °C (dec.)

mp 655 °C • flp 27 °C

Solubility: 8 g/l (H₂O, 25 °C)

[10294-26-5] • EC No. 233-653-7

UN No. 1759 • ADR 8 III • WGK 3

 **Danger** H318

Guarantee analysis:

Assay≥99,5 %

Chloride (Cl)≤0,001 %

Nitrate (NO₃)≤0,001 %

Lead (Pb)≤0,001 %

Iron (Fe)≤0,001 %

Copper (Cu)≤0,0005 %

Nickel (Ni)≤0,001 %

Zinc (Zn)≤0,0005 %

Cadmium (Cd)≤0,002 %

Water insoluble AgCl≤0,02 %

6791.1	25 g	plastic	107,40 €

6791.2	100 g	plastic	381,65 €

Silver sulphate solution (10 g/l)

Silver sulphate solution

10 g/l in sulphuric acid, for determination of COD according to DIN 38409 H41-1

UN No. 1830 • ADR 8 II • WGK 2

⚠ **Danger** H314-H290

X870.1	1 l	glass	59,70 €
Original pack 6 x 1 l			56,72/1 l

For further information, please see page 1547

Silver sulphide

Silver sulphide

≥98 %

Ag₂S

M 247,80 g/mol

D 7,23

mp 845 °C

Solubility: insoluble (H₂O, 20 °C)

[21548-73-2] • EC No. 244-438-2 • WGK 2

Type analysis:

Assay (calculated on Ag) ≥98 %

5311.1	10 g	glass	153,20 €
5311.2	50 g	glass	622,45 €

Silvosol®

Silvosol®

removes silver nitrate and iodine stains

bp 100 °C

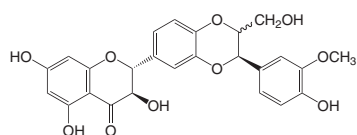
UN No. 3264 • ADR 8 III • WGK 2

⚠ **Warning** H351-H361d-H412

0047.1	250 ml	plastic	17,15 €
0047.2	1 l	plastic	34,35 €

For further information, please see page 1081

Silybin



C₂₅H₂₂O₁₀

M 482,43 g/mol

mp 167 °C

[22888-70-6] • EC No. 245-302-5 • WGK 3

Silybin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC) ≥95,0 %

Residual solvents (GC) ≤5,0 %

Water (KF) ≤5,0 %

Assay (qNMR) ≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE31.1	50 mg	glass	467,65 €

Silybin

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC) ≥85,0 %

Identity complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC31.1	100 mg	glass	167,60 €

Silybin

ROTICHROM® HPLC

Reference substance for HPLC

From *Sylbium marianum*. Diastereomere mixture of Silybin A and B.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC) >98 %

1215.1	50 mg	glass	375,20 €

Silybin

ROTICHROM® TLC

Reference substance for thin layer chromatography

Storage temp.: +4 °C

5578.1	100 mg	glass	56,45 €

Simmons Citrate Agar

Simmons Citrate Agar

ISO 10273, for microbiology

For differentiation of microorganisms on the basis of citrate utilization.

Application: Use 24,3 g for 1 l agar.

Koser Citrate Agar (modified)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

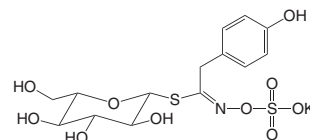
Sodium chloride 5 g/l
Sodium citrate 2 g/l
Ammonium dihydrogen phosphate 1 g/l
di-Potassium hydrogen phosphate 1 g/l
Magnesium sulphate 0,2 g/l
Bromothymol blue 0,08 g/l
Agar 15 g/l
pH value 6,9 ± 0,2

5774.1	500 g	plastic	114,50 €

Original pack 6 x 500 g 108,78/500 g

For further information, please see page 1342

Sinalbin potassium salt



Sinalbin potassium salt

ROTICHROM® HPLC

Reference substance for HPLC.

From *Sinapis alba*.

C₁₄H₁₈NO₁₀S₂K

M 463,52 g/mol

Storage temp.: +4 °C

[16411-05-5]

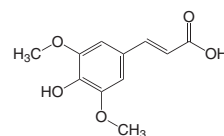
WGK 3

Type analysis:

Purity (HPLC) ≥97 %

6694.1	20 mg	glass	231,15 €

Sinapic acid



Sinapic acid

≥97 %

3,5-Dimethoxy-4-hydrocinnamic acid

C₁₁H₁₂O₅

M 224,22 g/mol

mp 203-205 °C (dec.)

[530-59-6] • EC No. 208-487-3

⚠ **Warning** H315-H319-H335

Type analysis:

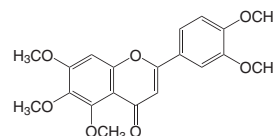
Appearance whitish to pale yellow powder

Assay (titr.) ≥97,0 %

5317.1	1 g	glass	67,65 €

5317.2	10 g	glass	536,45 €

Sinensetin



Sinensetin

ROTICHROM® HPLC

Reference substance for HPLC

3',4',5,6,7-Pentamethoxyflavone

C₂₀H₂₀O₇

M 372 g/mol

Storage temp.: +4 °C

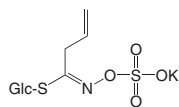
[2306-27-6]

Type analysis:

Purity (HPLC) ≥99 %

3497.2	10 mg	glass	321,45 €

Sinigrin monohydrate



Potassium myronate
 $C_{10}H_{16}NO_9S_2K \cdot H_2O$
 M 415,49 g/mol
 mp ~128 °C
 Storage temp.: +4 °C
 [3952-98-5] • EC No. 223-545-8

Sinigrin monohydrate

ROTICHROM® HPLC

Reference substance for HPLC
 From *Sinapis nigra*

Type analysis:

Purity (HPLC)..... ≥99 %

4542.2	50 mg	glass	299,95 €

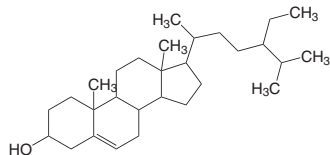
Sinigrin monohydrate

ROTICHROM® CHR

Reference substance for HPLC
 From *Sinapis nigra*

5319.1	250 mg	glass	86,55 €

β-Sitosterol



β-Sitosterol

≥80 % (HPLC)

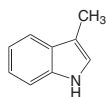
$C_{29}H_{50}O$
 M 414,72 g/mol
 mp 140 °C
 Storage temp.: +4 °C
 [83-46-5] • EC No. 201-480-6

Type analysis:

Appearance..... white to beige powder
 Assay (HPLC)..... ≥80 %
 Melting point..... 135-140 °C

A540.1	100 mg	glass	170,95 €

Skatole



Skatole

>99 %
 3-Methyl-indole
 C_9H_9N
 M 131,18 g/mol
 bp 265-266 °C
 mp 95 °C • flp 132 °C
 [83-34-1] • EC No. 201-471-7
 WGK 2

⚠ Warning H315-H319-H335

Type analysis:

Assay..... >99 %

4696.1	10 g	glass	75,15 €

Skimmed milk powder

▶ Powdered milk see p. 2064

Slaked lime

▶ Calcium hydroxide see p. 1707

Slanetz-Bartley Media

Storage temp.: +20 °C

WGK 1

⚠ Warning H302-H412

Slanetz-Bartley Agar

for microbiology

For detection and enumeration of faecal streptococci by membrane filtration method or by direct plating.

Application: Use 41,5 g for 1 l agar.

Formulation:

Tryptose.....	20 g/l
Yeast extract.....	5 g/l
Glucose.....	2 g/l
Dipotassium phosphate.....	4 g/l
Sodium azide.....	0,4 g/l
Tetrazolium chloride (TTC).....	0,1 g/l
Agar.....	10 g/l
pH value.....	7,2 ±0,1

X935.1	500 g	plastic	117,20 €

Original pack 6 x 500 g 111,34/500 g

For further information, please see page 1342

Slanetz-Bartley Medium (with tetrazolium chloride)

DEV, ISO 7899-2:2000, for microbiology

For detection and enumeration of intestinal enterococci from water samples.

Application: Use 41,5 g for 1 l agar. Sterilise by sterile filtration, do not autoclave.

Guarantee analysis:

Tryptose.....	20 g/l
Yeast extract.....	5 g/l
Glucose.....	2 g/l
di-Potassium hydrogen phosphate.....	4 g/l
Sodium azide.....	0,4 g/l
Tetrazolium chloride (TTC).....	0,1 g/l
Agar.....	10 g/l
pH value.....	7,2 ±0,1

CP68.1	500 g	plastic	117,20 €

Original pack 6 x 500 g 111,34/500 g

For further information, please see page 1342

SLs

▶ SDS see p. 2122

SMAC-Agar

▶ Sorbitol MacConkey Agar see p. 2164

SOB Broth

SOB Broth

for molecular biology

Application: Use 26,64 g for 1 l broth.

Storage temp.: +20 °C • WGK 1

Formulation:

Tryptone.....	20 g/l
Yeast extract.....	5 g/l
Magnesium chloride.....	0,96 g/l
Sodium chloride (NaCl).....	0,5 g/l
Potassium chloride (KCl).....	0,186 g/l
pH value.....	7,0 ±0,2

AE27.1	500 g	plastic	60,75 €

Original pack 6 x 500 g 57,71/500 g

For further information, please see page 1361

Soda

▶ Sodium carbonate see p. 2142

Soda lime

Soda lime

granulated, 2-4 mm, with indicator

Calcaria natronata

[1305-62-0] • EC No. 215-137-3 • WGK 1

⚠ ⚠ Danger H314-H335

Type analysis:

Granulation..... ~2-4 mm
 Bulk density..... ~900 g/l
 1 Litre absorbs more than 120 l CO₂.
 CO₂-absorption in rebreathing anesthesia systems with indicator, colour changes to blue. Mixture of calcium hydroxide with small amounts of NaOH and KOH.

8652.1	1 l	plastic	39,25 €

Original pack 6 x 1 l 37,29/1 l

8652.3	5 l	plastic	120,95 €

Original pack 2 x 5 l 114,90/5 l

Soda monohydrate

▶ Sodium carbonate monohydrate see p. 2142

Sodium**Sodium**

≥99 %, rods, in paraffin oil

Na

D 0,97 • bp 881 °C

mp 98 °C

[7440-23-5] • EC No. 231-132-9

UN No. 1428 • ADR 4.3 I • WGK 1

 **Danger** H260-H314-EUH014**Type analysis:**

Assay (Na)..... ≥99,0 %

4469.1	250 g	plastic	143,55 €

Sodium Standards

▶ Sodium AAS Standard Solution see p. 2169

▶ Sodium ICP Standard Solution see p. 2173

▶ Sodium ICP Standard Solution see p. 2177

▶ Sodium IC Standard Solution see p. 2181

Sodium acetateNaCH₃COO

M 82,03 g/mol

D 1,52 • bp >400 °C

mp 324 °C • flp >250 °C

Solubility: 365 g/l (H₂O, 20 °C)

[127-09-3] • EC No. 204-823-8

WGK 1

Sodium acetate**ROTI®METIC 99,99 % (4N), anhydrous****Type analysis:**

Assay (metals basis)..... 99,99 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5380.1	25 g	plastic	74,10 €

Sodium acetate

≥99 %, p.a., ACS, anhydrous

Dehydrating agent, for molecular biology

Guarantee analysis:

Assay (titr.)..... ≥99 %

pH value (5 % solution)..... 7,5-9,2

In H₂O insoluble matter..... ≤0,005 %

Chloride (Cl)..... ≤0,002 %

Sulphate (SO₄)..... ≤0,003 %Phosphate (PO₄)..... ≤0,001 %Ammonium (NH₄)..... ≤0,001 %

Aluminium (Al)..... ≤0,001 %

Arsenic (As)..... ≤0,0001 %

Lead (Pb)..... ≤0,0005 %

Cadmium (Cd)..... ≤0,0005 %

Calcium (Ca)..... ≤0,002 %

Iron (Fe)..... ≤0,0005 %

Potassium (K)..... ≤0,02 %

Cobalt (Co)..... ≤0,0005 %

Copper (Cu)..... ≤0,0005 %

Magnesium (Mg)..... ≤0,001 %

Nickel (Ni)..... ≤0,0005 %

Heavy metals (as Pb)..... ≤0,001 %

Zinc (Zn)..... ≤0,0005 %

Loss on drying (120 °C)..... ≤1,0 %

6773.1	250 g	plastic	22,80 €

6773.2	1 kg	plastic	59,70 €

Original pack 6 x 1 kg 56,72/1 kg

6773.3	2,5 kg	plastic	123,55 €

6773.5	25 kg	plastic	751,45 €

Sodium acetate

≥98,5 %, extra pure, anhydrous

Type analysis:

Assay (dry substance)..... ≥98,5 %

pH value (1 % solution)..... 8,0-9,5

Arsenic (As)..... ≤0,0003 %

Lead (Pb)..... ≤0,0005 %

Mercury (Hg)..... ≤0,0001 %

Loss on drying (120 °C/4 h)..... ≤2,0 %

Oxidizable impurities..... ≤0,1 %

X891.1	500 g	plastic	14,75 €

Original pack 6 x 500 g 14,01/500 g

X891.2	1 kg	plastic	22,05 €

Original pack 6 x 1 kg 20,95/1 kg

X891.3	2,5 kg	plastic	44,65 €

X891.5	25 kg	plastic	244,60 €

Sodium acetate trihydrateNaCH₃COO · 3 H₂O

M 136,08 g/mol

D 1,42

mp 58 °C

Solubility: 408 g/l (H₂O, 20 °C)

[6131-90-4] • EC No. 204-823-8

WGK 1

Sodium acetate trihydrate

≥99,5 %, p.a., ACS, ISO

For molecular biology, component of acetate

buffer; neutralization of mineral acids.

Neutral to potassium permanganate.

Guarantee analysis:

Assay (titr.)..... ≥99,5 %

pH value (5 % solution)..... 7,5-9,0

Appearance of solution (10 %, water)..... complies

In H₂O insoluble matter..... ≤0,005 %

Chloride (Cl)..... ≤0,0005 %

Sulphate (SO₄)..... ≤0,002 %Phosphate (PO₄)..... ≤0,0002 %

Total nitrogen (as N)..... ≤0,001 %

Aluminium (Al)..... ≤0,0005 %

Arsenic (As)..... ≤0,00005 %

Lead (Pb)..... ≤0,0005 %

Cadmium (Cd)..... ≤0,0005 %

Calcium (Ca)..... ≤0,001 %

Iron (Fe)..... ≤0,0003 %

Potassium (K)..... ≤0,005 %

Cobalt (Co)..... ≤0,0005 %

Copper (Cu)..... ≤0,0003 %

Magnesium (Mg)..... ≤0,0005 %

Nickel (Ni)..... ≤0,005 %

Heavy metals (as Pb)..... ≤0,0005 %

Zinc (Zn)..... ≤0,0005 %

Ca, Mg and Me₂O₃-precipitate..... ≤0,01 %KMnO₄ reducing matter (as HCOOH)..... ≤0,005 %

6779.2	500 g	plastic	17,10 €

Original pack 6 x 500 g 16,25/500 g

6779.1	1 kg	plastic	31,10 €

Original pack 6 x 1 kg 29,55/1 kg

6779.3	5 kg	plastic	94,50 €

6779.5	25 kg	plastic	353,70 €

Sodium acetate trihydrate≥99,5 %, **CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins..... ≤3,0 I.U./g

Assay (dry substance)..... ≥99,5 %

Appearance of solution..... complies

pH value (5 % solution)..... 7,5-9,0

In H₂O insoluble matter..... ≤0,005 %

Chloride (Cl)..... ≤0,005 %

Sulphate (SO₄)..... ≤0,005 %

Heavy metals (as Pb)..... ≤0,0005 %

Aluminium (Al)..... ≤0,00002 %

Arsenic (As)..... ≤0,0002 %

Lead (Pb)..... ≤0,0002 %

Iron (Fe)..... ≤0,0005 %

Mercury (Hg)..... ≤0,0001 %

HN05.1	500 g	plastic	20,35 €

Original pack 6 x 500 g 19,33/500 g

HN05.2	1 kg	plastic	33,25 €

Original pack 6 x 1 kg 31,59/1 kg

HN05.3	2,5 kg	plastic	61,85 €

Sodium acetate trihydrate

≥99 %, Ph.Eur., USP

Guarantee analysis:

Appearance..... colourless crystals

Assay (dry substance)..... 99,0-101,0 %

Identity..... complies

Insoluble in water..... ≤0,05 %

pH value (5 %). 7,5-9,0

Alkalinity..... complies

Chloride (Cl)..... ≤0,02 %

Sulphate (SO₄)..... ≤0,005 %

Arsenic (As)..... ≤0,0002 %

Calcium and Magnesium (as Ca)..... ≤0,005 %

Iron (Fe)..... ≤0,001 %

Potassium (K)..... complies

Heavy metals (as Pb)..... ≤0,001 %

Reducing substances..... complies

Loss on drying (130 °C)..... 39,0-40,5 %

3856.1	1 kg	plastic	16,05 €

Original pack 6 x 1 kg 15,25/1 kg

3856.2	5 kg	plastic	54,75 €

3856.5	25 kg	plastic	206,95 €

Sodium alginate

▶ Alginic acid sodium salt see p. 1622

Sodium ammonium hydrogen phosphate tetrahydrate**Sodium ammonium hydrogen phosphate tetrahydrate**

≥99 %, p.a.

Reagent for Mg; phosphorus salt bead

Ammonium sodium phosphate, sec-Sodium

ammonium phosphate

NaNH₄HPO₄ · 4 H₂O

M 209,07 g/mol

D 0,85

mp 79 °C

Solubility: 167 g/l (H₂O, 20 °C)

[7783-13-3] • EC No. 235-860-8

WGK 1

Guarantee analysis:

Assay (acidim.)..... ≥99,0 %

In NH₄OH insoluble matter..... ≤0,01 %

Chloride (Cl)..... ≤0,002 %

Sulphate (SO₄)..... ≤0,01 %

Nitrate (NO ₃)	.....	≤0,002 %
Arsenic (As)	.....	≤0,0001 %
Lead (Pb)	.....	≤0,001 %
Iron (Fe)	.....	≤0,001 %
Copper (Cu)	.....	≤0,001 %
Nickel (Ni)	.....	≤0,001 %

T882.1	500 g	plastic	60,10 €
Original pack 6 x 500 g			57,10/500 g
T882.2	1 kg	plastic	87,65 €
Original pack 6 x 1 kg			83,27/1 kg
T882.3	2,5 kg	plastic	197,30 €

sec. Sodium ammonium phosphate

► Sodium ammonium hydrogen phosphate tetrahydrate see p. 2140

Sodium L(+)-ascorbate

► L(+)-Ascorbic acid sodium salt see p. 1657

Sodium azide

NaN₃
M 65,01 g/mol
mp 275 °C (dec.)
Solubility: 420 g/l (H₂O, 17 °C)
[26628-22-8] • EC No. 247-852-1
UN No. 1687 • ADR 6.1 II • WGK 2
 **Danger**
H300+H310-H373-H410-EUH032

Sodium azide

≥99 %, p.a.

Guarantee analysis:

Appearance	.....	colourless to white fine cryst. powder
Assay (cerim.)	.....	≥99,0 %
Identity	.....	complies
In H ₂ O insoluble matter	.....	≤0,05 %
Chloride (Cl)	.....	≤0,005 %
Total sulphur (as SO ₄)	.....	≤0,005 %
Free alkali (as NaOH)	.....	≤0,2 %
Aluminium (Al)	.....	≤0,0005 %
Arsenic (As)	.....	≤0,00001 %
Barium (Ba)	.....	≤0,0005 %
Lead (Pb)	.....	≤0,0005 %
Bismuth (Bi)	.....	≤0,0005 %
Cadmium (Cd)	.....	≤0,0005 %
Calcium (Ca)	.....	≤0,005 %
Chromium (Cr)	.....	≤0,0005 %
Cobalt (Co)	.....	≤0,0005 %
Iron (Fe)	.....	≤0,0005 %
Potassium (K)	.....	≤0,005 %
Copper (Cu)	.....	≤0,0005 %
Lithium (Li)	.....	≤0,0005 %
Magnesium (Mg)	.....	≤0,001 %
Manganese (Mn)	.....	≤0,0005 %
Molybdenum (Mo)	.....	≤0,0005 %
Nickel (Ni)	.....	≤0,0005 %
Strontium (Sr)	.....	≤0,0005 %
Zinc (Zn)	.....	≤0,0005 %
Loss on drying	.....	≤0,2 %
pH value	.....	~10

K305.1	100 g	plastic	39,70 €

K305.2	250 g	plastic	70,85 €

K305.3	500 g	plastic	127,95 €

Original pack 6 x 500 g			121,55/500 g

K305.4	1 kg	plastic	196,20 €

Original pack 6 x 1 kg			186,39/1 kg

Sodium azide

≥98 %, for synthesis

Type analysis:

Assay (cerim.)	.....	≥98 %
Water insoluble residue	.....	≤0,1 %
Iron (Fe)	.....	≤0,001 %
pH value	.....	~10,0

4221.1	100 g	plastic	21,40 €

4221.2	500 g	plastic	68,30 €

Original pack 6 x 500 g			64,89/500 g

4221.3	1 kg	plastic	125,70 €

Original pack 6 x 1 kg			119,42/1 kg

4221.4	2,5 kg	plastic	299,95 €

Sodium benzoate

► Benzoic acid sodium salt see p. 1671

Sodium bicarbonate

► Sodium hydrogen carbonate see p. 2148

Sodium bicarbonate solution

► Roti[®]-CELL Bicarbonate solution see p. 2089

Sodium biphosphate

- Sodium dihydrogen phosphate see p. 2145
- Sodium dihydrogen phosphate monohydrate see p. 2145
- Sodium dihydrogen phosphate dihydrate see p. 2146

Sodium bismuthate

Sodium bismuthate

≥85 %, p.a.

Oxidation reagent, determination of manganese in iron and steel.

Sodium bismuth oxide

NaBiO₃

M 279,97 g/mol

Solubility: insoluble in water

[12232-99-4] • EC No. 235-455-6

WGK 1

 **Warning H302**

Guarantee analysis:

Assay (iodom.)	.....	≥85,0 %
Soluble Peroxides (as O)	.....	≤0,008 %
Chloride (Cl)	.....	≤0,002 %
Nitrate (NO ₃)	.....	≤0,004 %
Manganese (Mn)	.....	≤0,0005 %

4401.1	50 g	plastic	42,90 €

4401.2	100 g	plastic	79,05 €

4401.3	250 g	plastic	170,95 €

Sodium bismuth oxide

► Sodium bismuthate see p. 2141

Sodium bisulphate

► Sodium hydrogen sulphate see p. 2149

Sodium bisulphite solution

Sodium bisulphite solution

≥37 %, in water

Sodium hydrogen sulphite

NaHSO₃

M 104,06 g/mol

D 1,36 • bp 146 °C

[7631-90-5] • EC No. 231-548-0

WGK 1

 **Warning H302-EUH031**

Type analysis:

Assay (iodom.)	.....	37,0-42,2 %
Density (20 °C)	.....	1,310-1,380

2372.1	1 l	plastic	15,30 €

Original pack 6 x 1 l			14,54/1 l

2372.2	5 l	plastic	38,20 €

Original pack 2 x 5 l			36,29/5 l

Sodium borodeuteride

Sodium borodeuteride

98 Atom%D

For nuclear magnetic resonance spectroscopy.

NaBD₄

M 41,88 g/mol

mp >300 °C

[15681-89-7] • EC No. 239-764-7

UN No. 1426 • ADR 4.3 I • WGK 2

 **Danger H260-H301+H311-H314**

Guarantee analysis:

Deuterising degree		≥98 %

HN89.1	1 g	glass	51,10 €

Sodium borohydride

Sodium borohydride

≥97 %

Reducing agent

Sodium tetrahydroborate

NaBH₄

M 37,83 g/mol

D 1,074

mp >220 °C (dec.) • flp 250 °C

Solubility: 550 g/l (H₂O, 25 °C)

[16940-66-2] • EC No. 241-004-4

UN No. 1426 • ADR 4.3 I • WGK 2

 **Danger**

H260-H301+H311-H314-EUH014

Type analysis:

Appearance	.....	white, hygroscopic powder
Assay	.....	≥97 %

4051.1	25 g	tin	30,65 €

4051.2	100 g	tin	64,40 €

Sodium bromide

NaBr
M 102,9 g/mol
D ~3,2 • bp 1390 °C
mp 755 °C
Solubility: 905 g/l (H₂O, 20 °C)
[7647-15-6] • EC No. 231-599-9
WGK 1

Sodium bromide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5086.1	25 g	plastic	134,40 €

Sodium bromide

≥99 %, p.a., ACS

Guarantee analysis:

Assay (arg.)..... ≥99,0 %
In H₂O insoluble matter..... ≤0,005 %
pH value (5 % solution)..... 5,0-8,8
Bromate (BrO₃)..... ≤0,001 %
Chloride (Cl)..... ≤0,2 %
Sulphate (SO₄)..... ≤0,002 %
Heavy metals (as Pb)..... ≤0,0005 %
Barium (Ba)..... ≤0,002 %
Calcium (Ca)..... ≤0,002 %
Iron (Fe)..... ≤0,0005 %
Potassium (K)..... ≤0,1 %
Magnesium (Mg)..... ≤0,001 %

HN15.1	250 g	plastic	14,55 €

HN15.2	1 kg	plastic	36,05 €

Original pack 6 x 1 kg	34,25/1 kg

HN15.3	2,5 kg	plastic	73,85 €

Sodium 2-bromoethane-sulfonate

► 2-Bromoethanesulfonic acid sodium salt
see p. 1691

Sodium-1-butane sulphonate

► Butane-1-sulphonic acid sodium salt
see p. 1696

Sodium cacodylate

► Cacodylic acid sodium salt trihydrate
see p. 1702

Sodium dimethylarsonate

► Cacodylic acid sodium salt trihydrate
see p. 1702

Sodium carbonate

Anhydrous soda, Soda
Na₂CO₃
M 105,99 g/mol
D 2,53
mp 854 °C
Solubility: 220 g/l (H₂O, 20 °C)
[497-19-8] • EC No. 207-838-8
WGK 1

⚠ Warning H319

Sodium carbonate

ROTI®METIC 99,999 % (5N), anhydrous

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5740.1	5 g	plastic	40,75 €

5740.2	25 g	plastic	138,70 €

Sodium carbonate

≥99,5 %, p.a., ACS, anhydrous

Dissolving agent/soda extraction; molecular biology; glass industry.

Guarantee analysis:

Assay (acidim., dry substance)..... ≥99,5 %
In H₂O insoluble matter..... ≤0,005 %
Loss on drying (285 °C)..... ≤1,0 %
Total sulphur (as SO₄)..... ≤0,003 %
Total nitrogen (as N)..... ≤0,001 %
Chloride (Cl)..... ≤0,001 %
Phosphate (PO₄)..... ≤0,001 %
Silicate (SiO₂)..... ≤0,005 %
Heavy metals (as Pb)..... ≤0,0005 %
Aluminium (Al)..... ≤0,001 %
Calcium (Ca)..... ≤0,005 %
Potassium (K)..... ≤0,005 %
Arsenic (As)..... ≤0,0001 %
Copper (Cu)..... ≤0,0005 %
Iron (Fe)..... ≤0,0005 %
Lead (Pb)..... ≤0,0005 %
Magnesium (Mg)..... ≤0,002 %

A135.1	500 g	plastic	18,50 €

Original pack 6 x 500 g	17,58/500 g

A135.2	1 kg	plastic	32,15 €

Original pack 6 x 1 kg	30,54/1 kg

A135.3	5 kg	plastic	123,10 €

For further information, please see page 1542

Sodium carbonate

≥99,5 %, Ph.Eur., USP, BP, anhydrous

Guarantee analysis:

Assay (dry substance)..... 99,5-100,5 %
Appearance of solution..... complies
Identity..... complies
In H₂O insoluble matter..... ≤0,025 %
Loss on drying..... ≤0,5 %
Total nitrogen (as N)..... ≤0,005 %
Sulphate (SO₄)..... ≤0,025 %
Alkali hydroxide and alkali hydrogen carbonate..... complies

Volatile organic impurities..... complies
Chloride (Cl)..... ≤0,01 %
Phosphate (PO₄)..... ≤0,005 %
Arsenic (As)..... ≤0,0003 %
Lead (Pb)..... ≤0,001 %
Calcium (Ca)..... ≤0,01 %
Iron (Fe)..... ≤0,001 %
Potassium (K)..... ≤0,05 %
Magnesium (Mg)..... ≤0,01 %
Heavy metals (as Pb)..... ≤0,001 %

P028.1	500 g	plastic	14,20 €

Original pack 6 x 500 g	13,49/500 g

P028.2	1 kg	plastic	25,30 €

Original pack 6 x 1 kg	24,04/1 kg

P028.3	5 kg	plastic	84,40 €

P028.5	25 kg	plastic	299,95 €

Sodium carbonate

≥99 %, anhydrous

Type analysis:

Assay..... ≥99,0 %
Loss on drying..... ≤0,5 %
Sodium chloride (NaCl)..... ≤0,15 %
Ferric oxide (Fe₂O₃)..... ≤0,002 %

8563.1	1 kg	plastic	14,95 €

Original pack 6 x 1 kg	14,20/1 kg

8563.2	10 kg	plastic	55,80 €

8563.5	25 kg	plastic	105,90 €

Sodium carbonate monohydrate**Sodium carbonate monohydrate**

≥99,5 %, p.a., ACS

Soda monohydrate

Na₂CO₃ · H₂O

M 124,00 g/mol

D 2,25

mp 100 °C

Solubility: 210 g/l (H₂O, 20 °C)

[5968-11-6] • EC No. 207-838-8

WGK 1

⚠ Warning H319

Guarantee analysis:

Assay (acidim.)..... ≥99,5 %
In H₂O insoluble matter..... ≤0,01 %
Loss on drying (150 °C)..... 13,0-15,0 %
Total nitrogen (N)..... ≤0,001 %
Total sulphur (as SO₄)..... ≤0,004 %
Chloride (Cl)..... ≤0,001 %
Phosphate (PO₄)..... ≤0,0005 %
Silicate (SiO₂)..... ≤0,005 %
Substances precipitated by ammonia..... ≤0,01 %
Heavy metals (as Pb)..... ≤0,0005 %
Arsenic (As)..... ≤0,0001 %
Calcium (Ca)..... ≤0,03 %
Iron (Fe)..... ≤0,0005 %
Potassium (K)..... ≤0,005 %
Magnesium (Mg)..... ≤0,005 %

2597.1	100 g	plastic	15,60 €

2597.2	500 g	plastic	26,70 €

Original pack 6 x 500 g	25,37/500 g

Sodium carbonate decahydrate

Soda
 $\text{Na}_2\text{CO}_3 \cdot 10 \text{H}_2\text{O}$
 M 286,14 g/mol
 D 1,44
 mp 33 °C
 Solubility: 210 g/l (H_2O , 20 °C)
 [6132-02-1] • EC No. 207-838-8
 WGK 1

⚠ Warning H319

Sodium carbonate decahydrate

≥99 %, p.a., ISO

Guarantee analysis:

Assay (acidim.)	≥99 %
Chloride (Cl)	≤0,001 %
Phosphate (PO_4)	≤0,001 %
Silicate (SiO_2)	≤0,003 %
Total sulphur (as SO_4)	≤0,003 %
Total nitrogen (as N)	≤0,0005 %
Aluminium (Al)	≤0,0005 %
Lead (Pb)	≤0,0005 %
Calcium (Ca)	≤0,003 %
Iron (Fe)	≤0,0003 %
Potassium (K)	≤0,005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,0003 %
Heavy metals (as Pb)	≤0,0005 %

K303.2	500 g	plastic	19,60 €
Original pack 6 x 500 g			18,62/500 g
K303.1	1 kg	plastic	33,15 €
Original pack 6 x 1 kg			31,49/1 kg
K303.3	2,5 kg	plastic	68,30 €

Sodium carbonate decahydrate

≥99,5 %, Ph.Eur.

Guarantee analysis:

Appearance	colourless crystals
Assay	≥99,5 %
Assay (Na_2CO_3)	36,7-40,0 %
Identity	complies
Appearance of solution	complies
Alkali hydroxide and alkali bicarbonate	complies
Loss on drying	55-65 %
Heavy metals (as Pb)	≤0,001 %
Arsenic (As)	≤0,0002 %
Lead (Pb)	≤0,0002 %
Iron (Fe)	≤0,0002 %
Mercury (Hg)	≤0,0001 %
Chloride (Cl)	≤0,003 %
Sulphate (SO_4)	≤0,01 %

8566.3	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg
8566.1	2,5 kg	plastic	38,60 €
8566.2	10 kg	plastic	131,70 €

Sodium carbonate solution (0,1 N)**Sodium carbonate solution**

ROTI®VOLUM 0,05 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution

Na_2CO_3
 M 105,99 g/mol
 [497-19-8] • EC No. 207-838-8 • WGK 1

Type analysis:

Amount-of-substance conc. (20 °C) 0,05 mol/l ±0,2 %

CN68.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Sodium carboxymethylcellulose

► Carboxymethylcellulose sodium salt
 see p. 1716

Sodium-Casein**Sodium-Casein**

≥89 % lactoprotein

Casein-sodium

[9005-46-3]

Type analysis:

Appearance	off-white powder
Protein	≥89 %
Water	≤6 %
pH value	6,5-7,0
Ash	3,0-4,5 %
Fat	≤1,85 %

8569.2	500 g	plastic	25,30 €
Original pack 6 x 500 g			24,04/500 g
8569.1	1 kg	plastic	38,60 €
Original pack 6 x 1 kg			36,67/1 kg
8569.3	2,5 kg	plastic	84,85 €

Sodium chlorate**Sodium chlorate**

≥98 %, pure

NaClO_3

M 106,46 g/mol

D 2,49 • bp 300 °C (dec.) • mp 255 °C

Solubility: 916 g/l (H_2O , 20 °C)

[7775-09-9] • EC No. 231-887-4

UN No. 1495 • ADR 5.1 II • WGK 2

⚠ ⚠ ⚠ Danger H271-H302-H411

Type analysis:

Appearance	white, crystalline
Assay	≥98 %
Sodium chloride (NaCl)	≤0,1 %
In H_2O insoluble	≤0,005 %
Water	≤0,05 %
Calcium (Ca)	≤0,10 %
Potassium (K)	≤0,10 %
Chromium (Cr)	≤0,001 %
Iron (Fe)	≤0,001 %

8572.3	500 g	plastic	23,55 €
Original pack 6 x 500 g			22,37/500 g
8572.1	1 kg	plastic	28,50 €
Original pack 6 x 1 kg			27,08/1 kg
8572.2	5 kg	plastic	82,25 €

Sodium chloride

Common salt

NaCl

M 58,44 g/mol

D 2,17 • bp 1461 °C

mp 801 °C

Solubility: 358 g/l (H_2O , 20 °C)

[7647-14-5] • EC No. 231-598-3

WGK 1

Sodium chloride

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5741.1	5 g	plastic	34,30 €
5741.2	25 g	plastic	67,65 €
5741.3	100 g	plastic	235,45 €

Sodium chloride

≥99,5 %, p.a., ACS, ISO

For freezing mixtures; salting-out soap.

For molecular biology.

Guarantee analysis:

Assay (arg.)	≥99,5 %
Appearance of solution	complies
pH value (5 % in water)	5,0-8,0
In H_2O insoluble matter	≤0,005 %
Chlorate and nitrate (as NO_3)	≤0,003 %
Hexacyanoferrate (II) [$\text{Fe}(\text{CN})_6$]	≤0,0001 %
Total nitrogen (as N)	≤0,0005 %
Phosphate (PO_4)	≤0,0005 %
Sulphate (SO_4)	≤0,001 %
Bromide (Br)	≤0,005 %
Iodide (I)	≤0,001 %
Iodide (I)	complies
Aluminium (Al)	≤0,0002 %
Arsenic (As)	≤0,00004 %
Barium (Ba)	≤0,001 %
Barium (Ba)	complies
Calcium (Ca)	≤0,002 %
Iron (Fe)	≤0,0001 %
Potassium (K)	≤0,005 %
Copper (Cu)	≤0,0002 %
Magnesium (Mg)	≤0,001 %
Nickel (Ni)	≤0,001 %
Heavy metals (as Pb)	≤0,0005 %
Magnesium, alkaline-earth metals (as Ca)	≤0,001 %
Loss on drying	≤0,5 %

3957.3	500 g	plastic	15,30 €
Original pack 6 x 500 g			14,54/500 g
3957.1	1 kg	plastic	16,70 €
Original pack 6 x 1 kg			15,87/1 kg
3957.2	5 kg	plastic	60,75 €
3957.5	25 kg	plastic	181,70 €

Sodium chloride**≥99,8 %, CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤5 I.U./g
Assay (dry substance).....	≥99,8 %
Appearance of solution.....	complies
Loss on drying.....	≤0,1 %
Bromide (Br).....	≤0,005 %
Iodide (I).....	complies
Sulphate (SO ₄).....	≤0,02 %
Phosphate (PO ₄).....	≤0,002 %
Calcium, magnesium, alkaline-earth metals (as Ca).....	≤0,01 %
Heavy metals (as Pb).....	≤0,0005 %
Aluminium (Al).....	≤0,00002 %
Arsenic (As).....	≤0,0001 %
Iron (Fe).....	≤0,0002 %

HN00.1	500 g	plastic	17,75 €
Original pack 6 x 500 g			16,86/500 g
HN00.2	1 kg	plastic	23,90 €
Original pack 6 x 1 kg			22,71/1 kg
HN00.3	5 kg	plastic	79,45 €

Sodium chloride**≥99 %, Ph.Eur., USP****Guarantee analysis:**

Assay (dry substance).....	99,0-100,5 %
Chloride (Cl).....	complies
Sodium (Na).....	complies
Appearance of solution.....	complies
Loss on drying (105 °C).....	≤0,5 %
Acid or alkaline react. substances.....	complies
Bromide (Br).....	≤0,01 %
Iodide (I).....	complies
Hexacyanoferrate (II) [Fe(CN) ₆].....	complies
Phosphate (PO ₄).....	≤0,0025 %
Nitrite (NO ₂).....	complies
Sulphate (SO ₄).....	≤0,02 %
Calcium, magnesium, alkaline-earth metals (as Ca).....	≤0,01 %
Heavy metals (as Pb).....	≤0,0005 %
Aluminium (Al).....	≤0,00002 %
Barium (Ba).....	complies
Iron (Fe).....	≤0,0002 %
Arsenic (As).....	≤0,0001 %
Potassium (K).....	≤0,05 %

P029.1	500 g	plastic	10,65 €
Original pack 6 x 500 g			10,12/500 g
P029.2	1 kg	plastic	12,80 €
Original pack 6 x 1 kg			12,16/1 kg
P029.3	5 kg	plastic	39,25 €
P029.4	10 kg	plastic	66,15 €
P029.5	25 kg	plastic	123,65 €

Sodium chloride**≥99,8 %, extra fine****Type analysis:**

Assay (dry substance).....	≥99,8 %
Calcium (Ca).....	≤0,05 %
Magnesium (Mg).....	≤0,005 %
Stripping agent.....	≤0,005 %
Loss on drying (110 °C).....	≤0,15 %
Particle-size distribution:	
<63 µm.....	≤10 %
>355 µm.....	≤5 %

0962.1	1 kg	plastic	10,25 €
Original pack 6 x 1 kg			9,74/1 kg
0962.2	5 kg	plastic	28,50 €
0962.3	25 kg	plastic	101,60 €

Sodium chloride**>99,8 %****Type analysis:**

Assay.....	>99,8 %
Calcium (Ca).....	<0,01 %
Magnesium (Mg).....	<0,002 %
Stripping agent.....	<0,0015 %
Bulk density.....	1100-1300 kg/m ³

9265.1	1 kg	plastic	9,60 €
Original pack 6 x 1 kg			9,12/1 kg
9265.2	5 kg	plastic	26,35 €
9265.3	10 kg	plastic	48,95 €
9265.4	50 kg	card board	158,05 €

**Sodium chloride solution
(0,1 N)****Sodium chloride solution****ROTI®VOLUM 0,1 mol/l - 0,1 N**

Ampoule for preparation of 1000 ml volumetric solution.

NaCl

M 58,44 g/mol

[7647-14-5]

WGK 1

Type analysis:

Amount-of-substance conc. (20 °C)..... 0,1 mol/l ±0,2 %

CN67.1	1 piece	plastic am-poule	16,15 €

For further information, please see page 1547

Sodium chloride solution (1 N)**Sodium chloride solution****1 mol/l - 1 N volumetric standard solution**

WGK 1

Type analysis:Amount-of-substance conc. (20 °C)..... 1 mol/l ±0,2 %
Titer..... 0,998-1,002

8115.1	1 l	plastic	24,65 €
Original pack 6 x 1 l			23,42/1 l

Sodium chlorite**Sodium chlorite****~80 %**NaClO₂

M 90,44 g/mol

mp 180-200 °C (dec.)

Solubility: 572 g/l (H₂O, 20 °C)

[7758-19-2] • EC No. 231-836-6

UN No. 1496 • ADR 5.1 II • WGK 2

 **Danger**

H272-H314-H301-H310-H330-H400-EUH032

Type analysis:Appearance..... white powder
Assay..... ≥79,0 %

4352.1	250 g	plastic	16,70 €
4352.2	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			34,25/1 kg
4352.3	5 kg	plastic	144,60 €

Sodium cholate

► Cholic acid sodium salt see p. 1733

Mono sodium citrate**Mono sodium citrate****≥99 %, extra pure, anhydrous**

Citric acid monosodium salt

C₆H₇NaO₇

M 214,11 g/mol

mp ~210 °C

[18996-35-5] • EC No. 242-734-6

WGK 1

Type analysis:

Assay (dry substance).....	≥99 %
Appearance of solution.....	complies
pH value (10 % solution).....	3,4-3,8
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,015 %
Oxalate (as C ₂ H ₂ O ₄).....	≤0,03 %
Heavy metals (as Pb).....	≤0,001 %
Reaction with H ₂ SO ₄	complies
Loss on drying (120 °C).....	≤0,4 %

HN13.1	100 g	plastic	13,80 €

HN13.2	500 g	plastic	34,30 €

Original pack 6 x 500 g			32,59/500 g

HN13.3	1 kg	plastic	52,60 €

Original pack 6 x 1 kg			49,97/1 kg

For further information, please see page 1215

tri-Sodium citrate dihydrate

Citric acid trisodium salt dihydrate

C₆H₅Na₃O₇ · 2 H₂O

M 294,1 g/mol

D 1,76

Solubility: ~720 g/l (H₂O, 25 °C)

[6132-04-3] • EC No. 200-675-3

WGK 1

tri-Sodium citrate dihydrate**≥99 %, p.a., ACS**

Reagent for buffers; sequestering agent.

Guarantee analysis:

Assay (perchloric acidim).....	≥99,0 %
pH value (5 %, water).....	7,5-9,0
In H ₂ O insoluble matter.....	≤0,003 %
Chloride (Cl).....	≤0,003 %
Phosphate (PO ₄).....	≤0,005 %
Sulphate (SO ₄).....	≤0,005 %
Oxalate (as C ₂ H ₂ O ₄).....	≤0,01 %
Ammonium (NH ₄).....	≤0,001 %
Arsenic (As).....	≤0,00004 %
Lead (Pb).....	≤0,0005 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Nickel (Ni).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0005 %

3580.4	250 g	plastic	18,85 €

3580.3	500 g	plastic	24,65 €

Original pack 6 x 500 g			23,42/500 g

3580.1	1 kg	plastic	39,70 €

Original pack 6 x 1 kg			37,72/1 kg

3580.2	5 kg	plastic	170,95 €

3580.5	25 kg	plastic	407,45 €

tri-Sodium citrate dihydrate≥99 %, **CELLPURE®**

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins.....	≤6,0 E.U./g
Assay (dry substance).....	≥99 %
Appearance of solution.....	complies
Acidity or alkalinity.....	complies
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,015 %
Oxalate (as C ₂ H ₂ O ₄).....	≤0,03 %
Heavy metals (as Pb).....	≤0,001 %
Reaction with H ₂ SO ₄	complies

HN12.1	250 g	plastic	20,10 €
HN12.2	500 g	plastic	35,40 €
Original pack 6 x 500 g			33,63/500 g
HN12.3	1 kg	plastic	56,45 €
Original pack 6 x 1 kg			53,63/1 kg
HN12.4	2,5 kg	plastic	110,20 €

tri-Sodium citrate dihydrate≥99 %, **Ph.Eur.****Guarantee analysis:**

Appearance.....	white cryst. powder
Assay.....	99,0-100,5 %
Identity.....	complies
Appearance of solution.....	clear, colourless
Acidity or alkalinity.....	complies
Reaction with H ₂ SO ₄	complies
pH value (5 % solution).....	7,5-9,0
Water.....	11,0-13,0 %
Sulphate (SO ₄).....	≤0,01 %
Chloride (Cl).....	≤0,005 %
Oxalate (as C ₂ H ₂ O ₄).....	≤0,01 %
Arsenic (As).....	≤0,0001 %
Lead (Pb).....	≤0,00005 %
Mercury (Hg).....	≤0,00005 %
Heavy metals.....	≤0,0005 %

4088.3	500 g	plastic	12,70 €
Original pack 6 x 500 g			12,07/500 g
4088.1	1 kg	plastic	21,20 €
Original pack 6 x 1 kg			20,14/1 kg
4088.2	5 kg	plastic	81,20 €
4088.5	25 kg	plastic	224,70 €

Sodium cobalt nitrite

► Sodium hexanitrocobaltate(III) see p. 2147

Sodium cyclamate► Cyclohexane sulphamic acid sodium salt
see p. 1754**Sodium 1-decane sulphonate**► Decane-1-sulphonic acid sodium salt
see p. 1760**Sodium deoxycholate**

► Deoxycholic acid sodium salt see p. 1763

**Sodium deuterium oxide
30 % solution in D₂O****Sodium deuterium oxide
30 % solution in D₂O****99,5 Atom%D**

For nuclear magnetic resonance spectroscopy.

NaOD

D 1,462

[14014-06-3] • EC No. 237-825-2

UN No. 1824 • ADR 8 II • WGK 1

⚠ **Danger** H290-H314**Guarantee analysis:**

Deuterising degree.....	≥99,5 %
Assay (mass %).	≥30 %

HN90.1	10 ml	glass	52,15 €

Sodium diacetate**Sodium diacetate****extra pure**

Sodium hydrogen diacetate

C₄H₇NaO₄

M 142,09 g/mol

D 1,4

Solubility: 1000 g/l (H₂O, 20 °C)

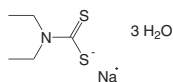
[126-96-5] • EC No. 204-814-9

WGK 1

⚠ **Danger** H318**Type analysis:**

Assay (CH ₃ COONa).....	58,0-60,0 %
Free acid (as CH ₃ COOH).....	39,0-41,0 %
pH value (10 %).	4,5-5,0
Arsenic (As).....	≤0,0005 %
Lead (Pb).....	≤0,0005 %
Mercury (Hg).....	≤0,0001 %
Water.....	≤2,0 %

9485.1	500 g	plastic	21,40 €
Original pack 6 x 500 g			20,33/500 g
9485.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
9485.3	2,5 kg	plastic	53,65 €

**Sodium diethyldithiocarbamate
trihydrate****Sodium diethyldithiocarbamate
trihydrate****p.a., ACS**

Reagent for copper

Diethyldithiocarbamic acid sodium salt,

Sodium diethyldithiocarbamate, Cupral, DDTC

C₆H₁₁NNaS₂ · 3 H₂O

M 225,31 g/mol

mp 95-99 °C

Solubility: 600 g/l (H₂O, 20 °C)

[20624-25-3] • EC No. 205-710-6

UN No. 3077 • ADR 9, III • WGK 2

⚠ **Warning** H302-H400**Guarantee analysis:**

Melting point.....	92-96 °C
Solubility in H ₂ O.....	complies
Sodium (as Na ₂ SO ₄).....	30,5-32,5 %
Suitability as reagent for copper.....	complies

2601.1	25 g	plastic	20,35 €

2601.2	100 g	plastic	36,05 €

2601.3	500 g	plastic	120,95 €

Original pack 6 x 500 g 114,90/500 g

Sodium dihydrogen phosphate**Sodium dihydrogen phosphate****ROTI®METIC 99,999 % (5N), anhydrous**

Sodium phosphate, monobasic; Sodium

biphosphate, Monosodium phosphate

NaH₂PO₄

M 119,98 g/mol

D 2,36

Solubility: 850 g/l (H₂O, 20 °C)

[7558-80-7] • WGK 1

Type analysis:

Assay (metals basis).....	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5075.1	25 g	plastic	138,70 €

**Sodium dihydrogen phosphate
monohydrate**Sodium phosphate, monobasic; Sodium
biphosphate, Monosodium phosphateNaH₂PO₄ · H₂O

M 137,99 g/mol

D 2,04

mp 100 °C

Solubility: 850 g/l (H₂O, 20 °C)

[10049-21-5] • EC No. 231-449-2 • WGK 1

**Sodium dihydrogen phosphate
monohydrate**≥98 %, **p.a., ACS**Molecular biology. For softening water. Additive
for galvanic baths.**Guarantee analysis:**

Assay (acidim.).....	98,0-102,0 %
pH value (5 % in water).....	4,1-4,5
Substances soluble in H ₂ O.....	≤0,01 %
Total nitrogen (as N).....	≤0,001 %
Chloride (Cl).....	≤0,0005 %
Sulphate (SO ₄).....	≤0,003 %
Arsenic (As).....	≤0,00005 %
Lead (Pb).....	≤0,0005 %
Cadmium (Cd).....	≤0,0005 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,0005 %
Potassium (K).....	≤0,005 %
Cobalt (Co).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Magnesium (Mg).....	≤0,005 %
Nickel (Ni).....	≤0,0005 %
Heavy metals (as Pb).....	≤0,0005 %

K300.1	500 g	plastic	24,55 €

Original pack 6 x 500 g 23,32/500 g

K300.2	1 kg	plastic	36,45 €

Original pack 6 x 1 kg 34,63/1 kg

K300.3	2,5 kg	plastic	74,10 €

K300.5	25 kg	plastic	514,95 €

Sodium dihydrogen phosphate monohydrate

≥98 %, USP, BP

Guarantee analysis:

Assay (acidim., dry substance)	98,0-100,5 %
Identity	complies
pH value (5 % solution)	4,2-4,5
Appearance of solution	clear, colourless
In H ₂ O insoluble matter	≤0,01 %
Loss on drying (130 °C)	11,5-14,5 %
Chloride (Cl)	≤0,014 %
Sulphate (SO ₄)	≤0,03 %
Al, Ca and related elements	complies
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %
Volatile organic impurities	complies
KMnO ₄ reducing substances (as O)	complies

T878.1	500 g	plastic	23,15 €
Original pack 6 x 500 g			21,99/500 g
T878.2	1 kg	plastic	35,40 €
Original pack 6 x 1 kg			33,63/1 kg
T878.3	2,5 kg	plastic	70,45 €

Sodium dihydrogen phosphate dihydrate

Sodium phosphate, monobasic; Sodium biphosphate, Monosodium phosphate

NaH₂PO₄ · 2 H₂O

M 156,01 g/mol

D 1,91

mp 60 °C

Solubility: 850 g/l (H₂O, 20 °C)

[13472-35-0] • EC No. 231-449-2

WGK 1

Sodium dihydrogen phosphate dihydrate

≥99 %, p.a.

For molecular biology

Guarantee analysis:

Assay (acidim.)	≥99,0 %
pH value (5 % solution)	4,2-4,5
In H ₂ O insoluble matter	≤0,005 %
Total nitrogen (as N)	≤0,001 %
Chloride (Cl)	≤0,0005 %
Sulphate (SO ₄)	≤0,003 %
Arsenic (As)	≤0,00005 %
Lead (Pb)	≤0,0002 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,0005 %
Copper (Cu)	≤0,0002 %
Magnesium (Mg)	≤0,005 %
Nickel (Ni)	≤0,001 %
Heavy metals (as Pb)	≤0,0005 %

T879.1	500 g	plastic	21,40 €
Original pack 6 x 500 g			20,33/500 g
T879.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
T879.3	2,5 kg	plastic	66,55 €
T879.5	25 kg	plastic	557,95 €

For further information, please see page 1542

Sodium dihydrogen phosphate dihydrate

≥98 %, Ph.Eur., USP

Guarantee analysis:

Assay	98,0-100,5 %
Identity	complies
Appearance of solution	complies
In H ₂ O insoluble matter	≤0,01 %
pH value (5 % in water)	4,2-4,5
Loss on drying (130 °C)	21,5-24,0 %
Chloride (Cl)	≤0,02 %
Sulphate (SO ₄)	≤0,03 %
Fluoride (F)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Mercury (Hg)	≤0,0001 %
Iron (Fe)	≤0,001 %
Na ₂ O	19,7-20,0 %
P ₂ O ₅	45,0-45,7 %
Reducing substances	complies
Al, Ca and related elements	complies

2370.3	500 g	plastic	15,30 €
Original pack 6 x 500 g			14,54/500 g
2370.1	1 kg	plastic	25,05 €
Original pack 6 x 1 kg			23,80/1 kg
2370.2	2,5 kg	plastic	47,20 €
2370.5	25 kg	plastic	346,70 €

Sodium diphenylamine-sulfonate

▶ Diphenylamine-4-sulphonic acid sodium salt see p. 1787

tetra-Sodium diphosphate decahydrate

tetra-Sodium pyrophosphate, TSPP

Na₄P₂O₇ · 10 H₂O

M 446,06 g/mol

D 1,82

Solubility: ~60 g/l (H₂O, 20 °C)

[13472-36-1] • EC No. 231-767-1

WGK 1

tetra-Sodium diphosphate decahydrate

≥99 %, p.a.

Guarantee analysis:

Assay (acidim.)	≥99,0 %
pH value (5 % solution)	9,5-10,7
In H ₂ O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,005 %
Nitrate (NO ₃)	≤0,003 %
Arsenic (As)	≤0,0003 %
Lead (Pb)	≤0,0005 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,01 %
Nickel (Ni)	≤0,0005 %

T883.1	500 g	plastic	27,75 €
Original pack 6 x 500 g			26,36/500 g
T883.2	1 kg	plastic	39,70 €
Original pack 6 x 1 kg			37,72/1 kg
T883.3	2,5 kg	plastic	71,50 €

tetra-Sodium diphosphate decahydrate

≥98 %, extra pure

Type analysis:

Assay (acidim., dry substance)	≥98,0 %
pH value (5 % solution)	9,5-10,8
In H ₂ O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,01 %
Sulphate (SO ₄)	≤0,05 %
Iron (Fe)	≤0,005 %
Heavy metals (as Pb)	≤0,005 %

0269.1	500 g	plastic	17,10 €
Original pack 6 x 500 g			16,25/500 g
0269.2	1 kg	plastic	24,95 €
Original pack 6 x 1 kg			23,70/1 kg
0269.3	2,5 kg	plastic	54,30 €
0269.5	25 kg	plastic	364,45 €

Sodium 1-dodecane sulphonate

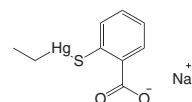
▶ Dodecane-1-sulphonic acid sodium salt see p. 1793

Sodium dodecyl sulphate

▶ SDS see p. 2122

Sodium EDTA solution

▶ EDTA disodium salt solution (0,1 N) see p. 1799

Sodium ethylmercuri-thiosalicylate**Sodium ethylmercuri-thiosalicylate**

≥97 %

Merthiolate, Thiomerosal, Thiomersalate

C₉H₉HgNaO₂S

M 404,82 g/mol

mp 232-233 °C (dec.)

Solubility: 1000 g/l (H₂O, 20 °C)

[54-64-8] • EC No. 200-210-4

UN No. 2025 • ADR 6.1 II • WGK 3

Danger

H300+H310+H330-H373-H400-H410

Type analysis:

Assay (dry substance)	≥97 %
Loss on drying	≤0,5 %
Mercury ions	≤0,7 %
Parts soluble in ether	≤0,8 %

6389.1	10 g	plastic	64,00 €
6389.2	50 g	plastic	241,90 €

Sodium fluoride

NaF

M 41,99 g/mol

D 2,78 • bp 1704 °C

mp 993 °C

Solubility: 42 g/l (H₂O, 20 °C)

[7681-49-4] • EC No. 231-667-8

UN No. 1690 • ADR 6.1 III • WGK 1

⚠ Danger H301-H315-H319-EUH032

Sodium fluoride

ROTI®METIC 99,995 % (4N5)

Type analysis:

Assay (metals basis)..... 99,995 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4503.1	10 g	plastic	50,45 €
4503.2	50 g	plastic	160,20 €

Sodium fluoride

≥99 %, p.a., ACS, ISO

Guarantee analysis:

Assay (compl.)..... ≥99,0 %
 In H₂O insoluble matter..... ≤0,005 %
 Loss on drying (150 °C)..... ≤0,2 %
 Acidity..... ≤0,025 meq/g
 Alkalinity..... ≤0,01 meq/g
 Sodium hexafluorosilicate (NaSiF₆)..... ≤0,1 %
 Chloride (Cl)..... ≤0,003 %
 Sulphate (SO₄)..... ≤0,01 %
 Sulphite (SO₃)..... ≤0,005 %
 Lead (Pb)..... ≤0,001 %
 Iron (Fe)..... ≤0,002 %
 Potassium (K)..... ≤0,01 %
 Copper (Cu)..... ≤0,0005 %
 Nickel (Ni)..... ≤0,003 %
 Heavy metals (as Pb)..... ≤0,001 %

P756.1	500 g	plastic	46,15 €
Original pack 6 x 500 g			43,84/500 g
P756.2	1 kg	plastic	83,35 €
Original pack 6 x 1 kg			79,18/1 kg
P756.3	2,5 kg	plastic	176,85 €

Sodium fluoride

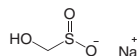
≥99 %, extra pure

Type analysis:

Assay (titr.)..... ≥99,0 %
 Free alkali (as NaOH)..... ≤0,1 %
 Sodium hexafluorosilicate (NaSiF₆)..... ≤0,02 %
 Chloride (Cl)..... ≤0,01 %
 Sulphate (SO₄)..... ≤0,02 %
 Heavy metals (as Pb)..... ≤0,001 %
 Arsenic (As)..... ≤0,00005 %
 Lead (Pb)..... ≤0,0001 %
 Iron (Fe)..... ≤0,0005 %
 Loss on drying (150 °C)..... ≤0,1 %

2618.1	500 g	plast.	23,15 €
Original pack 6 x 500 g			21,99/500 g
2618.2	1 kg	plast.	32,80 €
Original pack 6 x 1 kg			31,16/1 kg
2618.3	2,5 kg	plast.	55,40 €

Sodium formaldehyde sulphonylate dihydrate



Sodium formaldehyde sulphonylate dihydrate

>98 %, for synthesis

Rongalit®

CH₃NaO₃S · 2 H₂O

M 154,12 g/mol

[149-44-0] • EC No. 205-739-4

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay..... >98 %

4553.2	500 g	plastic	18,20 €
Original pack 6 x 500 g			17,29/500 g
4553.1	1 kg	plastic	26,80 €
Original pack 6 x 1 kg			25,46/1 kg

Sodium formate

Sodium formate

≥99 %, p.a., ACS

Precipitant for noble metals, extraction reagent for the determination of phosphate in soil samples.

Formic acid sodium salt

HCOONa

M 68,01 g/mol

mp 253 °C

Solubility: 550 g/l (H₂O, 20 °C)

[141-53-7] • EC No. 205-488-0

WGK 1

Guarantee analysis:

Assay (iodom.)..... ≥99,0 %
 pH value (5 % in H₂O)..... 7,0-8,5
 In H₂O insoluble matter..... ≤0,005 %
 Chloride (Cl)..... ≤0,001 %
 Oxalate (C₂O₄)..... ≤0,05 %
 Phosphate (PO₄)..... ≤0,002 %
 Sulphate (SO₄)..... ≤0,001 %
 Calcium (Ca)..... ≤0,005 %
 Iron (Fe)..... ≤0,0005 %
 Copper (Cu)..... ≤0,0005 %
 Heavy metals (as Pb)..... ≤0,0005 %

4404.1	250 g	plastic	24,20 €
4404.2	500 g	plastic	42,50 €
Original pack 6 x 500 g			40,38/500 g
4404.3	1 kg	plastic	73,00 €
Original pack 6 x 1 kg			69,35/1 kg

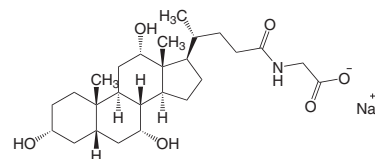
Sodium gluconate

▶ Gluconic acid sodium salt see p. 1853

Sodium glucuronate hydrate

▶ D-Glucuronic acid sodium salt monohydrate see p. 1856

Sodium glycocholate



Sodium glycocholate

≥98 %, for biochemistry

Glycocholic acid sodium salt

C₂₆H₄₂NO₆Na

M 487,62 g/mol

[863-57-0] • EC No. 212-730-9

WGK 1

Type analysis:

Assay (titr.)..... ≥98 %
 Solution (5 % in water)..... colourless to light yellowish, clear
 Water (KF)..... ≤10 %
 Specific rotation [α]_D²⁰ (c=2 in H₂O, dry substance)..... +26° to +30°

4181.1	250 mg	glass	34,95 €
4181.2	1 g	glass	107,40 €

Sodium 1-heptane sulphonate

▶ Heptane-1-sulphonic acid sodium salt see p. 1872

Sodium 1-hexane sulphonate

▶ Hexane-1-sulphonic acid sodium salt see p. 1877

Sodium hexanitrocobaltate(III)

Sodium hexanitrocobaltate(III)

p.a., ACS

Determination of potassium

Cobalt(III) sodium nitrite, Sodium cobaltnitrite

Na₃Co(NO₂)₆

M 403,94 g/mol

Solubility: 720 g/l (H₂O, 20 °C)

[13600-98-1] • EC No. 237-077-7

UN No. 1479 • ADR 5.1 III • WGK 2

⚠ ⚠ ⚠ Danger H272-H317-H351

Guarantee analysis:

In diluted acetic acid insoluble matter..... ≤0,02 %
 Suitability for determination of potassium..... complies

4409.1	25 g	plastic	17,75 €
4409.2	100 g	plastic	48,30 €
4409.3	250 g	plastic	99,90 €

Sodium hydrogen carbonate

Sodium bicarbonate
 NaHCO_3
 M 84,01 g/mol
 D 2,22
 mp 50 °C (dec.)
 Solubility: 95,5 g/l (H_2O , 20 °C)
 [144-55-8] • EC No. 205-633-8
 WGK 1

Sodium hydrogen carbonate

≥99,5 %, p.a., ACS, ISO

Neutralizing agent, buffer substance

Guarantee analysis:

Assay (acidim.)	≥99,5 %
In H_2O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,001 %
Phosphate (PO_4)	≤0,001 %
Silicate (SiO_2)	≤0,005 %
Total nitrogen (as N)	≤0,0005 %
Sulphur containing parts (as SO_4)	≤0,003 %
Iodine reducing substances (as I)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00004 %
Lead (Pb)	≤0,0005 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,005 %
Nickel (Ni)	≤0,0005 %

6885.2	500 g	plastic	14,20 €
Original pack 6 x 500 g			
6885.1	1 kg	plastic	21,75 €
Original pack 6 x 1 kg			
6885.3	5 kg	plastic	77,30 €
Original pack 6 x 5 kg			
6885.5	25 kg	plastic	321,45 €

Sodium hydrogen carbonate

≥99,5 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins	≤6 I.U./g
Assay	≥99,5 %
Appearance of solution	complies
Loss on drying	≤0,25 %
pH value (5 % solution)	≤8,6
Chloride (Cl)	≤0,01 %
Sulphate (SO_4)	≤0,015 %
Ammonium (NH_4)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Aluminium (Al)	≤0,0001 %
Arsenic (As)	≤0,0002 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %

HN01.1	500 g	plastic	14,20 €
Original pack 6 x 500 g			
HN01.2	1 kg	plastic	21,20 €
Original pack 6 x 1 kg			
HN01.3	5 kg	plastic	66,15 €

Sodium hydrogen carbonate

≥99 %, Ph.Eur., extra pure

Guarantee analysis:

Assay (titr.)	99,0-100,5 %
Identity	complies
pH value (5 %, water)	≤8,6
Appearance of solution	complies
Chloride (Cl)	≤0,015 %
Sulphate (SO_4)	≤0,015 %
Ammonium (NH_4)	≤0,002 %
Carbonate (CO_3)	complies
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,0005 %
Calcium (Ca)	≤0,01 %

8551.1	1 kg	plastic	17,10 €
Original pack 6 x 1 kg			
8551.2	5 kg	plastic	45,05 €
Original pack 6 x 5 kg			
8551.5	25 kg	plastic	131,15 €

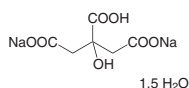
Sodium hydrogen carbonate

≥99 %

Type analysis:

Assay	≥99 %
Loss on drying	≤0,25 %
Arsenic (As)	≤0,0002 %
Calcium (Ca)	≤0,01 %
Iron (Fe)	≤0,0005 %

0965.1	500 g	plastic	10,55 €
Original pack 6 x 500 g			
0965.2	1 kg	plastic	14,75 €
Original pack 6 x 1 kg			
0965.3	5 kg	plastic	36,45 €

**di-Sodium hydrogen citrate
1,5-hydrate****di-Sodium hydrogen citrate
1,5-hydrate**

≥99 %, cryst.

$\text{C}_6\text{H}_6\text{Na}_2\text{O}_7 \cdot 1,5 \text{H}_2\text{O}$

M 263,11 g/mol

mp 149 °C (dec.)

[6132-05-4] • EC No. 205-623-3

WGK 1

Guarantee analysis:

Assay (dry substance)	≥99,0 %
pH value (1 % solution)	4,9-5,2
Water	≤13 %
Chloride (Cl)	≤0,05 %
Sulphate (SO_4)	≤0,15 %
Oxalate (as $\text{C}_2\text{H}_2\text{O}_4$)	≤0,01 %
Heavy metals (as Pb)	≤0,0020 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Mercury (Hg)	≤0,0001 %
Reaction with H_2SO_4	complies

2611.1	250 g	plastic	18,85 €
Original pack 6 x 250 g			
2611.2	500 g	plastic	24,20 €
Original pack 6 x 500 g			
2611.3	1 kg	plastic	38,60 €
Original pack 6 x 1 kg			

Sodium hydrogen diacetate

► Sodium diacetate see p. 2145

di-Sodium hydrogen phosphate

Sodium phosphate, dibasic; Sodium monohydrogen phosphate; di-Sodium orthophosphate, Sodium phosphate
 Na_2HPO_4

M 141,96 g/mol

mp 250 °C (dec.)

Solubility: 77 g/l (H_2O , 20 °C)

[7558-79-4]

WGK 1

di-Sodium hydrogen phosphate

≥99 %, p.a., ACS, anhydrous

Molecular biology ; Reagent for the detection of Mg, Li, Pb and uric acid.

Guarantee analysis:

Assay (acidim.)	≥99,0 %
pH value (5 % in water)	8,7-9,3
In H_2O insoluble matter	≤0,01 %
Loss on drying (105 °C)	≤0,2 %
Total nitrogen (as N)	≤0,002 %
Chloride (Cl)	≤0,002 %
Pyrophosphate (P_2O_7)	≤0,2 %
Sulphate (SO_4)	≤0,005 %
Arsenic (As)	≤0,0005 %
Lead (Pb)	≤0,001 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Cobalt (Co)	≤0,0005 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,01 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,001 %
Zinc (Zn)	≤0,0005 %

P030.1	500 g	plastic	28,95 €
Original pack 6 x 500 g			
P030.2	1 kg	plastic	46,15 €
Original pack 6 x 1 kg			
P030.3	2,5 kg	plastic	85,90 €

di-Sodium hydrogen phosphate

≥98 %, Ph.Eur., USP, anhydrous

Guarantee analysis:

Assay (acidim., dry substance)	98,0-100,5 %
Identity	complies
pH value (5 % solution)	8,7-9,4
In H_2O insoluble matter	≤0,025 %
Appearance of solution	complies
Loss on drying (105 °C)	≤1,0 %
Total nitrogen (as N)	≤0,003 %
Chloride (Cl)	≤0,005 %
Sulphate (SO_4)	≤0,03 %
Arsenic (As)	≤0,0001 %
Iron (Fe)	≤0,002 %
Heavy metals (as Pb)	≤0,001 %
Sodium dihydrogen phosphate	complies
KMnO_4 reducing substances (as O)	complies

T876.1	500 g	plastic	22,05 €
Original pack 6 x 500 g			
T876.2	1 kg	plastic	33,90 €
Original pack 6 x 1 kg			
T876.3	5 kg	plastic	132,80 €

di-Sodium hydrogen phosphate dihydrate

Sodium phosphate, dibasic; Sodium monohydrogen phosphate; di-Sodium orthophosphate, Sodium phosphate

$\text{Na}_2\text{HPO}_4 \cdot 2 \text{H}_2\text{O}$

M 177,99 g/mol

D 2,1

mp 92,5 °C

Solubility: 93 g/l (H_2O , 20 °C)

[10028-24-7] • EC No. 231-448-7

WGK 1

di-Sodium hydrogen phosphate dihydrate

≥99,5 %, p.a.

Reagent for the preparation of phosphate buffers.

Guarantee analysis:

Assay (acidim.)	≥99,5 %
pH value (5 % solution)	9,0-9,2
In H_2O insoluble matter	≤0,01 %
Chloride (Cl)	≤0,001 %
Sulphate (SO_4)	≤0,005 %
Total nitrogen (as N)	≤0,001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Chromium (Cr)	≤0,0005 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,005 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0003 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,001 %
Zinc (Zn)	≤0,0005 %

4984.2	500 g	plastic	24,20 €
Original pack 6 x 500 g			22,99/500 g
4984.1	1 kg	plastic	41,40 €
Original pack 6 x 1 kg			39,33/1 kg
4984.3	2,5 kg	plastic	88,05 €

di-Sodium hydrogen phosphate dihydrate

≥98 %, Ph.Eur., USP

Guarantee analysis:

Assay (acidim., dry substance)	98,0-101,0 %
Identity	complies
Appearance of solution	complies
In H_2O insoluble matter	≤0,4 %
Loss on drying (130 °C)	19,5-21,0 %
Sulphate (SO_4)	≤0,1 %
Chloride (Cl)	≤0,04 %
Arsenic (As)	≤0,0004 %
Iron (Fe)	≤0,004 %
Heavy metals (as Pb)	≤0,002 %
Sodium dihydrogen phosphate	complies
KMnO_4 reducing substances (as O)	complies

T877.2	500 g	plastic	21,20 €
Original pack 6 x 500 g			20,14/500 g
T877.1	1 kg	plastic	33,25 €
Original pack 6 x 1 kg			31,59/1 kg
T877.3	5 kg	plastic	138,70 €

di-Sodium hydrogen phosphate heptahydrate**di-Sodium hydrogen phosphate heptahydrate**

≥98 %, p.a., ACS

Sodium phosphate, dibasic; Sodium monohydrogen phosphate; di-Sodium orthophosphate, Sodium phosphate

$\text{Na}_2\text{HPO}_4 \cdot 7 \text{H}_2\text{O}$

M 268,03 g/mol

D ~1,68

mp 48 °C

Solubility: 154 g/l (H_2O , 20 °C)

[7782-85-6] • EC No. 231-448-7 • WGK 1

Guarantee analysis:

Assay (acidim.)	98,0-102,0 %
In H_2O insoluble matter	≤0,005 %
pH value (5 % solution)	8,7-9,3
Chloride (Cl)	≤0,001 %
Sulphate (SO_4)	≤0,005 %
Heavy metals (as Pb)	≤0,001 %
Iron (Fe)	≤0,001 %

X987.1	500 g	plastic	20,35 €
Original pack 6 x 500 g			19,33/500 g
X987.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
X987.3	2,5 kg	plastic	64,00 €

di-Sodium hydrogen phosphate dodecahydrate

Sodium phosphate, dibasic; Sodium monohydrogen phosphate; di-Sodium orthophosphate, Sodium phosphate

$\text{Na}_2\text{HPO}_4 \cdot 12 \text{H}_2\text{O}$

M 358,14 g/mol

D 1,52

mp 35 °C

Solubility: 218 g/l (H_2O , 20 °C)

[10039-32-4] • EC No. 231-448-7 • WGK 1

di-Sodium hydrogen phosphate dodecahydrate

≥99 %, p.a., ISO

Buffer substance

Guarantee analysis:

Assay (acidim.)	99,0-102,0 %
In H_2O insoluble matter	≤0,005 %
Nitrogen compounds (as N)	≤0,001 %
Chloride (Cl)	≤0,0005 %
Sulphate (SO_4)	≤0,005 %
Arsenic (As)	≤0,00005 %
Lead (Pb)	≤0,0005 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,001 %
Chloride (Cl)	≤0,0005 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,01 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

T106.1	500 g	plastic	19,25 €
Original pack 6 x 500 g			18,29/500 g
T106.2	1 kg	plastic	31,95 €
Original pack 6 x 1 kg			30,35/1 kg
T106.3	2,5 kg	plastic	67,20 €

di-Sodium hydrogen phosphate dodecahydrate

≥98 %, Ph.Eur., USP

Type analysis:

Assay (acidim.)	98,0-100,5 %
Identity	complies
Appearance of solution	complies
In H_2O insoluble matter	≤0,4 %
Loss on drying (130 °C)	57- 61 %
Sodium dihydrogen phosphate	complies
Sulphate (SO_4)	≤0,05 %
Chloride (Cl)	≤0,02 %
Heavy metals (as Pb)	≤0,001 %
Arsenic (As)	≤0,0002 %
Iron (Fe)	≤0,002 %
KMnO_4 red. matter	complies

N350.1	1 kg	plastic	22,50 €
Original pack 6 x 1 kg			21,38/1 kg
N350.2	5 kg	plastic	76,25 €
N350.5	25 kg	plastic	252,65 €

Sodium hydrogen sulphate**Sodium hydrogen sulphate**

≥93 %, pearls

Sodium bisulphate

NaHSO_4

mp >315 °C (dec.)

[7681-38-1] • EC No. 231-665-7

WGK 1

⚠ Danger H318

Type analysis:

Appearance	white to light yellow pearls
Assay (titr.)	≥93 %
Water	≤0,2 %
Iron (Fe)	≤0,015 %

2373.1	1 kg	plastic	16,70 €
Original pack 6 x 1 kg			15,87/1 kg
2373.2	5 kg	plastic	36,05 €

Sodium hydrogen sulphite solution

▶ Sodium bisulphite solution see p. 2141

Sodium hydroxide

NaOH

M 40,0 g/mol

D 2,13 • bp 1390 °C

mp 323 °C

Solubility: 1090 g/l (H₂O, 20 °C)

[1310-73-2] • EC No. 215-185-5

UN No. 1823 • ADR 8 II • WGK 1

 **Danger** H290-H314**Sodium hydroxide****≥99 %, p.a., ISO, in pellets**

Reagent for the preparation of sodium hydroxide solution.

Guarantee analysis:

Assay (acidim.)	≥99 %
Carbonate (as Na ₂ CO ₃)	≤1 %
Total nitrogen (as N)	≤0,0003 %
Chloride (Cl)	≤0,0005 %
Sulphate (SO ₄)	≤0,0005 %
Phosphate (PO ₄)	≤0,0005 %
Silicate (SiO ₂)	≤0,001 %
Heavy metals (as Pb)	≤0,0005 %
Aluminium (Al)	≤0,0005 %
Calcium (Ca)	≤0,0005 %
Iron (Fe)	≤0,0005 %
Magnesium (Mg)	≤0,0005 %
Potassium (K)	≤0,05 %
Copper (Cu)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Lead (Pb)	≤0,0005 %
Arsenic (As)	≤0,0001 %
Zinc (Zn)	≤0,001 %

6771.3	500 g	plastic	16,05 €
Original pack 6 x 500 g			
6771.1	1 kg	plastic	23,90 €
Original pack 6 x 1 kg			
6771.2	5 kg	plastic	85,90 €
Original pack 6 x 5 kg			
6771.5	25 kg	plastic	260,15 €

Sodium hydroxide**≥98 %, Ph.Eur., USP, BP, in pellets****Guarantee analysis:**

Assay (acidim.)	98,0-100,5 %
Identity	complies
Appearance of solution	complies
Carbonate (as Na ₂ CO ₃)	≤1,0 %
Total nitrogen (as N)	≤0,002 %
Chloride (Cl)	≤0,005 %
Phosphate (PO ₄)	≤0,002 %
Sulphate (SO ₄)	≤0,005 %
Iron (Fe)	≤0,001 %
Potassium (K)	complies
Heavy metals (as Pb)	≤0,001 %

P031.1	500 g	plastic	14,55 €
Original pack 6 x 500 g			
P031.2	1 kg	plastic	23,55 €
Original pack 6 x 1 kg			
P031.3	5 kg	plastic	85,50 €

Sodium hydroxide**≥99 %**

Pearls, Reagent for neutralization.

Type analysis:

Assay	≥99,0 %
Aluminium (Al)	≤0,0001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,00005 %
Cadmium (Cd)	≤0,00005 %
Calcium (Ca)	≤0,001 %
Chromium (Cr)	≤0,0002 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,00005 %
Nickel (Ni)	≤0,001 %
Mercury (Hg)	≤0,000001 %
Sodium carbonate (Na ₂ CO ₃)	≤0,4 %
Sodium chloride (NaCl)	≤0,02 %
Sodium sulphate (Na ₂ SO ₄)	≤0,02 %
Silicate (SiO ₂)	≤0,002 %

9356.1	1 kg	plastic	13,45 €
Original pack 6 x 1 kg			
9356.3	5 kg	plastic	33,90 €
Original pack 6 x 5 kg			
9356.2	10 kg	plastic	59,70 €
Original pack 6 x 10 kg			
9356.5	25 kg	plastic	104,85 €

Sodium hydroxide solution 50 %**Sodium hydroxide solution 50 %****50 %, extra pure**

Caustic soda lye

NaOH

M 40,01 g/mol

D 1,52

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Type analysis:**

Assay (NaOH)	49,0-51,0 %
Density (20 °C)	≥1,5160
Carbonate (CO ₃)	≤0,2 %
Chloride (Cl)	≤0,007 %
Iron (Fe)	≤0,0005 %

8655.1	1 l	plastic	17,45 €
Original pack 6 x 1 l			
8655.3	2,5 l	plastic	24,40 €
Original pack 4 x 2,5 l			
8655.4	5 l	plastic	36,45 €
Original pack 2 x 5 l			
8655.2	10 l	plastic	48,30 €
Original pack 2 x 10 l			
8655.5	25 l	plastic	96,25 €

Sodium hydroxide solution 45 %**Sodium hydroxide solution 45 %****45 %, extra pure**

Neutralization of acids, water treatment.

Caustic soda lye

NaOH

M 40,01 g/mol

D ~1,48

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Type analysis:**

Assay (NaOH)	44,0-46,0 %
Carbonate (CO ₃)	≤0,2 %
Chloride (Cl)	≤0,01 %
Iron (Fe)	≤0,001 %

0993.1	1 l	plastic	15,30 €
Original pack 6 x 1 l			
0993.2	2,5 l	plastic	22,05 €
Original pack 4 x 2,5 l			
0993.3	10 l	plastic	47,85 €
Original pack 2 x 10 l			
0993.4	25 l	plastic	95,60 €

Sodium hydroxide solution 40 %**Sodium hydroxide solution 40 %****40 %, extra pure**

Caustic soda lye

NaOH

M 40,01 g/mol

D ~1,43

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Type analysis:**

Assay	39,0-41,0 %
Density (20 °C)	1,4201-1,4397
Carbonate (CO ₃)	≤0,2 %
Chloride (Cl)	≤0,01 %
Iron (Fe)	≤0,001 %

4347.1	1 l	plastic	13,90 €
Original pack 6 x 1 l			
4347.2	2,5 l	plastic	21,40 €
Original pack 4 x 2,5 l			
4347.3	10 l	plastic	46,80 €
Original pack 2 x 10 l			
4347.4	25 l	plastic	94,10 €

**Sodium hydroxide
solution 32 %**

Caustic soda lye

NaOH

M 40,0 g/mol

D 1,35

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Sodium hydroxide
solution 32 %****ROTIPURAN® ≥32 %, p.a.**For determination of nitrogen acc. to Kjeldahl;
absorption of CO₂.**Guarantee analysis:**

Assay (acidim.)	≥32 %
Heavy metals (as Pb)	≤0,0005 %
Total nitrogen (as N)	≤0,0001 %
Chloride (Cl)	≤0,001 %
Sulphate (SO ₄)	≤0,0005 %
Phosphate (PO ₄)	≤0,0005 %
Silicate (SiO ₂)	≤0,001 %
Aluminium (Al)	≤0,0005 %
Carbonate (as Na ₂ CO ₃)	≤0,5 %
Iron (Fe)	≤0,0005 %

T196.1	1 l	plastic	26,80 €
Original pack 6 x 1 l			25,46/1 l
T196.2	2,5 l	plastic	51,50 €
Original pack 4 x 2,5 l			48,93/2,5 l
T196.3	5 l	plastic	81,60 €
Original pack 2 x 5 l			77,52/5 l

**Sodium hydroxide
solution 32 %****≥32 %, extra pure**

Neutralizing and disintegrating agent

Type analysis:

Assay (NaOH)	≥32 %
Density (20 °C)	1,339-1,366
Carbonate (CO ₃)	≤0,2 %
Chloride (Cl)	≤0,007 %
Iron (Fe)	≤0,0005 %

T197.1	1 l	plastic	13,80 €
Original pack 6 x 1 l			13,11/1 l
T197.2	2,5 l	plastic	21,20 €
Original pack 4 x 2,5 l			20,14/2,5 l
T197.4	5 l	plastic	31,10 €
Original pack 2 x 5 l			29,55/5 l
T197.3	10 l	plastic	44,65 €
T197.5	30 l	plastic	72,60 €

**Sodium hydroxide
solution 25 %****Sodium hydroxide
solution 25 %****25 %, extra pure**

Caustic soda lye

NaOH

M 40,01 g/mol

D ~1,27

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Type analysis:**

Assay	24,0-26,0 %
Density (20 °C)	1,2629-1,2848
Carbonate (CO ₃)	≤0,1 %
Chloride (Cl)	≤0,005 %
Iron (Fe)	≤0,0005 %

4351.1	1 l	plastic	13,45 €
Original pack 6 x 1 l			12,78/1 l
4351.2	2,5 l	plastic	21,30 €
Original pack 4 x 2,5 l			20,24/2,5 l
4351.3	10 l	plastic	44,65 €
4351.4	25 l	plastic	85,50 €

**Sodium hydroxide
solution 20 %****Sodium hydroxide
solution 20 %****20 %, extra pure**

Caustic soda lye

NaOH

M 40,01 g/mol

D ~1,22

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Type analysis:**

Assay	19,0-21,0 %
Density (20 °C)	1,208-1,231
Carbonate (CO ₃)	≤0,1 %
Chloride (Cl)	≤0,005 %
Iron (Fe)	≤0,0005 %

4357.1	1 l	plastic	12,80 €
Original pack 6 x 1 l			12,16/1 l
4357.2	2,5 l	plastic	20,35 €
Original pack 4 x 2,5 l			19,33/2,5 l
4357.3	10 l	plastic	42,90 €
4357.4	25 l	plastic	83,35 €

**Sodium hydroxide
solution 10 %****Sodium hydroxide
solution 10 %****10 %, extra pure**

Caustic soda lye

NaOH

M 40,01 g/mol

D ~1,11

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H314-H290**Type analysis:**

Assay	9,0-11,0 %
Density (20 °C)	1,0979-1,1199
Carbonate (CO ₃)	≤0,05 %
Chloride (Cl)	≤0,005 %
Iron (Fe)	≤0,0001 %

4358.1	1 l	plastic	12,60 €
Original pack 6 x 1 l			11,97/1 l
4358.2	2,5 l	plastic	18,85 €
Original pack 4 x 2,5 l			17,91/2,5 l
4358.3	10 l	plastic	37,45 €
4358.4	25 l	plastic	71,50 €

Sodium hydroxide solution 5 %**Sodium hydroxide solution 5 %****5 %, extra pure**

Caustic soda lye

NaOH

M 40,01 g/mol

D ~1,05

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger** H290-H314**Type analysis:**

Assay	4,5-5,5 %
Density (20 °C)	1,0483-1,0593
Carbonate (CO ₃)	≤0,05 %
Chloride (Cl)	≤0,001 %
Iron (Fe)	≤0,0001 %

4359.1	1 l	plastic	12,40 €
Original pack 6 x 1 l			11,78/1 l
4359.2	2,5 l	plastic	17,95 €
Original pack 4 x 2,5 l			17,05/2,5 l
4359.3	10 l	plastic	34,30 €
4359.4	25 l	plastic	63,35 €

Sodium hydroxide solution (0,01 N)**Sodium hydroxide solution**
0,01 mol/l - 0,01 N volumetric standard solution

EC No. 215-185-5

Type analysis:Amount-of-substance conc. (20 °C) ... 0,01 mol/l $\pm$ 0,2 %
Titer. 0,998-1,002

N073.1	1 l	plastic	18,20 €
Original pack 6 x 1 l			17,29/1 l

For further information, please see page 1547

Sodium hydroxide solution (0,1 N)**Sodium hydroxide solution**
0,1 mol/l - 0,1 N volumetric standard solution

EC No. 215-185-5

UN No. 1824 • ADR 8 III

 **Warning H290****Type analysis:**Amount-of-substance conc. (20 °C) ... 0,1 mol/l $\pm$ 0,2 %
Titer. 0,998-1,002

K020.1	1 l	plastic	17,55 €
Original pack 6 x 1 l			16,67/1 l
K020.2	5 l	plastic	52,15 €
Original pack 2 x 5 l			49,54/5 l
K020.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l			54,06/5 l
K020.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sodium hydroxide solution (0,1 N)**Sodium hydroxide solution**
0,1 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.

UN No. 1824 • ADR 8 III

 **Warning H290****Type analysis:**Amount-of-substance conc. 0,1 mol/l $\pm$ 0,1 %

6783.1	1 l	plastic	19,90 €
Original pack 6 x 1 l			18,91/1 l

Sodium hydroxide solution (0,1 N)**Sodium hydroxide solution**
ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

NaOH

M 40,0 g/mol

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger H314-H290****Type analysis:**Amount-of-substance conc. (20 °C) ... 0,1 mol/l $\pm$ 0,2 %

CN56.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Sodium hydroxide solution (0,2 N)**Sodium hydroxide solution**
0,2 mol/l - 0,2 N volumetric standard solution

EC No. 215-185-5

UN No. 1824 • ADR 8 III

 **Warning H290-H315-H319****Type analysis:**Amount-of-substance conc. (20 °C) ... 0,2 mol/l $\pm$ 0,2 %
Titer. 0,998-1,002

N074.1	1 l	plastic	18,20 €
Original pack 6 x 1 l			17,29/1 l
N074.2	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l			54,06/5 l
N074.3	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sodium hydroxide solution (0,25 N)**Sodium hydroxide solution**
0,25 mol/l - 0,25 N volumetric standard solution

UN No. 1824 • ADR 8 III

 **Warning H290-H315-H319****Type analysis:**Amount-of-substance conc. (20 °C) ... 0,25 mol/l $\pm$ 0,2 %
Titer. 0,998-1,002

P711.1	1 l	plastic	17,95 €
Original pack 6 x 1 l			17,05/1 l
P711.2	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l			54,06/5 l
P711.3	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sodium hydroxide solution (0,5 N)**Sodium hydroxide solution**
0,5 mol/l - 0,5 N volumetric standard solution

UN No. 1824 • ADR 8 III

 **Warning H290-H315-H319****Type analysis:**Amount-of-substance conc. (20 °C) ... 0,5 mol/l $\pm$ 0,2 %
Titer. 0,998-1,002

P710.1	1 l	plastic	17,75 €
Original pack 6 x 1 l			16,86/1 l
P710.2	5 l	plastic	52,15 €
Original pack 2 x 5 l			49,54/5 l
P710.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l			54,06/5 l
P710.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sodium hydroxide solution (0,5 N)**Sodium hydroxide solution****ROTI®VOLUM 0.5 mol/l - 0,5 N**

Ampoule for preparation of 1000 ml volumetric solution.

NaOH

M 40,0 g/mol

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger H314-H290****Type analysis:**Amount-of-substance conc. (20 °C) ... 0,5 mol/l $\pm$ 0,2 %

CN57.1	1 piece	plastic ampoule	17,75 €

For further information, please see page 1547

Sodium hydroxide solution (1 N)**Sodium hydroxide solution****1 mol/l - 1 N volumetric standard solution**

EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

 **Danger H314-H290****Type analysis:**Amount-of-substance conc. (20 °C) ... 1 mol/l $\pm$ 0,2 %
Titer. 0,998-1,002

K021.1	1 l	plastic	17,45 €
Original pack 6 x 1 l			16,58/1 l
K021.2	5 l	plastic	52,15 €
Original pack 2 x 5 l			49,54/5 l
K021.3	5 l	ROTI®CUBE	56,90 €
Original pack 2 x 5 l			54,06/5 l
K021.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sodium hydroxide solution (1 N)**Sodium hydroxide solution****1 mol/l - 1 N volumetric standard solution, Reag. Ph.Eur.**

UN No. 1824 • ADR 8 II • WGK 1

 **Danger H314-H290****Type analysis:**Amount-of-substance conc. 1 mol/l $\pm$ 0,1 %

6785.1	1 l	plastic	19,90 €
Original pack 6 x 1 l			18,91/1 l

Sodium hydroxide solution (1 N)

Sodium hydroxide solution

ROTI®VOLUM 1 mol/l - 1N

Ampoule for preparation of 1000 ml volumetric solution.

NaOH

M 40,0 g/mol

[1310-73-2] • EC No. 215-185-5

UN No. 1824 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %

CN58.1	1 piece	plastic ampoule	17,75 €

For further information, please see page 1547

Sodium hydroxide solution (2 N)

Sodium hydroxide solution

2 mol/l - 2 N volumetric standard solution

UN No. 1824 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....2 mol/l ±0,2 %

Titer. 0,998-1,002

T135.1	1 l	plastic	17,75 €
Original pack 6 x 1 l			16,86/1 l
T135.2	5 l	plastic	57,95 €
Original pack 2 x 5 l			55,05/5 l
T135.3	5 l	ROTI®CUBE	60,75 €
Original pack 2 x 5 l			57,71/5 l

For further information, please see page 1547

Sodium hydroxide solution (4 N)

Sodium hydroxide solution

4 mol/l - 4 N, volumetric standard solution

UN No. 1824 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....4 mol/l ±0,2 %

Titer. 0,998-1,002

T198.1	1 l	plastic	33,55 €
Original pack 6 x 1 l			31,87/1 l

For further information, please see page 1547

Sodium hydroxide solution (5 N)

Sodium hydroxide solution

5 mol/l - 5 N volumetric standard solution

UN No. 1824 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....5 mol/l ±0,2 %

Titer. 0,998-1,002

KK71.1	1 l	plastic	26,05 €
Original pack 6 x 1 l			24,75/1 l

For further information, please see page 1547

Sodium hypochlorite solution

NaClO + H₂O

M 74,45 + aq g/mol

D 1,22

mp ~-25 °C

[7681-52-9] • EC No. 231-668-3

UN No. 1791 • ADR 8 II • WGK 2

⚠ Danger H290-H314-H400-EUH031

Sodium hypochlorite solution

12 % Cl, techn.

Type analysis:

Assay (active Cl) 150-182 g/l (12,3-14,9 %)

Free alkali (as NaOH) ≤2,0 %

Daily loss of active chlorine in g/l: 5,6 g at 35 °C; 3,2 g at 30 °C; 2,0 g at 25 °C; 1,1 g at 20 °C

9062.3	1 l	plastic	16,45 €
Original pack 6 x 1 l			15,63/1 l
9062.4	2,5 l	plastic	24,75 €
Original pack 4 x 2,5 l			23,51/2,5 l
9062.1	10 l	plastic	32,80 €
9062.2	33 kg	plastic	79,05 €

Sodium hypochlorite solution

5-10 % Cl, techn.

Type analysis:

Assay (active Cl) 5-10 %

6846.1	1 l	plastic	12,40 €
Original pack 6 x 1 l			11,78/1 l
6846.2	2,5 l	plastic	17,10 €
Original pack 4 x 2,5 l			16,25/2,5 l
6846.3	10 l	plastic	25,30 €
6846.4	33 kg	plastic	48,95 €

Sodium iodate

Sodium iodate

≥99 %, p.a.

Oxidant

NaIO₃

M 197,89 g/mol

D ~4,28

Solubility: 81 g/l (H₂O, 20 °C)

[7681-55-2] • EC No. 231-672-5

UN No. 1479 • ADR 5.1 II • WGK 1

⚠ Danger H272

Guarantee analysis:

Assay (iodom.) ≥99,0 %

In H₂O insoluble matter. ≤0,005 %

Chloride, chlorate, bromide, bromate (as Cl) .. ≤0,02 %

Total nitrogen (N) ≤0,003 %

Iodate (I) ≤0,002 %

Sulphate (SO₄) ≤0,005 %

Lead (Pb) ≤0,0005 %

Iron (Fe) ≤0,001 %

Potassium (K) ≤0,02 %

Nickel (Ni) ≤0,0005 %

HN17.1	50 g	plastic	37,10 €
HN17.2	100 g	plastic	75,15 €

Sodium iodide

NaI

M 149,89 g/mol

D 3,667 • bp 1304 °C

mp 661 °C

Solubility: 1790 g/l (H₂O, 20 °C)

[7681-82-5] • EC No. 231-679-3

UN No. 3077 • ADR 9 III • WGK 1

⚠ Warning H400

Sodium iodide

≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (arg.) ≥99,5 %

pH value (5 % in water) 6,0-9,0

Chloride and bromide (as Cl) ≤0,01 %

In H₂O insoluble matter ≤0,005 %

Total nitrogen (as N) ≤0,002 %

Phosphate (PO₄) ≤0,001 %

Sulphate (SO₄) ≤0,0025 %

Iodate (IO₃) ≤0,0003 %

Arsenic (As) ≤0,0001 %

Aluminium (Al) ≤0,0005 %

Lead (Pb) ≤0,0001 %

Barium (Ba) ≤0,002 %

Potassium (K) ≤0,01 %

Nickel (Ni) ≤0,0005 %

Iron (Fe) ≤0,0005 %

Calcium (Ca) ≤0,001 %

Magnesium (Mg) ≤0,001 %

Heavy metals (as Pb) ≤0,0005 %

A134.3	100 g	plastic	79,05 €
A134.1	250 g	plastic	181,70 €
A134.2	1 kg	plastic	697,70 €
Original pack 6 x 1 kg			662,82/1 kg

Sodium iodide

≥99 %, Ph.Eur.

Guarantee analysis:

Appearance colourless crystals

Assay 99,0-100,5 %

Identity complies

Appearance of solution complies

Loss on drying (105 °C) ≤3,0 %

Alkaline reacting substances complies

Iodate (IO₃) complies

Sulphate (SO₄) ≤0,015 %

Thiosulphate complies

Iron (Fe) ≤0,002 %

Heavy metals ≤0,001 %

8783.1	250 g	plastic	62,90 €
8783.2	1 kg	plastic	209,65 €
Original pack 6 x 1 kg			199,17/1 kg
8783.3	2,5 kg	plastic	464,40 €

Sodium lauryl sulphate

► SDS see p. 2122

Sodium lignosulphonate

► Lignosulphonic acid sodium salt see p. 1931

Sodium metabisulphite

Sodium pyrosulphite

 $\text{Na}_2\text{S}_2\text{O}_5$

M 190,11 g/mol

D 2,36

mp 150 °C (dec.)

Solubility: 650 g/l (H_2O , 20 °C)

[7681-57-4] • EC No. 231-673-0

WGK 1

 **Danger** H318-H302-EUH031**Sodium metabisulphite**

≥97 %, p.a., ACS

Bleaching agent

Guarantee analysis:

Assay (iodom.)	≥97,0 %
In H_2O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,005 %
Phosphate (PO_4)	≤0,002 %
Thiosulphate	≤0,05 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,001 %
Iron (Fe)	≤0,001 %
Copper (Cu)	≤0,001 %
Nickel (Ni)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %

P755.1 500 g plastic 18,20 €

Original pack 6 x 500 g 17,29/500 g

P755.2 1 kg plastic 27,85 €

Original pack 6 x 1 kg 26,46/1 kg

P755.3 2,5 kg plastic 51,50 €**P755.4** 5 kg plastic 89,80 €**P755.5** 25 kg plastic 278,45 €**Sodium metabisulphite**

≥97 %, extra pure

Type analysis:

Assay	≥97 %
Sulphur dioxide (SO_2)	≥65 %

8554.1 1 kg plastic 17,75 €

Original pack 6 x 1 kg 16,86/1 kg

8554.2 5 kg plastic 49,35 €**8554.5** 25 kg plastic 120,95 €**Sodium meta periodate**

► Sodium periodate see p. 2156

Sodium metaphosphate**Sodium metaphosphate**

extra pure, acidic

Sodium polyphosphate

 $(\text{NaPO}_3)_n$ M (101,97)_n g/mol

mp ~550 °C

[68915-31-1] • EC No. 272-808-3

WGK 1

Type analysis:

P_2O_5	67,5-69,0 %
Na_2O	29,0-30,5 %
pH value (1 % solution)	5,4-5,9
Water (KF)	≤1,0 %

Fluoride (F)	≤0,001 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,0001 %
Iron (Fe)	≤0,01 %
Cadmium (Cd)	≤0,0001 %
Insoluble in water	≤0,01 %

4356.1 1 kg plastic 21,75 €

Original pack 6 x 1 kg 20,66/1 kg

4356.2 5 kg plastic 74,75 €**4356.5** 25 kg plastic 299,95 €**Sodium metasilicate pentahydrate****Sodium metasilicate pentahydrate**

pure

 $\text{Na}_2\text{SiO}_3 \cdot 5 \text{H}_2\text{O}$

M 212,16 g/mol

mp 72 °C

[10213-79-3] • EC No. 229-912-9

UN No. 3253 • ADR 8 III • WGK 1

 **Danger** H314-H335**Type analysis:**

pH value (1 % solution)	12,5 ±0,5
Na_2O	29,0 ±1,0 %
SiO_2	28,3 ±0,5 %
Water	43 ±1,0 %

7370.2 1 kg plastic 23,15 €

Original pack 6 x 1 kg 21,99/1 kg

7370.1 2,5 kg plastic 32,80 €**7370.3** 10 kg plastic 88,70 €**Sodium metatungstate**

► Sodium polytungstate hydrate see p. 2157

Sodium molybdate dihydrate**Sodium molybdate dihydrate**

≥99,5 %, p.a.

Reagent for alkaloids and for biochemical purposes.

 $\text{Na}_2\text{MoO}_4 \cdot 2 \text{H}_2\text{O}$

M 241,95 g/mol

D ~3,28

mp 100 °C (dec.)

Solubility: 650g/l (H_2O , 25 °C)

[10102-40-6] • EC No. 231-551-7

WGK 1

Guarantee analysis:

Assay	≥99,5 %
In H_2O insoluble matter	≤1 NTU
Chloride (Cl)	≤0,01 %
Sulphate (SO_4)	≤0,07 %
Heavy metals (as Pb)	≤0,01 %
Loss on drying (105 °C)	≤15,0 %

0274.1 50 g plastic 16,70 €**0274.2** 100 g plastic 24,20 €**0274.3** 250 g plastic 43,55 €**0274.4** 1 kg plastic 166,65 €

Original pack 6 x 1 kg 158,32/1 kg

Sodium monohydrogen phosphate

► di-Sodium hydrogen phosphate see p. 2148

► di-Sodium hydrogen phosphate dihydrate see p. 2149

► di-Sodium hydrogen phosphate heptahydrate see p. 2149

► di-Sodium hydrogen phosphate dodecahydrate see p. 2149

Sodium nitrate

Chile saltpeter

 NaNO_3

M 84,99 g/mol

D 2,26

mp 308 °C

Solubility: 874 g/l (H_2O , 20 °C)

[7631-99-4] • EC No. 231-554-3

UN No. 1498 • ADR 5.1 III • WGK 1

 **Warning** H272-H319**Sodium nitrate****ROTI®METIC 99,999 % (5N)****Type analysis:**

Assay (metals basis)	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5742.1 25 g plastic 155,90 €**Sodium nitrate**

≥99 %, p.a., ACS, ISO

Oxidizing dissolving agent

Guarantee analysis:

Assay (acidim.)	≥99,0 %
In H_2O insoluble matter	≤0,005 %
pH value (5 % in water)	5,5-8,0
Iodate (IO_3)	≤0,0005 %
Nitrite (NO_2)	≤0,001 %
Chloride (Cl)	≤0,001 %
Sulphate (SO_4)	≤0,003 %
Phosphate (PO_4)	≤0,0005 %
Calcium (Ca)	≤0,005 %
Potassium (K)	≤0,005 %
Ammonium (NH_4)	≤0,002 %
Heavy metals (as Pb)	≤0,0005 %
Iron (Fe)	≤0,0002 %
Arsenic (As)	≤0,00004 %
Cadmium (Cd)	≤0,0002 %
Cobalt (Co)	≤0,0002 %
Copper (Cu)	≤0,0002 %
Magnesium (Mg)	≤0,001 %
Lead (Pb)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

A136.1 500 g plastic 26,80 €

Original pack 6 x 500 g 25,46/500 g

A136.2 1 kg plastic 42,50 €

Original pack 6 x 1 kg 40,38/1 kg

A136.3 2,5 kg plastic 92,35 €

Sodium nitrate

≥99 % cryst.

Type analysis:

Assay	.....	≥99 %
In H ₂ O insoluble matter	.....	≤0,005 %
Water	.....	≤0,2 %
Sodium nitrite (NaNO ₂)	.....	≤0,005 %
Sodium carbonate (Na ₂ CO ₃)	.....	≤0,04 %
Sodium chloride (NaCl)	.....	≤0,025 %
Sodium sulphate (Na ₂ SO ₄)	.....	≤0,03 %
Product with anticaking agent.		

8601.2	1 kg	plastic	16,05 €
Original pack 6 x 1 kg			15,25/1 kg
8601.1	2,5 kg	plastic	28,50 €
8601.5	25 kg	plastic	154,30 €

Sodium nitriteNaNO₂

M 69,00 g/mol

D 2,17 • bp 320°C (dec.)

mp 271 °C

Solubility: 820 g/l (H₂O, 20 °C)

[7632-00-0] • EC No. 231-555-9

UN No. 1500 • ADR 5.1 (6.1) III • WGK 2

Danger H272-H301-H400
Sodium nitrite

≥98 %, p.a., ACS

Reagent for diazotisation

Guarantee analysis:

Assay (perm.)	.....	≥98,0 %
In H ₂ O insoluble matter	.....	≤0,003 %
Chloride (Cl)	.....	≤0,002 %
Sulphate (SO ₄)	.....	≤0,005 %
Heavy metals (as Pb)	.....	≤0,001 %
Aluminium (Al)	.....	≤0,0005 %
Arsenic (As)	.....	≤0,00004 %
Barium (Ba)	.....	≤0,0005 %
Cadmium (Cd)	.....	≤0,0005 %
Calcium (Ca)	.....	≤0,0025 %
Iron (Fe)	.....	≤0,001 %
Potassium (K)	.....	≤0,005 %
Cobalt (Co)	.....	≤0,0005 %
Magnesium (Mg)	.....	≤0,0025 %
Manganese (Mn)	.....	≤0,0005 %
Nickel (Ni)	.....	≤0,001 %
Zinc (Zn)	.....	≤0,001 %

4411.1	100 g	plastic	11,30 €
4411.2	500 g	plastic	24,20 €
Original pack 6 x 500 g			22,99/500 g
4411.3	1 kg	plastic	38,60 €
Original pack 6 x 1 kg			36,67/1 kg
4411.4	2,5 kg	plastic	79,05 €

Sodium nitrite

≥99 %, cryst.

Type analysis:

Assay (titr.)	.....	≥99,0 %
Water	.....	≤0,2 %
Sodium carbonate (Na ₂ CO ₃)	.....	≤0,06 %
Sodium chloride (NaCl)	.....	≤0,03 %
Sodium sulphate (Na ₂ SO ₄)	.....	≤0,03 %
Water insoluble residue	.....	≤0,005 %
Product with anticaking agent.		

8604.1	1 kg	plastic	13,65 €
Original pack 6 x 1 kg			12,97/1 kg
8604.2	5 kg	plastic	42,50 €
8604.5	25 kg	plastic	138,70 €

Sodium nitroprusside dihydrate**Sodium nitroprusside dihydrate**

≥99 %, p.a., ACS

Reagent for Zn, SO₂, aldehydes

Disodium pentacyanonitrosylferrate(III)

dihydrate, Nitroprusside sodium,

Sodiumnitrosopentacyanoferrate(III)

Na₂[Fe(CN)₅NO] · 2 H₂O

M 297,95 g/mol

D 1,71

Solubility: 400 g/l (H₂O, 20 °C)

[13755-38-9] • EC No. 238-373-9

UN No. 1588 • ADR 6.1 III • WGK 3

Danger H301
Guarantee analysis:

Assay	.....	≥99,0 %
In H ₂ O insoluble matter	.....	≤0,005 %
Chloride (Cl)	.....	≤0,01 %
Sulphate (SO ₄)	.....	≤0,005 %
Hexacyanoferrate(II)	.....	≤0,02 %
Hexacyanoferrate(III)	.....	≤0,02 %

HN34.1	25 g	plastic	25,50 €
HN34.2	100 g	plastic	67,20 €
HN34.3	500 g	plastic	263,40 €
Original pack 6 x 500 g			250,23/500 g

Sodium nitrosopentacyanoferrate(III)

► Sodium nitroprusside dihydrate see p. 2155

Sodium nucleinate

► Ribonucleic acid sodium salt see p. 2085

Sodium 1-octane sulphonate

► Octane-1-sulphonic acid sodium salt see p. 1998

Sodium oleate

► Oleic acid sodium salt see p. 2013

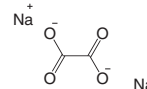
di-Sodium orthophosphate

► di-Sodium hydrogen phosphate see p. 2148

► di-Sodium hydrogen phosphate dihydrate see p. 2149

► di-Sodium hydrogen phosphate heptahydrate see p. 2149

► di-Sodium hydrogen phosphate dodecahydrate see p. 2149

di-Sodium oxalate

Oxalic acid di-sodium salt

C₂Na₂O₄

M 134,00 g/mol

D 2,27

mp 250-270°C (dec.)

Solubility: ~37 g/l (H₂O, 20 °C)

[62-76-0] • EC No. 200-550-3

WGK 1

Warning H302+H312
di-Sodium oxalate

≥99,5 %, p.a., ACS

For manganometric and acidimetric analysis.

Guarantee analysis:

Assay (perm.)	.....	≥99,5 %
In H ₂ O insoluble matter	.....	≤0,005 %
Loss on drying (105 °C)	.....	≤0,01 %
Dark coloured substance with H ₂ SO ₄	.....	complies
Neutrality	.....	complies
Chloride (Cl)	.....	≤0,002 %
Phosphate (PO ₄)	.....	≤0,005 %
Sulphate (SO ₄)	.....	≤0,002 %
Ammonium (NH ₄)	.....	≤0,002 %
Heavy metals (as Pb)	.....	≤0,002 %
Copper (Cu)	.....	≤0,001 %
Iron (Fe)	.....	≤0,001 %
Potassium (K)	.....	≤0,005 %
Nickel (Ni)	.....	≤0,001 %
Lead (Pb)	.....	≤0,001 %

HN39.1	100 g	plastic	23,15 €
HN39.2	250 g	plastic	46,15 €
HN39.3	500 g	plastic	80,10 €
Original pack 6 x 500 g			76,10/500 g

di-Sodium oxalate

≥99 %

Type analysis:

Appearance	.....	white powder
Assay	.....	≥99,0 %
Identity	.....	complies
Chloride (Cl)	.....	≤0,03 %
Sulphate (SO ₄)	.....	≤0,01 %
Iron (Fe)	.....	≤0,01 %
Heavy metals (as Pb)	.....	≤0,01 %

4267.3	500 g	plastic	20,65 €
Original pack 6 x 500 g			19,62/500 g
4267.1	1 kg	plastic	30,65 €
Original pack 6 x 1 kg			29,12/1 kg
4267.4	2,5 kg	plastic	61,85 €
4267.2	10 kg	plastic	227,90 €

Sodium 1-pentane sulphonate

► Pentane-1-sulphonic acid sodium salt see p. 2026

Sodium periodate

Sodium periodate

≥99,8 %, p.a., ACS
Sodium meta periodate
NaIO₄
M 213,89 g/mol
D 3,87
mp 300 °C (dec.)
Solubility: 144 g/l (H₂O, 25 °C)
[7790-28-5] • EC No. 232-197-6
UN No. 3087 • ADR 5.1 (6.1), II • WGK 1
 **Danger** H272-H301

Guarantee analysis:

Assay (dry substance) 99,8-100,3 %
pH value 4,0-5,0
Solubility complies
Other halogens (as Cl) ≤0,02 %
Manganese (Mn) ≤0,0003 %
Loss on drying ≤0,5 %

2603.1	50 g	plastic	38,20 €

2603.2	250 g	plastic	133,30 €

2603.3	500 g	plastic	241,90 €

Original pack 6 x 500 g 229,81/500 g

Sodium peroxide

Sodium peroxide

≥95 %, p.a., ACS, granulated
Powerful oxidising agent, decomposition
reagent for organic and inorganic samples.
Na₂O₂
M 77,98 g/mol
D 2,80
mp 460 °C
Solubility: 100 g/l (H₂O, 20 °C)
[1313-60-6] • EC No. 215-209-4
UN No. 1504 • ADR 5.1 I • WGK 1
 **Danger** H271-H314

Guarantee analysis:

Assay (perm.) ≥95,0 %
Chloride (Cl) ≤0,002 %
Phosphate (PO₄) ≤0,0005 %
Sulphate (SO₄) ≤0,001 %
Total nitrogen (N) ≤0,003 %
Lead (Pb) ≤0,001 %
Cadmium (Cd) ≤0,001 %
Iron (Fe) ≤0,002 %
Cobalt (Co) ≤0,001 %
Zinc (Zn) ≤0,001 %
Heavy metals (as Pb) ≤0,002 %

4412.1	100 g	plastic	53,65 €

4412.2	250 g	plastic	120,95 €

4412.3	500 g	plastic	217,70 €

Original pack 6 x 500 g 206,82/500 g

Sodium persulphate

▶ Sodium persulphate see p. 2156

Sodium persulphate

Sodium persulphate

≥99 %
Sodium peroxodisulphate
Na₂S₂O₈
M 238,10 g/mol
D 1,2
mp >148 °C
Solubility: 545 g/l (H₂O, 20 °C)
[7775-27-1] • EC No. 231-892-1
UN No. 1505 • ADR 5.1 III • WGK 1
 **Danger**
H272-H334-H302-H335-H315-H319-H317

Type analysis:

Appearance white cryst. powder
Assay (persulphate) ≥99,0 %
Active oxygen ≥6,5 %

4365.2	500 g	plastic	18,20 €

Original pack 6 x 500 g 17,29/500 g

4365.1	1 kg	plastic	26,35 €

Original pack 6 x 1 kg 25,03/1 kg

4365.3	2,5 kg	plastic	47,20 €

Sodium phenylpyruvate

▶ Phenylpyruvic acid sodium salt
see p. 2037

Sodium phosphate, monobasic

▶ Sodium dihydrogen phosphate see p. 2145
▶ Sodium dihydrogen phosphate monohydrate
see p. 2145
▶ Sodium dihydrogen phosphate dihydrate
see p. 2146

sec. Sodium phosphate

▶ di-Sodium hydrogen phosphate see p. 2148
▶ di-Sodium hydrogen phosphate dihydrate
see p. 2149
▶ di-Sodium hydrogen phosphate
heptahydrate see p. 2149
▶ di-Sodium hydrogen phosphate
dodecahydrate see p. 2149

tert. Sodium phosphate

▶ tri-Sodium phosphate dodecahydrate
see p. 2156

Sodium phosphate, dibasic

▶ di-Sodium hydrogen phosphate see p. 2148
▶ di-Sodium hydrogen phosphate dihydrate
see p. 2149
▶ di-Sodium hydrogen phosphate
heptahydrate see p. 2149
▶ di-Sodium hydrogen phosphate
dodecahydrate see p. 2149

tri-Sodium phosphate
dodecahydrate

Sodium phosphate, tribasic, Trisodium
phosphate
Na₃PO₄ · 12 H₂O
M 380,12 g/mol
D 1,62
mp 60 °C
Solubility: 285 g/l (H₂O, 20 °C)
[10101-89-0] • EC No. 231-509-8
WGK 1
 **Warning** H315-H319-H335

tri-Sodium phosphate
dodecahydrate

≥98 %, p.a., ACS

Guarantee analysis:

Assay (acidim.) 98,0-102,0 %
In H₂O insoluble matter ≤0,01 %
Free alkali (as NaOH) ≤2,5 %
Total nitrogen (as N) ≤0,001 %
Chloride (Cl) ≤0,001 %
Sulphate (SO₄) ≤0,01 %
Heavy metals (as Pb) ≤0,001 %
Arsenic (As) ≤0,0005 %
Lead (Pb) ≤0,0005 %
Cadmium (Cd) ≤0,0005 %
Calcium (Ca) ≤0,005 %
Iron (Fe) ≤0,0005 %
Cobalt (Co) ≤0,0005 %
Copper (Cu) ≤0,0005 %
Magnesium (Mg) ≤0,0005 %
Manganese (Mn) ≤0,0005 %
Nickel (Ni) ≤0,0005 %
Zinc (Zn) ≤0,0005 %

T107.2	500 g	plastic	21,40 €

Original pack 6 x 500 g 20,33/500 g

T107.1	1 kg	plastic	33,90 €

Original pack 6 x 1 kg 32,21/1 kg

T107.3	2,5 kg	plastic	79,45 €

tri-Sodium phosphate
dodecahydrate
pure

Type analysis:

P₂O₅ 18,5-19,5 %
Na₂O 26-27 %
pH value (1 %). 11,8-12,2
Loss on ignition <56,5 %

8613.3	1 kg	plastic	19,60 €

Original pack 6 x 1 kg 18,62/1 kg

8613.1	2,5 kg	plastic	41,40 €

8613.2	10 kg	plastic	104,85 €

Sodium phosphate, tribasic

▶ tri-Sodium phosphate dodecahydrate
see p. 2156

Sodium polyphosphate

▶ Sodium metaphosphate see p. 2154

Sodium polytungstate hydrate

Sodium polytungstate hydrate

≥99,9 %

For the preparation of heavy liquid

Sodium metatungstate

3 Na₂WO₄ · 9 WO₃ · H₂O

M 2986,01 g/mol

D 5,47

Solubility: >1000 g/l (H₂O, 20 °C)

[12141-67-2] • EC No. 412-770-9

WGK 2

⚠️ **Danger** H302-H318-H412

Type analysis:

Assay..... ≥99,9 %

Assay (WO₃)..... ≥85 %

Tubidity (density 2,80 g/ml)..... <10 NTU

Max. attainable density (25 °C)..... <3,1 g/ml

8828.1 50 g plastic 42,90 €

8828.2 250 g plastic 160,20 €

8828.3 1 kg plastic 579,45 €

Original pack 6 x 1 kg 550,48/1 kg

Sodium-1-propane sulphonate

► Propane-1-sulphonic acid sodium salt
see p. 2067

tetra- Sodium pyrophosphate

► tetra-Sodium diphosphate decahydrate
see p. 2146

Sodium pyrosulphite

► Sodium metabisulphite see p. 2154

Sodium pyruvate

► Pyruvic acid sodium salt see p. 2075

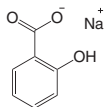
Sodium pyruvate solution

► Roti®-CELL Pyruvate solution see p. 2093

Sodium rhodanide

► Sodium thiocyanate see p. 2159

Sodium salicylate



Sodium salicylate

≥99 %, p.a.

Preservative; for determination of glucose at urine.

Salicylic acid sodium salt

C₇H₅NaO₃

M 160,11 g/mol

D 0,32

mp 200 °C

Solubility: 1000 g/l (H₂O, 20 °C)

[54-21-7] • EC No. 200-198-0

WGK 1

⚠️ **Warning** H302-H319

Guarantee analysis:

Assay (perchloric acid titration). ≥99,0 %

Identity..... complies

Appearance of solution (10 %, H₂O)..... complies

Loss on drying (105 °C)..... ≤0,5 %

Heavy metals (as Pb)..... ≤0,002 %

Chloride (Cl)..... ≤0,02 %

Sulphate (SO₄)..... ≤0,06 %

CP39.1 250 g plastic 24,20 €

CP39.2 1 kg plastic 72,60 €

Original pack 6 x 1 kg 68,97/1 kg

Sodium silicate

Sodium silicate

extra pure

Water glass

D 1,37

[1344-09-8] • EC No. 215-687-4

WGK 1

Type analysis:

Na₂O..... 7,80-8,50 %SiO₂..... 25,80-28,50 %

Density..... 1,34-1,38

Viscosity..... 50-260 mPa s

7561.1 1 l plastic 13,45 €

Original pack 6 x 1 l 12,78/1 l

7561.2 5 l plastic 32,15 €

Original pack 2 x 5 l 30,54/5 l

Sodium stearate

► Stearic acid sodium salt see p. 2184

Sodium succinate

► Succinic acid disodium salt hexahydrate
see p. 2187

Sodium sulphate

Na₂SO₄

M 142,04 g/mol

D 2,7

mp 888 °C

Solubility: 170 g/l (H₂O, 20 °C)

[7757-82-6] • EC No. 231-820-9

WGK 1

Sodium sulphate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace
metal impurities in ppm range

5076.1 10 g plastic 70,85 €

5076.2 25 g plastic 145,15 €

Sodium sulphate

≥99 %, p.a., ACS, ISO, powdered, anhydrous

Drying agent for solvents.

Guarantee analysis:

Assay..... ≥99,0 %

In H₂O insoluble matter..... ≤0,01 %

pH value (5 %, water)..... 5,2-8,0

Chloride (Cl)..... ≤0,001 %

Phosphate (PO₄)..... ≤0,001 %

Total nitrogen (as N)..... ≤0,0005 %

Heavy metals (as Pb)..... ≤0,0005 %

Arsenic (As)..... ≤0,0001 %

Iron (Fe)..... ≤0,0005 %

Potassium (K)..... ≤0,002 %

Calcium (Ca)..... ≤0,005 %

Magnesium (Mg)..... ≤0,001 %

Loss on ignition (800 °C)..... ≤0,5 %

8560.3 500 g plastic 23,90 €

Original pack 6 x 500 g 22,71/500 g

8560.1 1 kg plastic 32,50 €

Original pack 6 x 1 kg 30,88/1 kg

8560.2 5 kg plastic 132,25 €

8560.5 25 kg plastic 471,95 €

Sodium sulphate

≥99 %, p.a., ACS, granules, anhydrous

For molecular biology, drying agent.

Guarantee analysis:

Assay..... ≥99,0 %

In H₂O insoluble matter..... ≤0,01 %pH value (5 % in H₂O)..... 5,2-8,0

Chloride (Cl)..... ≤0,001 %

Phosphate (PO₄)..... ≤0,001 %

Total nitrogen (N)..... ≤0,0005 %

Heavy metals (as Pb)..... ≤0,0005 %

Arsenic (As)..... ≤0,0001 %

Iron (Fe)..... ≤0,0005 %

Potassium (K)..... ≤0,01 %

Calcium (Ca)..... ≤0,002 %

Magnesium (Mg)..... ≤0,0025 %

Loss on ignition (800 °C)..... ≤0,5 %

Particle size..... ~0,1-0,4 mm

0966.1 500 g plastic 19,15 €

Original pack 6 x 500 g 18,19/500 g

0966.2 1 kg plastic 27,85 €

Original pack 6 x 1 kg 26,46/1 kg

0966.3 5 kg plastic 116,65 €

Sodium sulphate

≥98,5 %, Ph.Eur., anhydrous

Guarantee analysis:

Assay	98,5-101 %
Identity	complies
Appearance of solution	complies
Loss on drying (130 °C)	≤0,5 %
Acid or alkaline react. substances	complies
Chloride (Cl)	≤0,045 %
Heavy metals (as Pb)	≤0,0045 %

P032.1	500 g	plastic	13,15 €
Original pack 6 x 500 g			12,49/500 g
P032.2	1 kg	plastic	18,85 €
Original pack 6 x 1 kg			17,91/1 kg
P032.3	5 kg	plastic	79,45 €

P032.5	25 kg	plastic	220,40 €

Sodium sulphate

≥99 %, anhydrous

Type analysis:

Assay	≥99 %
pH value (10 % in H ₂ O)	4,0-6,0
Iron (Fe)	≤0,002 %
Water	≤0,1 %

8631.2	1 kg	plastic	13,90 €
Original pack 6 x 1 kg			13,21/1 kg
8631.1	2,5 kg	plastic	30,00 €

8631.5	25 kg	plastic	95,60 €

Sodium sulphate decahydrateNa₂SO₄ · 10 H₂O

M 322,19 g/mol

D 1,46 • mp 32,4 °C

Solubility: ~420 g/l (H₂O, 20 °C)

[7727-73-3] • EC No. 231-820-9 • WGK 1

Sodium sulphate decahydrate

≥99 %, p.a., ACS

For freezing mixtures.

Guarantee analysis:

Assay	≥99,0 %
pH value (5 % solution)	5,2-8,2
In H ₂ O insoluble matter	≤0,005 %
Total nitrogen (as N)	≤0,0003 %
Chloride (Cl)	≤0,0005 %
Phosphate (PO ₄)	≤0,0005 %
Aluminium (Al)	≤0,0005 %
Arsenic (As)	≤0,0001 %
Barium (Ba)	≤0,0005 %
Lead (Pb)	≤0,0003 %
Cadmium (Cd)	≤0,0005 %
Calcium (Ca)	≤0,002 %
Chromium (Cr)	≤0,0005 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,002 %
Cobalt (Co)	≤0,0005 %
Copper (Cu)	≤0,0005 %
Lithium (Li)	≤0,002 %
Magnesium (Mg)	≤0,001 %
Manganese (Mn)	≤0,0005 %
Nickel (Ni)	≤0,0005 %
Heavy metals (as Pb)	≤0,0003 %
Strontium (Sr)	≤0,0005 %
Thallium (Tl)	≤0,0005 %
Zinc (Zn)	≤0,0005 %

T108.2	500 g	plastic	17,10 €
Original pack 6 x 500 g			16,25/500 g
T108.1	1 kg	plastic	25,30 €
Original pack 6 x 1 kg			24,04/1 kg
T108.3	2,5 kg	plastic	51,50 €

Sodium sulphate decahydrate

≥98,5 %, Ph.Eur.

Guarantee analysis:

Assay (dry substance)	98,5-101,0 %
Identity	complies
Appearance of solution	complies
Acidity/alkalinity	complies
Chloride (Cl)	≤0,02 %
Heavy metals (as Pb)	≤0,002 %
Loss on drying (130 °C)	52,0-57,0 %

X892.1	500 g	plastic	16,05 €
Original pack 6 x 500 g			15,25/500 g
X892.2	1 kg	plastic	24,65 €
Original pack 6 x 1 kg			23,42/1 kg
X892.3	2,5 kg	plastic	51,10 €

Sodium sulphide hydrate**Sodium sulphide hydrate**

60 %, in flakes

Na₂S · x H₂OM 78,04 + x H₂O g/mol

mp 90 °C

[27610-45-3] • EC No. 215-211-5

UN No. 1849 • ADR 8 II • WGK 2

⚠️ ⚠️ ⚠️ **Danger**

H301+H311-H314-H400-EUH031

Type analysis:

Assay	>60 %

8634.1	1 kg	plastic	17,95 €
Original pack 6 x 1 kg			17,05/1 kg
8634.2	5 kg	plastic	38,20 €

Sodium sulphiteNa₂SO₃

M 126,04 g/mol

D 2,63

mp >500 °C

Solubility: 220 g/l (H₂O, 20 °C)

[7757-83-7] • EC No. 231-821-4 • WGK 1

Sodium sulphite

≥98 %, p.a., ACS, anhydrous

For removal of chlorine and dissolution of cellulose, reagent for detection of iodate in the presence of chlorate and bromate, for absorption of NO_x in gas analysis.

Guarantee analysis:

Assay (iodom.)	≥98,0 %
In H ₂ O insoluble matter	≤0,005 %
Acidity	complies
Alkalinity	0,03 meq/g
Thiosulphate	complies
Chloride (Cl)	≤0,01 %
Arsenic (As)	≤0,0001 %
Lead (Pb)	≤0,001 %
Calcium (Ca)	≤0,013 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,05 %
Copper (Cu)	≤0,001 %
Magnesium (Mg)	≤0,013 %
Nickel (Ni)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %

P033.1	500 g	plastic	17,45 €
Original pack 6 x 500 g			16,58/500 g
P033.2	1 kg	plastic	25,70 €
Original pack 6 x 1 kg			24,42/1 kg
P033.3	2,5 kg	plastic	45,70 €

Sodium sulphite

≥98 %, anhydrous

Photographic quality

Type analysis:

Assay Na ₂ SO ₃	≥98 %
pH value (50 g/l)	9,0-10,6
Iron (Fe)	≤0,001 %
Heavy metals (as Pb)	≤0,001 %

8637.1	1 kg	plastic	19,60 €
Original pack 6 x 1 kg			18,62/1 kg
8637.3	5 kg	plastic	50,45 €
8637.2	10 kg	plastic	92,35 €

di-Sodium tartrate dihydrate

Tartaric acid disodium salt

C₄H₄Na₂O₆ · 2 H₂O

M 230,08 g/mol

D ~1,81

Solubility: 290 g/l (H₂O, 20 °C)

[6106-24-7] • EC No. 212-773-3

WGK 1

di-Sodium tartrate dihydrate

≥99 %, p.a.

Guarantee analysis:

Assay (perchloric acidim)	99,0-101,0 %
pH value (5 % solution)	7,0-9,0
In H ₂ O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,0005 %
Phosphate (PO ₄)	≤0,0005 %
Sulphate (SO ₄)	≤0,002 %
Ammonium (NH ₄)	≤0,003 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,00005 %
Lead (Pb)	≤0,0005 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,0005 %
Potassium (K)	≤0,002 %
Copper (Cu)	≤0,0005 %
Nickel (Ni)	≤0,0005 %

T110.1	500 g	plastic	48,30 €
Original pack 6 x 500 g			45,89/500 g
T110.2	1 kg	plastic	86,55 €
Original pack 6 x 1 kg			82,22/1 kg
T110.3	2,5 kg	plastic	203,20 €
T110.5	25 kg	plastic	1666,25 €

di-Sodium tartrate dihydrate

≥99 %, extra pure

Type analysis:

Appearance	white to almost white crystals
Assay (titr.)	≥98,0 %
Chloride (Cl)	≤0,01 %
Sulphate (SO ₄)	≤0,01 %
Heavy metals (as Pb)	≤0,001 %
Iron (Fe)	≤0,01 %
Calcium (Ca)	≤0,1 %
Potassium (K)	≤0,1 %

0254.1	500 g	plastic	30,00 €
Original pack 6 x 500 g			28,50/500 g
0254.2	1 kg	plastic	51,10 €
Original pack 6 x 1 kg			48,55/1 kg
0254.3	5 kg	plastic	217,70 €

di-Sodium tetraborate

di-Sodium tetraborate

≥99 %, extra pure, anhydrous

For qualitative analysis, decomposition reagent in organic and inorganic chemistry.

Borax

 $\text{Na}_2\text{B}_4\text{O}_7$

M 201,22 g/mol

D 2,37 • bp 1575 °C (dec.)

mp 741 °C

Solubility: 25 g/l (H_2O , 20 °C)

[1330-43-4] • EC No. 215-540-4

WGK 1

 **Danger** H360FD

Type analysis:

Assay (acidim.)	≥99,0 %
Water content	≤1,0 %
Sulphate (SO_4)	≤0,015 %
Iron (Fe)	≤0,004 %

4403.1	250 g	plastic	11,75 €
4403.2	500 g	plastic	16,70 €
Original pack 6 x 500 g			15,87/500 g
4403.3	1 kg	plastic	25,70 €
Original pack 6 x 1 kg			24,42/1 kg
4403.4	2,5 kg	plastic	48,30 €

di-Sodium tetraborate decahydrate

Borax

 $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10 \text{H}_2\text{O}$

M 381,37 g/mol

D 1,72

mp 75 °C

Solubility: 51,5 g/l (H_2O , 20 °C)

[1303-96-4] • EC No. 215-540-4

WGK 1

 **Danger** H360FD

di-Sodium tetraborate decahydrate

≥99,5 %, p.a., ACS

For qualitative analysis. Decomposition agent.

Guarantee analysis:

Assay (acidim.)	≥99,5 %
pH value (0,01 mol/l sol.)	9,15-9,20
In H_2O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,001 %
Phosphate (PO_4)	≤0,001 %
Sulphate (SO_4)	≤0,005 %
Calcium (Ca)	≤0,005 %
Iron (Fe)	≤0,0005 %
Heavy metals (as Pb)	≤0,001 %

T880.1	500 g	plastic	28,95 €
Original pack 6 x 500 g			27,50/500 g
T880.2	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg
T880.3	2,5 kg	plastic	83,75 €

di-Sodium tetraborate decahydrate

≥99 %, Ph.Eur., BP, NF

Guarantee analysis:

Assay (acidim.)	99,0-103,0 %
Identity	complies
Appearance of solution	complies
pH value (4 % solution)	9,0-9,6
Sulphate (SO_4)	≤0,005 %
Ammonium (NH_4)	≤0,001 %
Carbonate, bicarbonate	complies
Heavy metals (as Pb)	≤0,002 %
Arsenic (As)	≤0,0005 %
Calcium (Ca)	≤0,01 %
Volatile organic impurities	complies

CN07.1	500 g	plastic	16,35 €
Original pack 6 x 500 g			15,53/500 g
CN07.2	1 kg	plastic	23,15 €
Original pack 6 x 1 kg			21,99/1 kg
CN07.3	2,5 kg	plastic	50,45 €

di-Sodium tetraborate decahydrate

≥99 %, powdered

Type analysis:

Assay	≥99 %
Sulphate (SO_4)	≤0,015 %
Chloride (Cl)	≤0,01 %
Iron (Fe)	≤0,0015 %

8643.1	1 kg	plastic	16,70 €
Original pack 6 x 1 kg			15,87/1 kg
8643.2	5 kg	plastic	51,10 €
8643.5	25 kg	plastic	198,90 €

Sodium tetrahydroborate

► Sodium borohydride see p. 2141

Sodium tetraphenyl borate

Sodium tetraphenyl borate

≥99,5 %, p.a., ACS

Reagent for K, Pb, Cs, NH_4 and alkaloids.

Tetraphenylboron sodium

 $\text{C}_{24}\text{H}_{20}\text{BNa}$

M 342,23 g/mol

mp >300 °C

[143-66-8] • EC No. 205-605-5

UN No. 2811 • ADR 6.1 III • WGK 2

 **Danger** H301

Guarantee analysis:

Assay (dry substance)	≥99,5 %
Clarity of solution (ACS-test)	complies
Test of suitability for potassium assay	complies
Loss on drying	≤0,5 %

4385.1	10 g	plastic	38,20 €
4385.2	25 g	plastic	82,70 €
4385.3	100 g	plastic	256,95 €

Sodium thiocyanate

Sodium thiocyanate

≥98 %, p.a., ACS

Analytical reagent

Sodium rhodanide

 NaSCN

M 81,07 g/mol

D 1,74

mp 310 °C

Solubility: 1200 g/l (H_2O , 20 °C)

[540-72-7] • EC No. 208-754-4

WGK 1

 **Warning**

H302+H312+H332-H412-EUH032

Guarantee analysis:

Assay	≥98,0 %
Carbonate (as Na_2CO_3)	≤0,2 %
In H_2O insoluble matter	≤0,005 %
Chloride (Cl)	≤0,01 %
Sulphate (SO_4)	≤0,01 %
Sulphide (S)	≤0,001 %
Ammonium (NH_4)	≤0,002 %
Heavy metals (as Pb)	≤0,0005 %
Iron (Fe)	≤0,0002 %

2724.1	100 g	plastic	15,60 €
2724.2	500 g	plastic	38,40 €
Original pack 6 x 500 g			36,48/500 g
2724.3	1 kg	plastic	60,10 €
Original pack 6 x 1 kg			57,10/1 kg

Sodium thiosulphate

Sodium thiosulphate

≥99 %, p.a., anhydrous

Fixing salt

 $\text{Na}_2\text{O}_3\text{S}_2$

M 158,11 g/mol

D 1,67

Solubility: ~209 g/l (H_2O , 20 °C)

[7772-98-7] • EC No. 231-867-5

WGK 1

Guarantee analysis:

Assay (iodom.)	≥99 %
pH value (5 % solution)	6,0-8,4
In H_2O insoluble matter	≤0,01 %
Loss on drying (105 °C)	≤1 %
Chloride (Cl)	≤0,05 %
Sulphate and sulphite (as SO_4)	≤0,5 %
Sulphide (S)	≤0,0005 %
Calcium (Ca)	≤0,004 %
Cadmium (Cd)	≤0,001 %
Cobalt (Co)	≤0,001 %
Copper (Cu)	≤0,001 %
Iron (Fe)	≤0,001 %
Potassium (K)	≤0,01 %
Nickel (Ni)	≤0,001 %
Lead (Pb)	≤0,001 %
Zinc (Zn)	≤0,001 %

HN25.1	250 g	plastic	19,25 €
HN25.2	500 g	plastic	28,50 €
Original pack 6 x 500 g			27,08/500 g
HN25.3	1 kg	plastic	50,00 €
Original pack 6 x 1 kg			47,50/1 kg
HN25.4	2,5 kg	plastic	105,25 €

Sodium thiosulphate pentahydrate
 $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5 \text{H}_2\text{O}$

M 248,18 g/mol

D 1,74 • mp ~48 °C

Solubility: 701 g/l (H_2O , 20 °C)

[10102-17-7] • EC No. 231-867-5 • WGK 1

Sodium thiosulphate pentahydrate

ROTI®METIC 99,998 % (4N8)

Type analysis:

Assay (metals basis)..... 99,998 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5095.2	25 g	plastic	155,90 €

Sodium thiosulphate pentahydrate

≥99,5 %, p.a., ACS

Photographic fixer; for volumetric solutions in iodometry; for detection of hydrocyanic acid, quinine, chlorate hydrate and cobalt.

Guarantee analysis:

Assay (iodom.)..... 99,5-101,0 %
 pH value (5 % in water)..... 6,0-8,4
 In H_2O insoluble matter..... ≤0,005 %
 Total nitrogen (as N)..... ≤0,002 %
 Chloride (Cl)..... ≤0,02 %
 Sulphate and sulphite (as SO_4)..... ≤0,1 %
 Sulphide (S)..... ≤0,0001 %
 Heavy metals (as Pb)..... ≤0,0005 %
 Calcium (Ca)..... ≤0,002 %
 Cobalt (Co)..... ≤0,0005 %
 Chromium (Cr)..... ≤0,0005 %
 Magnesium (Mg)..... ≤0,001 %
 Nickel (Ni)..... ≤0,0005 %
 Potassium (K)..... ≤0,005 %
 Cadmium (Cd)..... ≤0,0005 %
 Copper (Cu)..... ≤0,0005 %
 Iron (Fe)..... ≤0,0005 %
 Manganese (Mn)..... ≤0,0005 %
 Lead (Pb)..... ≤0,0005 %
 Zinc (Zn)..... ≤0,0005 %

P034.1	500 g	plastic	18,85 €
Original pack 6 x 500 g 17,91/500 g			
P034.2	1 kg	plastic	28,95 €
Original pack 6 x 1 kg 27,50/1 kg			
P034.3	2,5 kg	plastic	58,60 €
Original pack 6 x 2,5 kg 56,60/2,5 kg			
P034.5	25 kg	plastic	407,45 €

Sodium thiosulphate pentahydrate

≥99 %, Ph.Eur., USP, BP

Photographic fixer

Guarantee analysis:

Assay (iodom.)..... 99,0-100,5 %
 Identity..... complies
 pH value (10 % solution)..... 6,0-8,4
 Appearance of solution..... complies
 Loss on drying..... 32,0-37,0 %
 Total nitrogen (as N)..... ≤0,01 %
 Sulphate and sulphite (as SO_4)..... ≤0,2 %
 Sulphide (S)..... complies
 Chloride (Cl)..... ≤0,02 %
 Heavy metals (as Pb)..... ≤0,001 %
 Arsenic (As)..... ≤0,0003 %
 Lead (Pb)..... ≤0,001 %
 Copper (Cu)..... ≤0,001 %
 Magnesium (Mg)..... ≤0,01 %
 Calcium (Ca)..... complies
 Iron (Fe)..... ≤0,001 %
 Nickel (Ni)..... ≤0,001 %

T109.2	500 g	plastic	14,20 €
Original pack 6 x 500 g 13,49/500 g			
T109.1	1 kg	plastic	21,20 €
Original pack 6 x 1 kg 20,14/1 kg			
T109.3	5 kg	plastic	68,70 €

Sodium thiosulphate pentahydrate

≥98,5 % cryst.

Photographic fixer

Type analysis:

Appearance..... white crystals
 Assay..... ≥98,5 %

8649.1	1 kg	plastic	16,70 €
Original pack 6 x 1 kg 15,87/1 kg			
8649.2	10 kg	plastic	71,95 €

Sodium thiosulphate solution (0,01 N)**Sodium thiosulphate solution**

0,01 mol/l - 0,01 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C). 0,01 mol/l ±0,5 %
 Titer..... 0,995-1,005

X869.1	1 l	glass	20,55 €
Original pack 6 x 1 l 19,52/1 l			

For further information, please see page 1547

Sodium thiosulphate solution (0,1 N)**Sodium thiosulphate solution**

0,1 mol/l - 0,1 N volumetric standard solution

Type analysis:

Amount-of-substance conc. (20 °C). .. 0,1 mol/l ±0,2 %
 Titer..... 0,998-1,002

K022.1	1 l	glass	17,00 €
Original pack 6 x 1 l 16,15/1 l			
K022.2	5 l	plastic	44,65 €
Original pack 2 x 5 l 42,42/5 l			
K022.3	5 l	ROTI®CUBE	52,15 €
Original pack 2 x 5 l 49,54/5 l			
K022.4	10 l	ROTI®CUBE	77,95 €

For further information, please see page 1547

Sodium thiosulphate solution (0,1 N)**Sodium thiosulphate solution**

0,1 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.

Type analysis:

Amount-of-substance conc. 0,1 mol/l ±0,1 %

6782.1	1 l	plastic	18,85 €
Original pack 6 x 1 l 17,91/1 l			

Sodium thiosulphate solution (0,1 N)**Sodium thiosulfate solution**

ROTI®VOLUM 0,1 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

 $\text{Na}_2\text{O}_3\text{S}_2$

M 158,11 g/mol

[7772-98-7] • WGK 1

Type analysis:

Amount-of-substance conc. (20 °C)... 0,1 mol/l ±0,2 %

CN55.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Sodium tungstate dihydrate**Sodium tungstate dihydrate**

≥99 %, p.a., ACS

Tungstic acid sodium salt dihydrate

 $\text{Na}_2\text{WO}_4 \cdot 2 \text{H}_2\text{O}$

M 329,84 g/mol

D 3,23

mp 100 °C loss of crystallisation water

Solubility: 730 g/l (H_2O , 20 °C)

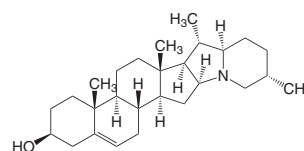
[10213-10-2] • EC No. 236-743-4 • WGK 1

⚠ Warning H302

Guarantee analysis:

Assay (gravim.)..... 99,0-101,0 %
 In H_2O insoluble matter..... ≤0,01 %
 Free alkali..... ≤0,02 meq/g
 Chloride (Cl)..... ≤0,005 %
 Sulphate (SO_4)..... ≤0,01 %
 Heavy metals and iron (as Pb)..... ≤0,001 %
 Arsenic (As)..... ≤0,0005 %
 Molybdenum (Mo)..... ≤0,001 %

2604.1	100 g	plastic	36,45 €
2604.2	250 g	plastic	71,50 €
2604.3	500 g	plastic	128,50 €
Original pack 6 x 500 g 122,08/500 g			

Solanidine

Solatubine

 $\text{C}_{27}\text{H}_{43}\text{NO}$

M 397,62 g/mol

mp ~218 °C

Storage temp.: +4 °C

[80-78-4] • EC No. 201-309-5

UN No. 1544 • ADR 6.1 II

⚠ Danger H301+H311+H331

Solanidine

~95 %

Type analysis:

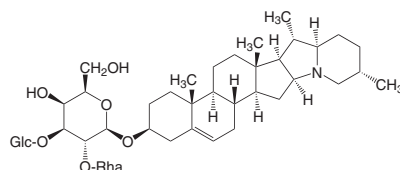
Assay..... ~95 %

5329.1	50 mg	glass	104,85 €

Solanidine**ROTICHROM® TLC**

Reference substance for thin layer chromatography

5677.1	10 mg	glass	120,95 €

α-Solanine**Solanine** $C_{45}H_{73}NO_{15}$

M 868,04 g/mol

mp ~285 °C

Storage temp.: +4 °C

[20562-02-1] • EC No. 243-879-8

⚠ **Warning H302****α-Solanine****ROTICHROM® HPLC**Reference substance for HPLC
From *Solanum tuberosum*.**Type analysis:**

Purity (HPLC)..... ≥98 %

2826.1	10 mg	glass	231,15 €

α-Solanine**ROTICHROM® CHR**From *Solanum tuberosum*

4180.1	10 mg	glass	203,20 €

α-Solanine**ROTICHROM® ~CHR**

5414.1	50 mg	glass	79,45 €

Solanine D

► Demissidine see p. 1762

Solatubine

► Solanidine see p. 2160

Solatunine

► α-Solanine see p. 2161

Solidofix®-Cryo spray**Solidofix®-Cryo spray****for histology**

Freezing of histological specimens. Cooling of paraffin blocks. Cooling to -45 °C.

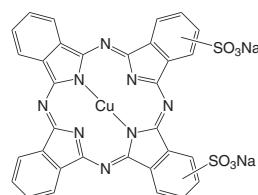
UN No. 1950 • ADR 2

⚠ **Danger H222-H229-EUH018**

T200.1	300 ml	spray bottle	8,10 €

T200.2	5 x 300 ml	spray bottle	31,10 €

For further information, please see page 1391

Solvent blue 38 (C.I. 74180)**Solvent blue 38 (C.I. 74180)****for microscopy**

Luxol® Fast Blue MBSN

 $C_{32}H_{12}CuN_8Na_2O_6S_2$

M 778,15 g/mol

[1328-51-4]

WGK 3

Type analysis:

Appearance..... dark blue powder

Appearance of solution (0,1 % in MeOH). dark blue

7709.1	5 g	glass	11,00 €

7709.2	25 g	glass	22,50 €

7709.3	100 g	glass	53,65 €

Solvent orange 1

► Sudan orange G (C.I. 11920) see p. 2188

Solvent orange 7

► Sudan II (C.I. 12140) see p. 2187

Solvent red 45

► Ethyl eosin (C.I. 45386) see p. 1818

Solvents

Art. No.	Description	Page
	... for Ultra LC-MS	
	... for LC-MS	
	... for HPLC	
	... for Headspace-GC	
	... for Gaschromatography	
	... for residue analysis	
	... for UV/IR spectroscopy	
	... dried, in a septum bottle	
	... dried	
	... for analysis	
	... in Pharmacopoeia Quality	
	... for synthesis	
	... for peptide synthesis	
	... for DNA synthesis	
	... deuterated	
	... with eluent additives	

Solvents for Ultra LC-MS

Art. No.	Description	Page
HN40	Acetonitrile	1605
HN41	Methanol	1960
HN43	Water	2240

Solvents for LC-MS

Art. No.	Description	Page
AE69	Acetic acid ethyl ester	1601
AE70	Acetonitrile	1605
AE71	Methanol	1960
AE73	2-Propanol	2067
AE72	Water	2240

Solvents for HPLC

Art. No.	Description	Page
7336	Acetic acid ethyl ester	1601
7328	Acetone	1604
T195	Acetonitrile	1605
8825	Acetonitrile	1606
HN44	Acetonitrile	1606
7330	Acetonitrile	1606
CN20	Acetonitrile	1606
6827	Acetonitrile	1606
T178	1-Butanol	1696
T175	tert-Butyl methyl ether	1699
7333	Cyclohexane	1753
7334	Dichloromethane	1770
X949	1,4-Dioxane	1787
P076	Ethanol	1809
6828	n-Heptane	1871
7337	n-Heptane	1871
7339	n-Hexane	1875
T176	Isohexane	1910
7340	Isooctane	1911
X948	Methanol	1960
7342	Methanol	1960
KK39	Methanol	1960
P717	Methanol	1960
CN99	n-Pentane	2025
7343	2-Propanol	2067
7344	Tetrahydrofuran	2203
7346	Toluene	2213
7331	Trichloromethane/Chloroform	2217
A511	Water	2241

Solvents for Headspace-GC

Art. No.	Description	Page
HN45	N,N-Dimethylacetamide (DMA)	1781
HN46	N,N-Dimethylformamide (DMF)	1783
HN48	1,3-Dimethyl-2-imidazolidinone (DMI)	1785
HN47	Dimethyl sulphoxide (DMSO)	1785

Solvents for GC

Art. No.	Description	Page
KK42	Acetic acid ethyl ester	1601
KK40	Acetone	1604
KK41	Cyclohexane	1753
KK47	Dichloromethane	1771
KK48	n-Hexane	1875
KK44	Methanol	1960
KK45	n-Pentane	2025
KK46	Toluene	2213

Solvents for residue analysis (Pestilys® plus)

Art. No.	Description	Page
7565	Acetic acid ethyl ester	1601
7535	Acetone	1604
7542	Cyclohexane	1753
7562	Dichloromethane	1771
7566	n-Heptane	1871
7573	n-Hexane	1875
7567	n-Hexane	1876
7576	Isohexane	1910
7580	Isooctane	1911
7583	Methanol	1961
7587	n-Pentane	2025
7588	Petroleum ether 40-60 °C	2032
7590	2-Propanol	2067
7591	Toluene	2214
7554	Trichloromethane/Chloroform	2218

Solvents for residue analysis (Pestilys®)

Art. No.	Description	Page
T164	Acetic acid ethyl ester	1601
T161	Acetone	1604
T168	Acetonitrile	1606
T163	Cyclohexane	1753
T162	Dichloromethane	1771
T900	Diethyl ether	1774
X878	n-Heptane	1871
T861	n-Hexane	1875
T165	n-Hexane	1876
T904	Isohexane	1910
T167	Isooctane	1911
T169	Methanol	1961
T903	n-Pentane	2025
T170	Petroleum ether 40-60 °C	2032
T902	2-Propanol	2067
T166	Toluene	2214
T901	Trichloromethane/Chloroform	2218
T905	Water	2241

Solvents for UV/IR spectroscopy

Art. No.	Description	Page
4442	Acetic acid ethyl ester	1601
T906	Acetone	1604
T907	Acetonitrile	1606
CP81	Cyclohexane	1753
4433	Dichloromethane	1771
CP79	N,N-Dimethylformamide (DMF)	1783
CP78	n-Heptane	1871
T908	n-Hexane	1876
CP80	Isooctane	1911
T909	Methanol	1961
4443	n-Pentane	2025
T910	2-Propanol	2068
CP82	Tetrahydrofuran	2203
4445	Toluene	2214
4432	Trichloromethane/Chloroform	2218

Solvents, dried, in a septum bottle

Art. No.	Description	Page
5175	Acetonitrile	1606
5176	Dichloromethane	1771
5177	Diethyl ether	1775
5179	Dimethyl sulphoxide	1785
5180	n-Hexane	1876
5181	Methanol	1961
5182	Tetrahydrofuran	2203
5191	Toluene	2214

Solvents, dried

Art. No.	Description	Page
4424	Acetic acid ethyl ester	1601
AE00	Acetonitrile	1606
AE03	Dichloromethane	1771
AE05	n-Hexane	1876
AE01	Methanol	1961
AE07	Tetrahydrofuran	2203
AE06	Toluene	2214
4423	Trichloromethane/Chloroform	2218

Solvents for analysis

Art. No.	Description	Page
CP28	Acetic acid anhydride	1600
P036	Acetic acid n-butyl ester	1600
6784	Acetic acid ethyl ester	1601
9372	Acetone	1604
4722	Acetonitrile	1606
7173	Benzene	1669
0336	Benzyl alcohol	1673
7171	1-Butanol	1696
AE16	tert-Butanol	1697
T920	2-Butanone	1697
8462	tert-Butyl methyl ether	1699
6886	Cyclohexane	1753
6837	1,2-Dichloroethane	1770
6053	Dichloromethane	1771
0332	Diethanolamine	1772
3495	Diethylamine	1773
3942	Diethyl ether	1564
T919	Diisopropyl ether	1780
T921	N,N-Dimethylformamide (DMF)	1784
4720	Dimethyl sulphoxide	1785

4626	1,4-Dioxane	1787
9065	Ethanol	1809
T868	Ethanol 70 %	1810
0342	Ethanolamine	1811
6881	Ethylene glycol	1817
6749	Formamide	1839
T174	n-Heptane	1871
4723	n-Hexane	1876
T870	Isoamyl alcohol	1909
0338	Isobutyl methylketone	1909
6889	Isooctane	1911
4627	Methanol	1961
CP08	2-Methoxyethanol	1963
3926	2-Methylbutane	1965
6772	2-Methyl-1-propanol	1969
4978	n-Pentane	2025
T173	Petroleum ether 40-60 °C	2033
6776	1-Propanol	2067
6752	2-Propanol	2068
9729	Pyridine	2072
6788	Tetrahydrofuran	2203
7115	Toluene	2214
3313	Trichloromethane/Chloroform	2218
T172	Water	2241
4436	Xylene (isomers)	2245

Solvents in Pharmacopoeia Quality

Art. No.	Description	Page
CP42	Acetic acid ethyl ester	1602
CP40	Acetone	1605
8657	Benzyl alcohol	1673
6724	Bioethanol 96 %	1676
CP45	Dichloromethane	1771
8810	Diethyl ether	1775
5054	Ethanol	1809
P075	Ethanol 96 %	1810
7301	Ethanol 70 %	1810
CP43	Methanol	1961
CP44	Petroleum ether 40-60 °C	2033
CP41	2-Propanol	2068
6340	Trichloromethane/Chloroform	2218
2652	Water	2241
CN80	Xylene (isomers)	2245

Solvents for synthesis

Art. No.	Description	Page
4483	Acetic acid anhydride	1600
4600	Acetic acid n-butyl ester	1600
7338	Acetic acid ethyl ester	1602
4370	Acetic acid isobutyl ester	1602
5025	Acetone	1605
4380	Acetonitrile	1606
4417	Anisole	1647
4372	Benzaldehyde	1668
5785	Benzene	1669
9498	Benzoic acid benzyl ester	1670
4478	Benzyl alcohol	1673
6726	Bioethanol 96 % denatured	1460
4211	1,4-Butanediol	1695
7724	1-Butanol	1696
KK02	2-Butanol	1696
4323	tert-Butanol	1697
8403	2-Butanone	1697
6746	tert-Butyl methyl ether	1699
HN98	γ-Butyrolactone	1701
KK01	Chlorobenzene	1729
6570	Cyclohexane	1753

CP27	Cyclohexanone	1754
7763	Cyclopentyl methyl ether	1755
3475	n-Decane	1760
4374	1,2-Dichlorobenzene	1770
T869	1,2-Dichloroethane	1770
8424	Dichloromethane	1771
HN99	Diethanolamine	1773
KK00	Diethylamine	1773
0968	Diethylene glycol	1774
5920	Diethyl ether	1775
4369	Diisopropylamine	1779
T899	Diisopropyl ether	1780
6251	N,N-Dimethylformamide (DMF)	1784
7349	2,2-Dimethyl-1,3-propanediol	1785
7029	Dimethyl sulphoxide	1785
4229	1,4-Dioxane	1787
8786	n-Dodecane	1793
K928	Ethanol denatured	1810
T171	Ethanol 96 % denatured	1810
T913	Ethanol 70 % denatured	1810
4376	Ethanolamine	1811
4218	Ethylenediamine	1814
9516	Ethylene glycol	1817
0341	Ethylene glycol monobutyl ether	1817
CN19	N-Ethyl-2-pyrrolidone	1819
8654	n-Heptane	1872
CP46	n-Heptane	1872
7725	Heptane (isomers)	1872
CP47	n-Hexane	1876
3907	n-Hexane	1876
7782	Hexane (isomers)	1876
8930	Isoamyl alcohol	1909
4371	Isobutyl methylketone	1909
2667	Isohexane	1910
9860	Isooctane	1911
8388	Methanol	1961
3927	2-Methylbutane	1965
4379	2-Methyl-1-butanol	1965
N353	1-Methylimidazole	1967
CN17	2-Methyl-2,4-pentanediol	1969
CP09	2-Methyl-1-propanol	1969
4306	N-Methyl-2-pyrrolidone (NMP)	1970
6845	2-Methyltetrahydrofuran	1971
4310	n-Nonane	1995
8753	n-Octane	1998
4439	1-Octanol	1999
8720	n-Pentane	2025
3747	n-Pentane	2025
3523	Petroleum benzine 30-50	2030
8961	Petroleum benzine 30-75	2030
9320	Petroleum benzine 40-60	2030
8573	Petroleum benzine 40-65	2030
CP48	Petroleum benzine 40-80	2031
0969	Petroleum benzine 50-70	2031
9735	Petroleum benzine 60-70	2031
8575	Petroleum benzine 60-95	2031
5649	Petroleum benzine 63-80	2031
3259	Petroleum benzine 80-110	2031
9675	Petroleum benzine 100-140	2031
8576	Petroleum benzine 135-180	2032
8577	Petroleum benzine 145-200	2032
8579	Petroleum benzine 180-210	2032
8580	Petroleum benzine 190-245	2032
8590	Petroleum benzine 235-265	2032
4348	2-Phenoxyethanol	2035
4422	2-Phenylethanol	2036
0340	1,2-Propanediol	2066
9866	2-Propanol	2068
CN09	2-Propanol 70 %	2068
CP07	Pyridine	2072
8779	2-Pyrrolidone	2074

2641	Styrene	2186
4737	Tetrachloroethylene	2202
4745	Tetrahydrofuran	2203
9558	Toluene	2214
9579	Trichloroethylene	2217
Y015	Trichloromethane/Chloroform	2218
X875	Triethylamine	2219
CP29	2,2,2-Trifluoroethanol	2220
8781	n-Undecane	2231
9713	Xylene (isomers)	2246
2662	Xylene (isomers)	2246
8749	o-Xylene	2246
3791	m-Xylene	2246
8817	p-Xylene	2246

Solvents for peptide synthesis

Art. No.	Description	Page
4380	Acetonitrile	1606
P089	Dichloromethane	1771
2474	N,N-Diisopropylethylamine (DIPEA)	1780
3617	N,N-Dimethylacetamide	1781
A529	N,N-Dimethylformamide (DMF)	1784
2473	1,1,1,3,3,3-Hexafluoro-2-propanol	1784
P052	N-Methyl-2-pyrrolidone (NMP)	1970
A122	Piperidine	2043
P088	Trifluoroacetic acid	2220
3478	Water	2241

Solvents for DNA synthesis

Art. No.	Description	Page
AE00	Acetonitrile	1606
8824	Acetonitrile	1607
2216	Acetonitrile	1607
3620	Acetonitrile	1607
A990	Ammonia solution 32 %	1634

Solvents, deuterated

Art. No.	Description	Page
AE51	Acetone D6	1605
7909	Acetone D6	1605
7911	Acetonitrile D3	1607
AE52	Acetonitrile D3	1607
7912	Benzene D6	1669
AE53	Benzene D6	1669
HN93	Bromobenzene D5	1689
5200	Cyclohexane D12	1754
HN81	Deuterium oxide	1765
6672	Deuterium oxide	1765
HN82	1,2-Dichlorobenzene D4	1770
7913	Dichloromethane D2	1772
AE55	Dichloromethane D2	1772
CP92	N,N-Dimethylformamide D7	1784
7915	Dimethyl sulphoxide D6	1786
AE56	Dimethyl sulphoxide D6	1786
7916	Dimethyl sulphoxide D6 with TMS (0,03 vol.%)	1786
AE60	Dimethyl sulphoxide D6 with TMS (0,03 vol.%)	1786
HN84	Ethanol D1	1811
CP93	Ethanol D6	1811
HN86	Methanol D1	1962
7918	Methanol D4	1962
AE57	Methanol D4	1962
7919	Methanol D4 with TMS (0,03 vol.%)	1962
HN91	Nitromethane D3	1992
7922	Pyridine D5	2072
CP94	Pyridine D5	2072

CP96	1,1,2,2-Tetrachloroethane D2	2202
AE58	Tetrahydrofuran D8	2204
7924	Toluene D8	2214
CP95	Toluene D8	2215
CP91	Trichloromethane/Chloroform D1	2218
7903	Trichloromethane/Chloroform D1	2218
AE54	Trichloromethane/Chloroform D1	2218
7905	Trichloromethane/Chloroform D1 with TMS (0,03 vol.%)	2219
AE59	Trichloromethane/Chloroform D1 with TMS (0,03 vol.%)	2219

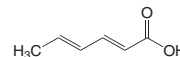
Solvents with eluent additives

Art. No.	Description	Page
CP00	Acetonitrile with 0,1 % formic acid	1607
CP01	Acetonitrile with 0,1 % acetic acid	1607
CP02	Acetonitrile with 0,1 % trifluoroacetic acid	1607
CP06	Methanol with 0,1 % trifluoroacetic acid	1962
CP03	Water with 0,1 % formic acid	2241
CP04	Water with 0,1 % acetic acid	2242
CP05	Water with 0,1 % trifluoroacetic acid	2242

Sophoretin

- ▶ Quercetin dihydrate see p. 2076
- ▶ Quercetin see p. 2076

Sorbic acid



2,4-Hexadienoic acid

$C_6H_8O_2$

M 112,13 g/mol

D 1,20 • bp 190 °C (dec.)

mp 132-135 °C • flp 125 °C

Solubility: 1,6 g/l (H_2O , 20 °C)

[110-44-1] • EC No. 203-768-7

WGK 1

⚠ Warning H315-H319-H335

Sorbic acid

≥99 %, Ph.Eur., extra pure

For biochemical applications.

Guarantee analysis:

Assay (acidim., dry substance). 99,0-101,0 %
 Identity. complies
 Water.≤1,0 %
 Appearance of solution. complies
 Aldehydes.≤0,15 %
 Heavy metals (as Pb).≤0,001 %
 Ash content (as SO_4).≤0,2 %

7158.1 250 g plastic 36,05 €

7158.2 500 g plastic 64,00 €

Original pack 6 x 500 g 60,80/500 g

7158.3 1 kg plastic 116,65 €

Original pack 6 x 1 kg 110,82/1 kg

S

Sorbic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %
Residual solvents (GC).....≤1,0 %
Water (KF).....≤1,0 %
Assay (qNMR).....≥90,0 %
Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE15.1	100 mg	Glas	671,90 €

Sorbic acid

ROTICROM® Working Standard

Type analysis:

Assay (HPLC).....≥95,0 %
Identity.....complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC15.1	100 mg	glass	89,80 €

Sorbic acid potassium salt

► Potassium sorbate see p. 2062

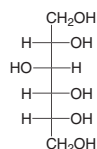
D-Sorbit

► D-Sorbitol see p. 2164

Sorbitan monooleate

► Span® 80 see p. 2164

D-Sorbitol



D-Sorbitol

≥98 %, for biochemistry

Microbiology

D-Sorbit

C₆H₁₄O₆

M 182,18 g/mol

bp 105 °C

mp 94-96 °C • flp >100 °C

Solubility: 2350 g/l (H₂O, 20 °C)

[50-70-4] • EC No. 200-061-5

Type analysis:

Assay (HPLC, dry substance).....≥98 %
Water (KF).....≤0,4 %
Reducing sugar.....≤0,2 %
Lead (Pb).....≤0,00005 %
Nickel (Ni).....≤0,0001 %

6213.1	1 kg	plastic	22,80 €
Original pack 6 x 1 kg			21,66/1 kg
6213.2	5 kg	plastic	64,00 €
6213.3	10 kg	plastic	115,60 €

Sorbitol MacConkey Agar

Sorbitol MacConkey Agar

for microbiology

Selective and differential medium for detection of sorbitol-fermenting *E. coli* O157:H7.

Application: Use 51,5 g for 1 l agar.

MacConkey Agar with sorbitol, **SMAC Agar**

Storage temp.: +20 °C

WGK 1

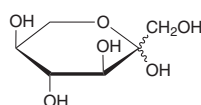
Formulation:

Gelatine peptone.....20 g/l
Sorbitol.....10 g/l
Sodium chloride.....5 g/l
Bile salts No. 3.....1,5 g/l
Neutral red.....0,03 g/l
Crystal Violet.....0,001 g/l
Agar.....15 g/l
pH value.....7,1 ±0,2

5778.1	500 g	plastic	94,10 €
Original pack 6 x 500 g			89,40/500 g

For further information, please see page 1343

L(-)-Sorbitol



L(-)-Sorbitol

≥98 %, for biochemistry

C₆H₁₂O₆

M 180,16 g/mol

mp ~165 °C

Solubility: 550 g/l (H₂O, 20 °C)

[87-79-6] • EC No. 201-771-8

Type analysis:

Appearance.....white to off-white powder
Assay (HPLC).....≥98,0 %
Specific rotation [α]_D²⁰ (c=5 in H₂O).....-41° to -45°

4028.2	25 g	plastic	42,50 €
4028.3	50 g	plastic	72,60 €
4028.1	100 g	plastic	104,85 €

Soybean oil

Soybean oil

refined, extra pure

Oleum Sojae

D ~0,92

Type analysis:

Appearance.....clear pale yellow liquid
Refractive index n_D²⁰.....1,466-1,476
Density (20 °C).....0,91-0,93
Free fatty acid.....≤0,1 %
Peroxide value.....≤2,0
Water.....≤0,05 %
GC-fatty acid constituents:
C 16:0 Palmitic acid.....8,0-13,5 %
C 18:0 Stearic acid.....2,0-5,4 %
C 18:1 Oleic acid.....17-30 %
C 18:2 Linoleic acid.....48-59 %
C 18:3 Linolenic acid.....4,5-11 %
C 20:0 Arachidic acid.....0,1-0,6 %
Trans-isomer fatty acids.....≤2,0 %

3686.1	1 l	glass	21,00 €
Original pack 6 x 1 l			19,95/1 l
3686.3	2,5 l	glass	35,40 €
Original pack 4 x 2,5 l			33,63/2,5 l
3686.4	5 l	plastic	53,65 €
Original pack 2 x 5 l			50,97/5 l
3686.2	10 l	plastic	103,75 €

Soy peptone

► Peptone ex soya see p. 2027

Soy Peptone Broth

► CASO Broth see p. 1720

SPADNS

► 1,8-Dihydroxy-2-(4-sulfophenylazo)-naphthalene-3,6-disulfonic acid trisodium salt see p. 1779

Span® 80

Span® 80

for synthesis

Sorbitan monooleate

M 460 g/mol

D 1,0 • bp >100 °C

flp >149 °C

[1338-43-8] • EC No. 215-665-4

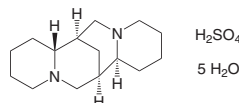
WGK 1

Type analysis:

Hydroxyl value.....193-210 mg KOH/g
Acid value.....≤8,0 mg KOH/g
Saponification value.....145-160 mg KOH/g
Water.....≤1,5 %

9426.1	250 g	glass	51,10 €
9426.2	1 kg	glass	161,25 €
Original pack 6 x 1 kg			153,19/1 kg

Sparteine sulphate



Sparteine sulphate

for biochemistry

Tocosamine sulphate, Synastrin, Depasan

C₁₅H₂₆N₂ · H₂SO₄ · 5 H₂O

M 422,54 g/mol

mp 135-141 °C (dec.)

[6160-12-9]

UN No. 1544 • ADR 6.1 III • WGK 2

⚠ Warning H302+H312+H332

Type analysis:

Appearance.....white, cryst. powder
Melting point.....136-141 °C

4697.1	25 g	plastic	28,50 €

Special Petroleum

► Petroleum benzene 50-70 see p. 2031

Spectra/Gel™ Absorbent**Spectra/Gel™ Absorbent**

For concentration of dialysed proteins and microparticles.

mp 199 °C

Solubility: water-insoluble

[9033-79-8]

WGK 1

⚠ **Warning H319**

Type analysis:

Appearance..... granulated powder
 Colour..... white
 Density (20 °C)..... 0,68 g/cm³
 Steam pressure..... <10 mm Hg

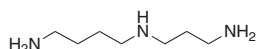
0115.1 500 g plastic 111,30 €

Original pack 6 x 500 g 105,74/500 g

For further information, please see page 1253

Spermaceti

► Cetyl palmitate see p. 1726

Spermidine**Spermidine**

≥98 %, for biochemistry

N-(3-Aminopropyl)-1,4-butanediamine

C₇H₁₉N₃

M 145,25 g/mol

bp 128-130 °C

mp 22-25 °C • flp 112 °C

Storage temp.: +4 °C

[124-20-9] • EC No. 204-689-0

UN No. 2735 • ADR 8 III • WGK 1

⚠ **Danger H314**

Type analysis:

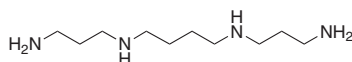
Appearance.colourless to yellowish liquid or white solid
 Assay (titr.)..... ≥98,0 %
 Water (KF)..... ≤20 %

7161.2 1 g glass 38,60 €

7161.1 2,5 g glass 73,00 €

7161.3 5 g glass 126,85 €

For further information, please see page 1201

Spermine**Spermine**

≥99 %, for biochemistry

Musculamine, Neuridine

C₁₀H₂₆N₄

M 202,35 g/mol

bp ~310 °C (dec.)

mp 55-60 °C • flp 110 °C

Storage temp.: +4 °C

[71-44-3] • EC No. 200-754-2

UN No. 3259 • ADR 8 III • WGK 1

⚠ **Danger H314**

Type analysis:

Assay (GC)..... ≥99,0 %
 Water (KF)..... ≤3,0 %

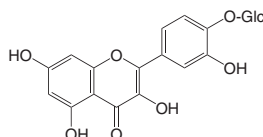
7162.2 1 g glass 34,30 €

7162.1 2,5 g glass 77,95 €

7162.3 5 g glass 117,75 €

Spinacene

► Squalene see p. 2165

Spiraeoside

Quercetin-4'-glucoside

C₂₁H₂₀O₁₂

M 464,4 g/mol

mp 209-211 °C

Storage temp.: +4 °C

[20229-56-5]

⚠ **Warning H302**

Spiraeoside

ROTICHROM® HPLC

Reference substance for HPLC

From *Filipendula ulmaria*.

Type analysis:

Purity (HPLC)..... >98 %

1216.1 20 mg glass 332,20 €

Spiraeoside

ROTICHROM® ~CHR

4564.1 10 mg glass 88,70 €

Spirit

► Methylated spirit see p. 1964

► Ethanol absolut see p. 1809

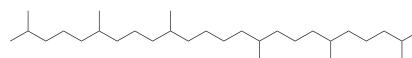
► Rotisol® see p. 2111

Spirits of wine

► Ethanol absolut see p. 1809

► Ethanol 96 % see p. 1810

► Ethanol 70 % see p. 1810

Squalane**Squalane**

≥98 %

Perhydrosqualene, Cosbiol, Alkane C30

C₃₀H₆₂

M 422,83 g/mol

D 0,81 • bp 350 °C

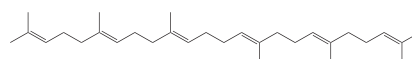
mp -38 °C • flp 218 °C

[111-01-3] • EC No. 203-825-6

Type analysis:

Appearance..... clear, colourless, viscous liquid
 Assay..... ≥98,0 %

5339.1 100 ml glass 90,85 €

Squalene

Spinacene

C₃₀H₅₀

M 410,73 g/mol

D ~0,86 • bp 275 °C

mp -75 °C • flp ~200 °C

[111-02-4] • EC No. 203-826-1

Squalene

>98 %, for synthesis

Type analysis:

Assay (GC, area %)..... >98 %
 Density (20 °C)..... 0,855-0,880
 Refractive index (20 °C)..... 1,490-1,498
 Peroxide value..... ≤5
 Acid value..... ≤0,5 mg KOH/g

5341.1 100 ml glass 43,55 €

5341.2 250 ml glass 67,65 €

5341.3 500 ml glass 112,90 €

5341.4 1 l glass 203,20 €

Original pack 6 x 1 l 193,04/1 l

Squalene

ROTICHROM® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

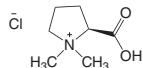
Purity (GC)..... ≥99 %

3185.1 1 g glass 23,90 €

20 x SSC Ready-to-use solution

▶ Roti®-Stock 20x SSC see p. 2112

Stachydrine hydrochloride



Stachydrine hydrochloride

ROTICHRON® ~CHR

$C_7H_{13}NO_2 \cdot HCl$

M 179,65 g/mol

mp ~219 °C

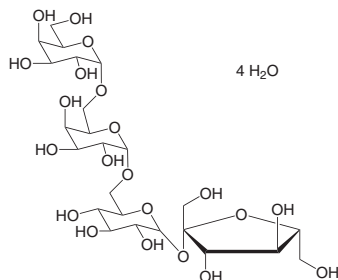
[4136-37-2] • EC No. 223-957-8

WGK 1

⚠ **Warning H332**

9457.1	25 mg	glass	246,20 €

Stachyose Hydrate



Stachyose Hydrate

>98 %

Lupeose

$C_{24}H_{42}O_{21} \cdot x H_2O$

M 666,58 + x H₂O g/mol

mp ~170 °C

[54261-98-2] • EC No. 207-427-3

Type analysis:

Appearance.....white, cryst. powder
Assay.....>98,0 %
Water (KF).....<11 %

9438.1	100 mg	glass	75,15 €

Staining Solutions for Histology / Microscopy

Art. No.	Description	Page
CN00	Carbol gentian violet solution	1715
A130	Carbolic fuchsine solution	1715
8275	Elastica van Gieson staining kit	1802
X883	Eosin Y solution 0,5 % in water	1804
3139	Eosin Y solution 1 % in methanol	1804
3137	Eosin Y solution 1 % in water	1804
HP46	Ethidium bromide solution 0,5 % in dropper bottle	1811
T862	Giemsa stock solution	1849
3469	Goldner's staining I	1862
3470	Goldner's staining II	1863
3473	Goldner's staining III	1863
CN02	Gram's decolourising solution	1863
HP02	Gram staining kit	1863
6477	HCl-ethanol solution 3 %	1867
9194	H&E fast staining kit	1868
T865	Hemalum solution acid acc. to Mayer	1869
CN03	Hematoxylin solution acc. to Delafield	1869
T864	Hematoxylin solution acc. to Gill II	1869
X903	Hematoxylin solution acc. to Harris	1869
X906	Hematoxylin solution A acc. to Weigert	1869
X907	Hematoxylin solution B acc. to Weigert	1869
CN04	Hematoxylin solution acid acc. to Ehrlich	1869
N052	Iodine-potassium iodide solution acc. to Lugol	1902
3097	Lactophenol blue solution	1921
AE64	LOEFFLER's methylene blue solution	1937
3459	Masson-Goldner's trichrome staining kit	1952
T863	May-Gruenwald's solution	1953
3463	Neisser's solution I	1982
3464	Neisser's solution II	1982
3466	Neisser's solution III	1982
N069	Nuclear fast red aluminium sulphate solution	1996
6487	Panoptical fast staining kit	2019
T867	Papanicolaou-orange solution 2a (OG 6)	2019
AE62	Papanicolaou solution 2b Orange II solution	2019
AE63	Papanicolaou polychrome solution 3a (EA31)	2020
T866	Papanicolaou polychrome solution 3b (EA 50)	2020
9195	PAP fast staining kit	2020
HP01	PAS staining kit	2021
HP00	Periodic acid solution 1 %	2029
X877	Resorcinol-Fuchsine-solution acc. to Weigert	2082
CN01	Safranin solution	2117
X900	Schiff's reagent	2121
3925	Van Gieson's Solution	2235
9193	Van Gieson trichrome staining kit	2235
9192	Weigert's iron hematoxylin staining kit	2242
CN05	Wright's eosin methylene blue solution	2243
8276	Ziehl-Neelsen staining kit	2250
6395	Zinc iodine chloride solution	2252

Standard Count Agar

Standard Count Agar

for microbiology

For enumeration of aerobic bacteria in milk, water and wastewaters.

Application: Use 25 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Meat extract.....	3 g/l
Casein peptone.....	5 g/l
Sodium chloride (NaCl).....	5 g/l
Agar.....	12 g/l
pH value.....	7,2 ±0,2

AE91.1	500 g	plastic	87,65 €
Original pack 6 x 500 g			83,27/500 g

For further information, please see page 1343

Standard Nutrient Agar I

Standard Nutrient Agar I

for microbiology

For cultivation and enumeration of fastidious bacteria. Also high-base for preparing special culture agars.

Application: Use 37 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Peptone.....	15 g/l
Yeast extract.....	3 g/l
Sodium chloride (NaCl).....	6 g/l
Glucose.....	1 g/l
Agar.....	12 g/l
pH value.....	7,5 ±0,2

AE93.1	500 g	plastic	75,15 €
Original pack 6 x 500 g			71,39/500 g

AE93.2	1 kg	plastic	127,95 €
Original pack 6 x 1 kg			121,55/1 kg

For further information, please see page 1343

Standard Nutrient Broth I

Standard Nutrient Broth I

for microbiology

For cultivation and enumeration of fastidious bacteria. Also high-base for preparing special culture media.

Application: Use 25 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Peptone.....	15 g/l
Yeast extract.....	3 g/l
Sodium chloride (NaCl).....	6 g/l
Glucose.....	1 g/l
pH value.....	7,5 ±0,2

AE92.1	500 g	plastic	73,00 €
Original pack 6 x 500 g			69,35/500 g

AE92.2	1 kg	plastic	127,95 €
Original pack 6 x 1 kg			121,55/1 kg

For further information, please see page 1343

Standards for AAS: (Atom Absorption Spectroscopy) Element Standards 1000 mg/l, ready to use

Aluminium AAS Standard Solution

1000 mg/l Al

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Al) as $\text{Al}(\text{NO}_3)_3$ in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2212.1	100 ml	HDPE	14,95 €
2212.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Antimony AAS Standard Solution

1000 mg/l Sb

UN No. 1789 • ADR 8 II • WGK 1

  **Warning** H290-H335-H315-H319

Type analysis:

c (Sb) as Sb in 20 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2223.1	100 ml	HDPE	14,95 €
2223.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Arsenic AAS Standard Solution

1000 mg/l As

UN No. 3264 • ADR 8 II • WGK 3

  **Danger** H290-H315-H319-H350-H412

Type analysis:

c (As) as As_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2224.1	100 ml	HDPE	14,95 €
2224.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Barium AAS Standard Solution

1000 mg/l Ba

UN No. 3264 • ADR 8 III

 **Warning** H290

Type analysis:

c (Ba) as $\text{Ba}(\text{NO}_3)_2$ in 1 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2225.1	100 ml	HDPE	14,95 €
2225.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Beryllium AAS Standard Solution

1000 mg/l Be

UN No. 2922 • ADR 8 (6.1) III • WGK 2

   **Danger** H290-H302+H332-H311-H315-H319-H350i-EUH208

Type analysis:

c (Be) as BeO in 2 % HNO_3 / 0,5 % HF 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2226.1	100 ml	HDPE	24,20 €
2226.2	500 ml	HDPE	43,55 €

For further information, please see page 1568

Bismuth AAS Standard Solution

1000 mg/l Bi

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Bi) as Bi in 3 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2227.1	100 ml	HDPE	14,95 €
2227.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Boron AAS Standard Solution

1000 mg/l B

Type analysis:

c (B) as H_3BO_3 in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2237.1	100 ml	HDPE	14,95 €
2237.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Cadmium AAS Standard Solution

1000 mg/l Cd

UN No. 3264 • ADR 8 III • WGK 2

 **Warning** H290-H315-H319

Type analysis:

c (Cd) as Cd in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2238.1	100 ml	HDPE	14,95 €
2238.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Caesium AAS Standard Solution

1000 mg/l Cs

UN No. 3264 • ADR 8 III

 **Warning** H290-H315-H319

Type analysis:

c (Cs) as CsNO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2239.1	100 ml	HDPE	25,30 €
2239.2	500 ml	HDPE	39,70 €

For further information, please see page 1568

Calcium AAS Standard Solution

1000 mg/l Ca

UN No. 3264 • ADR 8 III

 **Warning** H290-H315-H319

Type analysis:

c (Ca) as CaCO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2240.1	100 ml	HDPE	14,95 €
2240.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Chromium AAS Standard Solution

1000 mg/l Cr

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Cr) as $\text{Cr}(\text{NO}_3)_3$ in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2250.1	100 ml	HDPE	14,95 €
2250.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Cobalt AAS Standard Solution

1000 mg/l Co

UN No. 3264 • ADR 8 III • WGK 1

   **Danger** H290-H315-H319-H350i-H360F-H411-EUH208

Type analysis:

c (Co) as Co in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2251.1	100 ml	HDPE	14,95 €
2251.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Copper AAS Standard Solution

1000 mg/l Cu

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319-H412

Type analysis:

c (Cu) as Cu in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2329.1	100 ml	HDPE	14,95 €
2329.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Gold AAS Standard Solution

1000 mg/l Au

UN No. 1789 • ADR 8 III • WGK 1

 **Warning** H290-EUH208

Type analysis:

c (Au) as Au in 2 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2258.1	100 ml	glass	41,85 €
2258.2	500 ml	glass	113,45 €

For further information, please see page 1568

Standards

Indium AAS Standard Solution

1000 mg/l In

UN No. 3264 • ADR 8 III

⚠ Warning H290-H315-H319

Type analysis:

c (In) as In in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2284.1	100 ml	HDPE	29,80 €

For further information, please see page 1568

Iron AAS Standard Solution

1000 mg/l Fe

UN No. 3264 • ADR 8 III

⚠ Warning H290-H315-H319

Type analysis:

c (Fe) as Fe in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2252.1	100 ml	HDPE	14,95 €

2252.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Lead AAS Standard Solution

1000 mg/l Pb

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Pb) as Pb in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2228.1	100 ml	HDPE	14,95 €

2228.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Lithium AAS Standard Solution

1000 mg/l Li

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Li) as Li₂CO₃ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2332.1	100 ml	HDPE	14,95 €

2332.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Magnesium AAS Standard Solution

1000 mg/l Mg

UN No. 3264 • ADR 8 III

⚠ Warning H290-H315-H319

Type analysis:

c (Mg) as Mg in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2333.1	100 ml	HDPE	14,95 €

2333.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Manganese AAS Standard Solution

1000 mg/l Mn

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Mn) as Mn in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2334.1	100 ml	HDPE	14,95 €

2334.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Mercury AAS Standard Solution

1000 mg/l Hg

UN No. 2031 • ADR 8 II • WGK 2

⚠ ⚠ Danger H290-H314-H373

Type analysis:

c (Hg) as Hg in 10 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2346.1	100 ml	glass	14,95 €

2346.2	500 ml	glass	22,40 €

For further information, please see page 1568

Molybdenum AAS Standard Solution

1000 mg/l Mo

UN No. 3266 • ADR 8 III • WGK 1

⚠ ⚠ Danger H290-H315-H318

Type analysis:

c (Mo) as (NH₄)₆Mo₇O₂₄ in 4 % NH₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2335.1	100 ml	HDPE	14,95 €

2335.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Nickel AAS Standard Solution

1000 mg/l Ni

UN No. 3264 • ADR 8 III • WGK 2

⚠ ⚠ ⚠ ⚠ Danger H290-H315-H319-
H317-H350i-H360D-H373-H411

Type analysis:

c (Ni) as Ni in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2339.1	100 ml	HDPE	14,95 €

2339.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Palladium AAS Standard Solution

1000 mg/l Pd

UN No. 2031 • ADR 8 II • WGK 1

⚠ ⚠ Danger H290-H315-H318

Type analysis:

c (Pd) as Pd in 3 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2340.1	100 ml	glass	62,90 €

For further information, please see page 1568

Phosphor AAS Standard Solution

1000 mg/l P

Type analysis:

c (P) as NH₄H₂PO₄ in H₂O 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2599.1	100 ml	HDPE	14,95 €

2599.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Platinum AAS Standard Solution

1000 mg/l Pt

UN No. 1789 • ADR 8 II • WGK 1

⚠ ⚠ Warning

H290-H315-H319-H335-EUH208

Type analysis:

c (Pt) as Pt in 10 % HCl 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2341.1	100 ml	glass	104,85 €

2341.2	500 ml	glass	403,15 €

For further information, please see page 1568

Potassium AAS Standard Solution

1000 mg/l K

UN No. 3264 • ADR 8 III

⚠ ⚠ Warning H290-H315-H319

Type analysis:

c (K) as KNO₃ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2327.1	100 ml	HDPE	14,95 €

2327.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Scandium AAS Standard Solution

1000 mg/l Sc

UN No. 3264 • ADR 8 III

⚠ ⚠ Warning H290-H315-H319

Type analysis:

c (Sc) as Sc₂O₃ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2347.1	100 ml	HDPE	68,50 €

2347.2	500 ml	HDPE	211,25 €

For further information, please see page 1568

Selenium AAS Standard Solution

1000 mg/l Se

UN No. 3264 • ADR 8 III • WGK 1

⚠ ⚠ Warning H290-H315-H319

Type analysis:

c (Se) as Se in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2348.1	100 ml	HDPE	14,95 €

2348.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Silicon AAS Standard Solution

1000 mg/l Si

Type analysis:

c (Si) as $(\text{NH}_4)_2\text{SiF}_6$ in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2350.1	100 ml	HDPE	14,95 €
2350.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Silicon AAS Standard Solution

1000 mg/l Si

UN No. 1824 • ADR 8 III

 **Warning** H290-H315-H319

Type analysis:

c (Si) as Na_2SiO_3 in 0,5 % NaOH 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2351.1	100 ml	HDPE	14,95 €

For further information, please see page 1568

Silver AAS Standard Solution

1000 mg/l Ag

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Ag) as AgNO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2349.1	100 ml	HDPE	14,95 €
2349.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Sodium AAS Standard Solution

1000 mg/l Na

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Na) as Na_2CO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2337.1	100 ml	HDPE	14,95 €
2337.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Strontium AAS Standard Solution

1000 mg/l Sr

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Sr) as $\text{Sr}(\text{NO}_3)_2$ in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2352.1	100 ml	HDPE	14,95 €
2352.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Tellurium AAS Standard Solution

1000 mg/l Te

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Te) as Te in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2353.1	100 ml	HDPE	19,05 €
2353.2	500 ml	HDPE	26,80 €

For further information, please see page 1568

Thallium AAS Standard Solution

1000 mg/l Tl

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Tl) as TlNO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2354.1	100 ml	HDPE	19,05 €
2354.2	500 ml	HDPE	26,80 €

For further information, please see page 1568

Tin AAS Standard Solution

1000 mg/l Sn

UN No. 1789 • ADR 8 II • WGK 1

 **Warning** H290-H315-H319-H335

Type analysis:

c (Sn) as Sn in 10 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2384.1	100 ml	HDPE	14,95 €
2384.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Titanium AAS Standard Solution

1000 mg/l Ti

UN No. 3264 • ADR 8 III • WGK 3

  **Warning**

H290-H302+H312+H332-H315-H319

Type analysis:

c (Ti) as Ti in 2 % HNO_3 /0,1 % HF ... 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2355.1	100 ml	HDPE	14,95 €
2355.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Tungsten AAS Standard Solution

1000 mg/l W

UN No. 3266 • ADR 8 III • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (W) as WO_3 in 4 % NH_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2361.1	100 ml	HDPE	19,05 €
2361.2	500 ml	HDPE	26,80 €

For further information, please see page 1568

Vanadium AAS Standard Solution

1000 mg/l V

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (V) as NH_4VO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2360.1	100 ml	HDPE	14,95 €
2360.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Yttrium AAS Standard Solution

1000 mg/l Y

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Y) as Y_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2371.1	100 ml	HDPE	19,05 €
2371.2	500 ml	HDPE	31,10 €

For further information, please see page 1568

Zinc AAS Standard Solution

1000 mg/l Zn

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Zn) as Zn in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2383.1	100 ml	HDPE	14,95 €
2383.2	500 ml	HDPE	22,40 €

For further information, please see page 1568

Zirconium AAS Standard Solution

1000 mg/l Zr

UN No. 2922 • ADR 8 (6.1) III • WGK 2

  **Danger** H290-H302+H332-H311-H315-H319

Type analysis:

c (Zr) as ZrOCl_2 in 5 % HCl /0,5 % HF 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2396.1	100 ml	HDPE	19,05 €
2396.2	500 ml	HDPE	26,80 €

For further information, please see page 1568

Europium ICP Standard Solution

1000 mg/l Eu

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Eu) as Eu_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2414.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Gadolinium ICP Standard Solution

1000 mg/l Gd

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Gd) as Gd_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2416.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Gallium ICP Standard Solution

1000 mg/l Ga

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Ga) as Ga in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2418.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Germanium ICP Standard Solution

1000 mg/l Ge

UN No. 2922 • ADR 8 (6.1) III • WGK 2

  **Danger**

H290-H302+H332-H311-H315-H319

Type analysis:

c (Ge) as Ge in 2 % $\text{HNO}_3/0,5$ % HF 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2419.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Gold ICP Standard Solution

1000 mg/l Au

UN No. 1789 • ADR 8 III • WGK 1

 **Warning** H290-EUH208

Type analysis:

c (Au) as Au in 2 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2420.1	100 ml	LDPE	144,60 €

For further information, please see page 1570

Hafnium ICP Standard Solution

1000 mg/l Hf

UN No. 2922 • ADR 8 (6.1) III • WGK 1

  **Danger**

H290-H302+H332-H311-H319

Type analysis:

c (Hf) as HfO_2 in 2 % HCl/0,5 % HF 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2421.1	100 ml	HDPE	133,85 €

For further information, please see page 1570

Holmium ICP Standard Solution

1000 mg/l Ho

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Ho) as Ho_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2422.1	100 ml	HDPE	63,45 €

For further information, please see page 1570

Indium ICP Standard Solution

1000 mg/l In

UN No. 3264 • ADR 8 III

 **Warning** H290-H315-H319

Type analysis:

c (In) as In in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2423.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Iridium ICP Standard Solution

1000 mg/l Ir

UN No. 1789 • ADR 8 II • WGK 1

  **Warning** H290-H315-H319-H335

Type analysis:

c (Ir) as IrCl_3 in 10 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2424.1	100 ml	LDPE	170,95 €

For further information, please see page 1570

Iron ICP Standard Solution

1000 mg/l Fe

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Fe) as $\text{Fe}(\text{NO}_3)_3$ in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2421.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Lanthanum ICP Standard Solution

1000 mg/l La

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (La) as La_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2427.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Lead ICP Standard Solution

1000 mg/l Pb

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Pb) as $\text{Pb}(\text{NO}_3)_2$ in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2403.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Lithium ICP Standard Solution

1000 mg/l Li

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Li) as Li_2CO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2428.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Lutetium ICP Standard Solution

1000 mg/l Lu

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Lu) as Lu_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2429.1	100 ml	HDPE	121,40 €

For further information, please see page 1570

Magnesium ICP Standard Solution

1000 mg/l Mg

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Mg) as Mg in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2430.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Manganese ICP Standard Solution

1000 mg/l Mn

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Mn) as Mn in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2437.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Mercury ICP Standard Solution

1000 mg/l Hg

UN No. 2031 • ADR 8 II • WGK 2

⚠ ⚠ Danger H290-H314-H373

Type analysis:

c (Hg) as HgO in 10 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2453.1	100 ml	LDPE	46,15 €

For further information, please see page 1570

Molybdenum ICP Standard Solution

1000 mg/l Mo

UN No. 3266 • ADR 8 III • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Mo) as MoO₃ in 4 % NH₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2438.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Neodymium ICP Standard Solution

1000 mg/l Nd

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Nd) as Nd₂O₃ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2443.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Nickel ICP Standard Solution

1000 mg/l Ni

UN No. 3264 • ADR 8 III • WGK 2

⚠ ⚠ ⚠ ⚠ Danger H290-H315-H319-H317-H350i-H360D-H373-H411

Type analysis:

c (Ni) as Ni in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2444.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Niobium ICP Standard Solution

1000 mg/l Nb

UN No. 2922 • ADR 8 (6.1) III • WGK 1

⚠ ⚠ ⚠ Danger H290-H315-H319-H302-H311

Type analysis:

c (Nb) as Nb in 2 % HNO₃/0,5 % HF 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2445.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Osmium ICP Standard Solution

1000 mg/l Os

UN No. 1789 • ADR 8 III • WGK 2

⚠ ⚠ Warning H290

Type analysis:

c (Os) as OsCl₃ in 2 % HCl 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2446.1	100 ml	HDPE	268,25 €

For further information, please see page 1570

Palladium ICP Standard Solution

1000 mg/l Pd

UN No. 2031 • ADR 8 II • WGK 1

⚠ ⚠ Danger H290-H315-H318

Type analysis:

c (Pd) as Pd in 3 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2447.1	100 ml	LDPE	147,85 €

For further information, please see page 1570

Phosphorus ICP Standard Solution

1000 mg/l P

Type analysis:

c (P) as NH₄H₂PO₄ in H₂O 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2451.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Platinum ICP Standard Solution

1000 mg/l Pt

UN No. 1789 • ADR 8 II • WGK 1

⚠ ⚠ ⚠ Warning H290-H315-H319-H335-EUH208

Type analysis:

c (Pt) as Pt in 10 % HCl 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2448.1	100 ml	LDPE	170,95 €

For further information, please see page 1570

Potassium ICP Standard Solution

1000 mg/l K

UN No. 3264 • ADR 8 III • WGK 1

⚠ ⚠ Warning H290-H315-H319

Type analysis:

c (K) as KNO₃ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2425.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Praseodymium ICP Standard Solution

1000 mg/l Pr

UN No. 2031 • ADR 8 II • WGK 1

⚠ ⚠ Danger H290-H315-H318

Type analysis:

c (Pr) as Pr₆O₁₁ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2452.1	100 ml	HDPE	49,35 €

For further information, please see page 1570

Rhenium ICP Standard Solution

1000 mg/l Re

UN No. 3264 • ADR 8 III • WGK 1

⚠ ⚠ Warning H290-H315-H319

Type analysis:

c (Re) as Re in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2454.1	100 ml	HDPE	68,70 €

For further information, please see page 1570

Rhodium ICP Standard Solution

1000 mg/l Rh

UN No. 1789 • ADR 8 III • WGK 1

⚠ ⚠ Warning H290

Type analysis:

c (Rh) as RhCl₃ in 5 % HCl 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2455.1	100 ml	LDPE	360,15 €

For further information, please see page 1570

Rubidium ICP Standard Solution

1000 mg/l Rb

UN No. 3264 • ADR 8 III • WGK 1

⚠ ⚠ Warning H290-H315-H319

Type analysis:

c (Rb) as RbNO₃ in 2 % HNO₃ 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2456.1	100 ml	HDPE	46,15 €

For further information, please see page 1570

Ruthenium ICP Standard Solution**1000 mg/l Ru**

UN No. 1789 • ADR 8 III • WGK 1

 **Warning H290****Type analysis:**c (Ru) as RuCl_3 in 5 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2457.1	100 ml	LDPE	192,45 €

For further information, please see page 1570

Samarium ICP Standard Solution**1000 mg/l Sm**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Sm) as Sm_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2458.1	100 ml	HDPE	49,35 €

For further information, please see page 1571

Scandium ICP Standard Solution**1000 mg/l Sc**

UN No. 3264 • ADR 8 III

 **Warning H290-H315-H319****Type analysis:**c (Sc) as Sc_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2459.1	100 ml	HDPE	97,75 €

For further information, please see page 1571

Selenium ICP Standard Solution**1000 mg/l Se**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Se) as Se in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2461.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Silicon ICP Standard Solution**1000 mg/l Si****Type analysis:**c (Si) as $(\text{NH}_4)_2\text{SiF}_6$ in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2469.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Silver ICP Standard Solution**1000 mg/l Ag**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Ag) as AgNO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2468.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Sodium ICP Standard Solution**1000 mg/l Na**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Na) as NaNO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2439.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Strontium ICP Standard Solution**1000 mg/l Sr**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Sr) as $\text{Sr}(\text{NO}_3)_2$ in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2470.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Sulphur ICP Standard Solution**1000 mg/l S****Type analysis:**c (S) as $(\text{NH}_4)_2\text{SO}_4$ in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2460.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Tantalum ICP Standard Solution**1000 mg/l Ta**

UN No. 2922 • ADR 8 (6.1) III • WGK 2

  **Danger**

H290-H302+H332-H311-H315-H319

Type analysis:c (Ta) as Ta in 1 % $\text{HNO}_3/0,5$ % HF 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2471.1	100 ml	HDPE	49,35 €

For further information, please see page 1571

Tellurium ICP Standard Solution**1000 mg/l Te**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Te) as Te in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2472.1	100 ml	HDPE	51,50 €

For further information, please see page 1571

Terbium ICP Standard Solution**1000 mg/l Tb**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Tb) as Tb_4O_7 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2476.1	100 ml	HDPE	97,75 €

For further information, please see page 1571

Thallium ICP Standard Solution**1000 mg/l Tl**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Tl) as TlNO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2477.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Thulium ICP Standard Solution**1000 mg/l Tm**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning H290-H315-H319****Type analysis:**c (Tm) as Tm_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2478.1	100 ml	HDPE	177,95 €

For further information, please see page 1571

Tin ICP Standard Solution**1000 mg/l Sn**

UN No. 1789 • ADR 8 II • WGK 1

  **Warning H290-H335-H315-H319****Type analysis:**c (Sn) as SnO in 10 % HCl 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2486.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Titanium ICP Standard Solution

1000 mg/l Ti

UN No. 3264 • ADR 8 III • WGK 3

⚠ **Warning** H290-H302+H332+H312-H315-H319

Type analysis:

c (Ti) as $(\text{NH}_4)_2\text{TiF}_6$ in 2 % HNO_3 /0,1 % HF..... 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2479.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Tungsten ICP Standard Solution

1000 mg/l W

UN No. 3266 • ADR 8 III • WGK 1

⚠ **Danger** H290-H315-H318

Type analysis:

c (W) as WO_3 in 4 % NH_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2482.1	100 ml	HDPE	49,35 €

For further information, please see page 1571

Vanadium ICP Standard Solution

1000 mg/l V

UN No. 3264 • ADR 8 III • WGK 2

⚠ **Warning** H290-H315-H319

Type analysis:

c (V) as NH_4VO_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2480.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Ytterbium ICP Standard Solution

1000 mg/l Yb

UN No. 3264 • ADR 8 III • WGK 1

⚠ **Warning** H290-H315-H319

Type analysis:

c (Yb) as Yb_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2483.1	100 ml	HDPE	49,35 €

For further information, please see page 1571

Yttrium ICP Standard Solution

1000 mg/l Y

UN No. 3264 • ADR 8 III • WGK 1

⚠ **Warning** H290-H315-H319

Type analysis:

c (Y) as Y_2O_3 in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2484.1	100 ml	HDPE	49,35 €

For further information, please see page 1571

Zinc ICP Standard Solution

1000 mg/l Zn

UN No. 3264 • ADR 8 III • WGK 1

⚠ **Warning** H290-H315-H319

Type analysis:

c (Zn) as ZnO in 2 % HNO_3 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2485.1	100 ml	HDPE	46,15 €

For further information, please see page 1571

Zirconium ICP Standard Solution

1000 mg/l Zr

UN No. 2922 • ADR 8 (6.1) III • WGK 2

⚠ **Danger** H290-H302+H332-H311-H315-H319

Type analysis:

c (Zr) as ZrOCl_2 in 5 % HCl /0,5 % HF..... 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2487.1	100 ml	HDPE	49,35 €

For further information, please see page 1571

**Standards for ICP:
(Inductively Coupled
Spectroscopy)
Element Standards 10000 mg/l,
ready to use**

Aluminium ICP Standard Solution

10000 mg/l Al

UN No. 3264 • ADR 8 III • WGK 1

⚠ **Warning** H290-H315-H319

Type analysis:

c (Al) as $\text{Al}(\text{NO}_3)_3$ in 2 % HNO_3 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2488.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Antimony ICP Standard Solution

10000 mg/l Sb

UN No. 1789 • ADR 8 II • WGK 1

⚠ **Warning** H290-H335-H315-H319

Type analysis:

c (Sb) as Sb in 20 % HCl 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2489.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Arsenic ICP Standard Solution

10000 mg/l As

UN No. 3264 • ADR 8 III • WGK 3

⚠ **Danger** H290-H315-H319-H350-H412

Type analysis:

c (As) as H_3AsO_4 in 2 % HNO_3 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2491.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Barium ICP Standard Solution

10000 mg/l Ba

UN No. 3264 • ADR 8 III • WGK 1

⚠ **Warning** H290-H315-H319

Type analysis:

c (Ba) as $\text{Ba}(\text{NO}_3)_2$ in 1 % HNO_3 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2492.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Beryllium ICP Standard Solution

10000 mg/l Be

UN No. 3289 • ADR 6.1 (8) I • WGK 2

⚠ **Danger** H290-H301+H311+H331-H314-H317-H350i-H373

Type analysis:

c (Be) as BeO in 5 % HNO_3 /1 % HF..... 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2496.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Bismuth ICP Standard Solution

10000 mg/l Bi

UN No. 2031 • ADR 8 II • WGK 1

⚠ **Danger** H290-H315-H318

Type analysis:

c (Bi) as Bi in 3 % HNO_3 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2497.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Boron ICP Standard Solution

10000 mg/l B

WGK 1

⚠ **Danger** H360FD

Type analysis:

c (B) as H_3BO_3 in H_2O 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2500.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Cadmium ICP Standard Solution

10000 mg/l Cd

UN No. 3264 • ADR 8 III • WGK 2

⚠ **Warning** H290-H315-H319-H412

Type analysis:

c (Cd) as $\text{Cd}(\text{NO}_3)_2$ in 2 % HNO_3 ... 10000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2501.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Caesium ICP Standard Solution

10000 mg/l Cs

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Cs) as CsNO₃ in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2502.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Calcium ICP Standard Solution

10000 mg/l Ca

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Ca) as CaCO₃ in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2503.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Cerium ICP Standard Solution

10000 mg/l Ce

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (Ce) as Ce(NO₃)₃ in 3 % HNO₃ ... 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2504.1	100 ml	HDPE	90,85 €

For further information, please see page 1570

Chromium ICP Standard Solution

10000 mg/l Cr

UN No. 2031 • ADR 8 II • WGK 2

 **Danger** H290-H315-H318

Type analysis:

c (Cr) as Cr(NO₃)₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2505.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Cobalt ICP Standard Solution

10000 mg/l Co

UN No. 2031 • ADR 8 II • WGK 2

   **Danger** H290-H315-H318-H317-H334-H341-H350i-H360F-H410

Type analysis:

c (Co) as Co in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2506.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Copper ICP Standard Solution

10000 mg/l Cu

UN No. 2031 • ADR 8 II • WGK 2

  **Danger** H290-H315-H318-H411

Type analysis:

c (Cu) as Cu in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2520.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Dysprosium ICP Standard Solution

10000 mg/l Dy

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (Dy) as Dy₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2507.1	100 ml	HDPE	98,80 €

For further information, please see page 1570

Erbium ICP Standard Solution

10000 mg/l Er

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (Er) as Er₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2509.1	100 ml	HDPE	90,85 €

For further information, please see page 1570

Europium ICP Standard Solution

10000 mg/l Eu

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

c (Eu) as Eu₂O₃ in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2510.1	100 ml	HDPE	109,55 €

For further information, please see page 1570

Gadolinium ICP Standard Solution

10000 mg/l Gd

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (Gd) as Gd₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2511.1	100 ml	HDPE	98,80 €

For further information, please see page 1570

Gallium ICP Standard Solution

10000 mg/l Ga

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (Ga) as Ga in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2512.1	100 ml	HDPE	98,80 €

For further information, please see page 1570

Germanium ICP Standard Solution

10000 mg/l Ge

UN No. 2922 • ADR 8 (6.1) III • WGK 1

  **Danger** H290-H315-H319-H302+H332-H311

Type analysis:

c (Ge) as Ge in 2 % HNO₃/0,5 % HF 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2513.1	100 ml	HDPE	109,55 €

For further information, please see page 1570

Gold ICP Standard Solution

10000 mg/l Au

UN No. 1789 • ADR 8 II • WGK 1

  **Warning** H290-H317-H315-H319

Type analysis:

c (Au) as Au in 5 % HCl 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2514.1	100 ml	LDPE	418,20 €

For further information, please see page 1570

Hafnium ICP Standard Solution

10000 mg/l Hf

UN No. 3289 • ADR 6.1 (8) II • WGK 2

  **Danger** H290-H314-H301+H311

Type analysis:

c (Hf) as HfO₂ in 5 % HNO₃/2 % HF 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2515.1	100 ml	HDPE	332,20 €

For further information, please see page 1570

Holmium ICP Standard Solution

10000 mg/l Ho

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318

Type analysis:

c (Ho) as Ho₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2516.1	100 ml	HDPE	252,10 €

For further information, please see page 1570

Standards

Indium ICP Standard Solution

10000 mg/l In

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (In) as In in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2517.1	100 ml	HDPE	98,80 €

For further information, please see page 1570

Iridium ICP Standard Solution

10000 mg/l Ir

UN No. 1789 • ADR 8 II • WGK 1

⚠ Warning H290-H315-H319-H335

Type analysis:

c (Ir) as IrCl₃ in 10 % HCl 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2518.1	100 ml	LDPE	611,70 €

For further information, please see page 1570

Iron ICP Standard Solution

10000 mg/l Fe

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Fe) as Fe in 4 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2508.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Lanthanum ICP Standard Solution

10000 mg/l La

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (La) as La₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2521.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Lead ICP Standard Solution

10000 mg/l Pb

UN No. 2031 • ADR 8 II • WGK 2

⚠ ⚠ Danger H290-H315-H318-H360D-H373-H412-EUH201

Type analysis:

c (Pb) as Pb(NO₃)₂ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2499.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Lithium ICP Standard Solution

10000 mg/l Li

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Li) as LiNO₃ in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2522.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Lutetium ICP Standard Solution

10000 mg/l Lu

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Lu) as Lu₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2523.1	100 ml	HDPE	424,65 €

For further information, please see page 1570

Magnesium ICP Standard Solution

10000 mg/l Mg

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

c (Mg) as Mg in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2524.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Manganese ICP Standard Solution

10000 mg/l Mn

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Mn) as Mn in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2525.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Mercury ICP Standard Solution

10000 mg/l Hg

UN No. 2922 • ADR 8(6.1) II • WGK 2

⚠ ⚠ ⚠ Danger

H290-H314-H311-H302-H373-H412

Type analysis:

c (Hg) as HgO in 10 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2537.1	100 ml	LDPE	82,70 €

For further information, please see page 1570

Molybdenum ICP Standard Solution

10000 mg/l Mo

UN No. 3266 • ADR 8 III • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Mo) as MoO₃ in 4 % NH₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2526.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Neodymium ICP Standard Solution

10000 mg/l Nd

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Nd) as Nd₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2528.1	100 ml	HDPE	109,55 €

For further information, please see page 1570

Nickel ICP Standard Solution

10000 mg/l Ni

UN No. 3264 • ADR 8 III • WGK 3

⚠ ⚠ ⚠ Danger H290-H315-H334-H317-H318-H341-H350i-H360D-H372-H410

Type analysis:

c (Ni) as Ni in 2 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2529.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Niobium ICP Standard Solution

10000 mg/l Nb

UN No. 3289 • ADR 6.1 (8) II • WGK 2

⚠ ⚠ Danger

H290-H314-H301+H331-H310

Type analysis:

c (Nb) as Nb in 5 % HNO₃/5 % HF 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2531.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Palladium ICP Standard Solution

10000 mg/l Pd

UN No. 2031 • ADR 8 II • WGK 1

⚠ Danger H290-H315-H318

Type analysis:

c (Pd) as Pd in 4 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2532.1	100 ml	LDPE	534,85 €

For further information, please see page 1570

Phosphorus ICP Standard Solution**10000 mg/l P**

WGK 1

Type analysis:c (P) as $\text{NH}_4\text{H}_2\text{PO}_4$ in H_2O 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2534.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Platinum ICP Standard Solution**10000 mg/l Pt**

UN No. 1789 • ADR 8 II • WGK 1

 **Danger**

H334-H290-H318-H335-H315-H317

Type analysis:c (Pt) as Pt in 10 % HCl 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2533.1	100 ml	LDPE	654,70 €

For further information, please see page 1570

Potassium ICP Standard Solution**10000 mg/l K**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (K) as KNO_3 in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2519.1	100 ml	HDPE	82,70 €

For further information, please see page 1570

Praseodymium ICP Standard Solution**10000 mg/l Pr**

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H315-H318**Type analysis:**c (Pr) as Pr_6O_{11} in 3 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2536.1	100 ml	HDPE	90,85 €

For further information, please see page 1570

Rhenium ICP Standard Solution**10000 mg/l Re**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (Re) as Re in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2538.1	100 ml	HDPE	278,45 €

For further information, please see page 1570

Rubidium ICP Standard Solution**10000 mg/l Rb**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (Rb) as RbNO_3 in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2539.1	100 ml	HDPE	235,45 €

For further information, please see page 1570

Ruthenium ICP Standard Solution**10000 mg/l Ru**

UN No. 1789 • ADR 8 II • WGK 1

 **Danger** H290-H318-H335-H315**Type analysis:**c (Ru) as RuCl_3 in 10 % HCl 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2540.1	100 ml	LDPE	611,70 €

For further information, please see page 1570

Samarium ICP Standard Solution**10000 mg/l Sm**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (Sm) as Sm_2O_3 in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2541.1	100 ml	HDPE	107,40 €

For further information, please see page 1571

Selenium ICP Standard Solution**10000 mg/l Se**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (Se) as Se in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2543.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Silicon ICP Standard Solution**10000 mg/l Si**

WGK 2

 **Warning** H302**Type analysis:**c (Si) as $(\text{NH}_4)_2\text{SiF}_6$ in H_2O 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2546.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Silver ICP Standard Solution**10000 mg/l Ag**

UN No. 2031 • ADR 8 II • WGK 2

 **Danger** H290-H314-H412**Type analysis:**c (Ag) as AgNO_3 in 4 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2544.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Sodium ICP Standard Solution**10000 mg/l Na**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (Na) as NaNO_3 in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2527.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Strontium ICP Standard Solution**10000 mg/l Sr**

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319**Type analysis:**c (Sr) as $\text{Sr}(\text{NO}_3)_2$ in 2 % HNO_3 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2547.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Sulphur ICP Standard Solution**10000 mg/l S**

WGK 1

Type analysis:c (S) as $(\text{NH}_4)_2\text{SO}_4$ in H_2O 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2542.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Tantalum ICP Standard Solution**10000 mg/l Ta**

UN No. 2922 • ADR 8 (6.1) III • WGK 1

 **Danger**

H290-H302+H332-H311-H319-H315

Type analysis:c (Ta) as Ta in 1 % $\text{HNO}_3/0,5\%$ HF 10000 mg/l $\pm 0,2\%$
Traceable to SRM from NIST.

2548.1	100 ml	HDPE	90,85 €

For further information, please see page 1571

Tellurium ICP Standard Solution

10000 mg/l Te

UN No. 2031 • ADR 8 II • WGK 1

⚠️ Danger H290-H314

Type analysis:

c (Te) as Te in 20 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2549.1	100 ml	HDPE	90,85 €

For further information, please see page 1571

Terbium ICP Standard Solution

10000 mg/l Tb

UN No. 2031 • ADR 8 II • WGK 1

⚠️ Danger H290-H315-H318

Type analysis:

c (Tb) as Tb₄O₇ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2550.1	100 ml	HDPE	568,70 €

For further information, please see page 1571

Thallium ICP Standard Solution

10000 mg/l Tl

UN No. 2922 • ADR 8(6.1) II • WGK 2

⚠️ ⚠️ Danger H290-H314-H301+H331

Type analysis:

c (Tl) as TlNO₃ in 5 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2552.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Tin ICP Standard Solution

10000 mg/l Sn

UN No. 1789 • ADR 8 II • WGK 1

⚠️ ⚠️ Danger H290-H314-H335

Type analysis:

c (Sn) as Sn in 20 % HCl 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2583.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Titanium ICP Standard Solution

10000 mg/l Ti

UN No. 3264 • ADR 8 III • WGK 3

⚠️ ⚠️ Warning H290-H315-H319-
H302+H312+H332

Type analysis:

c (Ti) as (NH₄)₂TiF₆ in 2 % HNO₃/0,1 % HF 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2561.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Tungsten ICP Standard Solution

10000 mg/l W

UN No. 2672 • ADR 8 III • WGK 2

⚠️ ⚠️ Danger H290-H314-H335

Type analysis:

c (W) as WO₃ in 10 % NH₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2571.1	100 ml	HDPE	90,85 €

For further information, please see page 1571

Vanadium ICP Standard Solution

10000 mg/l V

UN No. 2031 • ADR 8 II • WGK 2

⚠️ ⚠️ Danger H290-H315-H318

Type analysis:

c (V) as NH₄VO₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2567.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Ytterbium ICP Standard Solution

10000 mg/l Yb

UN No. 2031 • ADR 8 II • WGK 1

⚠️ ⚠️ Danger H290-H315-H318

Type analysis:

c (Yb) as Yb₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2572.1	100 ml	HDPE	150,40 €

For further information, please see page 1571

Yttrium ICP Standard Solution

10000 mg/l Y

UN No. 2031 • ADR 8 II • WGK 1

⚠️ ⚠️ Danger H290-H315-H318

Type analysis:

c (Y) as Y₂O₃ in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2574.1	100 ml	HDPE	90,85 €

For further information, please see page 1571

Zinc ICP Standard Solution

10000 mg/l Zn

UN No. 2031 • ADR 8 II • WGK 2

⚠️ ⚠️ Danger H290-H315-H318-H412

Type analysis:

c (Zn) as ZnO in 3 % HNO₃ 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2576.1	100 ml	HDPE	82,70 €

For further information, please see page 1571

Zircon ICP Standard Solution

10000 mg/l Zr

UN No. 2922 • ADR 8 (6.1) III • WGK 2

⚠️ ⚠️ ⚠️ Danger H290-H302+H332-H311-
H315-H319

Type analysis:

c (Zr) as ZrOCl₂ in 5 % HCl/0,5 % HF 10000 mg/l ±0,2 %
Traceable to SRM from NIST.

2584.1	100 ml	HDPE	90,85 €

For further information, please see page 1571

**Standards for ICP:
(Inductively Coupled
Spectroscopy)
Multi-Element Standards**

ICP Multi-Element Standard Solution I

19 elements in 5 % nitric acid

UN No. 2031 • ADR 8 II • WGK 1

⚠️ ⚠️ Danger H290-H314

Type analysis:

Ag (Silver).....	50 mg/l
Al (Aluminium).....	100 mg/l
B (Boron).....	15 mg/l
Ba (Barium).....	5 mg/l
Be (Beryllium).....	1 mg/l
Bi (Bismuth).....	200 mg/l
Cd (Cadmium).....	20 mg/l
Co (Cobalt).....	20 mg/l
Cr (Chromium).....	25 mg/l
Cu (Copper).....	20 mg/l
Fe (Iron).....	15 mg/l
Ga (Gallium).....	150 mg/l
In (Indium).....	200 mg/l
Mn (Manganese).....	5 mg/l
Ni (Nickel).....	50 mg/l
Pb (Lead).....	200 mg/l
Sr (Strontium).....	1 mg/l
Tl (Thallium).....	400 mg/l
Zn (Zinc).....	20 mg/l

Traceable to SRM from NIST.

2636.1	100 ml	HDPE	97,75 €

For further information, please see page 1571

ICP Multi-Element Standard Solution III

4 elements in 2 % nitric acid

UN No. 3264 • ADR 8 III • WGK 1

⚠️ ⚠️ Warning H290-H315-H319

Type analysis:

Ba (Barium).....	1000 mg/l
Ca (Calcium).....	1000 mg/l
Mg (Magnesium).....	1000 mg/l
Sr (Strontium).....	1000 mg/l

Traceable to SRM from NIST.

2637.1	100 ml	HDPE	74,10 €

For further information, please see page 1571

ICP Multi-Element Standard Solution IV**23 elements in 2 % nitric acid**

UN No. 3264 • ADR 8 III • WGK 2

Danger H290-H315-H319-H317-H350i-H360FD-H373-H411

Type analysis:

Ag (Silver).....	1000 mg/l
Al (Aluminium).....	1000 mg/l
B (Boron).....	1000 mg/l
Ba (Barium).....	1000 mg/l
Bi (Bismuth).....	1000 mg/l
Ca (Calcium).....	1000 mg/l
Cd (Cadmium).....	1000 mg/l
Co (Cobalt).....	1000 mg/l
Cr (Chromium).....	1000 mg/l
Cu (Copper).....	1000 mg/l
Fe (Iron).....	1000 mg/l
Ga (Gallium).....	1000 mg/l
In (Indium).....	1000 mg/l
K (Potassium).....	1000 mg/l
Li (Lithium).....	1000 mg/l
Mg (Magnesium).....	1000 mg/l
Mn (Manganese).....	1000 mg/l
Na (Sodium).....	1000 mg/l
Ni (Nickel).....	1000 mg/l
Pb (Lead).....	1000 mg/l
Sr (Strontium).....	1000 mg/l
Tl (Thallium).....	1000 mg/l
Zn (Zinc).....	1000 mg/l
Traceable to SRM from NIST.	

2638.1	100 ml	HDPE	181,70 €

For further information, please see page 1571

ICP Multi-Element Standard Solution VIII**24 elements in 2 % nitric acid**

UN No. 3264 • ADR 8 III • WGK 1

Danger

H290-H315-H319-H317-H350-H412

Type analysis:

Al (Aluminium).....	100 mg/l
B (Boron).....	100 mg/l
Ba (Barium).....	100 mg/l
Be (Beryllium).....	100 mg/l
Bi (Bismuth).....	100 mg/l
Ca (Calcium).....	100 mg/l
Cd (Cadmium).....	100 mg/l
Co (Cobalt).....	100 mg/l
Cr (Chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (Iron).....	100 mg/l
Ga (Gallium).....	100 mg/l
K (Potassium).....	100 mg/l
Li (Lithium).....	100 mg/l
Mg (Magnesium).....	100 mg/l
Mn (Manganese).....	100 mg/l
Na (Sodium).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (Lead).....	100 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	100 mg/l
Te (Tellur).....	100 mg/l
Tl (Thallium).....	100 mg/l
Zn (Zinc).....	100 mg/l
Traceable to SRM from NIST.	

2639.1	100 ml	HDPE	128,50 €

For further information, please see page 1571

ICP Multi-Element Standard Solution IX**9 elements in 2 % nitric acid**

UN No. 3264 • ADR 8 III • WGK 1

Warning

H290-H315-H319-H317-H412

Type analysis:

As (Arsenic).....	100 mg/l
Be (Beryllium).....	100 mg/l
Cd (Cadmium).....	100 mg/l
Cr (Chromium).....	100 mg/l
Hg (Mercury).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (Lead).....	100 mg/l
Se (Selenium).....	100 mg/l
Tl (Thallium).....	100 mg/l
Traceable to SRM from NIST.	

2640.1	100 ml	HDPE	95,15 €

For further information, please see page 1571

ICP Multi-Element Standard Solution X**23 elements in 2 % nitric acid**

For surface water testing.

UN No. 3264 • ADR 8 III • WGK 1

Warning H290-H315-H319

Type analysis:

Ca (Calcium).....	35000 µg/l
Mg (Magnesium).....	15000 µg/l
Na (Sodium).....	8000 µg/l
K (Potassium).....	3000 µg/l
B (Boron).....	100 µg/l
Fe (Iron).....	100 µg/l
Mo (Molybdenum).....	100 µg/l
Sr (Strontium).....	100 µg/l
As (Arsenic).....	50 µg/l
Ba (Barium).....	50 µg/l
Ni (Nickel).....	50 µg/l
V (Vanadium).....	50 µg/l
Zn (Zinc).....	50 µg/l
Mn (Manganese).....	30 µg/l
Co (Cobalt).....	25 µg/l
Pb (Lead).....	25 µg/l
Be (Beryllium).....	20 µg/l
Cd (Cadmium).....	20 µg/l
Cr (Chromium).....	20 µg/l
Cu (Copper).....	20 µg/l
Bi (Bismuth).....	10 µg/l
Se (Selenium).....	10 µg/l
Tl (Thallium).....	10 µg/l
Traceable to SRM from NIST.	

2642.1	100 ml	HDPE	117,75 €

For further information, please see page 1571

ICP Multi-Element Standard Solution XI**7 elements in 2 % nitric acid**

For sludge testing.

UN No. 3264 • ADR 8 III • WGK 2

Warning

H290-H315-H319-H317-H412

Type analysis:

Cd (Cadmium).....	10 mg/l
Cr (Chromium).....	900 mg/l
Cu (Copper).....	800 mg/l
Hg (Mercury).....	8 mg/l
Ni (Nickel).....	200 mg/l
Pb (Lead).....	900 mg/l
Zn (Zinc).....	2500 mg/l
Traceable to SRM from NIST.	

2643.1	100 ml	HDPE	95,15 €

For further information, please see page 1571

ICP Multi-Element Standard Solution XIII**15 elements in 2 % nitric acid**

UN No. 3264 • ADR 8 III • WGK 2

Danger

H290-H315-H319-H317-H350-H412

Type analysis:

Al (Aluminium).....	500 mg/l
As (Arsenic).....	100 mg/l
Be (Beryllium).....	100 mg/l
Cd (Cadmium).....	25,0 mg/l
Co (Cobalt).....	100 mg/l
Cr (Chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (Iron).....	100 mg/l
Hg (Mercury).....	5,0 mg/l
Mn (Manganese).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (Lead).....	100 mg/l
Se (Selenium).....	25,0 mg/l
V (Vanadium).....	250 mg/l
Zn (Zinc).....	100 mg/l
Traceable to SRM from NIST.	

2644.1	100 ml	HDPE	170,95 €

For further information, please see page 1571

ICP Multi-Element Standard Solution XVI**21 elements in 2 % nitric acid**

UN No. 3264 • ADR 8 III • WGK 1

Danger

H290-H315-H319-H317-H350-H412

Type analysis:

As (Arsenic).....	100 mg/l
Be (Beryllium).....	100 mg/l
Ca (Calcium).....	100 mg/l
Cd (Cadmium).....	100 mg/l
Co (Cobalt).....	100 mg/l
Cr (Chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (Iron).....	100 mg/l
Li (Lithium).....	100 mg/l
Mg (Magnesium).....	100 mg/l
Mn (Manganese).....	100 mg/l
Mo (Molybdenum).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (Lead).....	100 mg/l
Sb (Antimony).....	100 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	100 mg/l
Ti (Titanium).....	100 mg/l
Tl (Thallium).....	100 mg/l
V (Vanadium).....	100 mg/l
Zn (Zinc).....	100 mg/l
Traceable to SRM from NIST.	

2645.1	100 ml	HDPE	160,75 €

For further information, please see page 1571

ICP Multi-Element Standard Solution XVII**7 elements in 15 % hydrochloric acid**

UN No. 1789 • ADR 8 II • WGK 1

Warning H290-H335-H315-H319

Type analysis:

Hf (Hafnium).....	100 mg/l
Ir (Iridium).....	100 mg/l
Sb (Antimony).....	100 mg/l
Sn (Tin).....	100 mg/l
Ta (Tantal).....	100 mg/l
Ti (Titanium).....	100 mg/l
Zr (Zirconium).....	100 mg/l
Traceable to SRM from NIST.	

2646.1	100 ml	HDPE	132,15 €

For further information, please see page 1571

ICP Multi-Element Standard Solution (22 elements, 1 mg/l)

22 elements in 5 % nitric acid - 1 mg/l

UN No. 2031 • ADR 8 II • WGK 1

 **Danger** H290-H314

Type analysis:

As (Arsenic).....	1 mg/l
Be (Beryllium).....	1 mg/l
Bi (Bismuth).....	1 mg/l
Ca (Calcium).....	1 mg/l
Cd (Cadmium).....	1 mg/l
Co (Cobalt).....	1 mg/l
Cr (Chrom).....	1 mg/l
Cu (Copper).....	1 mg/l
Fe (Iron).....	1 mg/l
Li (Lithium).....	1 mg/l
Mg (Magnesium).....	1 mg/l
Mn (Manganese).....	1 mg/l
Mo (Molybdenum).....	1 mg/l
Ni (Nickel).....	1 mg/l
Pb (Lead).....	1 mg/l
Sb (Antimony).....	1 mg/l
Se (Selenium).....	1 mg/l
Sr (Strontium).....	1 mg/l
Ti (Titanium).....	1 mg/l
Tl (Thallium).....	1 mg/l
V (Vanadium).....	1 mg/l
Zn (Zinc).....	1 mg/l

Traceable to SRM from NIST.

2647.1	100 ml	HDPE	53,65 €

For further information, please see page 1571

ICP Multi-Element Standard Solution (22 elements, 100 mg/l)

22 elements in 5 % nitric acid - 100 mg/l

UN No. 2031 • ADR 8 II • WGK 2

   **Danger**

H290-H314-H317-H350-H412

Type analysis:

As (Arsenic).....	100 mg/l
Be (Beryllium).....	100 mg/l
Bi (Bismuth).....	100 mg/l
Ca (Calcium).....	100 mg/l
Cd (Cadmium).....	100 mg/l
Co (Cobalt).....	100 mg/l
Cr (Chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (Iron).....	100 mg/l
Li (Lithium).....	100 mg/l
Mg (Magnesium).....	100 mg/l
Mn (Manganese).....	100 mg/l
Mo (Molybdenum).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (Lead).....	100 mg/l
Sb (Antimony).....	100 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	100 mg/l
Ti (Titanium).....	100 mg/l
Tl (Thallium).....	100 mg/l
V (Vanadium).....	100 mg/l
Zn (Zinc).....	100 mg/l

Traceable to SRM from NIST.

2648.1	100 ml	HDPE	181,70 €

For further information, please see page 1571

ICP Multi-Element Standard Solution (28 elements, 1 mg/l)

28 elements in 2 % nitric acid - 1 mg/l

UN No. 3264 • ADR 8 III • WGK 1

 **Warning** H290-H315-H319

Type analysis:

Al (Aluminium).....	1 mg/l
Ag (Silver).....	1 mg/l
As (Arsenic).....	1 mg/l
B (Boron).....	1 mg/l
Ba (Barium).....	1 mg/l
Be (Beryllium).....	1 mg/l
Bi (Bismuth).....	1 mg/l
Ca (Calcium).....	1 mg/l
Cd (Cadmium).....	1 mg/l
Co (Cobalt).....	1 mg/l
Cr (Chrom).....	1 mg/l
Cu (Copper).....	1 mg/l
Fe (Iron).....	1 mg/l
K (Potassium).....	1 mg/l
Li (Lithium).....	1 mg/l
Mg (Magnesium).....	1 mg/l
Mn (Manganese).....	1 mg/l
Mo (Molybdenum).....	1 mg/l
Na (Sodium).....	1 mg/l
Ni (Nickel).....	1 mg/l
Pb (Lead).....	1 mg/l
Sb (Antimony).....	1 mg/l
Se (Selenium).....	1 mg/l
Sr (Strontium).....	1 mg/l
Ti (Titanium).....	1 mg/l
Tl (Thallium).....	1 mg/l
V (Vanadium).....	1 mg/l
Zn (Zinc).....	1 mg/l

Traceable to SRM from NIST.

2649.1	100 ml	HDPE	73,00 €

For further information, please see page 1571

ICP Multi-Element Standard Solution (28 elements, 100 mg/l)

28 elements in 5 % nitric acid - 100 mg/l

UN No. 2031 • ADR 8 II • WGK 2

   **Danger**

H290-H314-H317-H350-H412

Type analysis:

Al (Aluminium).....	100 mg/l
Ag (Silver).....	100 mg/l
As (Arsenic).....	100 mg/l
B (Boron).....	100 mg/l
Ba (Barium).....	100 mg/l
Be (Beryllium).....	100 mg/l
Bi (Bismuth).....	100 mg/l
Ca (Calcium).....	100 mg/l
Cd (Cadmium).....	100 mg/l
Co (Cobalt).....	100 mg/l
Cr (Chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (Iron).....	100 mg/l
K (Potassium).....	100 mg/l
Li (Lithium).....	100 mg/l
Mg (Magnesium).....	100 mg/l
Mn (Manganese).....	100 mg/l
Mo (Molybdenum).....	100 mg/l
Na (Sodium).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (Lead).....	100 mg/l
Sb (Antimony).....	100 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	100 mg/l
Ti (Titanium).....	100 mg/l
Tl (Thallium).....	100 mg/l
V (Vanadium).....	100 mg/l
Zn (Zinc).....	100 mg/l

Traceable to SRM from NIST.

2650.1	100 ml	HDPE	192,45 €

For further information, please see page 1571

**Standards for IC:
Ion Standards
(Ion Chromatographie)
1000 mg/l, ready to use**

Acetate IC Standard Solution

1000 mg/l CH₃COO⁻

Type analysis:

c (CH₃COO⁻) in H₂O..... 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

1989.1	100 ml	plastic	40,35 €

1989.2	500 ml	plastic	75,15 €

For further information, please see page 1511

Ammonium IC Standard Solution

1000 mg/l NH₄⁺

Type analysis:

c (NH₄⁺) in H₂O..... 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2654.1	100 ml	HDPE	34,95 €

2654.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Bromide IC Standard Solution

1000 mg/l Br⁻

Type analysis:

c (Br⁻) in H₂O..... 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2655.1	100 ml	HDPE	34,95 €

2655.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Calcium IC Standard Solution

1000 mg/l Ca²⁺

Type analysis:

c (Ca²⁺) in H₂O..... 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

1986.1	100 ml	plastic	34,95 €

1986.2	500 ml	plastic	69,80 €

For further information, please see page 1511

Chloride IC Standard Solution

1000 mg/l Cl⁻

Type analysis:

c (Cl⁻) as KCl in H₂O..... 1000 mg/l ±0,2 %
Traceable to SRM from NIST.

2656.1	100 ml	HDPE	34,95 €

2656.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Chromate IC Standard Solution

1000 mg/l CrO_4^{2-}

WGK 3

 **Danger** H317-H334-H340-H350

Type analysis:

c (CrO_4^{2-}) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2657.1	100 ml	HDPE	34,95 €
2657.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Cyanide IC Standard Solution

1000 mg/l CN^-

UN No. 1760 • ADR 8 III • WGK 2

 **Warning** H290-H412-EUH032

Type analysis:

c (CN^-) in 0,1 % KOH 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2658.1	100 ml	HDPE	34,95 €
2658.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Fluoride IC Standard Solution

1000 mg/l F^-

Type analysis:

c (F^-) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2659.1	100 ml	HDPE	34,95 €
2659.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Formate IC Standard Solution

1000 mg/l HCOO^-

Type analysis:

c (HCOO^-) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

1999.1	100 ml	plastic	40,35 €
1999.2	500 ml	plastic	75,15 €

For further information, please see page 1511

Iodide IC Standard Solution

1000 mg/l I^-

Type analysis:

c (I^-) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2660.1	100 ml	HDPE	34,95 €
2660.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Magnesium IC Standard Solution

1000 mg/l Mg^{2+}

Type analysis:

c (Mg^{2+}) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

1987.1	100 ml	plastic	34,95 €
1987.2	500 ml	plastic	69,80 €

For further information, please see page 1511

Nitrate IC Standard Solution

1000 mg/l NO_3^-

Type analysis:

c (NO_3^-) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2661.1	100 ml	HDPE	34,95 €
2661.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Nitrite IC Standard Solution

1000 mg/l NO_2^-

Type analysis:

c (NO_2^-) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2664.1	100 ml	HDPE	34,95 €
2664.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Oxalate IC Standard Solution

1000 mg/l $\text{C}_2\text{O}_4^{2-}$

Type analysis:

c ($\text{C}_2\text{O}_4^{2-}$) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2008.1	100 ml	plastic	40,35 €
2008.2	500 ml	plastic	75,15 €

For further information, please see page 1511

Phosphate IC Standard Solution

1000 mg/l PO_4^{3-}

Type analysis:

c (PO_4^{3-}) as $\text{NH}_4\text{H}_2\text{PO}_4$ in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2665.1	100 ml	HDPE	34,95 €
2665.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Potassium IC Standard Solution

1000 mg/l K^+

Type analysis:

c (K^+) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

1985.1	100 ml	plastic	34,95 €
1985.2	500 ml	plastic	69,80 €

For further information, please see page 1511

Sodium IC Standard Solution

1000 mg/l Na^+

Type analysis:

c (Na^+) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

1984.1	100 ml	plastic	34,95 €
1984.2	500 ml	plastic	69,80 €

For further information, please see page 1511

Strontium IC Standard Solution

1000 mg/l Sr^{2+}

Type analysis:

c (Sr^{2+}) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

1988.1	100 ml	plastic	34,95 €
1988.2	500 ml	plastic	69,80 €

For further information, please see page 1511

Sulphate IC Standard Solution

1000 mg/l SO_4^{2-}

Type analysis:

c (SO_4^{2-}) in H_2O 1000 mg/l $\pm 0,2$ %
Traceable to SRM from NIST.

2666.1	100 ml	HDPE	34,95 €
2666.2	500 ml	HDPE	69,80 €

For further information, please see page 1511

Standards:
(Ion Chromatographie)
Ion Multi-Element
Standards for IC

Anion Multi-Element Standard I (IC)

3 anions (Cl^- , NO_3^- , SO_4^{2-}) in water

Type analysis:

Chloride (Cl^-) 1000 mg/l
Nitrate (NO_3^-) 1000 mg/l
Sulphate (SO_4^{2-}) 1000 mg/l
Traceable to SRM from NIST.

2026.1	100 ml	plastic	121,40 €
2026.2	500 ml	plastic	233,85 €

For further information, please see page 1512

Anion Multi-Element Standard II (IC)

3 anions (F^- , Br^- , PO_4^{3-}) in water

Type analysis:

Fluoride (F^-) 1000 mg/l
Bromide (Br^-) 1000 mg/l
Phosphate (PO_4^{3-}) 1000 mg/l
Traceable to SRM from NIST.

2029.1	100 ml	plastic	127,95 €
2029.2	500 ml	plastic	241,90 €

For further information, please see page 1512

Anion Multi-Element Standard (IC, 6 anions, 10 mg/l)

6 anions (F^- , Cl^- , Br^- , NO_3^- , PO_4^{3-} , SO_4^{2-}) in water

Type analysis:

Fluoride (F^-) 10 mg/l
Chloride (Cl^-) 10 mg/l
Bromide (Br^-) 10 mg/l
Nitrate (NO_3^-) 10 mg/l
Phosphate (PO_4^{3-}) 10 mg/l
Sulphate (SO_4^{2-}) 10 mg/l
Traceable to SRM from NIST.

2030.1	100 ml	plastic	81,20 €
2030.2	500 ml	plastic	168,25 €

For further information, please see page 1512

Standards

Anion Multi-Element Standard (IC)

7 Anions (F⁻, Cl⁻, NO₂⁻, Br⁻, NO₃⁻, PO₄³⁻, SO₄²⁻) in water

Type analysis:

Chloride (Cl ⁻)	10 mg/l
Bromide (Br ⁻)	25 mg/l
Fluoride (F ⁻)	5 mg/l
Nitrate (NO ₃ ⁻)	25 mg/l
Nitrite (NO ₂ ⁻)	15 mg/l
Phosphate (PO ₄ ³⁻)	40 mg/l
Sulphate (SO ₄ ²⁻)	30 mg/l
Traceable to SRM from NIST.	

2668.1	100 ml	HDPE	56,90 €
2668.2	500 ml	HDPE	140,30 €

For further information, please see page 1512

Cation Multi-Element Standard (IC, 4 cations, 10 mg/l)

4 cations (Na⁺, K⁺, Mg²⁺, Ca²⁺) in water

Type analysis:

Sodium (Na ⁺)	10 mg/l
Potassium (K ⁺)	10 mg/l
Magnesium (Mg ²⁺)	10 mg/l
Calcium (Ca ²⁺)	10 mg/l
Traceable to SRM from NIST.	

2032.1	100 ml	plastic	75,15 €
2032.2	500 ml	plastic	154,30 €

For further information, please see page 1512

Cation Multi-Element Standard (IC)

6 cations (NH₄⁺, Ca²⁺, K⁺, Li⁺, Mg²⁺, Na⁺) in 0,1 % nitric acid

Type analysis:

Ammonium (NH ₄ ⁺)	40 mg/l
Calcium (Ca ²⁺)	40 mg/l
Potassium (K ⁺)	20 mg/l
Lithium (Li ⁺)	10 mg/l
Magnesium (Mg ²⁺)	20 mg/l
Sodium (Na ⁺)	20 mg/l
Traceable to SRM from NIST.	

2669.1	100 ml	HDPE	56,90 €
2669.2	500 ml	HDPE	140,30 €

For further information, please see page 1512

Standards for conductivity measurement

Conductivity Standard 84 µS/cm

84 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	84 µS/cm ±1 %
Traceable to SRM from NIST.	

2432.1	500 ml	plastic	23,55 €
2432.2	1 l	plastic	31,95 €

Original pack 6 x 1 l 30,35/1 l

For further information, please see page 1567

Conductivity Standard 147 µS/cm

147 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	147 µS/cm ±1 %
Traceable to SRM from NIST.	

2433.1	500 ml	plastic	23,55 €
2433.2	1 l	plastic	31,95 €

Original pack 6 x 1 l 30,35/1 l

For further information, please see page 1567

Conductivity Standard 1413 µS/cm

1413 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	1413 µS/cm ±1 %
Traceable to SRM from NIST.	

2434.1	500 ml	plastic	23,55 €
2434.2	1 l	plastic	31,95 €

Original pack 6 x 1 l 30,35/1 l

For further information, please see page 1567

Conductivity Standard 12880 µS/cm

12880 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	12880 µS/cm ±1 %
Traceable to SRM from NIST.	

2435.1	500 ml	plastic	23,55 €
2435.2	1 l	plastic	31,95 €

Original pack 6 x 1 l 30,35/1 l

For further information, please see page 1567

Conductivity Standard 5 µS/cm

5 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	5 µS/cm ±2 %
Traceable to SRM from NIST.	

2462.1	500 ml	plastic	131,70 €

For further information, please see page 1567

Conductivity Standard 100 µS/cm

100 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	100 µS/cm ±1 %
Traceable to SRM from NIST.	

2463.1	500 ml	plastic	56,90 €

For further information, please see page 1567

Conductivity Standard 500 µS/cm

500 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	500 µS/cm ±1 %
Traceable to SRM from NIST.	

2464.1	500 ml	plastic	56,90 €

For further information, please see page 1567

Conductivity Standard 1000 µS/cm

1000 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	1000 µS/cm ±1 %
Traceable to SRM from NIST.	

2465.1	500 ml	plastic	56,90 €

For further information, please see page 1567

Conductivity Standard 10000 µS/cm

10000 µS/cm (25 °C)

Type analysis:

Conductivity (25 °C)	10000 µS/cm ±1 %
Traceable to SRM from NIST.	

2466.1	500 ml	plastic	56,90 €

For further information, please see page 1567

Conductivity Standard 500000 µS/cm

500000 µS/cm (25 °C)

UN No. 1789 • ADR 8 III

⚠ ⚠ Warning H290-H315-H319-H335

Type analysis:

Conductivity (25 °C)	500000 µS/cm ±1 %
Traceable to SRM from NIST.	

2467.1	500 ml	plastic	56,90 €

For further information, please see page 1567

Stanniol

► Tin foil see p. 2211

Starch, soluble

Starch, soluble

soluble

Oxidized corn starch

(C₆H₁₀O₅)_n

M (162,14)_n g/mol

[65996-62-5] • EC No. 232-679-6

WGK 1

Type analysis:

Appearance	white to yellowish powder
pH value	5,5-7,5
Sulphated ash	≤0,6 %
Moisture	≤14 %
Sulphur dioxide (SO ₂)	≤0,001 %

4701.1	1 kg	plastic	21,75 €
4701.2	5 kg	plastic	73,00 €

Original pack 6 x 1 kg 20,66/1 kg

For further information, please see page 1366

Starch

(C₆H₁₀O₅)_n
 M (162,14)_n g/mol
 [9005-25-8] • EC No. 232-679-6
 WGK 1

Starch from potatoes

extra pure

Type analysis:

Appearance..... white powder
 pH value..... 5,0-8,0
 Moisture..... ≤20 %
 Sulphur dioxide (SO₂)..... ≤0,002 %
 Heavy metals..... ≤0,0005 %
 Protein..... ≤0,1 %
 Ash..... ≤0,3 %

9441.1	1 kg	plastic	16,70 €
Original pack 6 x 1 kg			15,87/1 kg
9441.2	5 kg	plastic	50,45 €

Starch from corn

extra pure

Type analysis:

Appearance..... white, fine powder
 pH value..... 4,0-7,0
 Loss on drying..... ≤15 %
 Sulphur dioxide (SO₂)..... ≤0,005 %
 Sulphated ash..... ≤0,6 %
 Oxidizing substances..... ≤0,002 %
 Iron (Fe)..... ≤0,001 %

9444.1	1 kg	plastic	18,20 €
Original pack 6 x 1 kg			17,29/1 kg
9444.2	5 kg	plastic	66,15 €

Starch from rice

extra pure

Type analysis:

Appearance..... white powder
 pH value..... 5,0-8,0
 Loss on drying..... ≤10,0 %
 Sulphur dioxide (SO₂)..... ≤0,005 %
 Sulphated ash..... ≤1,0 %
 Oxidizing substances..... ≤0,002 %
 Iron (Fe)..... ≤0,001 %

9368.1	1 kg	plastic	24,20 €
Original pack 6 x 1 kg			22,99/1 kg
9368.2	5 kg	plastic	90,85 €

Starch from wheat

extra pure

Type analysis:

Appearance..... white to yellowish powder
 pH value..... 6,0-7,0
 Moisture..... ≤13 %
 Sulphur dioxide (SO₂)..... ≤0,001 %
 Protein..... ≤0,35 %
 Fat..... ≤0,1 %
 Ash..... ≤0,25 %

9447.1	1 kg	plastic	21,75 €
Original pack 6 x 1 kg			20,66/1 kg
9447.2	5 kg	plastic	61,85 €

Starch acc. to Smithies

for gel electrophoresis

From potatoes.

Type analysis:

Appearance..... white powder
 Solubility (20 mg/ml H₂O, hot)..... soluble
 Ash content..... ≤0,5 %
 Loss on drying..... ≤15 %
 Magnesium (Mg)..... ≤0,002 %
 Calcium (Ca)..... ≤0,01 %
 Copper (Cu)..... ≤0,0005 %
 Manganese (Mn)..... ≤0,0005 %
 Zinc (Zn)..... ≤0,0005 %
 Cadmium (Cd)..... ≤0,0005 %
 Iron (Fe)..... ≤0,001 %
 Lead (Pb)..... ≤0,0005 %
 Sodium (Na)..... ≤0,1 %
 Cobalt (Co)..... ≤0,0005 %
 Potassium (K)..... ≤0,05 %
 Nickel (Ni)..... ≤0,0005 %
 Chromium (Cr)..... ≤0,0005 %

9480.1	100 g	plastic	117,20 €
9480.2	500 g	plastic	461,20 €
Original pack 6 x 500 g			438,14/500 g
9480.4	1 kg	plastic	858,95 €
Original pack 6 x 1 kg			816,00/1 kg

Starch gum

► Dextrin see p. 1767

Starch 1% indicator solution

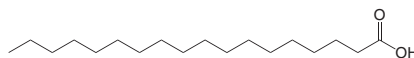
Starch 1% indicator solution

in water, stabilized

(C₆H₁₀O₅)_n

T133.1	500 ml	plastic	22,05 €

Stearic acid



Stearic acid

≥98 %

Octadecanoic acid

C₁₈H₃₆O₂

M 284,47 g/mol

D 0,94 • bp 383 °C

mp 66-69 °C • flp 196 °C

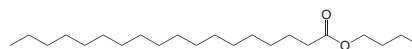
[57-11-4] • EC No. 200-313-4

Type analysis:

Assay (GC)..... ≥98 %
 Acid value..... 194-199 mg KOH/g
 Melting point..... 66-69 °C

9459.1	1 kg	plastic	20,35 €
Original pack 6 x 1 kg			19,33/1 kg
9459.2	5 kg	plastic	77,95 €

Stearic acid butyl ester



Stearic acid butyl ester

for synthesis

Butyl stearate

C₂₂H₄₄O₂

M 340,60 g/mol

D 0,86 • bp 343 °C

mp 16 °C • flp 160 °C

Solubility: 3 g/l (H₂O, 25 °C)

[123-95-5] • EC No. 204-666-5

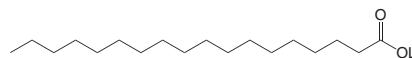
WGK 1

Type analysis:

Saponification value (mg KOH/g)..... 168-177
 Water (KF)..... ≤0,1 %

8150.2	100 ml	glass	12,70 €
8150.1	1 l	glass	36,05 €
Original pack 6 x 1 l			34,25/1 l
8150.3	2,5 l	glass	69,80 €
Original pack 4 x 2,5 l			66,31/2,5 l

Stearic acid lithium salt



Stearic acid lithium salt

pure

Lithium stearate

C₁₈H₃₅LiO₂

M 290,40 g/mol

mp 190-210 °C

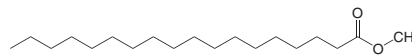
[66071-82-7] • EC No. 266-107-1

Type analysis:

Appearance..... white powder
 Melting range..... 190-210 °C
 Moisture..... ≤0,5 %
 Metal content..... 2,2-2,5 %
 Free fatty acid..... ≤2,0 %

8238.1	500 g	plastic	21,75 €
Original pack 6 x 500 g			20,66/500 g

Stearic acid methyl ester



Stearic acid methyl ester

≥99 %

Methyl stearate

C₁₉H₃₈O₂

M 298,51 g/mol

D 0,85 • bp 215 °C (20 hPa)

mp 37-39 °C • flp 150 °C

[112-61-8] • EC No. 203-990-4

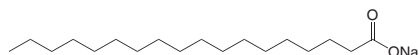
WGK 1

Type analysis:

Purity (GC)..... ≥99,0 %

4704.1	5 g	glass	33,25 €
4704.2	25 g	glass	65,05 €
4704.3	50 g	glass	97,30 €

Stearic acid sodium salt



Stearic acid sodium salt

88-92 %

Sodium stearate

$C_{18}H_{35}NaO_2$

M 306,45 g/mol

[822-16-2] • EC No. 212-490-5

WGK 1

Type analysis:

Appearance..... white to light yellowish powder

Assay (GC)..... 88-92 %

Humidity..... ≤2,5 %

Free NaOH..... 0,05-0,2 %

8628.1	1 kg	plastic	32,80 €

Original pack 6 x 1 kg	31,16/1 kg

Stearic acid zinc salt

► Zinc stearate see p. 2253

Stearic oil

Stearic oil

techn.

D 0,91

flp 200 °C

[112-80-1]

WGK 1

Type analysis:

Density (20 °C)..... 0,910

Viscosity (20 °C)..... 40 mPas

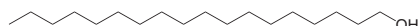
Refractive index n_D^{20} 1,470

Saponification value..... 195

9460.1	1 l	glass	27,45 €

Original pack 6 x 1 l	26,08/1 l

Stearyl alcohol



Stearyl alcohol

≥95 %

1-Octadecanol

$C_{18}H_{38}O$

M 270,50 g/mol

D 0,83 • bp 340-355 °C

mp 59 °C

[112-92-5] • EC No. 204-017-6

Type analysis:

Assay..... ≥95 %

Acid value..... ≤0,1

Saponification value..... ≤0,5

Iodine value..... ≤0,7

Hydroxyl value..... 205-210

Solidification range..... 55-58 °C

Distribution of carbon chains:

C-16..... 0-4 %

C-20..... 0-3 %

8663.2	500 g	plastic	16,70 €

Original pack 6 x 500 g	15,87/500 g

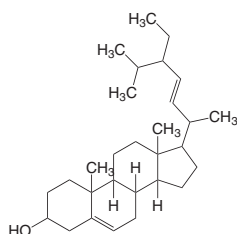
8663.1	1 kg	plastic	23,90 €

Original pack 6 x 1 kg	22,71/1 kg

Steel wool

► Iron wool see p. 1906

Stigmasterol



Stigmasterol

≥90 %

$C_{29}H_{48}O$

M 412,70 g/mol

mp ~168 °C

[83-48-7] • EC No. 201-482-7

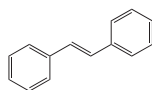
Type analysis:

Appearance..... white powder

Assay..... ≥90 %

9468.1	1 g	glass	23,90 €

trans-Stilbene



trans-Stilbene

≥97 %

trans-1,2-Diphenylethylene

$C_{14}H_{12}$

M 180,25 g/mol

D 1,14 • bp 306-307 °C

mp 123-125 °C

[103-30-0] • EC No. 203-098-5

WGK 1

Type analysis:

Assay (HPLC)..... ≥97,0 %

Solution (1 % in acetone)..... colourless

Water (KF)..... ≤0,5 %

Melting point..... 123-125 °C

5246.1	50 g	plastic	36,45 €

5246.2	100 g	plastic	62,25 €

Streptavidin

Streptavidin

≥15 U/mg, lyophilized

Recombinant from *Streptomyces avidinii*, expressed in *E. coli*

M ~55000 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[9013-20-1]

WGK 1

Type analysis:

Activity..... ≥15 U/mg

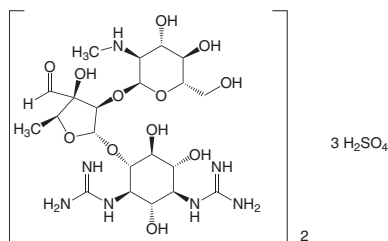
Activity: one unit (U) is defined as the amount of streptavidin that binds one microgram of D-biotin at pH 7,0.

6073.1	1 mg	plastic	71,95 €

6073.2	5 mg	plastic	179,55 €

6073.3	10 mg	plastic	303,15 €

Streptomycin sulphate



$C_{42}H_{84}N_{14}O_{36}S_3$

M 1457,38 g/mol

Storage temp.: +20 °C

[3810-74-0] • EC No. 223-286-0

WGK 2

Warning H302-H361

Streptomycin sulphate

≥720 I.U./mg, CELLPURE®

Bacteriostatic antibiotic. For cell culture and biochemistry.

Guarantee analysis:

Assay..... ≥720 I.U./mg

pH value (25 % in H_2O)..... 4,5-7,0

Sulphate (SO_4)..... 18,0-21,5 %

Sulphated ash..... ≤1,0 %

Loss on drying..... ≤7,0 %

Streptomycin B..... ≤3,0 %

Colorimetric test..... ≥90 %

Endotoxins..... ≤0,25 I.U./mg

HP66.1	10 g	glass	25,70 €

HP66.2	25 g	glass	37,55 €

HP66.3	50 g	glass	60,75 €

For further information, please see page 1379

Streptomycin sulphate

>720 I.U./mg, for biochemistry

Bacteriostatic antibiotic

Type analysis:

Assay..... >720 I.U./mg

pH value (25 % in H_2O)..... 4,5-7,0

Sulphate (SO_4)..... 18,0-21,5 %

Sulphated ash..... <1,0 %

Loss on drying..... <7,0 %

0236.1	10 g	glass	18,85 €

0236.2	25 g	glass	29,60 €

0236.3	50 g	glass	53,65 €

For further information, please see page 1380

Streptothricine

► Nourseothricin dihydrogen sulphate see p. 1996

Stripping Buffer

- ▶ Roti®-Free Stripping Buffer 2.2 plus see p. 2097
- ▶ Roti®-Free Stripping Buffer 2.0 see p. 2097
- ▶ Roti®-Free Stripping Buffer see p. 2097

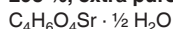
Strontium Standards

- ▶ Strontium AAS Standard Solution see p. 2169
- ▶ Strontium ICP Standard Solution see p. 2173
- ▶ Strontium ICP Standard Solution see p. 2177
- ▶ Strontium IC Standard Solution see p. 2181

Strontium acetate hemihydrate

Strontium acetate hemihydrate

≥98 %, extra pure



M 214,72 g/mol

D 2,1

Solubility: 350 g/l (H₂O, 20 °C)

[543-94-2] • EC No. 208-854-8

WGK 1

Type analysis:

Assay.....	≥98,0 %
pH value (5 %).	7,0-9,0
Chloride (Cl).	≤0,05 %
Lead (Pb).....	≤0,001 %
Calcium (Ca).....	≤0,5 %
Iron (Fe).....	≤0,005 %
Loss on drying (105 °C, 2 h).	≤1,0 %

9513.1	100 g	plastic	20,35 €
9513.2	500 g	plastic	53,65 €
Original pack 6 x 500 g			50,97/500 g
9513.3	1 kg	plastic	80,55 €
Original pack 6 x 1 kg			76,52/1 kg

Strontium carbonate

Strontium carbonate

ROTI®METIC 99,998 % (4N8)



M 147,63 g/mol

D 3,50

mp >1200 °C

Solubility: 0,01 g/l (H₂O, 20 °C)

[1633-05-2] • EC No. 216-643-7

Type analysis:

Assay (metals basis).....	99,998 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

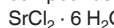
5376.1	5 g	plastic	46,15 €
5376.2	25 g	plastic	123,65 €

Strontium chloride hexahydrate

Strontium chloride hexahydrate

≥99 %, p.a.

For the preparation of further strontium compounds.



M 266,62 g/mol

D 1,95

mp 61 °C

Solubility: 2058 g/l (H₂O, 40 °C)

[10025-70-4] • EC No. 233-971-6

WGK 1

 **Danger H318**

Guarantee analysis:

Assay.....	≥99 %
pH value (5 %, 20 °C).....	5-7
Heavy metals (as Pb).....	≤0,001 %
Sulphate (SO ₄).....	≤0,01 %
Barium (Ba).....	≤0,02 %
Calcium (Ca).....	≤0,05 %
Iron (Fe).....	≤0,001 %
Sodium (Na).....	≤0,05 %

4473.1	100 g	plastic	20,35 €
4473.2	500 g	plastic	50,45 €
Original pack 6 x 500 g			47,93/500 g
4473.3	1 kg	plastic	84,40 €
Original pack 6 x 1 kg			80,18/1 kg

Strontium nitrate



M 211,63 g/mol

D 2,99 • bp 645 °C

mp 570 °C

Solubility: 660 g/l (H₂O, 20 °C)

[10042-76-9] • EC No. 233-131-9

UN No. 1507 • ADR 5.1 III • WGK 2

 **Danger H272-H315-H319-H335**

Strontium nitrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis).....	99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range	

5078.1	25 g	plastic	138,70 €

Strontium nitrate

≥99 %, p.a., ACS

Pyrotechnics, signal lights, manufacturing of matches

Guarantee analysis:

Assay (compl.).....	≥99 %
pH value (5 % in H ₂ O).....	5,0-7,0
In H ₂ O insoluble matter.....	≤0,01 %
Loss on drying (105 °C).....	≤0,1 %
Chloride (Cl).....	≤0,002 %
Sulphate (SO ₄).....	≤0,005 %
Barium (Ba).....	≤0,05 %
Calcium (Ca).....	≤0,05 %
Iron (Fe).....	≤0,0005 %
Sodium (Na).....	≤0,1 %
Magnesium (Mg).....	≤0,1 %
Heavy metals (as Pb).....	≤0,0005 %

4413.1	100 g	plastic	22,50 €
4413.2	250 g	plastic	42,90 €
4413.3	500 g	plastic	80,55 €
Original pack 6 x 500 g			76,52/500 g

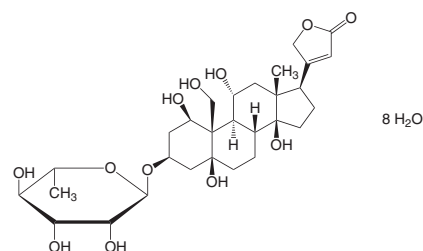
Strontium nitrate

≥98 %

Type analysis:

Assay.....	≥98 %		
2732.1	100 g	plastic	22,50 €

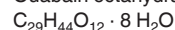
g-Strophanthin



g-Strophanthin

≥98 %

Ouabain octahydrate



M 728,78 g/mol

[11018-89-6] • EC No. 211-139-3

UN No. 1544 • ADR 6.1 II • WGK 3

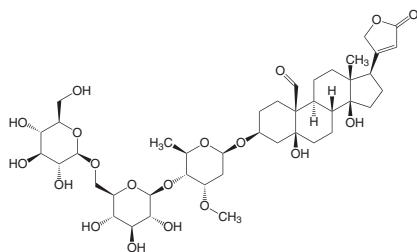
 **Danger H301+H331-H373**

Type analysis:

Assay (dry substance).....	≥98,0 %
Loss on drying.....	≤22,0 %

8048.1	1 g	glass	271,45 €

K-Strophantoside



K-Strophantoside

≥90 %

C₄₂H₆₄O₁₉

M 872,97 g/mol

mp 199-200 °C

[33279-57-1] • EC No. 251-439-1

UN No. 2811 • ADR 6.1 II • WGK 3

Danger H301+H331-H373

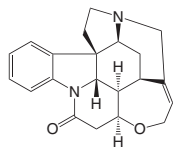
Type analysis:

Appearance.....white to yellowish powder

Assay (HPLC).....≥90 %

4078.1	50 mg	glass	73,00 €

Strychnine



Strychnine

≥95 %, for biochemistry

Strychnidin-10-one

C₂₁H₂₂N₂O₂

M 334,42 g/mol

mp 286-288 °C

[57-24-9] • EC No. 200-319-7

UN No. 1692 • ADR 6.1 I • WGK 3

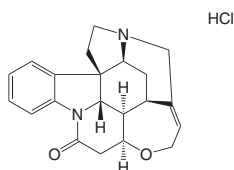
Danger H300+H310-H400-H410

Type analysis:

Assay (HPLC).....≥95 %

4843.1	10 g	plastic	15,60 €

Strychnine hydrochloride dihydrate



Strychnine hydrochloride dihydrate

for biochemistry

C₂₁H₂₂N₂O₂ · HCl

M 406,9 g/mol

[1421-86-9] • EC No. 215-826-9

UN No. 1692 • ADR 6.1 I • WGK 3

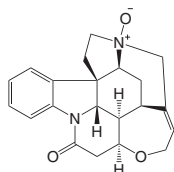
Danger H300+H310+H330-H411

Type analysis:

Appearance.....white to off-white powder

4845.1	10 g	plastic	19,25 €

Strychnine N-oxide



Strychnine N-oxide

ROTICHRON® ~CHR

Aminoxystrychnine

C₂₁H₂₂N₂O₃

M 350,40 g/mol

mp 207-208 °C

[7248-28-4] • EC No. 230-656-5

UN No. 1692 • ADR 6.1 I • WGK 3

Danger H300+H330-H400-H410

4277.1	500 mg	glass	42,90 €

Stylophorin

► Chelidonine see p. 1727

Styrene



Styrene

≥99,5 %, for synthesis, stab.

Vinyl benzene, Phenylethylene, Styrol

C₈H₈

M 104,15 g/mol

D 0,91 • bp 145 °C

mp -31 °C • flp 31 °C

Solubility: 0,24 g/l (H₂O, 20 °C)

[100-42-5] • EC No. 202-851-5

UN No. 2055 • ADR 3 III • WGK 2

Danger

H372-H361d-H226-H332-H315-H319

Type analysis:

Assay (GC).....≥99,5 %

Density (20 °C).....~0,906

Refractive index (20 °C).....~1,5458

Stabilized with max. 10-15 ppm 4-tert-Butylcatechol (TBC)

2641.1	500 ml	glass	18,85 €

2641.2	1 l	glass	27,45 €

Original pack 6 x 1 l 26,08/1 l

2641.3	2,5 l	glass	49,35 €

Original pack 4 x 2,5 l 46,88/2,5 l

Styrol

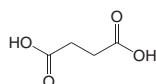
► Styrene see p. 2186

Substrates

Art. No.	Description	Page
4001	Acetylthiocholine iodide	1611
A155	5-Bromo-4-chloro-3-indolyl phosphate disodium salt	1689
6368	5-Bromo-4-chloro-3-indolyl phosphate p-toluidine salt	1689
4149	5-Bromo-4-chloro-3-indoxyl-N-acetyl-β-D-glucosaminide	1689
4152	5-Bromo-4-chloro-3-indoxyl-β-D-cellobioside	1689
8434	5-Bromo-4-chloro-3-indoxyl-α-D-glucopyranoside	1690
8452	2-Butyrylthiocholine iodide	1701
4148	L-Carnosine	1717
4251	6-Chloro-3-indoxyl-β-D-galactopyranoside	1731
4057	6-Chloro-3-indoxyl-β-D-glucuronic acid cyclohexylammonium salt	1731
4247	6-Chloro-3-indoxyl phosphate p-toluidine salt	1731
4104	4-Chloro-1-naphthol	1731
4094	Coelenterazine	1234
8459	Creatine phosphate disodium salt tetrahydrate	1749
CN75	3,3'-Diaminobenzidine tetrahydrochloride	1234
8432	8-Hydroxyquinoline-β-D-glucuronic acid, sodium salt	1893
4243	3-Indoxyl-β-D-glucopyranoside	1900
CN24	D-Luciferin	1938
4096	D-Luciferin sodium salt	1938
4203	Luminol	1939
7708	Luminol sodium salt hemihydrate	1939
4083	4-Methylumbelliferyl-N-acetyl-β-D-galactosaminide	1971
4084	4-Methylumbelliferyl-β-D-galactopyranoside	1971
4086	4-Methylumbelliferyl-α-D-glucopyranoside	1972
4093	4-Methylumbelliferyl-β-D-glucopyranoside	1972
6394	4-Methylumbelliferyl-β-D-glucuronide dihydrate	1972
4103	4-Methylumbelliferyl phosphate	1972
KK26	1-Naphthyl phosphate monosodium salt monohydrate	1981
4058	4-Nitrophenyl-N-acetyl-β-D-galactosaminide	1992
4062	4-Nitrophenyl-N-acetyl-β-D-glucosaminide	1992
4018	4-Nitrophenyl-α-L-fucopyranoside	1993
CN22	2-Nitrophenyl-β-D-galactopyranoside	1993
4063	4-Nitrophenyl-α-D-galactopyranoside	1993
4081	4-Nitrophenyl-β-D-galactopyranoside	1993
4077	2-Nitrophenyl-β-D-glucopyranoside	1993

4082	4-Nitrophenyl-β-D-glucopyranoside	1993
4165	4-Nitrophenyl phosphate disodium salt hexahydrate	1994
4079	4-Nitrophenyl-β-D-xyloside	1994
4421	p-Nitrotetrazolium blue chloride	1994
8397	Phosphoenolpyruvic acid, trisodium salt heptahydrate	2038
3734	Roti®-Lumin ultra	2101
3692	Roti®-Lumin plus	2101
P078	Roti®-Lumin	2101
6350	3,3',5,5'-Tetramethylbenzidine	2204
4107	3,3',5,5'-Tetramethylbenzidine dihydrochloride	2205
HN36	X-α-Gal	2244
2315	X-β-Gal	2244
4041	X-Glu	2244
0018	X-Gluc	2244

Succinic acid



Butanedioic acid, Amber acid
 $C_4H_6O_4$
 M 118,09 g/mol
 D 1,56 • bp 235 °C
 mp 185-191 °C • flp 206 °C
 Solubility: 58 g/l (H_2O , 20 °C)
 [110-15-6] • EC No. 203-740-4
 WGK 1

⚠ Warning H319

Succinic acid

≥99 %, p.a., ACS

Guarantee analysis:

Assay	≥99,0 %
In H_2O insoluble matter	≤0,01 %
Melting point	185-191 °C
Ash content	≤0,02 %
Solubility (10 g in 150 ml H_2O)	clear and complete
Chloride (Cl)	≤0,001 %
Phosphate (PO_4)	≤0,001 %
Sulphate (SO_4)	≤0,003 %
Total nitrogen (as N)	≤0,001 %
Heavy metals (as Pb)	≤0,0005 %
Iron (Fe)	≤0,0005 %

2725.1	250 g	plastic	24,20 €
2725.2	500 g	plastic	33,25 €
Original pack 6 x 500 g			31,59/500 g
2725.3	1 kg	plastic	53,65 €
Original pack 6 x 1 kg			50,97/1 kg

Succinic acid

≥99,5 %

Type analysis:

Appearance	white, cryst. powder
Assay	≥99,5 %
In H_2O insoluble matter	≤0,01 %
Loss on drying	≤0,5 %
Melting point	185-187 °C
Sulphate (SO_4)	≤0,02 %
Chloride (Cl)	≤0,005 %
Heavy metals	≤0,001 %
Iron (Fe)	≤0,0005 %

8268.1	250 g	plastic	24,20 €
8268.2	1 kg	plastic	53,65 €
Original pack 6 x 1 kg			50,97/1 kg

Succinic acid disodium salt hexahydrate

Succinic acid disodium salt hexahydrate

≥99 %, for biochemistry

Sodium succinate
 $C_4H_4O_4Na_2 \cdot 6 H_2O$
 M 270,15 g/mol
 mp 120 °C
 Solubility: 349 g/l (H_2O , 25 °C)
 [6106-21-4] • EC No. 205-778-7
 WGK 1

Type analysis:

Assay (dry substance) ≥99,0 %
 Loss on drying (130 °C) 38,0-42,0 %

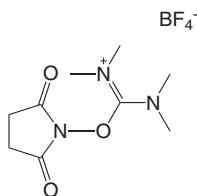
3195.1	100 g	plastic	34,95 €

For further information, please see page 1215

di-(N-Succinimidyl) carbonate

▶ N,N'-Disuccinimidyl carbonate (DSC)
 see p. 1789

O-(N-Succinimidyl)-N,N,N',N'-tetramethyluronium tetrafluoroborate



O-(N-Succinimidyl)-N,N,N',N'-tetramethyluronium tetrafluoroborate

≥99 %

Coupling reagent for peptide synthesis
 TSTU

$C_9H_{16}BF_4N_3O_3$
 M 301,1 g/mol
 mp 196-200 °C

Storage temp.: +4 °C
 [105832-38-0]

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (HPLC) ≥99,0 %
 Loss on drying ≤0,5 %

2130.1	5 g	glass	46,80 €
2130.2	25 g	glass	179,55 €

D-Sucrose

▶ D(+)-Saccharose see p. 2116

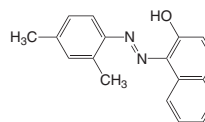
Sucrose epichlorhydrin copolymer

▶ Polysucrose 400 see p. 2048

Sucrose polymer

▶ Polysucrose 400 see p. 2048

Sudan II (C.I. 12140)



Sudan II (C.I. 12140)

for microscopy

Solvent Orange 7

$C_{18}H_{16}N_2O$
 M 276,34 g/mol
 [3118-97-6]
 WGK 3

⚠ Warning H315-H319-H335

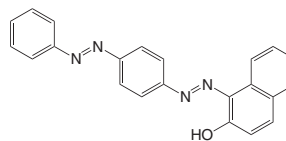
Type analysis:

Appearance orange red powder
 Appearance of solution (1 % in $CHCl_3$) ...orange to red

7732.1	5 g	glass	11,00 €
7732.2	25 g	glass	22,50 €
7732.3	100 g	glass	53,65 €

For further information, please see page 1406

Sudan III (C.I. 26100)



Sudan III (C.I. 26100)

for microscopy

Sudan red B

$C_{22}H_{16}N_4O$
 M 352,39 g/mol
 mp 199 °C (dec.)
 [85-86-9] • EC No. 201-638-4

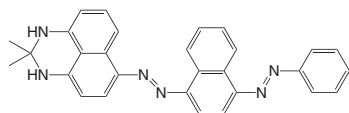
Type analysis:

Appearance dark-red, brownish powder
 Dye content ≤75,0 %

4711.2	50 g	glass	21,40 €
4711.1	100 g	plastic	40,75 €

For further information, please see page 1406

Sudan black B (C.I. 26150)



Sudan black B (C.I. 26150)

for microscopy

Neptune black, Rich black

 $C_{29}H_{24}N_6$

M 456,55 g/mol

[4197-25-5] • EC No. 224-087-1

WGK 1

Type analysis:

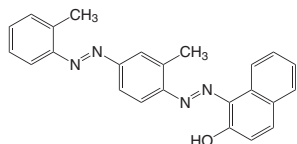
Absorption max. (C_2H_5OH)..... 590-610 nm

Loss on drying (110 °C)..... ≤5 %

0292.1	10 g	glass	21,20 €
0292.2	25 g	glass	30,00 €
0292.3	50 g	glass	46,15 €

For further information, please see page 1406

Sudan IV (C.I. 26105)



Sudan IV (C.I. 26105)

for microscopy

Scarlet red, Fatty ponceau

 $C_{24}H_{20}N_4O$

M 380,45 g/mol

mp 199 °C (dec.)

Solubility: 0,1 g/l (H_2O , 20 °C)

[85-83-6] • EC No. 201-635-8

WGK 1

⚠ ⚠ Warning H315-H319-H341

Type analysis:

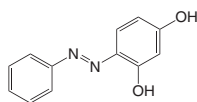
Appearance..... dark red powder

Maximum absorption..... 520-523 nm

0327.1	25 g	glass	21,20 €
0327.2	50 g	glass	30,00 €

For further information, please see page 1406

Sudan orange G (C.I. 11920)



Sudan orange G (C.I. 11920)

for microscopy

Solvent orange 1

 $C_{12}H_{10}N_2O_2$

M 214,22 g/mol

mp 143-146 °C

[2051-85-6]

WGK 3

Type analysis:

Appearance..... orange red powder

7733.1	5 g	glass	11,00 €
7733.2	25 g	glass	22,50 €
7733.3	100 g	glass	53,65 €

For further information, please see page 1406

Sudanred B

► Sudan III (C.I. 26100) see p. 2187

Sugar Determination

Art. No.	Description	Page
N055	Fehling's solution I	1826
N056	Fehling's solution II	1826
K024	Hydrochloric acid (0,1 N)	1885
X874	Luff-Schoorl's solution	1939
K034	Phenolphthalein indicator solution	2034
6750	Potassium iodide	2059
8087	Potassium sodium tartrate tetrahydrate	2062
K020	Sodium hydroxide solution (0,1 N)	2152
K022	Sodium thiosulphate solution (0,1 N)	2160
T133	Starch 1% indicator solution	2183

Sugar of lead

► Lead(II) acetate trihydrate see p. 1927

Sulfobetaine-8

► N-Octyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1999

Sulfobetaine-10

► N-Decyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1761

Sulfobetaine-12

► N-Dodecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1793

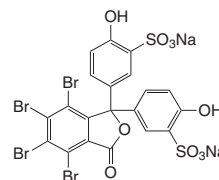
Sulfobetaine-14

► N-Tetradecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 2202

Sulfobetaine-16

► N-Hexadecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate see p. 1874

Sulfobromophthalein disodium salt



Sulfobromophthalein disodium salt

≥95 %, for biochemistry

Organic dye for microscopy.

Bromosulfalein, Phenoltetrabromophthalein disulfonic acid disodium salt

 $C_{20}H_8Br_4O_{10}S_2Na_2$

M 838 g/mol

[71-67-0] • EC No. 200-761-0

WGK 2

⚠ Danger H334-H317

Type analysis:

Assay..... ≥95 %

Solution (5 % in water).....

..... colourless to yellowish, clear to slightly turbid

Loss on drying (3 h, 105 °C, vacuum)..... ≤6,0 %

Sulphate (SO_4)..... complies

Bromide (Br)..... 36-39 %

Sulphur (S)..... 7,4-8,2 %

Calcium (Ca)..... ≤0,05 %

4033.1	1 g	glass	36,05 €
4033.2	5 g	glass	136,55 €

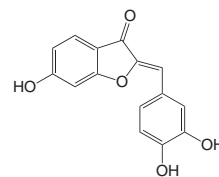
3,3'-Sulfonyldianiline

► 3,3'-Diaminodiphenyl sulfone see p. 1768

Sulfur

► Sulphur see p. 2190

Sulfuretin



Sulfuretin

ROTICHRON® HPLC

Reference substance for HPLC

 $C_{15}H_{10}O_5$

M 270,24 g/mol

Storage temp.: +4 °C

[120-05-8] • EC No. 204-366-4

Type analysis:

Purity (HPLC)..... ≥99 %

7569.1	5 mg	glass	263,40 €

Sulfurous acid

► Sulphurous acid see p. 2194

Sulphamic acid



Amido sulphuric acid, Amido sulphonic acid

 $\text{H}_3\text{NO}_3\text{S}$

M 97,09 g/mol

D 2,13 • mp 205 °C (dec.)

Solubility: ~213 g/l (H_2O , 20 °C)

[5329-14-6] • EC No. 226-218-8

UN No. 2967 • ADR 8 III • WGK 1

⚠ Warning H315-H319-H412

Sulphamic acid

≥99,3 %, p.a., ACS

Standard titrimetric substance

Guarantee analysis:

Assay (acidimetric, dry substance).....	≥99,3 %
In H_2O insoluble matter.....	≤0,01 %
Ash content.....	≤0,01 %
Heavy metals (as Pb).....	≤0,001 %
Chloride (Cl).....	≤0,001 %
Sulphate (SO_4).....	≤0,05 %
Lead (Pb).....	≤0,001 %
Iron (Fe).....	≤0,0005 %
Copper (Cu).....	≤0,001 %
Nickel (Ni).....	≤0,001 %

P725.1	500 g	plastic	31,10 €
Original pack 6 x 500 g			29,55/500 g
P725.2	1 kg	plastic	48,30 €
Original pack 6 x 1 kg			45,89/1 kg
P725.3	2,5 kg	plastic	86,55 €

Sulphamic acid

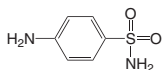
≥99 % cryst.

Type analysis:

Assay.....	≥99,8 %
Water.....	≤0,1 %
Sulphate (SO_4).....	≤0,1 %
Iron (Fe).....	≤0,005 %
Heavy metals.....	≤0,001 %

4714.1	1 kg	plastic	18,85 €
Original pack 6 x 1 kg			17,91/1 kg
4714.2	5 kg	plastic	77,30 €

Sulphanilamide



4-Aminobenzenesulphonamide

 $\text{C}_6\text{H}_8\text{N}_2\text{O}_2\text{S}$

M 172,21 g/mol

D 1,08 • mp 163-167 °C

Solubility: 7,5 g/l (H_2O , 25 °C)

[63-74-1] • EC No. 200-563-4 • WGK 1

Sulphanilamide

≥99 %, for biochemistry

Type analysis:

Assay.....	≥99,0 %
Sulphated ash.....	≤0,1 %
Heavy metals (as Pb).....	≤0,002 %
Loss on drying (105 °C).....	≤0,5 %

4716.1	100 g	plastic	27,85 €

Sulphanilamide

ROTI®CALIPURE

Melting point standard 164-166 °C

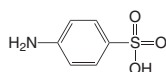
NEW

Type analysis:

Meniscus formation.....	164-166 °C
Complete liquefaction.....	164-166 °C

9734.1	1 g	glass	27,85 €

Sulphanilic acid



Sulphanilic acid

≥98 %, p.a., ACS

4-Aminobenzenesulphonic acid,
p-Anilinesulphonic acid $\text{C}_6\text{H}_7\text{NO}_3\text{S}$

M 173,19 g/mol

D ~1,48

mp 288 °C (dec.)

Solubility: 10 g/l (H_2O , 20 °C)

[121-57-3] • EC No. 204-482-5

WGK 1

⚠ Warning H315-H319-H317

Guarantee analysis:

Assay (acidim.).....	98,0-102,0 %
In Na_2CO_3 insoluble matter.....	≤0,02 %
Ash content.....	≤0,01 %
Chloride (Cl).....	≤0,002 %
Nitrite (NO_2).....	≤0,00005 %
Sulphate (SO_4).....	≤0,01 %
Lead (Pb).....	≤0,0005 %
Cadmium (Cd).....	≤0,0005 %
Calcium (Ca).....	≤0,001 %
Chromium (Cr).....	≤0,0005 %
Iron (Fe).....	≤0,001 %
Potassium (K).....	≤0,005 %
Cobalt (Co).....	≤0,0005 %
Copper (Cu).....	≤0,0005 %
Magnesium (Mg).....	≤0,0005 %
Manganese (Mn).....	≤0,0005 %
Nickel (Ni).....	≤0,0005 %
Sodium (Na).....	≤0,005 %
Zinc (Zn).....	≤0,0005 %

4496.1	100 g	plastic	28,50 €
4496.2	500 g	plastic	107,40 €
Original pack 6 x 500 g			102,03/500 g

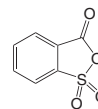
Sulphanilic acid amide

▶ Sulphanilamide see p. 2189

Sulphate Standards

▶ Sulphate IC Standard Solution see p. 2181

2-Sulphobenzoic acid anhydride



2-Sulphobenzoic acid anhydride

≥85 %, for biochemistry

 $\text{C}_7\text{H}_4\text{O}_4\text{S}$

M 184,17 g/mol

bp 184 °C (24 hPa)

mp 114 °C

[81-08-3] • EC No. 201-322-6

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance.....	off-white to light brown cryst. powder
Assay (titr.).....	85,0-105,0 %
Appearance of solution (1 % in EtOH).....	colourless to light brown
Water (KF).....	≤1,0 %

8399.1	25 g	glass	33,25 €
8399.2	100 g	glass	83,35 €

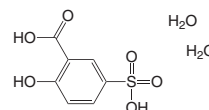
o-Sulphobenzoic acid imide sodium salt

▶ o-Benzoic sulphimide sodium salt
see p. 1671

Sulphonic alizarin violet

▶ Pyrogallol red see p. 2074

5-Sulphosalicylic acid dihydrate



5-Sulphosalicylic acid dihydrate

≥99 %, for biochemistry

5-Salicylsulphonic acid

 $\text{C}_7\text{H}_6\text{O}_6\text{S} \cdot 2 \text{H}_2\text{O}$

M 254,22 g/mol

D 0,8

mp 105-109 °C • flp ~110 °C

[5965-83-3] • EC No. 202-555-6

UN No. 2585 • ADR 8 III • WGK 2

⚠ Warning H302-H315-H319-H335

Type analysis:

Assay (acidim.).....	≥99,0 %
Heavy metals (as Pb).....	≤0,001 %

4119.1	100 g	plastic	29,60 €
4119.2	500 g	plastic	122,05 €

Original pack 6 x 500 g 115,95/500 g

For further information, please see page 1553

Sulphur

Sulfur, Sulphur flowers

S

D ~2,0 • bp 444 °C

mp 114-119 °C • flp 160 °C

[7704-34-9] • EC No. 231-722-6

UN No. 1350 • ADR 4.1 III • WGK 1

 **Warning H315**

Sulphur

>99,999 %

Type analysis:

Appearance yellow tablets
 Assay >99,999 %

4669.1	10 g	plastic	55,40 €

Sulphur

>99,5 %, ground

Type analysis:

Assay >99,5 %
 CS₂-insoluble ≤0,03 %
 Ash ≤0,01 %
 Water ≤0,01 %
 Acid content (as H₂SO₄) ≤0,01 %
 Iron (Fe) ≤0,001 %
 Melting point 114,5-119,3 °C

9304.1	1 kg	plastic	16,70 €

Original pack 6 x 1 kg	15,87/1 kg

9304.2	5 kg	carton	50,45 €

9304.5	25 kg	plastic	138,70 €

Sulphur Standards

- ▶ Sulphur ICP Standard Solution see p. 2173
- ▶ Sulphur ICP Standard Solution see p. 2177

Sulphur flowers

- ▶ Sulphur see p. 2190

Sulphuric acid Ultra-quality

Sulphuric acid Ultra-quality

ROTIPURAN® Ultra 95 %

Extra highpure acid (ppt quality) for sample preparation in ultra trace analysis.

H₂SO₄

M 98,08 g/mol

D ~1,84 • bp 330 °C • mp -15 °C

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

 **Danger H314-H290**

Guarantee analysis:

Assay (w/w).....	93-98 %
Aluminium (Al).....	≤50 ppt
Antimony (Sb).....	≤50 ppt
Arsenic (As).....	≤500 ppt
Barium (Ba).....	≤10 ppt
Beryllium (Be).....	≤10 ppt
Lead (Pb).....	≤10 ppt
Cadmium (Cd).....	≤10 ppt
Cesium (Cs).....	≤10 ppt
Calcium (Ca).....	≤50 ppt
Cerium (Ce).....	≤10 ppt
Chromium (Cr).....	≤10 ppt
Dysprosium (Dy).....	≤10 ppt
Iron (Fe).....	≤50 ppt
Erbium (Er).....	≤10 ppt
Europium (Eu).....	≤10 ppt
Gadolinium (Gd).....	≤10 ppt
Gallium (Ga).....	≤10 ppt
Germanium (Ge).....	≤100 ppt
Hafnium (Hf).....	≤10 ppt
Holmium (Ho).....	≤10 ppt
Indium (In).....	≤10 ppt
Potassium (K).....	≤50 ppt
Cobalt (Co).....	≤10 ppt
Copper (Cu).....	≤10 ppt
Lanthanum (La).....	≤10 ppt
Lithium (Li).....	≤10 ppt
Lutetium (Lu).....	≤10 ppt
Magnesium (Mg).....	≤50 ppt
Manganese (Mn).....	≤10 ppt
Molybdenum (Mo).....	≤10 ppt
Sodium (Na).....	≤50 ppt
Neodymium (Nd).....	≤10 ppt
Nickel (Ni).....	≤50 ppt
Niobium (Nb).....	≤10 ppt
Praseodymium (Pr).....	≤10 ppt
Mercury (Hg).....	≤100 ppt
Rhodium (Rh).....	≤50 ppt
Rubidium (Rb).....	≤10 ppt
Samarium (Sm).....	≤10 ppt
Scandium (Sc).....	≤10 ppt
Selenium (Se).....	≤500 ppt
Silver (Ag).....	≤50 ppt
Strontium (Sr).....	≤10 ppt
Tellur (Te).....	≤50 ppt
Terbium (Tb).....	≤10 ppt
Thallium (Tl).....	≤10 ppt
Thorium (Th).....	≤10 ppt
Thulium (Tm).....	≤10 ppt
Titanium (Ti).....	≤50 ppt
Uranium (U).....	≤10 ppt
Vanadium (V).....	≤10 ppt
Bismuth (Bi).....	≤10 ppt
Tungsten (W).....	≤10 ppt
Ytterbium (Yb).....	≤10 ppt
Yttrium (Y).....	≤10 ppt
Zinc (Zn).....	≤50 ppt
Tin (Sn).....	≤50 ppt
Zirconium (Zr).....	≤10 ppt

HN62.1	250 ml	plastic (FEP)	349,40 €

HN62.2	500 ml	plastic (FEP)	499,90 €

HN62.3	1 l	plastic (FEP)	837,45 €

Original pack 6 x 1 l	795,58/1 l

HN62.4	2 l	plastic (FEP)	1385,70 €

For further information, please see page 1573

Sulphuric acid Supra-quality

Sulphuric acid Supra-quality

ROTIPURAN® Supra 95 %

Highpure acid (ppb quality) for sample preparation in trace analysis (e.g. using ICP, AAS, Ion chromatography etc.).

H₂SO₄

M 98,08 g/mol

D ~1,84 • bp 330 °C

mp -15 °C

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

 **Danger H314-H290**

Guarantee analysis:

Assay (w/w).....	93-98 %
Colour (APHA).....	≤10
Chloride (Cl).....	≤0,00007 %
Total Phosphorous (P).....	≤0,000005 %
Nitrate (NO ₃).....	≤0,00002 %
Aluminium (Al).....	≤1 ppb
Antimony (Sb).....	≤1 ppb
Arsenic (As).....	≤0,5 ppb
Barium (Ba).....	≤0,1 ppb
Beryllium (Be).....	≤0,1 ppb
Lead (Pb).....	≤0,1 ppb
Cadmium (Cd).....	≤0,5 ppb
Cesium (Cs).....	≤0,1 ppb
Calcium (Ca).....	≤1 ppb
Cerium (Ce).....	≤0,1 ppb
Chromium (Cr).....	≤0,5 ppb
Dysprosium (Dy).....	≤0,1 ppb
Iron (Fe).....	≤1 ppb
Erbium (Er).....	≤0,1 ppb
Europium (Eu).....	≤0,1 ppb
Gadolinium (Gd).....	≤0,1 ppb
Gallium (Ga).....	≤0,1 ppb
Germanium (Ge).....	≤1 ppb
Hafnium (Hf).....	≤0,1 ppb
Holmium (Ho).....	≤0,1 ppb
Indium (In).....	≤0,1 ppb
Potassium (K).....	≤1 ppb
Cobalt (Co).....	≤0,5 ppb
Copper (Cu).....	≤0,5 ppb
Lanthanum (La).....	≤0,1 ppb
Lithium (Li).....	≤0,5 ppb
Lutetium (Lu).....	≤0,1 ppb
Magnesium (Mg).....	≤1 ppb
Manganese (Mn).....	≤0,5 ppb
Molybdenum (Mo).....	≤0,5 ppb
Sodium (Na).....	≤1 ppb
Neodymium (Nd).....	≤0,1 ppb
Nickel (Ni).....	≤0,5 ppb
Niobium (Nb).....	≤0,1 ppb
Praseodymium (Pr).....	≤0,1 ppb
Mercury (Hg).....	≤0,1 ppb
Rhodium (Rh).....	≤0,5 ppb
Rubidium (Rb).....	≤0,5 ppb
Samarium (Sm).....	≤0,1 ppb
Scandium (Sc).....	≤0,1 ppb
Selenium (Se).....	≤10 ppb
Silver (Ag).....	≤1 ppb
Strontium (Sr).....	≤0,5 ppb
Tellur (Te).....	≤0,1 ppb
Terbium (Tb).....	≤0,1 ppb
Thallium (Tl).....	≤0,1 ppb
Thorium (Th).....	≤0,1 ppb
Thulium (Tm).....	≤0,1 ppb
Titanium (Ti).....	≤1 ppb
Uranium (U).....	≤0,1 ppb
Vanadium (V).....	≤0,5 ppb
Bismuth (Bi).....	≤0,1 ppb
Tungsten (W).....	≤0,5 ppb
Ytterbium (Yb).....	≤0,1 ppb
Yttrium (Y).....	≤0,1 ppb
Zinc (Zn).....	≤1 ppb
Tin (Sn).....	≤1 ppb
Zirconium (Zr).....	≤0,5 ppb
KMnO ₄ reducing substances.....	≤0,002 %

HN52.1	500 ml	plastic	66,15 €

HN52.2	1 l	plastic	117,20 €

Original pack 6 x 1 l			111,34/1 l

HN52.5	2,5 l	plastic	134,95 €

Original pack 4 x 2,5 l			128,20/2,5 l

For further information, please see page 1573

Sulphuric acid 98 %

Sulphuric acid 98 %

ROTIPURAN® 98 %

For determination of nitrogen acc. to Kjeldahl.

H₂SO₄

M 98,08 g/mol

D ~1,84

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

 **Danger** H314-H290

Guarantee analysis:

Assay (acidim.)	98 ±1 %
Ash content	≤0,0005 %
Total nitrogen (N)	≤0,0005 %

X945.1	1 l	glass	26,35 €

Original pack 6 x 1 l			25,03/1 l

X945.2	2,5 l	glass	52,60 €

Original pack 4 x 2,5 l			49,97/2,5 l

Sulphuric acid 95-98 %

Sulphuric acid 95-98 %

ROTIPURAN® 95-98 %, p.a., ISO, max. 0,005 ppm Hg

Dissolving agent for organic and anorganic samples. For determination of mercury.

H₂SO₄

M 98,08 g/mol

D ~1,84

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

 **Danger** H314-H290

Guarantee analysis:

Assay (acidim.)	95,0-98,0 %
Colour (Hazen)	≤10
Chloride (Cl)	≤0,00001 %
Nitrate (NO ₃)	≤0,00002 %
Phosphate (PO ₄)	≤0,00005 %
Ammonium (NH ₄)	≤0,00002 %
Mercury (Hg)	≤0,0000005 %
Silver (Ag)	≤0,000002 %
Aluminium (Al)	≤0,000005 %
Arsenic (As)	≤0,000001 %
Calcium (Ca)	≤0,00002 %
Cadmium (Cd)	≤0,000002 %
Cobalt (Co)	≤0,000002 %
Chromium (Cr)	≤0,000005 %
Copper (Cu)	≤0,000001 %
Iron (Fe)	≤0,00001 %
Potassium (K)	≤0,00001 %
Lithium (Li)	≤0,000002 %
Magnesium (Mg)	≤0,000005 %
Manganese (Mn)	≤0,000001 %
Sodium (Na)	≤0,00005 %
Nickel (Ni)	≤0,000002 %
Lead (Pb)	≤0,000002 %
Strontium (Sr)	≤0,000002 %
Zinc (Zn)	≤0,000005 %
Ash content	≤0,0005 %
KMnO ₄ reducing matter (as SO ₂)	≤0,0002 %

X944.1	1 l	glass	32,15 €

Original pack 6 x 1 l			30,54/1 l

X944.2	2,5 l	glass	59,70 €

Original pack 4 x 2,5 l			56,72/2,5 l

Sulphuric acid 96 %

H₂SO₄

M 98,08 g/mol

D ~1,84

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

 **Danger** H314-H290

Sulphuric acid 96 %

ROTIPURAN® 96 %, p.a., ISO

Guarantee analysis:

Assay (acidim.)	≥95 %
Colour (APHA)	≤10
Chloride (Cl)	≤0,00002 %
Nitrate (NO ₃)	≤0,00002 %
Phosphate (PO ₄)	≤0,00005 %
Ammonium (NH ₄)	≤0,00002 %
Silver (Ag)	≤0,000002 %
Aluminium (Al)	≤0,000005 %
Arsenic (As)	≤0,000001 %
Beryllium (Be)	≤0,000002 %
Calcium (Ca)	≤0,00002 %
Cadmium (Cd)	≤0,000002 %
Cobalt (Co)	≤0,000002 %
Chromium (Cr)	≤0,000005 %
Copper (Cu)	≤0,000001 %
Iron (Fe)	≤0,00001 %
Potassium (K)	≤0,00001 %
Lithium (Li)	≤0,000002 %
Magnesium (Mg)	≤0,000005 %
Manganese (Mn)	≤0,000001 %
Sodium (Na)	≤0,00005 %
Nickel (Ni)	≤0,000002 %
Lead (Pb)	≤0,000002 %
Strontium (Sr)	≤0,000002 %
Zinc (Zn)	≤0,000005 %
Ash content	≤0,0005 %
KMnO ₄ reducing matter (as SO ₂)	≤0,0002 %

4623.3	250 ml	glass	17,75 €

4623.1	1 l	glass	29,60 €

Original pack 6 x 1 l			28,12/1 l

4623.4	1 l	plastic	25,70 €

Original pack 6 x 1 l			24,42/1 l

4623.2	2,5 l	glass	59,05 €

Original pack 4 x 2,5 l			56,10/2,5 l

4623.5	2,5 l	plastic	59,35 €

Original pack 4 x 2,5 l			56,38/2,5 l

4623.6	10 l	plastic	110,20 €

Sulphuric acid 96 %

95-98 %, Ph.Eur.

Guarantee analysis:

Assay (acidim.)	95,0-98,0 %
Identity	complies
Appearance of solution	complies
Chloride (Cl)	≤0,005 %
Nitrate (NO ₃)	complies
Ammonium (NH ₄)	≤0,001 %
Ash content	≤0,002 %
Heavy metals (as Pb)	≤0,0005 %
Arsenic (As)	≤0,0001 %
Iron (Fe)	≤0,0025 %

2609.1	1 l	glass	26,35 €

Original pack 6 x 1 l			25,03/1 l

2609.2	2,5 l	glass	44,65 €

Original pack 4 x 2,5 l			42,42/2,5 l

2609.3	10 l	plastic	102,70 €

Sulphuric acid 96 %

96 %, pure

Type analysis:

Appearance clear, oily liquid

Assay ≥95,5 %

Iron (Fe) ≤0,0025 %

9316.1	1 l	glass	24,20 €

Original pack 6 x 1 l			22,99/1 l

9316.2	2,5 l	glass	38,20 €

Original pack 4 x 2,5 l			36,29/2,5 l

9316.3	10 l	plastic	62,25 €

Sulphuric acid 96 %

96 %, techn.

Type analysis:

Assay 95,0-97,0 %

0971.1	1 l	plastic	16,70 €

Original pack 6 x 1 l			15,87/1 l

0971.2	2,5 l	plastic	24,65 €

Original pack 4 x 2,5 l			23,42/2,5 l

0971.3	10 l	plastic	48,95 €

0971.4	25 l	plastic	102,70 €

Sulphuric acid for determination of viscosity

Sulphuric acid 96 %

for determination of viscosity acc. to DIN EN ISO 307

H₂SO₄

M 98,08 g/mol

D ~1,84

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

 **Danger** H314-H290

Type analysis:

Assay (acidim.) 95,85-96,15 %

4363.1	1 l	plastic	34,95 €

Original pack 6 x 1 l			33,20/1 l

4363.2	2,5 l	plastic	70,85 €

Original pack 4 x 2,5 l			67,31/2,5 l

4363.3	5 l	plastic	132,15 €

Original pack 2 x 5 l			125,54/5 l

4363.4	10 l	plastic	228,45 €

Sulphuric acid 90-91 %

Sulphuric acid 90-91 %

ROTIPURAN® 90-91 %, for determination of fat

For determination of fat acc. to Gerber and determination of nitrates in milk.

H₂SO₄

M 98,08 g/mol

D ~1,818

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

⚠ **Danger H314-H290**

Guarantee analysis:

Assay (acidim.) 90-91 %
Density (d 20 °C/4 °C) 1,815-1,821
Nitrate (NO₃) ≤0,0005 %

X946.1	1 l	plastic	20,35 €
Original pack 6 x 1 l			19,33/1 l
X946.2	2,5 l	plastic	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l

Sulphuric acid 75 %

Sulphuric acid 75 %

75 %, pure

H₂SO₄

M 98,08 g/mol

D ~1,68

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

⚠ **Danger H314-H290**

Type analysis:

Assay 74,0-76,0 %
Density (20 °C) 1,657-1,681
Iron (Fe) ≤0,01 %
Lead (Pb) ≤0,0005 %

4319.1	1 l	plastic	15,80 €
Original pack 6 x 1 l			15,01/1 l
4319.2	2,5 l	plastic	24,20 €
Original pack 4 x 2,5 l			22,99/2,5 l
4319.3	5 l	plastic	41,85 €
Original pack 2 x 5 l			39,76/5 l
4319.4	10 l	plastic	57,55 €
4319.5	25 l	plastic	110,20 €

Sulphuric acid 62 %

Sulphuric acid 62 %

ROTIPURAN® p.a., for determination of fat in cheese (d 1,52) acc to van Gulik

H₂SO₄

M 98,08 g/mol

D ~1,52

[7664-93-9] • EC No. 231-639-5

UN No. 1830 • ADR 8 II • WGK 1

⚠ **Danger H314-H290**

Guarantee analysis:

Assay 61,5-62,5 %

CN89.1	1 l	plastic	22,50 €
Original pack 6 x 1 l			21,38/1 l
CN89.2	2,5 l	plastic	38,20 €
Original pack 4 x 2,5 l			36,29/2,5 l
CN89.3	5 l	plastic	61,85 €
Original pack 2 x 5 l			58,76/5 l
CN89.4	10 l	plastic	102,70 €
CN89.5	25 l	plastic	227,90 €

Sulphuric acid 50 %

Sulphuric acid 50 %

50 %, pure

H₂SO₄

M 98,08 g/mol

D ~1,40

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ **Danger H314-H290**

Type analysis:

Assay 49,0-51,0 %
Density (20 °C) 1,3854-1,4049
Iron (Fe) ≤0,01 %
Lead (Pb) ≤0,0001 %

4318.1	1 l	plastic	15,60 €
Original pack 6 x 1 l			14,82/1 l
4318.2	2,5 l	plastic	23,35 €
Original pack 4 x 2,5 l			22,18/2,5 l
4318.3	5 l	plastic	40,75 €
Original pack 2 x 5 l			38,71/5 l
4318.4	10 l	plastic	54,30 €

Sulphuric acid 40 %

Sulphuric acid 40 %

40 %, pure

H₂SO₄

M 98,08 g/mol

D ~1,30

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ **Danger H314-H290**

Type analysis:

Assay 39,0-41,0 %
Density (20 °C) 1,2941-1,3116
Iron (Fe) ≤0,005 %
Lead (Pb) ≤0,0005 %

4316.1	1 l	plastic	15,40 €
Original pack 6 x 1 l			14,63/1 l
4316.2	2,5 l	plastic	22,80 €
Original pack 4 x 2,5 l			21,66/2,5 l
4316.3	10 l	plastic	51,50 €
4316.4	25 l	plastic	96,65 €

Sulphuric acid 37 %

Sulphuric acid 37 %

37 %, techn. (battery acid, accumulator acid)

H₂SO₄

M 98,08 g/mol

D ~1,28

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ **Danger H314-H290**

Type analysis:

Assay 36,0-39,1 %
Density (20 °C) 1,2650-1,2950

4312.1	1 l	plastic	14,20 €
Original pack 6 x 1 l			13,49/1 l
4312.2	2,5 l	plastic	21,40 €
Original pack 4 x 2,5 l			20,33/2,5 l
4312.3	10 l	plastic	45,70 €
4312.4	25 l	plastic	93,45 €

Sulphuric acid 30 %

Sulphuric acid 30 %

30 %, pure

H₂SO₄

M 98,08 g/mol

D ~1,22

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ **Danger H290-H314**

Type analysis:

Assay 29,0-31,0 %
Density (20 °C) 1,210-1,227

X876.1	1 l	plastic	14,55 €
Original pack 6 x 1 l			13,82/1 l
X876.2	2,5 l	plastic	21,40 €
Original pack 4 x 2,5 l			20,33/2,5 l
X876.3	10 l	plastic	49,35 €

Sulphuric acid 25 %

Sulphuric acid 25 %

25 %, extra pure

 H_2SO_4

M 98,08 g/mol

D ~1,18

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ Warning H290-H314

Type analysis:

Assay (H_2SO_4) 24,0-26,0 %
 Chloride (Cl) ≤0,0001 %
 Calcium (Ca) ≤0,0002 %
 Iron (Fe) ≤0,0005 %
 Mercury (Hg) ≤0,00001 %

0967.1	1 l	plastic	15,30 €

Original pack 6 x 1 l	14,54/1 l

0967.2	2,5 l	plastic	21,00 €

Original pack 4 x 2,5 l	19,95/2,5 l

0967.3	10 l	plastic	38,60 €

0967.4	25 l	plastic	68,30 €

Sulphuric acid 20 %

Sulphuric acid 20 %

20 %, pure

 H_2SO_4

M 98,08 g/mol

D ~1,14

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ Warning H314-H290

Type analysis:

Assay 19,0-21,0 %
 Density (20 °C) 1,1318-1,1471
 Iron (Fe) ≤0,002 %
 Lead (Pb) ≤0,0001 %

4300.4	1 l	plastic	13,90 €

Original pack 6 x 1 l	13,21/1 l

4300.1	2,5 l	plastic	18,85 €

Original pack 4 x 2,5 l	17,91/2,5 l

4300.5	5 l	plastic	27,85 €

Original pack 2 x 5 l	26,46/5 l

4300.2	10 l	plastic	37,55 €

4300.3	25 l	plastic	66,55 €

Sulphuric acid (0,02 N)

Sulphuric acid

0,01 mol/l - 0,02 N volumetric standard solution

UN No. 3264 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C) 0,01 mol/l ±0,2 %
 Titer 0,998-1,002

X872.1	1 l	plastic	22,05 €

Original pack 6 x 1 l	20,95/1 l

For further information, please see page 1547

Sulphuric acid (0,1 N)

Sulphuric acid

0,05 mol/l - 0,1 N volumetric standard solution

UN No. 3264 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C). 0,05 mol/l ±0,2 %
 Titer 0,998-1,002

K026.1	1 l	plastic	16,70 €

Original pack 6 x 1 l	15,87/1 l

K026.2	5 l	plastic	50,45 €

Original pack 2 x 5 l	47,93/5 l

K026.3	5 l	ROTI®CUBE	56,90 €

Original pack 2 x 5 l	54,06/5 l

K026.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sulphuric acid (0,1 N)

Sulphuric acid

0,05 mol/l - 0,1 N volumetric standard solution, Reag. Ph.Eur.

[7664-93-9] • EC No. 231-639-5

UN No. 3264 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. 0,05 mol/l ±0,1 %

6793.1	1 l	plastic	19,90 €

Original pack 6 x 1 l	18,91/1 l

Sulphuric acid (0,1 N)

Sulphuric acid

ROTI®VOLUM 0,05 mol/l - 0,1 N

Ampoule for preparation of 1000 ml volumetric solution.

 H_2SO_4

M 98,08 g/mol

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

Amount-of-substance conc. (20 °C) 0,05 mol/l ±0,2 %

CN64.1	1 piece	plastic ampoule	16,15 €

For further information, please see page 1547

Sulphuric acid (0,2 N)

Sulphuric acid

0,1 mol/l - 0,2 N volumetric standard solution

[7664-93-9] • EC No. 231-639-5

UN No. 3264 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,1 mol/l ±0,2 %
 Titer 0,998-1,002

N072.1	1 l	plastic	17,45 €

Original pack 6 x 1 l	16,58/1 l

For further information, please see page 1547

Sulphuric acid (0,5 N)

Sulphuric acid

0,25 mol/l - 0,5 N volumetric standard solution

[7664-93-9] • EC No. 231-639-5

UN No. 3264 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C). 0,25 mol/l ±0,2 %
 Titer 0,9980-1,0020

P709.1	1 l	plastic	18,20 €

Original pack 6 x 1 l	17,29/1 l

P709.2	5 l	ROTI®CUBE	56,90 €

Original pack 2 x 5 l	54,06/5 l

P709.3	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sulphuric acid (1 N)

Sulphuric acid

0,5 mol/l - 1 N volumetric standard solution

UN No. 3264 • ADR 8 III • WGK 1

⚠ Warning H290

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,5 mol/l ±0,2 %
 Titer 0,998-1,002

K027.1	1 l	plastic	17,45 €

Original pack 6 x 1 l	16,58/1 l

K027.2	5 l	plastic	52,15 €

Original pack 2 x 5 l	49,54/5 l

K027.3	5 l	ROTI®CUBE	56,90 €

Original pack 2 x 5 l	54,06/5 l

K027.4	10 l	ROTI®CUBE	83,75 €

For further information, please see page 1547

Sulphuric acid (1 N)

Sulphuric acid

0,5 mol/l - 1 N volumetric standard solution, Reag. Ph.Eur.

[7664-93-9] • EC No. 231-639-5

UN No. 3264 • ADR 8 III

⚠ Warning H290

Type analysis:

Amount-of-substance conc. 0,5 mol/l ±0,1 %

6794.1	1 l	plastic	19,90 €

Original pack 6 x 1 l	18,91/1 l

Sulphuric acid (1 N)

Sulphuric acid

ROTI®VOLUM 0,5 mol/l - 1 N

Ampoule for preparation of 1000 ml volumetric solution.

H₂SO₄

M 98,08 g/mol

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....0,5 mol/l ±0,2 %

CN65.1	1 piece	plastic ampoule	20,65 €

For further information, please see page 1547

Sulphuric acid (2 N)

Sulphuric acid

1 mol/l - 2 N volumetric standard solution

[7664-93-9] • EC No. 231-639-5

UN No. 2796 • ADR 8 II • WGK 1

⚠ Warning H290-H315-H319

Type analysis:

Amount-of-substance conc. (20 °C).....1 mol/l ±0,2 %

Titer. 0,998-1,002

X873.1	1 l	plastic	22,05 €
Original pack 6 x 1 l			20,95/1 l

For further information, please see page 1547

Sulphuric acid (5 N)

Sulphuric acid

2,5 mol/l - 5 N volumetric standard solution

UN No. 2796 • ADR 8 II • WGK 1

⚠ Danger H314-H290

Type analysis:

Amount-of-substance conc. (20 °C).....2,5 mol/l ±0,2 %

Titer. 0,998-1,002

KK74.1	1 l	plastic	25,05 €
Original pack 6 x 1 l			23,80/1 l

For further information, please see page 1547

Sulphuric acid D2, 98 % solution in D₂O

Sulphuric acid D2, 98 % solution in D₂O

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

D₂SO₄

M 100,09 g/mol

D ~1,84 • bp 360 °C

[13813-19-9] • EC No. 237-464-0

UN No. 1830 • ADR 8 II • WGK 1

⚠ Danger H290-H314

Type analysis:

Deuterising degree.≥99,5 %

Assay (mass %).≥98 %

HN87.1	10 ml	glass	32,15 €
HN87.2	50 ml	glass	135,35 €

Sulphuric ether

▶ Diethyl ether see p. 1774

Sulphurous acid

Sulphurous acid

~6 % SO₂ in H₂O

Sulfurous acid

H₂SO₃

M 82,02 g/mol

D 1,03

[7782-99-2] • EC No. 231-973-1

UN No. 1833 • ADR 8 II • WGK 1

⚠ ⚠ Danger H314-H332

Type analysis:

Assay (SO₂).~6 %

9328.1	1 l	glass	17,75 €
Original pack 6 x 1 l			16,86/1 l
9328.2	10 l	tinplate	95,15 €

Sulphurous acid dichloride

▶ Thionyl chloride see p. 2207

Super Broth Autoinduct

Super Broth Autoinduct

for molecular biology

Autoinduction broth for IPTG free protein expression in recombinant *E. coli*. Induces *lac* promoter driven expression.

Application: Use 74,85 g for 1 l broth.

Autoclavable (115 °C, 20 min).

Autoinduction broth

Storage temp.: +20 °C • WGK 1

Formulation:

Tryptone.	35 g/l
Yeast extract.	20 g/l
Lactose.	2 g/l
Glucose.	0,5 g/l
Salts acc. to Studier.	17,35 g/l
pH value.	7,0 ±0,1

9189.1	100 g	plastic	24,65 €
9189.2	250 g	plastic	48,40 €
9189.3	500 g	plastic	87,10 €
Original pack 6 x 500 g			82,75/500 g
9189.4	1 kg	plastic	163,40 €
Original pack 6 x 1 kg			155,23/1 kg
9189.5	2,5 kg	plastic	382,70 €

For further information, please see page 1357

Superheated steam cylinder oil

Superheated steam cylinder oil for heating baths

D ~0,92

flp 326 °C • WGK 1

Type analysis:

Viscosity (40 °C). 800-1200 mm²/s

Density (15 °C).....0,926

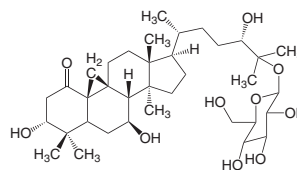
Flash point.>300 °C

1660.1	10 l	plastic	130,00 €

Surfactants

▶ Detergents see p. 1764

Sutherlandioside B



Sutherlandioside B

ROTICHRON® HPLC

Reference substance for HPLC.

From *Sutherlandia frutescens*.

C₃₆H₆₀O₁₀

M 652,87 g/mol

mp 150-155 °C

Storage temp.: +4 °C

[1055329-47-9]

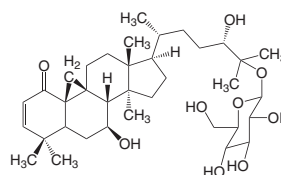
WGK 3

Type analysis:

Purity (HPLC).≥97 %

6695.1	10 mg	glass	289,20 €

Sutherlandioside D



Sutherlandioside D

ROTICHRON® HPLC

Reference substance for HPLC.

From *Sutherlandia frutescens*.

C₃₆H₅₈O₉

M 634,77 g/mol

Storage temp.: +4 °C

[1055329-49-1]

WGK 3

Type analysis:

Purity (HPLC).≥95 %

6696.1	10 mg	glass	299,95 €

Sylvic acid

► Abietic acid see p. 1596

Synastrin

► Sparteine sulphate see p. 2164

Synergel™**Synergel™**

≥99 %, for gel electrophoresis

Agarose additive

D 1,7

mp 260 °C

Solubility: max. 10 %

Storage temp.: +20 °C

[9000-40-2] • EC No. 232-541-5

Type analysis:

Colour: white to almost white powder

Odour: slightly salty

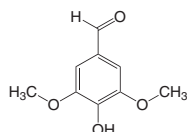
pH (1 % solution): 9

DNase, RNase: none detected

0184.2	10 g	plastic	27,85 €

0184.1	100 g	plastic	195,65 €

For further information, please see page 1122

Syngaldehyde**Syngaldehyde**

≥98 %

4-Hydroxy-3,5-dimethoxybenzaldehyde

C₉H₁₀O₄

M 182,17 g/mol

bp 192-193 °C (19 hPa)

mp 109-112 °C

[134-96-3] • EC No. 205-167-5

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

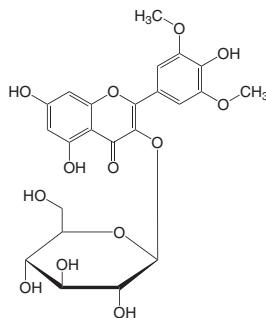
Assay (HPLC): ≥98 %

Melting point: 110-113 °C

5359.1	5 g	glass	44,00 €

Syngaresinol-4',4''-O-bis-β-D-glucoside

► Eleutheroside E see p. 1803

Syngetin-3-glucoside**Syngetin-3-glucoside**

ROTICROM® HPLC

Reference substance for HPLC

C₂₃H₂₄O₁₃

M 508,44 g/mol

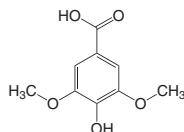
Storage temp.: +4 °C

[40039-49-4]

Type analysis:

Purity (HPLC): ≥99 %

9432.1	5 mg	glass	317,15 €

Syngic acid**Syngic acid**

≥97 %

C₉H₁₀O₅

M 198,18 g/mol

mp 204-207 °C

[530-57-4] • EC No. 208-486-8

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Assay (titr.): ≥97 %

5361.1	10 g	glass	59,90 €

Syngin, Syngoside

► Eleutheroside B see p. 1803

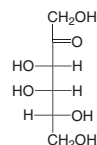
TAA

► Thioacetamide see p. 2206

TAE-buffer

► Rotiphorese® 10x TAE Buffer see p. 2109

► Rotiphorese® 50x TAE Buffer see p. 2109

D-Tagatose**D-Tagatose**

≥98,5 %, for biochemistry

C₆H₁₂O₆

M 180,16 g/mol

mp 134-135 °C

[87-81-0] • EC No. 201-772-3

Type analysis:

Appearance: white, cryst. powder

Assay (HPLC): ≥98,5 %

Specific rotation [α]_D²⁰: -5,5° ± 1,0°

6161.1	1 g	glass	166,65 €

6161.2	5 g	glass	729,95 €

Talcum**Talcum**

Ph.Eur., USP, powdered

Suitable as adsorbent, filling and carrier material.

Magnesium silicate

Solubility: insoluble (H₂O, 20 °C)

[14807-96-6] • EC No. 238-877-9

Guarantee analysis:

Appearance: white to almost white, fatty

Identity: complies

Substances soluble in H₂O: ≤0,2 %

Acid or alkaline react. substances: complies

Aluminium (Al): ≤2,0 %

Calcium (Ca): ≤0,9 %

Lead (Pb): ≤0,001 %

Iron (Fe): ≤0,25 %

Magnesium (Mg): 17,0-19,5 %

Loss on ignition (1100 °C): ≤7,0 %

Absence of Asbestos: complies

9486.2	500 g	plastic	12,40 €

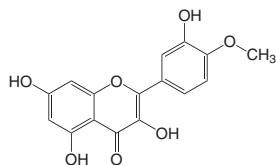
Original pack 6 x 500 g 11,78/500 g

9486.3	1 kg	plastic	16,70 €

Original pack 6 x 1 kg 15,87/1 kg

9486.1	2,5 kg	plastic	30,00 €

Tamarixetin



Tamarixetin

ROTICHRON® HPLC

Reference substance for HPLC

Quercetin-4'-methylether

 $C_{16}H_{12}O_7$

M 316,28 g/mol

Storage temp.: +4 °C

[603-61-2] • EC No. 210-050-7

Type analysis:

Purity (HPLC).....≥99 %

7425.1	10 mg	glass	235,45 €

5-TAMRA-Azide

► 5-Carboxytetramethylrhodamine Azide (5-TAMRA-Azide) see p. 1716

5-TAMRA-PEG3-Azide

► 5-Carboxytetramethylrhodamine-PEG3-Azide (5-TAMRA-PEG3-Azide) see p. 1716

Tanacetone

► α+β-Thujone see p. 2208

Tannic acid

 $C_{76}H_{52}O_{46}$

M 1701,20 g/mol

mp 218-219 °C

Solubility: 250 g/l (H_2O , 20 °C)

[1401-55-4] • EC No. 215-753-2

WGK 1

Tannic acid

≥86 %, p.a., ACS

Guarantee analysis:

Assay.....≥86 %
 Identity.....complies
 Loss on drying.....≤12,0 %
 Sugars, dextrin.....complies
 Heavy metals (as Pb).....≤0,003 %
 Arsenic (As).....≤0,0003 %
 Zinc (Zn).....≤0,005 %
 Ash content.....≤0,5 %

2726.1	100 g	plastic	19,90 €

2726.2	250 g	plastic	33,90 €

2726.3	500 g	plastic	51,50 €

Original pack 6 x 500 g 48,93/500 g

Tannic acid

Ph.Eur., for biochemistry

Guarantee analysis:

Appearance.....yellowish powder
 Tannic acid (TA).....≥95 %
 Identity.....complies
 Appearance of solution.....complies
 Dextrine, rubber, salts, sugar.....complies
 Resinous substances.....complies
 Loss on drying.....≤7,0 %
 Sulphated ash.....≤0,1 %

4239.1	250 g	plastic	31,10 €

4239.2	1 kg	plastic	94,50 €

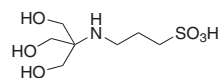
Original pack 6 x 1 kg 89,78/1 kg

Tantalum Standards

► Tantalum ICP Standard Solution see p. 2173

► Tantalum ICP Standard Solution see p. 2177

TAPS



TAPS

PUFFERAN® ≥99 %

N-Tris(hydroxymethyl)-methyl-3-amino-propane sulphonic acid

 $C_7H_{17}NO_6S$

M 243,28 g/mol

mp 230-235 °C

[29915-38-6] • EC No. 249-954-1

Type analysis:

Assay (titr.).....≥99 %
 Water (KF).....≤1,0 %
 pH value (5 % in H_2O).....4,5-6,0
 Heavy metals.....≤0,001 %
 UV-absorption (0,1 M in H_2O):
 280 nm.....≤0,01
 260 nm.....≤0,02

6982.1	10 g	plastic	12,80 €

6982.2	100 g	plastic	39,70 €

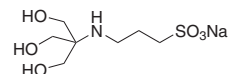
6982.3	250 g	plastic	79,45 €

6982.4	500 g	plastic	141,80 €

Original pack 6 x 500 g 134,71/500 g

For further information, please see page 1215

TAPS sodium salt



TAPS sodium salt

PUFFERAN® ≥98 %

N-Tris(hydroxymethyl)-methyl-3-amino-propane sulphonic acid sodium salt

 $C_7H_{16}NaNO_6S$

M 265,2 g/mol

[91000-53-2]

Guarantee analysis:

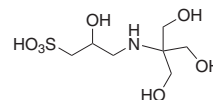
Appearance.....white crystals
 Assay (titr.).....≥98 %
 Water (KF).....≤1 %
 pH value (1 % solution).....10,1-10,7
 UV-absorption (0,1 M in H_2O):
 260 nm.....≤0,04
 280 nm.....≤0,02

3583.1	25 g	plastic	33,25 €

3583.2	100 g	plastic	110,20 €

For further information, please see page 1215

TAPSO



TAPSO

PUFFERAN® ≥99 %

3-N-Tris(hydroxymethyl)-methylamino-2-hydroxypropanesulphonic acid

 $C_7H_{17}NO_7S$

M 259,28 g/mol

mp 226 °C

[68399-81-5] • EC No. 269-993-8

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

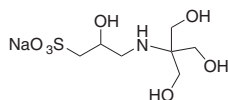
Assay (titr.).....≥99 %
 Loss on drying.....≤1,0 %
 pH value (1 % solution).....4,2-4,7
 UV-absorption (0,1 M in H_2O):
 280 nm.....≤0,02
 260 nm.....≤0,04

6628.1	25 g	plastic	27,85 €

6628.2	100 g	plastic	80,10 €

For further information, please see page 1215

TAPSO sodium salt



TAPSO sodium salt

PUFFERAN® ≥99 %

3-N-Tris(hydroxymethyl)-methylamino-2-hydroxypropanesulphonic acid sodium salt

C₇H₁₆NaO₇S

M 281,3 g/mol

[105140-25-8]

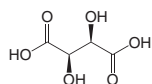
Guarantee analysis:

Appearance..... white powder
 Assay (titr.)..... ≥99 %
 Water (KF)..... ≤1 %
 pH value (1 % solution)..... 9,5-10,5

6974.1	25 g	plastic	28,50 €
6974.2	100 g	plastic	86,55 €

For further information, please see page 1215

D(-)-Tartaric acid



D(-)-Tartaric acid

≥99 %, for biochemistry

C₄H₆O₆

M 150,09 g/mol

D 1,8

mp 166-169 °C • flp 210 °C

Solubility: 1394 g/l (H₂O, 20 °C)

[147-71-7] • EC No. 205-695-6 • WGK 1

⚠ Warning H319

Type analysis:

Appearance..... white, cryst. powder
 Assay..... ≥99,0 %

5529.1	25 g	plastic	45,05 €

DL-Tartaric acid

DL-Tartaric acid

≥99,5 %, anhydrous

Grape acid

C₄H₆O₆

M 150,09 g/mol

mp 198-204 °C • flp 210 °C

Solubility: 215 g/l (H₂O, 25 °C)

[133-37-9] • EC No. 205-105-7 • WGK 1

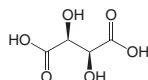
⚠ Warning H319

Type analysis:

Appearance..... white powder
 Assay..... ≥99,5 %
 Loss on drying..... ≤0,5 %
 Ash content..... ≤0,1 %

4891.2	25 g	plastic	13,15 €
4891.1	100 g	plastic	23,15 €
4891.3	500 g	plastic	67,20 €
Original pack 6 x 500 g			63,84/500 g

L(+)-Tartaric acid

C₄H₆O₆

M 150,09 g/mol

D 1,76

mp 166-169 °C • flp 210 °C

Solubility: 1390 g/l (H₂O, 20 °C)

[87-69-4] • EC No. 201-766-0

WGK 1

⚠ Warning H319

L(+)-Tartaric acid

≥99 %, p.a., ACS

For the preparation of Fehling's solution.

Guarantee analysis:

Assay (acidim.)..... ≥99,0 %
 In H₂O insoluble matter..... ≤0,005 %
 Loss on drying..... ≤0,5 %
 Sulphated ash..... ≤0,01 %
 Total sulphur (as SO₄)..... ≤0,002 %
 Chloride (Cl)..... ≤0,0005 %
 Phosphate (PO₄)..... ≤0,001 %
 Oxalate (C₂O₄)..... ≤0,03 %
 Heavy metals (as Pb)..... ≤0,0005 %
 Copper (Cu)..... ≤0,0005 %
 Iron (Fe)..... ≤0,0005 %
 Lead (Pb)..... ≤0,0005 %
 Calcium (Ca)..... ≤0,002 %

K302.1	250 g	plastic	22,50 €
K302.2	1 kg	plastic	67,65 €
Original pack 6 x 1 kg			64,27/1 kg
K302.5	25 kg	plastic	1127,70 €

L(+)-Tartaric acid

≥99,5 %, Ph.Eur.

Guarantee analysis:

Appearance..... white to off-white cryst. powder
 Assay (dry substance)..... 99,5-101,0 %
 Identity..... complies
 Appearance of solution..... complies
 Specific rotation [α]_D²⁰ (dry substance)..... +12,0° to +12,8°
 Oxalic acid..... ≤0,035 %
 Chloride (Cl)..... ≤0,01 %
 Sulphate (SO₄)..... ≤0,015 %
 Calcium (Ca)..... ≤0,02 %
 Heavy metals (as Pb)..... ≤0,001 %
 Loss on drying..... ≤0,2 %
 Sulphated ash..... ≤0,1 %

4289.1	500 g	plastic	25,70 €
Original pack 6 x 500 g			24,42/500 g
4289.2	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg
4289.3	5 kg	plastic	177,40 €
4289.4	25 kg	plastic	729,95 €

L(+)-Tartaric acid

≥99,7 %, for biochemistry

Type analysis:

Appearance..... white crystals
 Assay..... ≥99,7 %
 Specific rotation [α]_D²⁰..... +12,0° to +13,0°
 Oxalate (as C₂H₂O₄)..... ≤0,01 %
 Heavy metals (as Pb)..... ≤0,001 %
 Chloride (Cl)..... ≤0,01 %
 Sulphate (SO₄)..... ≤0,015 %
 Calcium (Ca)..... ≤0,02 %
 Sulphated ash..... ≤0,1 %
 Loss on drying..... ≤0,2 %

4890.3	500 g	plastic	21,40 €
Original pack 6 x 500 g			20,33/500 g
4890.1	1 kg	plastic	36,05 €
Original pack 6 x 1 kg			34,25/1 kg
4890.2	5 kg	plastic	133,20 €
4890.5	25 kg	plastic	504,20 €

Tartaric acid disodium salt

▶ di-Sodium tartrate dihydrate see p. 2158

Tashiro's indicator solution

Tashiro's indicator solution

in ethanol

pH indicator, mixed indicator

D 0,93

UN No. 1170 • ADR 3, III • WGK 1

⚠ Warning H226

2624.1	250 ml	plastic	15,60 €

TAT Broth (Base)

TAT Broth (Base)

USP, for microbiology

For proliferation and regeneration of microorganisms from a variety of matters, e.g. from cosmetics, and matters contaminated with antimicrobial reagents.

Application: Use 25 g for 1 l broth. Following autoclaving add 40 ml Tween® 20 (polysorbate).

Casein peptone Lecithin Polysorbate Broth,

CPLP Broth

Storage temp.: +20 °C

Guarantee analysis:

Casein peptone..... 20 g/l
 Soya lecithin..... 5 g/l
 pH value..... 7,1 ±0,2

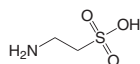
3935.1	500 g	plastic	99,90 €
Original pack 6 x 500 g			94,91/500 g
3935.2	1 kg	plastic	177,40 €
Original pack 6 x 1 kg			168,53/1 kg

For further information, please see page 1343

TATU

▶ O-(7-Azabenzotriazole-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate see p. 1660

Taurine



Taurine

≥99 %, for biochemistry
2-Aminoethanesulphonic acid
C₂H₇NO₃S
M 125,2 g/mol
mp 300 °C (dec.)
Solubility: 65 g/l (H₂O, 12 °C)
[107-35-7] • EC No. 203-483-8
WGK 2

Type analysis:

Appearance: white cryst. powder
Assay (titr.):≥99,0 %
Heavy metals:≤0,001 %
Loss on drying:≤0,2 %

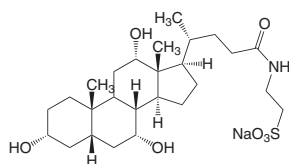
4721.1	100 g	plastic	17,75 €

4721.2	500 g	plastic	47,85 €

Original pack 6 x 500 g 45,46/500 g

For further information, please see page 1434

Taurocholic acid sodium salt



C₂₆H₄₄NNaO₇S
M 537,68 g/mol
mp 230 °C
Storage temp.: +4 °C
[145-42-6] • EC No. 205-653-7
WGK 1

Taurocholic acid sodium salt

≥98 %, for biochemistry

Type analysis:

Appearance: white powder
Assay (HPLC):≥98,0 %
Water:≤5,0 %
Solubility (10 % in H₂O): clear
Heavy metals (as Pb):≤0,002 %

8149.1	500 mg	glass	14,95 €

8149.2	1 g	glass	21,00 €

8149.3	10 g	glass	96,65 €

8149.4	50 g	glass	364,45 €

8149.5	100 g	glass	697,70 €

Taurocholic acid sodium salt

ROTICHROM® TLC

Reference substance for thin layer chromatography

5817.1	100 mg	glass	49,35 €

(+)-Taxifolin

► (+)-Dihydroquercetin see p. 1777

TBA

► Tryptone Bile Salts Agar see p. 2227

TBAB

► Tetrabutylammonium bromide see p. 2201

TBAH

► Tetrabutylammonium hydroxide see p. 2201

TBAI

► Tetrabutylammonium iodide see p. 2201

TBE-buffer

► Rotiphorese® 10x TBE Buffer see p. 2109

10x TBS ready-to-use solution

► Roti®-Stock 10x TBS see p. 2112

10x TBST ready-to-use solution

► Roti®-Stock 10x TBST see p. 2112

TBTA

► Tris[(1-benzyl-1H-1,2,3-triazol-4-yl)methyl]amine (TBTA) see p. 2224

TBTU

► O-(Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate see p. 1672

TBX chromogenic Agar

TBX chromogenic Agar

ISO 16649-2 and -3, for microbiology

Selective agar for detection of *E. coli* in food samples.

Application: Use 36,6 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Casein peptone	20,0 g/l
Bile salts	1,5 g/l
x-β-D-Glucuronide	0,075 g/l
Agar	15,0 g/l
pH value	7,2 ±0,2

CL47.2	100 g	plastic	88,70 €

CL47.1	500 g	plastic	317,15 €

Original pack 6 x 500 g 301,29/500 g

For further information, please see page 1344

TCA

► Trichloroacetic acid see p. 2217

TCA solution

► Trichloroacetic acid solution see p. 2217

TCBS Agar

TCBS Agar

for microbiology

For selective isolation of *Vibrio*.

Application: Use 88 g for 1 l agar.

Thiosulphate Citrate Bile Sucrose Agar, Cholera Medium TCBS, Cholera Agar

Storage temp.: +20 °C

WGK 1

Formulation:

Sucrose	20 g/l
Sodium chloride (NaCl)	10 g/l
Sodium thiosulphate	10 g/l
Sodium citrate	10 g/l
Meat peptone	5 g/l
Casein peptone	5 g/l
Yeast extract	5 g/l
Dehydrated ox bile	5 g/l
Sodium cholate	3 g/l
Ammonium iron(III)citrate	1 g/l
Thymol blue	0,04 g/l
Bromothymol blue	0,04 g/l
Agar	14 g/l
pH value	8,6 ±0,2

8333.1	500 g	plastic	106,45 €

Original pack 6 x 500 g 101,13/500 g

For further information, please see page 1344

TCC

► tri-Calcium dicitrate tetrahydrate see p. 1707

TC100 cell culture medium

► Roti®-CELL TC100 see p. 2094

TCE

► Trichloroethylene see p. 2217

TCE-D2

► 1,1,2,2-Tetrachloroethane D2 see p. 2202

TCTU

► O-(6-Chlorobenzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate (TCTU) see p. 1730

TDPA

► Tetradecylphosphonic acid see p. 2202

TEA

► Triethylamine see p. 2219
► Triethanolamine see p. 2219

Tellurium Standards

► Tellurium AAS Standard Solution see p. 2169
► Tellurium ICP Standard Solution see p. 2173
► Tellurium ICP Standard Solution see p. 2178

Tellurium dioxide

► Tellurium(IV) oxide see p. 2199

Tellurium(IV) oxide

Tellurium(IV) oxide

ROTI®METIC 99,999 % (5N)

Tellurium dioxide

TeO₂

M 159,60 g/mol

D 5,9 • bp 1245 °C

mp 733 °C

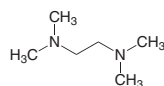
[7446-07-3] • EC No. 231-193-1

Type analysis:

Assay (metals basis)..... 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5745.1	5 g	plastic	41,40 €
5745.2	10 g	plastic	71,50 €
5745.3	50 g	plastic	235,45 €

TEMED



TEMED

98,5 %, p.a. for electrophoresis

N,N,N',N'-Tetramethylethylenediamine,
1,2-Bis(dimethylamino)-ethane

C₆H₁₆N₂

M 116,21 g/mol

D 0,78 • bp 121 °C

mp -55 °C • flp 19 °C

[110-18-9] • EC No. 203-744-6

UN No. 2372 • ADR 3 II • WGK 1

Danger H225-H314-H302+H332

Type analysis:

Assay..... 98,5-100,0 %
Water..... ≤0,9 %

2367.3	25 ml	glass	17,00 €
2367.1	100 ml	glass	33,25 €
2367.2	250 ml	glass	66,55 €

For further information, please see page 1115

Terbium Standards

- Terbium ICP Standard Solution see p. 2173
- Terbium ICP Standard Solution see p. 2178

Terbium(III) nitrate pentahydrate

Terbium(III) nitrate pentahydrate

ROTI®REMATIC 99,9 %

Tb(NO₃)₃ · 5 H₂O

M 435,02 g/mol

[57584-27-7] • EC No. 233-138-7

UN No. 1477 • ADR 5.1 III • WGK 3

Danger H272

Type analysis:

Assay (TREO*)..... 99,9 %
*Total rare earth oxide
Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7141.1	1 g	plastic	18,20 €

Terbium(III,IV) oxide

Terbium(III,IV) oxide

ROTI®REMATIC 99,99 %

Tb₄O₇

M 747,69 g/mol

Solubility: insoluble (H₂O, 20 °C)

[12738-76-0] • EC No. 234-856-3

WGK 3

Type analysis:

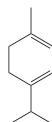
Assay (TREO*)..... 99,99 %
*Total rare earth oxide
Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7140.1	1 g	plastic	66,15 €

100x TE ready-to-use solution

► Roti®-Stock 100x TE see p. 2112

α-Terpinene



α-Terpinene

ROTI®CHROM® GC

Reference substance for GC

C₁₀H₁₆

M 136,24 g/mol

D 0,84 • bp ~174 °C

flp 46 °C

Storage temp.: +4 °C

[99-86-5] • EC No. 202-795-1

UN No. 2319 • ADR 3 III • WGK 2

Danger

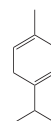
H304-H226-H302-H411

Type analysis:

Purity (GC)..... ≥80 %

8038.1	1 g	plastic	75,15 €

γ-Terpinene



γ-Terpinene

ROTI®CHROM® GC

Reference substance for GC

C₁₀H₁₆

M 136,24 g/mol

D 0,85 • bp 182 °C

flp 51 °C

Storage temp.: +4 °C

[99-85-4] • EC No. 202-794-6

UN No. 2319 • ADR 3 III • WGK 2

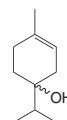
Danger H304-H226

Type analysis:

Purity (GC)..... ≥95 %

8039.1	1 g	plastic	75,15 €

4-Terpinenol



4-Terpinenol

ROTI®CHROM® GC

C₁₀H₁₈O

M 154,24 g/mol

bp 211-213 °C

flp 79 °C

[562-74-3] • EC No. 209-235-5

WGK 2

Warning H302-H315-H319-H335

Type analysis:

Purity (GC)..... ≥90,0 %

6309.1	1 g	plastic	75,15 €

Terpineol

Terpineol

pure

C₁₀H₁₈O

M 154,24 g/mol

D ~0,93 • bp 214-217 °C

mp -32 °C • flp 95 °C

[8000-41-7] • EC No. 232-268-1

WGK 2

Warning H315

Type analysis:

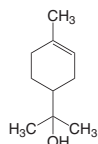
Appearance..... clear, colourless oil
Density (20 °C)..... 0,929-0,933 g/cm³
Refractive index (20 °C)..... 1,480-1,485
Optical rotation (20 °C)..... -20° to +10°

8672.1	250 ml	glass	18,85 €

8672.2	1 l	glass	54,75 €

Original pack 6 x 1 l 52,01/1 l

α-Terpineol



p-Menth-1-en-8-ol
 $C_{10}H_{18}O$
 M 154,25 g/mol
 D 0,932 • bp 216 °C
 mp 33 °C • flp 90 °C
 Solubility: insoluble in water
 Storage temp.: +4 °C
 [98-55-5] • EC No. 202-680-6
 WGK 1

⚠ Warning H315-H319

α-Terpineol

~96 %, for synthesis

Type analysis:

Assay (V/V).....~96,0 %

4418.1	5 ml	glass	11,50 €

4418.2	250 ml	glass	25,30 €

4418.3	1 l	glass	70,45 €

Original pack 6 x 1 l	66,93/1 l

α-Terpineol

ROTICHRON® GC

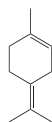
Reference substance for GC

Type analysis:

Purity (GC).....≥95 %

5152.1	1 g	plastic	75,15 €

Terpinolene



Terpinolene

ROTICHRON® GC

Reference substance for GC

δ-Terpinene

$C_{10}H_{16}$

M 136,24 g/mol

D ~0,862 • bp 184 °C

flp 64 °C

Storage temp.: +4 °C

[586-62-9] • EC No. 209-578-0

UN No. 2541 • ADR 3 III • WGK 2

⚠ Warning H400-H410

Type analysis:

Purity (GC).....≥90 %

5166.1	1 g	plastic	75,15 €

Terpinyl acetate

► Acetic acid terpinyl ester see p. 1603

Terra infusoria

► Infusorial earth see p. 1900

Terrific-Broth

Storage temp.: +20 °C

WGK 1

Terrific Broth

for molecular biology

Application: Use 50,8 g for 1 l broth. Before autoclaving add 4 ml glycerol per litre medium.

Formulation:

Casein, enzymatically digested.....	12 g/l
Yeast extract.....	24 g/l
K_2HPO_4	12,54 g/l
KH_2PO_4	2,31 g/l
pH value.....	7,2 ±0,2

X972.1	500 g	plastic	60,75 €

Original pack 6 x 500 g	57,71/500 g

X972.2	1 kg	plastic	107,40 €

Original pack 6 x 1 kg	102,03/1 kg

X972.3	2,5 kg	plastic	220,40 €

For further information, please see page 1361

Terrific-Broth modified

for molecular biology

Application: Use 47,6 g for 1 l broth. Before autoclaving add 4 ml glycerol per litre medium.

Formulation:

Casein, enzymatically digested.....	12 g/l
Yeast extract.....	24 g/l
K_2HPO_4	9,4 g/l
KH_2PO_4	2,2 g/l
pH value.....	7,2 ±0,2

HP61.1	500 g	plastic	56,45 €

Original pack 6 x 500 g	53,63/500 g

HP61.2	1 kg	plastic	101,05 €

Original pack 6 x 1 kg	96,00/1 kg

For further information, please see page 1361

Terrific Broth vegetal

for molecular biology, animal-free

Application: Use 50,8 g for 1 l broth. Before autoclaving add 4 ml glycerol per litre medium.

Formulation:

Vegetable peptone.....	12 g/l
Yeast extract.....	24 g/l
K_2HPO_4	12,5 g/l
KH_2PO_4	2,3 g/l
pH value.....	7,2 ±0,2

0161.1	500 g	plastic	71,95 €

Original pack 6 x 500 g	68,35/500 g

For further information, please see page 1362

Terrific Broth Autoinduct

Terrific Broth Autoinduct

for molecular biology

Autoinduction broth for IPTG free protein expression in recombinant *E. coli*. Induces *lac* promoter driven expression.

Application: Use 55,55 g for 1 l broth. Autoclavable (115 °C, 20 min).

Autoinduction broth

Storage temp.: +20 °C

WGK 1

Formulation:

Tryptone.....	12 g/l
Yeast extract.....	24 g/l
Lactose.....	2 g/l
Glucose.....	0,5 g/l
Salts acc. to Studier.....	17,05 g/l
pH value.....	7,0 ±0,2

9191.1	100 g	plastic	24,20 €

9191.2	250 g	plastic	47,85 €

9191.3	500 g	plastic	85,50 €

Original pack 6 x 500 g	81,23/500 g

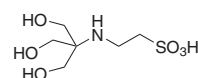
9191.4	1 kg	plastic	158,05 €

Original pack 6 x 1 kg	150,15/1 kg

9191.5	2,5 kg	plastic	376,25 €

For further information, please see page 1357

TES



TES

PUFFERAN® ≥99 %

N-[Tris-(hydroxymethyl)-methyl]-2-aminoethane sulphonic acid

$C_6H_{15}NO_6S$

M 229,2 g/mol

mp 229-231 °C

[7365-44-8] • EC No. 230-906-3

WGK 1

Guarantee analysis:

Assay (titr.).....	≥99,0 %
pH value (1 % in H_2O).....	4,2-4,8
Loss on drying.....	≤1,0 %
UV-absorption (0,1 M in H_2O):	
260 nm.....	≤0,02
280 nm.....	≤0,02

9137.1	10 g	plastic	24,20 €

9137.2	100 g	plastic	127,95 €

9137.3	500 g	plastic	256,95 €

Original pack 6 x 500 g	244,10/500 g

For further information, please see page 1215

Tetraammineplatinum(II) nitrate**Tetraammineplatinum(II) nitrate**

ROTI®METIC 99,995 % (4N5)

Pt(NH₃)₄(NO₃)₂

M 387,22 g/mol

[20634-12-2] • EC No. 243-929-9

UN No. 1479 • ADR 5.1 II • WGK 1

 **Danger** H272-H315-H319-H317-H335

Type analysis:

Assay (metals basis)..... 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

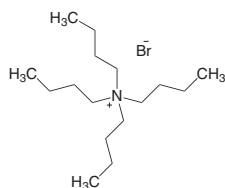
5746.1	1 g	plastic	299,95 €

2',4',5',7'-Tetrabromoeosin ethyl ester potassium salt

► Ethyl eosin (C.I. 45386) see p. 1818

3,3',5,5'-Tetrabromophenol sulphophthaleine

► Bromophenol blue see p. 1691

Tetrabutylammonium bromide**Tetrabutylammonium bromide**

≥99 %, for synthesis

TBAB

C₁₆H₃₆BrN

M 322,4 g/mol

mp 102-106 °C

[1643-19-2] • EC No. 216-699-2

WGK 3

 **Warning** H315-H319-H412

Type analysis:

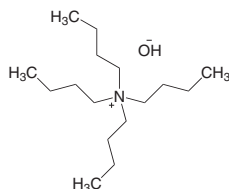
Appearance..... white fine cryst. powder
Assay..... ≥99,0 %
Solubility (50 mg/ml ethanol)..... clear, colourless

6633.1	50 g	plastic	34,95 €

6633.2	250 g	plastic	127,95 €

6633.3	500 g	plastic	246,20 €

Original pack 6 x 500 g 233,89/500 g

Tetrabutylammonium hydroxide**Tetrabutylammonium hydroxide**

40 % in water

TBAH

C₁₆H₃₇NO

M 259,48 g/mol

D ~0,98

flp >230 °C

[2052-49-5] • EC No. 218-147-6

UN No. 3267 • ADR 8 II • WGK 1

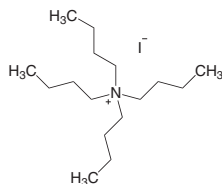
 **Danger** H314-H290

Type analysis:

Appearance..... colourless to yellowish liquid
Assay..... ~40 % in H₂O
Colour number (APHA)..... ≤75

5026.1	25 ml	glass	31,10 €

5026.2	100 ml	glass	83,35 €

Tetrabutylammonium iodide**Tetrabutylammonium iodide**

≥99 %, p.a.

TBAI

C₁₆H₃₆IN

M 369,38 g/mol

mp 145-147 °C

[311-28-4] • EC No. 206-220-5

WGK 1

 **Warning** H302-H315-H319-H335

Type analysis:

Assay..... ≥99,0 %
Melting point..... 144-146 °C

4735.1	25 g	plastic	16,70 €

4735.2	100 g	plastic	44,65 €

4735.3	500 g	plastic	195,15 €

Original pack 6 x 500 g 185,39/500 g

Tetrachloroauric(III) acid trihydrate**Tetrachloroauric(III) acid trihydrate**

≥99,5 %, p.a., yellow

Gold trichloride trihydrate, Gold trichloride hydrochloride

HAuCl₄ · 3 H₂O

M 393,83 g/mol

D 3,9 • bp 200 °C (dec.)

mp ~30 °C

Solubility: 150 g/l (H₂O, 20 °C)

[16961-25-4] • EC No. 240-948-4

UN No. 3260 • ADR 8 III • WGK 2

  **Danger** H314-H317

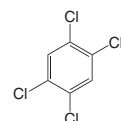
Guarantee analysis:

Assay (based on Au)..... ≥99,5 %

3867.1	1 g	glass	124,20 €

3867.2	5 g	glass	504,20 €

For further information, please see page 1540

1,2,4,5-Tetrachlorobenzene**1,2,4,5-Tetrachlorobenzene**

~99 %, for synthesis

C₆H₂Cl₄

M 215,89 g/mol

D 1,86 • bp 240-246 °C

mp 138-140 °C • flp 155 °C

[95-94-3] • EC No. 202-466-2

UN No. 3077 • ADR 9 III • WGK 3

  **Warning** H400-H410-H302

Type analysis:

Assay..... ~99 %

4790.1	250 g	plastic	39,25 €

2,3,5,6-Tetrachloro-1,4-benzoquinone

► p-Chloranil see p. 1729

1,1,2,2-Tetrachloroethane D2**1,1,2,2-Tetrachloroethane D2****99,6 Atom%D**For nuclear magnetic resonance spectroscopy.
1,2-Dideutero-1,1,2,2-tetrachloroethane,
TCE-D2 $C_2Cl_4D_2$

M 169,86 g/mol

D 1,60 • bp 146 °C

mp -43 °C

Solubility: 3 g/l (H_2O , 20 °C)

[33685-54-0] • EC No. 251-634-1

UN No. 1702 • ADR 6.1 II • WGK 3

 **Danger** H310+H330-H411**Guarantee analysis:**Deuterising degree. ≥99,6 %
Water (KF, H_2O+D_2O). ≤0,03 %

CP96.1	10 ml	glass	71,95 €
CP96.2	10 x 0,75 ml	glass ampoule	78,40 €

Tetrachloroethylene**Tetrachloroethylene**

≥99,5 %, for synthesis

Perchloroethylene, Ethylene tetrachloride

 C_2Cl_4

M 165,83 g/mol

D ~1,61 • bp 121,1 °C

mp -22 °C

Solubility: 0,16 g/l (H_2O , 20 °C)

[127-18-4] • EC No. 204-825-9

UN No. 1897 • ADR 6.1 III • WGK 3

 **Warning** H351-H411**Type analysis:**Assay (GC). ≥99,5 %
Density (20 °C). 1,615-1,625

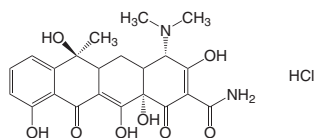
4737.1	1 l	glass	24,65 €
Original pack 6 x 1 l			23,42/1 l
4737.3	2,5 l	glass	41,85 €
Original pack 4 x 2,5 l			39,76/2,5 l
4737.2	10 l	tinplate	127,95 €

Tetrachlorostannane

► Tin(IV) chloride see p. 2211

1-Tetracosanol

► Lignoceryl alcohol see p. 1931

Tetracycline hydrochloride

Achromycin hydrochloride

 $C_{22}H_{25}ClN_2O_8$

M 480,90 g/mol

mp 215-220 °C

Storage temp.: +20 °C

[64-75-5] • EC No. 200-593-8

WGK 1

 **Warning** H361-H319**Tetracycline hydrochloride**≥900 µg/mg, **CELLPURE®**Bacteriostatic antibiotic. For cell culture,
molecular biology and biochemistry.**Guarantee analysis:**Assay. ≥900 µg/mg
Heavy metals. ≤0,005 %
Loss on drying. ≤2,0 %
pH value (1 % in H_2O). 2,3 ±0,5
4-epi-anhydrotetracycline. ≤2,0 %
Endotoxins (LAL). ≤0,5 I.U./mg

HP63.1	10 g	glass	22,05 €
HP63.2	50 g	glass	77,95 €

For further information, please see page 1380

Tetracycline hydrochloride≥900 µg/mg, for biochemistry and
molecular biology

Bacteriostatic antibiotic

Type analysis:Assay. ≥900 µg/mg
pH value (1 % in H_2O). 1,8-2,8
Specific rotation $[\alpha]_D^{20}$ (1 % in HCl). -255° to -240°
Heavy metals. ≤0,005 %
Loss on drying. ≤2,0 %

0237.1	25 g	glass	27,85 €
0237.2	50 g	glass	47,20 €
0237.3	100 g	glass	82,70 €

For further information, please see page 1380

n-Tetradecane**n-Tetradecane****ROTICHRON® GC**

Reference substance for GC

 $C_{14}H_{30}$

M 198,40 g/mol

D ~0,763 • bp 252-254 °C

mp 5,5 °C • flp 99 °C

Storage temp.: +4 °C

[629-59-4] • EC No. 211-096-0 • WGK 1

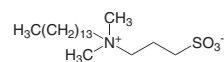
 **Danger** H304**Type analysis:**

Purity (GC). ≥98 %

9024.1	1 g	plastic	75,15 €

Tetradecanoic acid

► Myristic acid see p. 1978

N-Tetradecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate**N-Tetradecyl-N,N-dimethyl-3-ammonio-1-propane sulphonate**

≥98 %, for biochemistry

Zwitterionic detergent

Sulfobetaine-14, SB-14

 $C_{19}H_{41}NO_3S$

M 363,6 g/mol

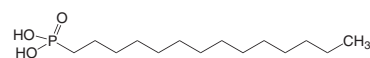
[14933-09-6]

WGK 1

 **Warning** H315-H319-H335**Type analysis:**Assay (HPLC). ≥98,0 %
Loss on drying. ≤2,0 %
Ash. ≤0,1 %

1822.1	5 g	glass	26,35 €
1822.2	25 g	glass	70,85 €
1822.3	100 g	glass	239,20 €

For further information, please see page 1220

Tetradecylphosphonic acid**Tetradecylphosphonic acid**Suitable for the production and modification of
nanoparticles.

TDPA

 $C_{14}H_{31}O_3P$

M 278,37 g/mol

mp 80-85 °C

Storage temp.: +4 °C

[4671-75-4] • EC No. 225-118-1

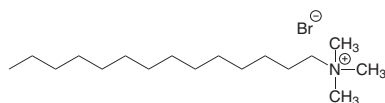
WGK 3

Type analysis:

Melting point. 80-85 °C

8465.1	1 g	glass	35,40 €
8465.2	5 g	glass	127,95 €

Tetradecyltrimethylammonium bromide



Tetradecyltrimethylammonium bromide

≥96 %, extra pure

N,N,N-Trimethyl-1-tetradecan ammonium bromide, Myristyltrimethylammonium bromide, MTAB

C₁₇H₃₈BrN

M 336,42 g/mol

bp 250 °C (dec.)

Solubility: 500 g/l (H₂O, 20 °C)

[1119-97-7] • EC No. 214-291-9

UN No. 3077 • ADR 9 III • WGK 3

Danger

H302-H315-H318-H335-H373-H400

Type analysis:

Assay (arg., dry substance) ≥96,0 %
Loss on drying ≤2,0 %
Sulphated ash ≤0,5 %

7452.1	100 g	plastic	35,40 €
7452.2	500 g	plastic	141,40 €
Original pack 6 x 500 g			134,33/500 g
7452.3	1 kg	plastic	267,70 €
Original pack 6 x 1 kg			254,32/1 kg
7452.4	2,5 kg	plastic	590,20 €

1,2,3,4-Tetrahydrobenzene

► Cyclohexene see p. 1754

Tetrahydrofuran



THF, Oxolane

C₄H₈O

M 72,11 g/mol

D ~0,89 • bp 65,5 °C

mp -108,5 °C • flp -21 °C

[109-99-9] • EC No. 203-726-8

UN No. 2056 • ADR 3 II • WGK 1

Danger

H225-H319-H335-H351-EUH019

Tetrahydrofuran

ROTISOLV® HPLC, not stabilized

Guarantee analysis:

Assay (GC) ≥99,9 %
Water (KF) ≤0,01 %
Free acid ≤0,001 %
Non volatile matter ≤0,0005 %
Transmission:
290-400 nm ≥99 %
275 nm ≥90 %
255 nm ≥70 %
235 nm ≥50 %
215 nm ≥10 %
Filtered through 0,2 µm membrane and filled under protective gas.

7344.1	1 l	glass	46,80 €
Original pack 6 x 1 l			44,46/1 l
7344.2	2,5 l	glass	96,65 €
Original pack 4 x 2,5 l			91,82/2,5 l

For further information, please see page 1515

Tetrahydrofuran

ROTISOLV® ≥99,9 %, UV/IR-Grade

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC) ≥99,9 %
Water (KF) ≤0,02 %
Colour (Hazen) ≤10
Acidity ≤0,0005 meq/g
Evaporation residue ≤0,0005 %
Fluorescence (as quinine):
254 nm ≤1,0 ppb
365 nm ≤1,0 ppb
Transmission:
310 nm ≥98 %
275 nm ≥90 %
265 nm ≥80 %
245 nm ≥55 %
215 nm ≥10 %
Unstabilised.

CP82.1	2,5 l	glass	85,90 €
Original pack 4 x 2,5 l			81,61/2,5 l

Tetrahydrofuran

ROTIDRY®Sept ≥99,8 % (≤10 ppm H₂O)

Dried; in a septum bottle

Guarantee analysis:

Assay (GC) ≥99,8 %
Colour (APHA) ≤10
Water (KF) ≤0,001 %
Acidity (as CH₃COOH) ≤0,003 %
Evaporation residue ≤0,001 %
Stabilized with approx. 250 ppm BHT

5182.1	250 ml	glass	46,80 €

Tetrahydrofuran

ROTIDRY® ≥99,9 % (≤50 ppm H₂O)

Dried; for analysis and organic synthesis.

Guarantee analysis:

Assay (GC) ≥99,9 %
Colour (Hazen) ≤10
Water (KF) ≤0,005 %
Acidity ≤0,0005 meq/g
Evaporation residue ≤0,001 %
Stab. with approx. 250 ppm BHT
Filtered through a membrane and filled under protective gas.

AE07.1	1 l	glass	44,00 €
Original pack 6 x 1 l			41,80/1 l

Tetrahydrofuran

ROTIPURAN® ≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (GC) ≥99,5 %
Colour (Hazen) ≤20
Water ≤0,05 %
Acidity ≤0,001 %
Peroxides (as H₂O₂) ≤0,015 %
Evaporation residue ≤0,03 %
Aluminium (Al) ≤0,00005 %
Barium (Ba) ≤0,00001 %
Lead (Pb) ≤0,00001 %
Boron (B) ≤0,000002 %
Cadmium (Cd) ≤0,000005 %
Calcium (Ca) ≤0,00005 %
Chromium (Cr) ≤0,000002 %
Iron (Fe) ≤0,00001 %
Cobalt (Co) ≤0,000002 %
Copper (Cu) ≤0,000002 %
Magnesium (Mg) ≤0,00001 %
Manganese (Mn) ≤0,000002 %
Nickel (Ni) ≤0,000002 %
Tin (Sn) ≤0,00001 %
Zinc (Zn) ≤0,00001 %
Stab. with 2,6-di-tert-butyl-4-methylphenol (BHT)

6788.1	1 l	glass	45,05 €
Original pack 6 x 1 l			42,80/1 l
6788.2	2,5 l	glass	97,75 €
Original pack 4 x 2,5 l			92,86/2,5 l
6788.3	10 l	tinplate	310,70 €

Tetrahydrofuran

≥99,5 %, for synthesis

Type analysis:

Appearance clear, colourless liquid
Assay ≥99,5 %
Colour (Hazen) ≤10
Water (KF) ≤0,1 %
Refractive index n_D²⁰ 1,406-1,408
Stab. with 2,6-di-tert-butyl-4-methylphenol (BHT)

4745.1	250 ml	glass	21,00 €
4745.2	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
4745.3	2,5 l	glass	69,35 €
Original pack 4 x 2,5 l			65,88/2,5 l
4745.4	10 l	tinplate	218,15 €
4745.5	25 l	tinplate	332,20 €

Tetrahydrofuran D8

Tetrahydrofuran D8

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

Octadeuterotetrahydrofuran, THF D8

C₄D₈O

M 80,17 g/mol

D 0,99 • bp ~65 °C

mp -106 °C • flp -17,5 °C

[1693-74-9] • EC No. 216-898-4

UN No. 2056 • ADR 3 II • WGK 1

 **Danger**

H225-H319-H335-H351-EUH019

Guarantee analysis:

Deuterising degree. ≥99,5 %
Water (KF, H₂O+D₂O). ≤0,05 %

AE58.3	5 ml	glass	85,50 €

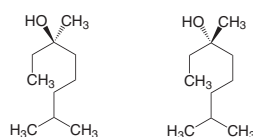
AE58.1	10 ml	glass	168,25 €

AE58.2	10 ml	septum bottle	170,40 €

AE58.4	25 ml	glass	346,70 €

AE58.5	10 x 0,75 ml	glass ampoule	170,95 €

Tetrahydrolinalool



Tetrahydrolinalool

ROTICHRON® GC

Reference substance for GC

C₁₀H₂₂O

M 158,29 g/mol

D ~0,862 • bp₆ 71-73 °C

flp 76 °C

Storage temp.: +4 °C

[78-69-3] • EC No. 201-133-9

WGK 1

Type analysis:

Purity (GC). ≥99 %

9446.1	1 g	glass	75,15 €

Tetrahydro-1,4-oxazine

► Morpholine see p. 1975

Tetrahydropyran



Tetrahydropyran

ROTICHRON® GC

Reference substance for GC

Oxane

C₅H₁₀O

M 86,13 g/mol

D 0,88 • bp 88 °C

mp -49 °C • flp -20 °C

Solubility: 80 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[142-68-7] • EC No. 205-552-8

UN No. 3271 • ADR 3 II • WGK 3

 **Danger**

H225-H315-H319-H335-EUH019

Type analysis:

Purity (GC). ≥97 %

3853.1	1 g	glass	75,15 €

3',4',5,7-Tetrahydroxyflavanone

► Eriodictyol see p. 1807

2',3,5,7-Tetrahydroxyflavone

► Datiscetin see p. 1758

3,3',4',7-Tetrahydroxyflavone

► Fisetin see p. 1827

3,4',5,7-Tetrahydroxyflavone

► Kaempferol see p. 1915

3',4',5,7-Tetrahydroxyflavone

► Luteolin see p. 1939

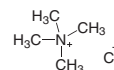
3',4',5,7-Tetrahydroxyflavylium chloride

► Luteolinidin chloride see p. 1940

Tetraiodine fluorescein disodium salt

► Erythrosine B (C.I. 45430) see p. 1808

Tetramethylammonium chloride



Tetramethylammonium chloride

≥98 %, for synthesis

TMAC

C₄H₁₂ClN

M 109,60 g/mol

D 1,17

mp >300 °C (dec.)

Solubility: ~660 g/l (H₂O, 20 °C)

[75-57-0] • EC No. 200-880-8

UN No. 2811 • ADR 6.1 II • WGK 3

 **Danger** H300-H311

Type analysis:

Appearance. white crystals

Assay (arg.). ≥98 %

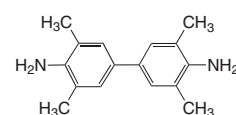
Solubility (3 M sol. in H₂O). clear, colourless to light yellow

4747.1	100 g	plastic	14,95 €

4747.2	500 g	plastic	52,15 €

Original pack 6 x 500 g 49,54/500 g

3,3',5,5'-Tetramethylbenzidine



TMB

C₁₆H₂₀N₂

M 240,35 g/mol

mp 167-170 °C

Storage temp.: +4 °C

[54827-17-7] • EC No. 259-364-6

WGK 3

3,3',5,5'-Tetramethylbenzidine

≥98 %, p.a.

Type analysis:

Appearance. beige cryst. powder

Assay (as nitrogen). ≥98,0 %

Sulphated ash (600 °C). ≤0,2 %

Loss on drying (105 °C). ≤0,5 %

Can replace carcinogenic benzidine.

6350.1	1 g	glass	48,30 €

6350.2	5 g	plastic	149,45 €

6350.3	25 g	plastic	697,70 €

For further information, please see page 1237

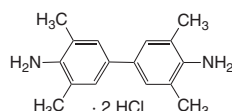
3,3',5,5'-Tetramethylbenzidine

≥98 %, for biochemistry

Type analysis:

Appearance..... white to yellow powder
 Assay..... ≥98 %
 Ash content..... ≤0,2 %
 Loss on drying..... ≤0,5 %

6834.1	1 g	glass	23,15 €
6834.2	5 g	glass	67,20 €
6834.3	25 g	glass	274,15 €

3,3',5,5'-Tetramethylbenzidine dihydrochloride**3,3',5,5'-Tetramethylbenzidine dihydrochloride**

≥99 %, for biochemistry

Water-soluble peroxidase substrate

TMB dihydrochloride, TMB · 2 HCl

 $C_{16}H_{20}N_2 \cdot 2 HCl$

M 313,27 g/mol

Storage temp.: +4 °C

[207738-08-7] • EC No. 264-769-6

WGK 1

Guarantee analysis:

Assay (titr.)..... ≥99 %
 Solution (1 % in methanol)..... colourless to green yellow
 Water (KF)..... ≤5 %
 Sulphated ash..... ≤0,1 %

4107.1	500 mg	glass	35,40 €
4107.2	1 g	glass	57,55 €

For further information, please see page 1237

Tetramethylenediamine

► Putrescin see p. 2072

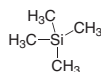
► Putrescin dihydrochloride see p. 2072

Tetramethylene glycol

► 1,4-Butanediol see p. 1695

N,N,N',N'-Tetramethylethylenediamine

► TEMED see p. 2199

Tetramethylsilane**Tetramethylsilane**

≥99,9 %, for NMR-spectroscopy

For the calibration of NMR spectra; calibration substance.

TMS

 $C_4H_{12}Si$

M 88,22 g/mol

D 0,65 • bp 26-27 °C

mp -102 °C • flp -20 °C

Solubility: 0,02 g/l (H_2O , 25 °C)

Storage temp.: +4 °C

[75-76-3] • EC No. 200-899-1

UN No. 2749 • ADR 3 I • WGK 1

⚠ Danger H224

Type analysis:

Assay (GC)..... ≥99,9 %
 Aptitude for NMR-spectroscopy..... complies

CP18.1	25 ml	glass	26,55 €
CP18.2	100 ml	glass	74,75 €

3,6,9,12-Tetraoxapentadec-14-yn-1-amine► H_2N -PEG4-Alkyne see p. 2022**Tetraphenylboron sodium**

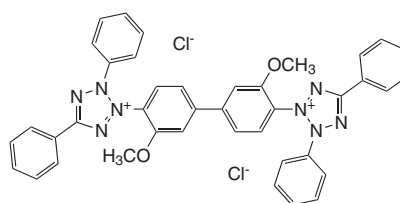
► Sodium tetraphenyl borate see p. 2159

Tetrathionate Broth

► Mueller Kauffmann Broth (Base) see p. 1977

Tetrathionate Enrichment Broth

► Mueller Kauffmann Broth (Base) see p. 1977

Tetrazolium blue chloride**Tetrazolium blue chloride**

≥95 %, for biochemistry

For vital staining of cells.

Blue tetrazolium chloride, BTC, 3,3'-Dianisole-

4,4'-bis(3,5-diphenyltetrazolium chloride),

3,3'-(3,3'-Dimethoxy[1,1'-biphenyl]-4,4'-diyl)-

bis(2,5-diphenyl-2H-tetrazolium) dichloride

 $C_{40}H_{32}Cl_2N_8O_2$

M 727,64 g/mol

mp 265-270 °C (dec.)

Solubility: 3 g/l (H_2O , 20 °C)

[1871-22-3] • EC No. 217-488-8 • WGK 3

⚠ Danger H350

Type analysis:

Appearance..... yellowish, cryst. powder

Assay (titr.)..... ≥95,0 %

Solution (0,5 % in methanol)..... light yellow to greenish yellow

Water (KF)..... ≤3 %

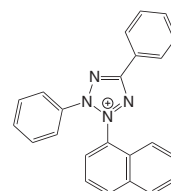
Sulphated ash..... ≤0,1 %

4176.1	1 g	glass	53,65 €
4176.2	5 g	glass	203,20 €

For further information, please see page 1406

Tetrazolium red

► 2,3,5-Triphenyltetrazolium chloride
 see p. 2222

Tetrazolium violet**Tetrazolium violet**

for microscopy

 $C_{23}H_{17}ClN_4$

M 384,86 g/mol

mp 247-249 °C

[1719-71-7]

WGK 3

Type analysis:

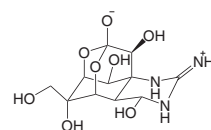
Appearance..... off-white to light beige powder

Appearance of solution (50 mg/ml in MeOH).....

..... clear, yellow to yellow green

7736.1	1 g	glass	37,55 €
7736.2	5 g	glass	142,45 €
7736.3	10 g	glass	267,70 €

For further information, please see page 1406

Tetrodotoxin**Tetrodotoxin**

≥99 %, free of citrate

TTX

 $C_{11}H_{17}N_3O_8$

M 319,3 g/mol

mp 220 °C

Storage temp.: +4 °C

[4368-28-9] • EC No. 224-458-8

UN No. 3462 • ADR 6.1 I • WGK 3

⚠ Danger H300+H310+H330

Type analysis:

Appearance..... white cryst. powder

Assay (HPLC)..... ≥99 %

6973.1	1 mg	plastic	321,45 €

TFA

- Trifluoroacetic acid see p. 2220

TFAA

- Trifluoroacetic anhydride see p. 2220

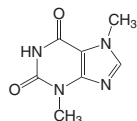
TFA-D

- Trifluoroacetic acid D see p. 2220

Thallium Standards

- Thallium AAS Standard Solution see p. 2169
► Thallium ICP Standard Solution see p. 2173
► Thallium ICP Standard Solution see p. 2178

Theobromine



Theobromine

≥99 %, Ph.Eur., for biochemistry

3,7-Dimethylxanthine

C₇H₈N₄O₂

M 180,16 g/mol

mp 357 °C

Solubility: 330 mg/l (H₂O, 25 °C)

[83-67-0] • EC No. 201-494-2

WGK 1

⚠ Warning H302

Guarantee analysis:

Appearance..... white powder
Assay (titr., dry substance)..... 99,0-101,0 %
Identity..... complies
Acid react. substance (0,01 N NaOH, 400 mg)..... ≤0,2 ml
Heavy metals..... ≤0,002 %
Loss on drying (100 °C)..... ≤0,5 %
Sulphated ash..... ≤0,1 %
Related substances..... complies

8963.1	10 g	plastic	19,90 €
8963.2	100 g	plastic	87,00 €

Thermokitt Roth 1100 °C

Thermokitt Roth 1100 °C

Heat resistant embedding medium, seals and glues metal, glass, ceramic, porcelain. Stands temperatures to +1100 °C

WGK 2

⚠ Warning H302+H312+H332-H315-H319

3040.1	200 g components 1 and 100 g components 2	34,75 €

For further information, please see page 1102

THF

- Tetrahydrofuran see p. 2203

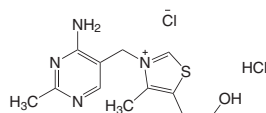
THF D8

- Tetrahydrofuran D8 see p. 2204

Thiamine chloride hydrochloride

- Thiamine hydrochloride see p. 2206

Thiamine hydrochloride



Thiamine hydrochloride

≥98,5 %, for biochemistry

Thiamine chloride hydrochloride, Vitamin B₁ hydrochloride, Aneurine

C₁₂H₁₇ClN₄OS · HCl

M 337,27 g/mol

mp 248 °C (dec.)

Solubility: 1000 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[67-03-8] • EC No. 200-641-8 • WGK 1

Type analysis:

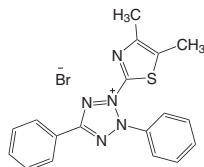
Appearance..... white to almost white cryst. powder
Assay (titr. dry substance)..... 98,5-101,0 %
pH value (2,5 % in H₂O)..... 2,7-3,3
Water (KF)..... ≤5,0 %
Sulphate (SO₄)..... ≤0,03 %
Heavy metals (as Pb)..... ≤0,002 %
Sulphated ash..... ≤0,1 %

T911.1	25 g	plastic	14,95 €
T911.2	100 g	plastic	38,60 €

Thiazole yellow

- Titan yellow (C.I. 19540) see p. 2212

Thiazolyl blue



Thiazolyl blue

≥98 %, for biochemistry

3-(4,5-Dimethylthiazole-2-yl)-2,5-diphenyl-2H-tetrazolium bromide, MTT

C₁₈H₁₆BrN₅S

M 414,33 g/mol

mp 190-210 °C

Solubility: 20 g/l (H₂O, 20 °C)

[298-93-1] • EC No. 206-069-5 • WGK 2

Type analysis:

Assay (arg. titr.)..... ≥98,0 %
Melting range..... 190-210 °C
Specific extinction E 1 %/ 1 cm (243 nm in H₂O)..... ≥480

4022.1	1 g	glass	27,85 €
4022.3	5 g	glass	117,20 €
4022.2	10 g	glass	188,15 €
4022.4	25 g	glass	375,20 €

For further information, please see page 1407

Thienylcarboxylic acid hydrazide

- Thiophenecarboxylic acid hydrazide see p. 2207

Thimerosal

- Sodium ethylmercurithiosalicylate see p. 2146

Thioacetamide



Thioacetamide

≥99 %, p.a.

TAA, Thioacetimidic acid

C₂H₅NS

M 75,13 g/mol

D 1,37

mp 111-114 °C

Solubility: 163 g/l (H₂O, 20 °C)

[62-55-5] • EC No. 200-541-4

WGK 3

⚠ ⚠ Danger H302-H315-H319-H350-H412

Type analysis:

Assay..... ≥99,0 %
Sulphated ash..... ≤0,05 %
Iron (Fe)..... ≤0,0005 %
Heavy metals (as Pb)..... ≤0,001 %

8646.1	50 g	plastic	32,15 €
8646.2	100 g	plastic	53,65 €
8646.3	250 g	plastic	117,20 €
8646.4	500 g	plastic	203,20 €
Original pack 6 x 500 g			193,04/500 g

Thioacetimidic acid

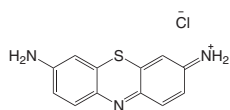
- Thioacetamide see p. 2206

Thiocarbamide

- Thiourea see p. 2207

Thioethyleneglycol

► 2-Mercaptoethanol see p. 1955

Thiomersalate► Sodium ethylmercurithiosalicylate
see p. 2146**Thionine (chloride) (C.I. 52000)****Thionine (chloride) (C.I. 52000)
for microscopy**

$C_{12}H_{10}ClN_3S$
 M 263,75 g/mol
 Solubility: ~2,5 g/l (H_2O , 20 °C)
 [581-64-6] • EC No. 209-470-3
 WGK 1

Type analysis:

Absorption max. (in CH_3COOH 0,03 mol/l).....
 597-600 nm
 Loss on drying (105 °C)..... ≤10 %

5042.1	10 g	plastic	102,70 €

For further information, please see page 1407

Thionyl chloride**Thionyl chloride**

≥98 %, for synthesis
 Sulphurous acid chloride, Dichlorosulfoxide
 $SOCl_2$
 M 118,97 g/mol
 D ~1,63 • bp 75-76 °C
 mp -104 °C
 [7719-09-7] • EC No. 231-748-8
 UN No. 1836 • ADR 8 I • WGK 1
Danger
 H302-H314-H331-H335-EUH014-EUH029

Type analysis:

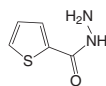
Assay..... ≥98 %

4024.2	100 ml	glass	30,00 €

4024.1	500 ml	glass	74,75 €

DL-6,8-Thiooctic acid

► DL-6,8-Dithiooctanoic acid see p. 1789

**Thiophenecarboxylic acid
hydrazide****Thiophenecarboxylic acid
hydrazide**

97 %, p.a.
 Thienylcarboxylic acid hydrazide
 $C_5H_6ON_2S$
 M 142,21 g/mol
 mp 136-139 °C
 [2361-27-5] • EC No. 219-107-0 • WGK 1

Warning H315-H319-H335**Type analysis:**

Appearance..... white to light yellow powder
 Assay (GC)..... 97 %
 Carbon (C)..... 41,7-42,7 %
 Nitrogen (N)..... 19,3-20,1 %

9534.1	5 g	glass	113,45 €

**Thiosulphate Citrate Bile
Sucrose Agar**

► TCBS Agar see p. 2198

2-Thiouracil**2-Thiouracil**

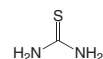
≥98 %, for biochemistry
 4-Hydroxy-2-mercaptopyrimidine
 $C_4H_4N_2OS$
 M 128,15 g/mol
 mp >260 °C (dec.)
 Solubility: 7,9 g/l (H_2O , 25 °C)
 [141-90-2] • EC No. 205-508-8
 WGK 1

Type analysis:

Assay (HPLC)..... ≥98,0 %
 Solution (5 % in 1 N NaOH)..... colourless to yellowish
 Loss on drying..... ≤0,5 %
 Heavy metals (as Pb)..... ≤0,002 %

5245.1	50 g	plastic	40,75 €

5245.2	100 g	plastic	68,30 €

Thiourea

Thiocarbamide
 CH_4N_2S
 M 76,12 g/mol
 D 1,41
 mp 170-179 °C
 Solubility: 137 g/l (H_2O , 20 °C)
 [62-56-6] • EC No. 200-543-5
 UN No. 3077 • ADR 9 III • WGK 2
Warning
 H351-H361d-H302-H411

Thiourea

≥99 % p.a., ACS

Guarantee analysis:

Assay..... ≥99,0 %
 In H_2O insoluble matter..... complies
 Loss on drying (105 °C)..... ≤0,5 %
 Melting point..... 174-177 °C
 Ash content (as SO_4)..... ≤0,1 %
 Response to Bi..... complies
 Sulphate (SO_4)..... ≤0,01 %
 Cadmium (Cd)..... ≤0,0005 %
 Cobalt (Co)..... ≤0,0005 %
 Chromium (Cr)..... ≤0,0005 %
 Copper (Cu)..... ≤0,0005 %
 Iron (Fe)..... ≤0,0005 %
 Potassium (K)..... ≤0,005 %
 Magnesium (Mg)..... ≤0,0005 %
 Manganese (Mn)..... ≤0,0005 %
 Sodium (Na)..... ≤0,005 %
 Nickel (Ni)..... ≤0,0005 %
 Lead (Pb)..... ≤0,0005 %
 Zinc (Zn)..... ≤0,0005 %

HN37.1	100 g	plastic	16,70 €

HN37.2	250 g	plastic	30,00 €

HN37.3	1 kg	plastic	94,50 €

Original pack 6 x 1 kg 89,78/1 kg

Thiourea

≥99 %, extra pure

For chemical synthesis.

Type analysis:

Assay (iodom.)..... ≥99 %
 Water..... ≤0,5 %
 Water insoluble residue..... ≤0,05 %
 Ash content (as SO_4)..... ≤0,3 %
 Melting range..... 170-179 °C

9531.3	500 g	plastic	26,80 €

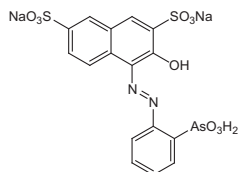
Original pack 6 x 500 g 25,46/500 g

9531.1	1 kg	plastic	42,50 €

Original pack 6 x 1 kg 40,38/1 kg

9531.2	5 kg	plastic	170,95 €

Thorin



Thorin

p.a.

Indicator for metal ions.

1-(2-Arsonophenylazo)-2-hydroxy-3,6-naphthalene-disulphonic acid sodium salt, 2-(2-Hydroxy-3,6-disulpho-1-naphthylazo-(1))-benzene-arsonic acid sodium salt

$C_{16}H_{11}AsNa_2O_{10}S_2$

M 576,30 g/mol

[3688-92-4] • EC No. 222-993-1

UN No. 3465 • ADR 6.1 III • WGK 3

Danger H301+H331-H400-H410

Guarantee analysis:

Specific Extinction E (1%/1cm) ≥ 200

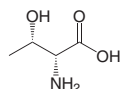
Absorption max. (in H_2O) 481,0-489,0 nm

Suitability for determination of barium complies

KK34.1	5 g	glass	48,30 €

KK34.2	10 g	glass	80,55 €

D-Threonine



NEW

$\geq 98,5\%$ for biochemistry

(2R,3S)-2-Amino-3-hydroxybutyric acid, H-D-Thr-OH

$C_4H_9NO_3$

M 119,1 g/mol

Storage temp.: +4 °C

[632-20-2] • EC No. 211-171-8

WGK 1

Type analysis:

Appearance white to off-white powder

Assay $\geq 98,5\%$

Specific rotation $[\alpha]_D^{25}$ (c= 6 in H_2O) +27,2° to +29,0°

Loss on drying $\leq 0,2\%$

7889.1	5 g	plastic	22,50 €

7889.2	25 g	plastic	67,20 €

7889.3	100 g	plastic	213,95 €

DL-Threonine

DL-Threonine

$\geq 99\%$ for biochemistry

2-Amino-3-hydroxybutyric acid

$C_4H_9NO_3$

M 119,12 g/mol

mp $\sim 245\text{ °C}$ (dec.)

Solubility: 200 g/l (H_2O , 25 °C)

[80-68-2] • EC No. 201-300-6 • WGK 1

Type analysis:

Appearance white to off-white powder

Assay $\geq 99,0\%$

Identity (IR) complies

Heavy metals (as Pb) $\leq 0,001\%$

Ash content $\leq 0,1\%$

Loss on drying $\leq 0,2\%$

7532.1	10 g	plastic	19,90 €

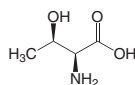
7532.4	50 g	plastic	44,00 €

7532.2	100 g	plastic	70,45 €

7532.3	500 g	plastic	299,95 €

Original pack 6 x 500 g 284,95/500 g

L-Threonine



(2S,3R)-2-Amino-3-hydroxybutyric acid,

H-L-Thr-OH

$C_4H_9NO_3$

M 119,12 g/mol

mp 265-270 °C

Solubility: 90 g/l (H_2O , 20 °C)

[72-19-5] • EC No. 200-774-1

WGK 1

L-Threonine

$\geq 99\%$ CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins $\leq 6,0$ E.U./g

Assay $\geq 99\%$

Loss on drying $\leq 0,5\%$

Specific rotation $[\alpha]_D^{25}$ -29,0° to -27,6°

Foreign amino acids complies

Ammonium (NH_4) $\leq 0,02\%$

Chloride (Cl) $\leq 0,02\%$

Sulphate (SO_4) $\leq 0,03\%$

Heavy metals (as Pb) $\leq 0,001\%$

Iron (Fe) $\leq 0,001\%$

1738.1	25 g	plastic	17,95 €

1738.2	100 g	plastic	36,05 €

1738.3	500 g	plastic	142,90 €

Original pack 6 x 500 g 135,76/500 g

L-Threonine

$\geq 99\%$ Ph.Eur., for biochemistry

Guarantee analysis:

Appearance white cryst. powder

Assay (dry substance) 99,0-101,0 %

Identity complies

Specific rotation $[\alpha]_D^{25}$ -27,6° to -29,0°

pH value 5,0-6,5

Chloride (Cl) $\leq 0,02\%$

Sulphate (SO_4) $\leq 0,03\%$

Iron (Fe) $\leq 0,001\%$

Heavy metals $\leq 0,001\%$

Foreign amino acids complies

Ammonium (NH_4) $\leq 0,02\%$

Loss on drying $\leq 0,5\%$

Sulphated ash $\leq 0,1\%$

T206.1	25 g	plastic	14,75 €

T206.2	100 g	plastic	28,95 €

T206.4	250 g	plastic	55,80 €

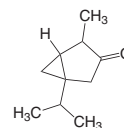
T206.3	500 g	plastic	106,35 €

Original pack 6 x 500 g 101,03/500 g

THPTA

► Tris(3-hydroxypropyltriazolylmethyl)amine (THPTA) see p. 2225

α + β -Thujone



α + β -Thujone (isomers)

pure

Tanacetone, Absinthone

$C_{10}H_{16}O$

M 152,23 g/mol

bp 200-202 °C

flp 67 °C

[76231-76-0]

WGK 3

Warning H302-H412

Type analysis:

Density (20 °C/20 °C) 0,9150-0,9300

Refractive index n_D^{20} 1,4520-1,4540

Formulation: α -Thujone $\sim 65\%$, β -Thujone $\sim 10\%$

9540.1	5 g	glass	18,85 €

9540.2	50 g	glass	126,35 €

Thulium Standards

► Thulium ICP Standard Solution see p. 2173

Thulium(III) fluoride

Thulium(III) fluoride

ROTI®REMATIC 99,99 %

Thulium trifluoride

TmF₃

M 225,93 g/mol

mp 1158 °C

Solubility: soluble (H₂O, 20 °C)

[13760-79-7] • EC No. 237-353-7

UN No. 3288 • ADR 6.1 III • WGK 3

 **Danger** H301-H312+H332-EU032

Type analysis:

Assay (TREO*) 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7223.1	1 g	plastic	100,95 €
7223.2	5 g	plastic	353,70 €

Thulium(III) nitrate pentahydrate

Thulium(III) nitrate pentahydrate

ROTI®REMATIC 99,9 %

Tm(NO₃)₃ · 5 H₂O

M 445,02 g/mol

Solubility: soluble (H₂O, 20 °C)

[36548-87-5] • EC No. 239-069-9

UN No. 1477 • ADR 5.1 II • WGK 3

 **Danger** H272-H315-H319-H335

Type analysis:

Assay (TREO*) 99,9 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7282.1	1 g	plastic	40,35 €
7282.2	5 g	plastic	144,60 €

Thulium(III) oxide

Thulium(III) oxide

ROTI®REMATIC 99,95 %

Dithulium trioxide, Thulia

Tm₂O₃

M 385,87 g/mol

bp 3945 °C

mp 2341 °C

[12036-44-1] • EC No. 234-851-6

WGK 3

Type analysis:

Assay (TREO*) 99,95 %

*Total rare earth oxide

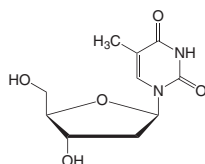
Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7172.1	1 g	plastic	127,95 €

Thyme camphor

► Thymol see p. 2209

Thymidine



Thymidine

≥99 %, p.a.

For biochemistry.

Thymine-2-deoxyriboside, 2'-Deoxythymidine

C₁₀H₁₄N₂O₅

M 242,23 g/mol

mp ~187 °C

[50-89-5] • EC No. 200-070-4

WGK 1

Type analysis:

Assay (HPLC) ≥99,0 %

Specific rotation [α]_D²⁰ +17,5° to +19,5°

Melting point 185-190 °C

Loss on drying ≤0,5 %

3005.2	500 mg	glass	17,75 €
3005.1	1 g	glass	21,00 €
3005.3	5 g	glass	44,65 €
3005.4	25 g	glass	134,40 €

Thymidine-BCE-phosphoramidite

Thymidine-BCE-phosphoramidite

For DNA-synthesis with PerSeptive and PolyGen® Synthesizer.

DMT-T-P(OCH₂CH₂CN)-N(iPr)₂C₄₀H₄₉N₄O₈P

M 744,6 g/mol

Storage temp.: +4 °C

K924.1	1 g	glass	31,75 €

For further information, please see page 1429

Thymidine-CPG-Support

Thymidine-CPG-Support

500 Å pore size

Support material for DNA-synthesis.

dT-Icaa-CPG

Storage temp.: +4 °C

Type analysis:

Purity (HPLC) ≥98,0 %

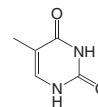
CPG loading 30-40 μmol/g

Coupling efficiency ≥99 %

2321.3	1 g	plastic	52,15 €

For further information, please see page 1429

Thymine



Thymine

≥99 %, for biochemistry

5-Methyluracil

C₅H₆N₂O₂

M 126,11 g/mol

mp 320 °C

[65-71-4] • EC No. 200-616-1

WGK 1

Type analysis:

Appearance white to off-white cryst. powder

Assay (HPLC) ≥99 %

Heavy metals ≤0,001 %

Loss on drying ≤0,5 %

Residue on ignition ≤0,2 %

7289.1	5 g	glass	22,05 €
7289.2	25 g	plastic	35,40 €
7289.3	100 g	plastic	77,95 €

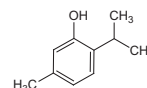
Thymine-2-deoxyriboside

► Thymidine see p. 2209

Thymine

► 2-Deoxy-D-ribose see p. 1763

Thymol



Thyme camphor, 3-Hydroxy-p-cymene, 2-Isopropyl-5-methylphenol

C₁₀H₁₄O

M 150,22 g/mol

D 0,98 • bp 233,0 °C

mp 49-50 °C • flp 104 °C

Solubility: 0,98 g/l (H₂O, 25 °C)

[89-83-8] • EC No. 201-944-8

UN No. 2430 • ADR 8 III • WGK 2

   **Danger** H314-H302-H411

Thymol

≥99 %

Type analysis:

Appearance colourless to white crystals

Assay (GLC) ≥99 %

Evaporation residue ≤0,05 %

Melting point ≥49,5 °C

5391.1	100 g	glass	17,10 €
5391.2	500 g	glass	55,80 €
Original pack 6 x 500 g			53,01/500 g

Thymol

ROTICHROM® GC

Reference substance for GC

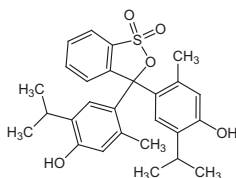
Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥96 %

3209.1	1 g	plastic	75,15 €

Thymol blue



Thymol blue

p.a.

Indicator pH 1,2-2,8 and pH 8,0-9,6

Thymolsulphonaphthaleine

$C_{27}H_{30}O_5S$

M 466,60 g/mol

Solubility: 0,11 g/l (H_2O , 25 °C)

[76-61-9] • EC No. 200-973-3

WGK 2

Guarantee analysis:

Specific Extinction E (1%/1cm)..... ≥700

Absorption max. (NaOH 0,01 mol/l).... 592,0-600,0 nm

Solubility (0,1 % in ethanol)..... clearly soluble

pH-transition range..... 1,2 (red)-2,8 (yellow)

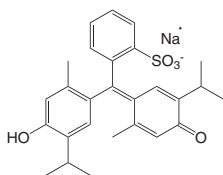
pH-transition range..... 8,0 (yellow)-9,6 (blue)

KK16.1	5 g	glass	15,60 €

KK16.2	10 g	glass	22,50 €

KK16.3	25 g	glass	45,70 €

Thymol blue sodium salt



Thymol blue sodium salt

p.a., ACS

Indicator pH 1,2-2,8 and pH 8,0-9,6

Thymolsulphonaphthaleine sodium salt

$C_{27}H_{29}NaO_5S$

M 488,58 g/mol

mp 283 °C (dec.)

[62625-21-2] • EC No. 263-650-6

WGK 1

Guarantee analysis:

Appearance..... orange brown to brownish-black powder

Appearance of solution..... complies

Loss on drying..... ≤8 %

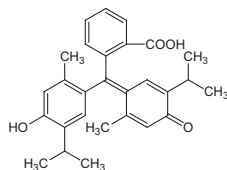
pH-transition range..... 1,2 (red)-2,8 (yellow)

pH-transition range..... 8,0 (yellow)-9,6 (blue)

2606.1	5 g	glass	18,85 €

2606.2	25 g	glass	47,85 €

Thymolphthalein



Thymolphthalein

p.a., ACS

Indicator pH 8,8-10,5

$C_{28}H_{30}O_4$

M 430,55 g/mol

mp 253 °C

Solubility: nearly insoluble

[125-20-2] • EC No. 204-729-7

WGK 2

Guarantee analysis:

Appearance of solution..... complies

pH-transition range..... 8,8 (clear)-10,5 (blue)

HN97.1	5 g	glass	18,20 €

HN97.2	10 g	glass	30,00 €

HN97.3	50 g	glass	106,45 €

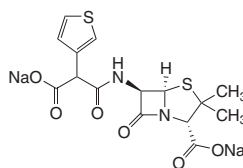
Thymolsulphonaphthaleine

► Thymol blue see p. 2210

Thymolsulphonaphthaleine sodium salt

► Thymol blue sodium salt see p. 2210

Ticarcillin disodium salt



Ticarcillin disodium salt

≥90 %, for biochemistry

β-Lactam antibiotic

α-Carboxy-α-3-thienylmethylpenicillin disodium salt, Ticarcillin · 2 Na

$C_{15}H_{14}N_2Na_2O_6S_2$

M 428,4 g/mol

Solubility: >1 g/ml

Storage temp.: +4 °C

[4697-14-7]

WGK 1



Danger H334-H335-H315-H319-H317

Guarantee analysis:

Assay (HPLC)..... ≥85 %

Solution (5 % in water)..... colourless to light yellowish

Water (KF)..... ≤10 %

Specific rotation $[\alpha]_D^{25}$ (c=1 in H_2O)..... +172° to +187°

pH value (c=1 in H_2O)..... 5,5-7,5

4161.1	500 mg	glass	36,05 €

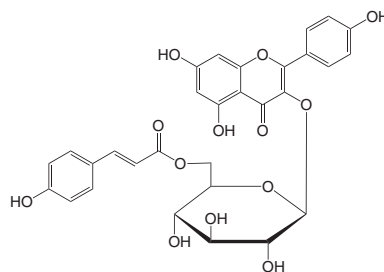
4161.2	1 g	glass	60,10 €

For further information, please see page 1380

Ticarcillin 2 Na

► Ticarcillin disodium salt see p. 2210

Tiliroside



Tiliroside

ROTICHROM® HPLC

Reference substance for HPLC

$C_{30}H_{26}O_{13}$

M 594,52 g/mol

Storage temp.: +4 °C

[20316-62-5]

Type analysis:

Purity (HPLC)..... ≥98 %

3268.1	10 mg	glass	332,20 €

Tillman's reagent

► 2,6-Dichlorophenol-indophenol sodium salt hydrate see p. 1772

Tin

Sn

M 118,71 g/mol

D 7,29 • bp 2260 °C

mp 231,9 °C

[7440-31-5] • EC No. 231-141-8

Tin shot

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis)..... 99,999 %

Particle size..... 3-6 mm

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5097.1	5 g	plastic	75,15 €

5097.2	10 g	plastic	117,20 €

Tin beads

≥99,8 %, beads

Type analysis:

Assay..... ≥99,8 %

Particle size..... 8-20 mesh

2731.1	50 g	plastic	34,30 €

2731.2	100 g	plastic	62,90 €

Tin granules

p.a., granulated
particle size ~4 mm

Type analysis:

Antimony (Sb).....	≤0,02 %
Lead (Pb).....	≤0,005 %
Iron (Fe).....	≤0,005 %
Copper (Cu).....	≤0,001 %
Bismuth (Bi).....	≤0,004 %

4016.2	50 g	plastic	38,20 €

4016.1	250 g	plastic	128,50 €

Tin foil**Tin foil**

pure

W: 40 cm, L: 10,7 m, th: 0,008 mm

Stanniol

Sn

[7440-31-5] • EC No. 231-141-8

Type analysis:

Tin (Sn).....	97,5-98,5 %
Antimony (Sb).....	1,5-2,5 %
Lead (Pb).....	≤0,01 %
Other traces.....	≤0,5 %

W 40 cm; L 10,7 m; th. 0,008 mm

9296.1	250 g	roll	63,45 €

Tin Standards

- ▶ Tin AAS Standard Solution see p. 2169
- ▶ Tin ICP Standard Solution see p. 2173
- ▶ Tin ICP Standard Solution see p. 2178

Tin(II) chloride dihydrate

Tin dichloride dihydrate, Stannous chloride

$\text{SnCl}_2 \cdot 2 \text{H}_2\text{O}$

M 225,63 g/mol

D 2,71 • bp 623 °C

mp 38 °C

Solubility: 1780 g/l (H_2O , 10 °C)

[10025-69-1] • EC No. 231-868-0

UN No. 3260 • ADR 8 II • WGK 1

⚠ ⚠ **Danger** H302-H314-H317

Tin(II) chloride dihydrate

≥98 %, p.a., max. 0,005 ppm Hg

Guarantee analysis:

Assay (iodom.).....	98,0-103,0 %
Sulphate (SO_4).....	≤0,002 %
Ammonium (NH_4).....	≤0,002 %
Mercury (Hg).....	≤0,000005 %
Arsenic (As).....	≤0,0001 %
Lead (Pb).....	≤0,01 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,003 %
Potassium (K).....	≤0,005 %
Sodium (Na).....	≤0,01 %

KK07.1	100 g	glass	40,35 €

KK07.2	250 g	glass	88,70 €

Tin(II) chloride dihydrate

≥98 %, p.a., ACS

Reagent in analytical chemistry, e.g. on As, Au, Bi, Hg.

Guarantee analysis:

Assay (iodom.).....	98,0-103,0 %
In HCl insoluble matter.....	≤0,005 %
Sulphate (SO_4).....	≤0,002 %
Ammonium (NH_4).....	≤0,002 %
Arsenic (As).....	≤0,0001 %
Potassium (K).....	≤0,005 %
Sodium (Na).....	≤0,01 %
Calcium (Ca).....	≤0,005 %
Iron (Fe).....	≤0,003 %
Lead (Pb).....	≤0,01 %
Cadmium (Cd).....	≤0,0005 %
Nickel (Ni).....	≤0,0005 %
Cobalt (Co).....	≤0,0005 %
Magnesium (Mg).....	≤0,005 %

4977.3	100 g	glass	27,85 €

4977.1	250 g	glass	61,85 €

4977.2	1 kg	glass	198,90 €

Original pack 6 x 1 kg 188,96/1 kg

Tin(II) chloride dihydrate

≥98 %, extra pure

Type analysis:

Assay.....	≥98,0 %
Sulphate (SO_4).....	≤0,1 %
Arsenic (As).....	≤0,005 %
Iron (Fe).....	≤0,02 %
Heavy metals (as Pb).....	≤0,1 %

7350.1	100 g	glass	16,70 €

7350.2	500 g	glass	52,60 €

Original pack 6 x 500 g 49,97/500 g

7350.3	1 kg	glass	96,65 €

Original pack 6 x 1 kg 91,82/1 kg

7350.4	2,5 kg	glass	220,40 €

Tin(IV) chloride**Tin(IV) chloride**

≥98 %

Tin tetrachloride, Tetrachlorostannane

SnCl_4

M 260,51 g/mol

D 2,23 • bp 114 °C

mp -33 °C

[7646-78-8] • EC No. 231-588-9

UN No. 1827 • ADR 8 II • WGK 1

⚠ ⚠ **Danger** H314-H335-H412

Type analysis:

Assay..... ≥98 %

4305.1	500 g	glass	153,20 €

Original pack 6 x 500 g 145,54/500 g

Tin(II) sulphate**Tin(II) sulphate**

≥99 %, p.a.

SnSO_4

M 214,77 g/mol

[7488-55-3] • EC No. 231-302-2

WGK 1

Guarantee analysis:

Assay.....	≥99,0 %
Arsenic (As).....	≤0,01 %
Iron (Fe).....	≤0,01 %
Heavy metals (as Pb).....	≤0,02 %
Alkali and alkaline-earth metals.....	≤0,15 %
In HCl insoluble matter.....	≤0,01 %

4382.1	100 g	plastic	31,10 €

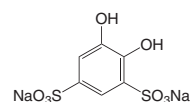
4382.2	250 g	plastic	56,90 €

4382.3	1 kg	plastic	174,70 €

Original pack 6 x 1 kg 165,97/1 kg

Tin tetrachloride

▶ Tin(IV) chloride see p. 2211

Tiron**Tiron**

≥99 %, p.a.

Indicator for complexometry

Pyrocatechol-3,5-disulfonic acid disodium salt

$\text{C}_6\text{H}_4\text{Na}_2\text{O}_8\text{S}_2$

M 314,21 g/mol

mp >360 °C

Solubility: 340 g/l (H_2O , 20 °C)

[149-45-1] • EC No. 205-741-5

WGK 1

⚠ **Warning** H315-H319-H335

Type analysis:

Appearance.....	off-white cryst. powder
Assay (HPLC).....	≥99 %
Solution (5 % in water).....	slightly brownish, clear
Water (KF).....	4,5-6,0 %

7302.1	10 g	glass	17,75 €

7302.2	25 g	glass	24,20 €

7302.3	100 g	glass	60,10 €

Titanium Standards

- ▶ Titanium AAS Standard Solution see p. 2169
- ▶ Titanium ICP Standard Solution see p. 2174
- ▶ Titanium ICP Standard Solution see p. 2178

Titanium dioxide

▶ Titanium(IV) oxide see p. 2212

▶ Titanium(IV) oxide, nano see p. 2212

Titanium(IV) oxide

Titanium(IV) oxide

ROTI®METIC 99,999 % (5N)

Titanium dioxide

TiO₂

M 79,90 g/mol

D 4,23

mp 1855 °C

[13463-67-7] • EC No. 236-675-5

Type analysis:

Assay (metals basis)..... 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5747.1	5 g	plastic	48,30 €

5747.2	25 g	plastic	145,15 €

Titanium(IV) oxide, nano

Titanium(IV) oxide, nano

ROTI®nanoMETIC ≥99,9 %, 4-8 nm

Titanium dioxide

TiO₂

M 79,90 g/mol

D 4,23

mp 1843 °C

[13463-67-7] • EC No. 236-675-5

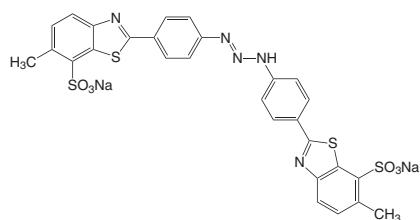
Type analysis:

Assay (metals basis)..... ≥99,9 %
 Particle size..... 4-8 nm
 Specific surface (BET)..... ~140 m²/g
 Pore volume (N₂)..... ~0,035 cm³/g
 Loss on drying (2h, 120 °C)..... ≤1 %
 Phase..... Anatase
 Stabilized with HNO₃

8254.1	10 g	glass	51,50 €

8254.2	50 g	glass	209,65 €

Titan yellow (C.I. 19540)



Titan yellow (C.I. 19540)

extra pure

Indicator pH 11,0-13,0

Thiazole yellow

C₂₈H₁₉Na₂N₅O₆S₄

M 695,73 g/mol

[1829-00-1] • EC No. 217-377-4 • WGK 3

Type analysis:

Appearance..... rust colored powder
 Solubility..... clear, complete
 pH-transition range..... 11,0 (yellow)-13,0 (red)
 Loss on drying..... ≤10 %

7739.1	5 g	glass	11,00 €

7739.2	25 g	glass	22,50 €

7739.3	100 g	glass	55,80 €

Titration complex I

▶ Nitrotriacetic acid see p. 1990

Titration complex II

▶ Ethylenediamine tetraacetic acid see p. 1814

Titration complex III

▶ Ethylenediamine tetraacetic acid disodium salt dihydrate see p. 1815

Titration complex III-solution

▶ EDTA disodium salt solution (0,01 N) see p. 1798

▶ EDTA disodium salt solution (0,01 N) see p. 1798

▶ EDTA disodium salt solution (0,05 N) see p. 1798

▶ EDTA disodium salt solution (0,1 N) see p. 1799

▶ EDTA disodium salt solution (0,1 N) see p. 1799

▶ EDTA disodium salt solution (0,1 N) see p. 1799

▶ EDTA disodium salt solution (0,2 N) see p. 1799

Titration complex IV

▶ trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate see p. 1768

Titration complex V

▶ Diethylene triamine pentaacetic acid see p. 1774

Titration complex VI

▶ EGTA see p. 1802

TLC-plates

▶ Chapter chromatography see p. 1499

TLC-spray solutions

▶ Chapter chromatography see p. 1505

TLC Spray Solutions

Art. No.	Description	Page
CP35	Aniline phthalate spray solution	1646
CP36	2',7'-Dichlorofluorescein spray solution	1770
CP38	4-(Dimethylamino)-benzaldehyde spray solution	1782
CP33	Dragendorff-Munier spray solution	1795
CP34	Iron(III) chloride spray solution	1907
CP31	Molybdatophosphoric acid spray solution	1974
CP30	Ninhydrin spray solution	1987
CP37	Rhodamine B-spray solution	2084
CP32	Rubeanic acid spray solution	2114

H-L-Tle-OMe · HCl

▶ L-tert-Leucine methylester hydrochloride see p. 1930

TMAC

▶ Tetramethylammonium chloride see p. 2204

TMB

▶ 3,3',5,5'-Tetramethylbenzidine see p. 2204

▶ 3,3',5,5'-Tetramethylbenzidine dihydrochloride see p. 2205

TMB · 2 HCl

▶ 3,3',5,5'-Tetramethylbenzidine dihydrochloride see p. 2205

TMCS

▶ Trimethylchlorosilane see p. 2221

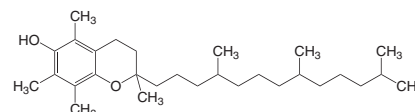
TMS

▶ Tetramethylsilane see p. 2205

TMSDEA

▶ N-(Trimethylsilyl)-diethylamine see p. 2222

DL-α-Tocopherol



Vitamin E

C₂₉H₅₀O₂

M 430,72 g/mol

[10191-41-0] • EC No. 233-466-0

WGK 1

DL-α-Tocopherol

≥96 %, Ph.Eur., oily

Storage temp.: +4 °C

Transport temp.: room temp.

Guarantee analysis:

Appearance..... yellow-brown, oily liquid
 Assay (GC)..... 96,0-102,0 %
 Identity (IR)..... complies
 Optical rotation (10 % in abs. EtOH)..... -0,01° to +0,01°
 Related substances (GC)..... complies

3806.1	100 g	glass	61,20 €

DL-α-Tocopherol

ROTI®STAR Primary Standard

Storage temp.: -20 °C

Transport temp.: cooled

Type analysis:

Assay (HPLC)..... ≥92,0 %
 Residual solvents (GC)..... ≤1,0 %
 Water (KF)..... ≤1,0 %
 Assay (qNMR)..... ≥90,0 %
 Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE16.1	250 mg	glass	671,90 €

DL- α -Tocopherol**ROTICHROM® Working Standard**

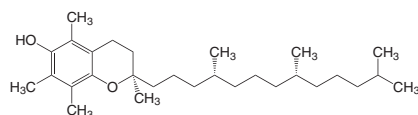
Storage temp.: -20 °C

Transport temp.: room temp.

Type analysis:

Assay (GC): $\geq 90,0$ %
 Identity: complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC16.1	250 μ l	glass	89,80 €

RRR- α -Tocopherol

Vitamin E

 $C_{29}H_{50}O_2$

M 430,7 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[59-02-9] • EC No. 200-412-2 • WGK 1

RRR- α -Tocopherol**ROTI®STAR Primary Standard****Type analysis:**

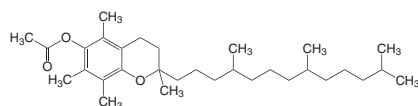
Assay (HPLC): $\geq 92,0$ %
 Residual solvents (GC): $\leq 1,0$ %
 Water (KF): $\leq 1,0$ %
 Assay (qNMR): $\geq 90,0$ %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE18.1	250 mg	glass	671,90 €

RRR- α -Tocopherol**ROTICHROM® Working Standard****Type analysis:**

Assay (GC): $\geq 85,0$ %
 Identity: complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC18.1	250 μ l	glass	89,80 €

DL- α -Tocopherol acetate

Vitamin E acetate

 $C_{31}H_{52}O_3$

M 472,76 g/mol

D 0,959

[7695-91-2] • EC No. 231-710-0 • WGK 1

DL- α -Tocopherol acetate $\geq 96,5$ %, Ph.Eur., oily**Guarantee analysis:**

Appearance: greenish-yellow, oily liquid
 Assay (GC): 96,5-102,0 %
 Identity: complies
 Identity (absorption, IR, TLC): complies
 Impurities (A, B, C): complies

3805.1	100 g	glass	35,40 €

DL- α -Tocopherol acetate**ROTI®STAR Primary Standard****Type analysis:**

Assay (HPLC): $\geq 95,0$ %
 Residual solvents (GC): $\leq 1,0$ %
 Water (KF): $\leq 1,0$ %
 Assay (qNMR): $\geq 93,0$ %
 Proof of identity by ^1H -NMR, ^{13}C -NMR, MS, UV.
 The certificate includes all results of analytical tests and validations.

NE17.1	250 mg	glass	671,90 €

DL- α -Tocopherol acetate**ROTICHROM® Working Standard****Type analysis:**

Assay (HPLC): $\geq 90,0$ %
 Identity: complies
 Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC17.1	250 μ l	glass	89,80 €

Tocosamine sulphate

► Sparteine sulphate see p. 2164

Todd-Hewitt-Bouillon**Todd-Hewitt-Bouillon****for microbiology**For cultivation of β -hemolytic streptococci for serological typing.

Application: Use 30 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Heart infusion: 3,1 g/l
 Peptone: 20 g/l
 Glucose: 2 g/l
 Sodium carbonate: 2,5 g/l
 Sodium chloride (NaCl): 2 g/l
 Disodium phosphate: 0,4 g/l
 pH value: 7,8 $\pm$ 0,2

X936.1	500 g	plastic	81,20 €

Original pack 6 x 500 g 77,14/500 g

For further information, please see page 1344

Toluene

Methylbenzene

 C_7H_8

M 92,14 g/mol

D ~0,87 • bp 110-111 °C

mp -95 °C • flp 6 °C

Solubility: 520 mg/l (H_2O , 20 °C)

[108-88-3] • EC No. 203-625-9

UN No. 1294 • ADR 3 II • WGK 2

Danger

H225-H304-H361d-H373-H315-H336

Toluene**ROTISOLV® HPLC****Guarantee analysis:**

Assay (GC): $\geq 99,9$ %
 Water (KF): $\leq 0,01$ %
 Free acid: $\leq 0,001$ %
 Non volatile matter: $\leq 0,0005$ %
 Layer thickness d = 1 cm water in comparison
 Transmission:
 350 nm: ≥ 99 %
 300 nm: ≥ 80 %
 290 nm: ≥ 50 %
 Filtered through 0,2 μ m membrane and filled under protective gas.

7346.2	1 l	glass	34,30 €

Original pack 6 x 1 l 32,59/1 l

7346.1	2,5 l	glass	70,85 €

Original pack 4 x 2,5 l 67,31/2,5 l

For further information, please see page 1515

Toluene**ROTISOLV® $\geq 99,8$ %, GC Ultra Grade**

For gaschromatographic residue analysis.

Guarantee analysis:

Assay (GC): $\geq 99,8$ %
 Colour (APHA): ≤ 10
 Water (KF): $\leq 0,01$ %
 Free acid (as CH_3COOH): $\leq 0,003$ %
 Evaporation residue: $\leq 0,0003$ %
 GC/ECD dioxins, furans and PCBs (as lindane): ≤ 5 ng/l
 GC/ECD pesticides (as lindane): ≤ 5 ng/l
 GC/NPD pesticides (as parathion): ≤ 5 ng/l
 PAH-test (less than 2 ppb, HPLC): complies
 Filtered through 0,2 μ m membrane and filled under protective gas.

KK46.1	2,5 l	glass	68,70 €

Original pack 4 x 2,5 l 65,27/2,5 l

Toluene**ROTISOLV® ≥99,8 %, Pestilyse® plus**

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Colour (APHA).....	≤10
Water (KF).....	≤0,01 %
Free acid (as CH ₃ COOH).....	≤0,003 %
Evaporation residue.....	≤0,0003 %
GC/FID suitability (as 2-octanol).....	≤25 ng/ml
GC/ECD suitability (as heptachloro epoxide).....	≤10 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤10 ng/l
Oil index (any hydrocarbon C ₁₀ -C ₄₀).....	≤0,1 mg/l
PAH-test (less than 2 ppb, HPLC).....	complies
Fluorescence (as quinine):	
254 nm.....	≤1 ppb
365 nm.....	≤1 ppb

7591.1	2,5 l	glass	56,90 €
Original pack 4 x 2,5 l			54,06/2,5 l

Toluene**ROTISOLV® ≥99,8 %, Pestilyse®**

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,02 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l

T166.2	1 l	glass	31,10 €
Original pack 6 x 1 l			29,55/1 l
T166.1	2,5 l	glass	55,80 €
Original pack 4 x 2,5 l			53,01/2,5 l
T166.3	4 l	glass	89,80 €

Toluene**ROTISOLV® ≥99,8 %, UV/IR-Grade**

For chromatography and spectroscopy

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Transmission:	
350 nm.....	≥98 %
340 nm.....	≥96 %
330 nm.....	≥95 %
320 nm.....	≥90 %

4445.1	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l

Toluene**ROTIDRY®Sept ≥99,5 % (≤30 ppm H₂O)**

Dried; in a septum bottle

Guarantee analysis:

Assay (GC).....	≥99,5 %
Colour (APHA).....	≤10
Water (KF).....	≤0,003 %
Acidity (as CH ₃ COOH).....	≤0,002 %
Evaporation residue.....	≤0,001 %

5191.1	250 ml	glass	34,95 €

Toluene**ROTIDRY® ≥99,5 % (≤50 ppm H₂O)**

Dried; for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,5 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,005 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Filtered through a membrane and filled under protective gas.	

AE06.1	1 l	glass	36,05 €
Original pack 6 x 1 l			34,25/1 l

Toluene**ROTIDRY® ≥99,5 % (≤100 ppm H₂O)**

Dried; for analysis and organic synthesis.

Type analysis:

Assay (GC).....	≥99,5 %
Colour (Hazen).....	≤10
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %

9491.1	1 l	plastic	33,90 €
Original pack 6 x 1 l			32,21/1 l

Toluene**ROTIPURAN® ≥99,5 %, p.a., ACS, ISO****Guarantee analysis:**

Assay (GC).....	≥99,5 %
Acidity.....	≤0,001 %
Alkalinity.....	≤0,001 %
Colour (Hazen).....	≤10
Water.....	≤0,03 %
Benzene.....	≤0,05 %
Thiophene.....	≤0,0002 %
Sulphur compounds (as S).....	≤0,003 %
Matter discoloured by H ₂ SO ₄	complies
Evaporation residue.....	≤0,001 %
Lead (Pb).....	≤0,00001 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Iron (Fe).....	≤0,00001 %
Cobalt (Co).....	≤0,000002 %
Copper (Cu).....	≤0,000002 %
Magnesium (Mg).....	≤0,00001 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,000002 %
Zinc (Zn).....	≤0,00001 %

7115.1	1 l	glass	34,30 €
Original pack 6 x 1 l			32,59/1 l
7115.2	2,5 l	glass	67,65 €
Original pack 4 x 2,5 l			64,27/2,5 l
7115.3	5 l	plastic	94,50 €
Original pack 2 x 5 l			89,78/5 l
7115.4	25 l	tinplate	267,70 €

Toluene**≥99,5 %, for synthesis****Type analysis:**

Appearance.....	clear, colourless
Assay (GC).....	≥99,5 %
Density (15 °C).....	0,865-0,873
Colour (Hazen).....	≤20
Water (KF).....	≤0,02 %

9558.1	1 l	glass	23,55 €
Original pack 6 x 1 l			22,37/1 l
9558.3	2,5 l	glass	38,60 €
Original pack 4 x 2,5 l			36,67/2,5 l
9558.2	10 l	tinplate	84,85 €
9558.4	25 l	tinplate	158,60 €

Toluene**ROTISOLV® LSC**

For liquid scintillation.

Type analysis:

Assay (GC).....	≥99,5 %

3107.1	1 l	glass	42,50 €
Original pack 6 x 1 l			40,38/1 l
3107.2	2,5 l	glass	67,20 €
Original pack 4 x 2,5 l			63,84/2,5 l

Toluene**ROTICHRON® GC**

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC).....	≥99 %

4911.1	1 g	glass	28,95 €

Toluene D8

Methylbenzene deuterated

C₇D₈

M 100,19 g/mol

D 0,94 • bp 109 °C

mp -85 °C • flp 4 °C

[2037-26-5] • EC No. 218-009-5

UN No. 1294 • ADR 3 II • WGK 2

 **Danger**

H225-H304-H361d-H373-H315-H336

Toluene D8**99,8 Atom%D**

For nuclear magnetic resonance spectroscopy.

Type analysis:

Deuterising degree.....	≥99,8 %
Water (KF, H ₂ O+D ₂ O).....	≤0,02 %

7924.1	10 ml	glass	104,20 €
7924.2	10 x 0,75 ml	glass ampoule	106,35 €

Toluene D8**99,5 Atom%D**

For nuclear magnetic resonance spectroscopy.

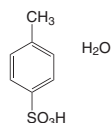
Type analysis:

Deuterising degree. $\geq 99,5\%$
 Water (KF, $\text{H}_2\text{O} + \text{D}_2\text{O}$). $\leq 0,03\%$

CP95.1	10 ml	glass	75,15 €
CP95.2	10 x 0,75 ml	glass ampoule	80,55 €

Toluene-2-sulphone chloramide sodium

► Chloramine T trihydrate see p. 1728

p-Toluenesulphonic acid monohydrate**p-Toluenesulphonic acid monohydrate** **$\geq 98\%$, for synthesis**

$\text{C}_7\text{H}_8\text{O}_3\text{S} \cdot \text{H}_2\text{O}$
 M 190,22 g/mol
 mp 56°C • flp 180°C
 Solubility: 670 g/l (H_2O , 20°C)
 [6192-52-5] • EC No. 203-180-0
 UN No. 2585 • ADR 8 III • WGK 1

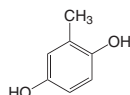
⚠ **Warning** H315-H319-H335**Type analysis:**

Appearance. colourless to pink crystals
 Assay. $\geq 98\%$
 Iron (Fe). $\leq 0,001\%$
 Free sulphuric acid. $\leq 0,3\%$

4796.3	500 g	plastic	15,60 €
Original pack 6 x 500 g			14,82/500 g
4796.1	1 kg	plastic	24,20 €
Original pack 6 x 1 kg			22,99/1 kg
4796.2	10 kg	plastic	141,40 €

 α -Toluene sulphonyl fluoride

► Phenylmethyl sulphonyl fluoride (PMSF) see p. 2037

Toluhydroquinone**Toluhydroquinone** **$\geq 99\%$, for synthesis**

2-Methyl hydroquinone, 2,5-Dihydroxytoluene
 $\text{C}_7\text{H}_8\text{O}_2$
 M 124,14 g/mol
 bp 285°C
 mp $124-127^\circ\text{C}$ • flp 172°C
 Solubility: 77 g/l (H_2O , 25°C)
 [95-71-6] • EC No. 202-443-7
 UN No. 2811 • ADR 6.1 III • WGK 2

⚠ **Warning** H302-H315-H319**Type analysis:**

Assay. $\geq 99,0\%$
 Melting point. $125-128^\circ\text{C}$
 Ash content. $\leq 0,1\%$

4787.1	100 g	plastic	31,10 €
4787.2	500 g	plastic	94,10 €
Original pack 6 x 500 g			89,40/500 g

o-Toluidine**o-Toluidine** **$\geq 99,5\%$, p.a.**

For blood sugar analysis.

2-Methylaniline
 $\text{C}_7\text{H}_9\text{N}$
 M 107,16 g/mol
 D $\sim 0,998$ • bp 200°C
 mp -27°C • flp 85°C
 Solubility: 15 g/l (H_2O , 20°C)
 [95-53-4] • EC No. 202-429-0
 UN No. 1708 • ADR 6.1 II • WGK 3

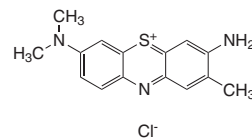
⚠ **Danger**

H301+H331-H350-H400-H319

Guarantee analysis:

Assay (GC). $\geq 99,5\%$
 Water. $\leq 0,1\%$
 Ash content (as SO_4). $\leq 0,005\%$
 Alinin (GC). $\leq 0,1\%$
 p-Toluidine (GC). $\leq 0,1\%$
 m-Toluidine (GC). $\leq 0,3\%$
 Chloride (Cl). $\leq 0,001\%$
 Copper (Cu). $\leq 0,00002\%$
 Cobalt (Co). $\leq 0,00002\%$
 Iron (Fe). $\leq 0,00001\%$
 Manganese (Mn). $\leq 0,00002\%$
 Lead (Pb). $\leq 0,00001\%$
 Calcium (Ca). $\leq 0,00005\%$
 Cadmium (Cd). $\leq 0,000005\%$
 Nickel (Ni). $\leq 0,000002\%$
 Chromium (Cr). $\leq 0,000002\%$
 Magnesium (Mg). $\leq 0,00001\%$
 Zinc (Zn). $\leq 0,00001\%$

4788.1	100 ml	glass	19,05 €
4788.2	500 ml	glass	66,55 €

Toluidine blue O (C.I. 52040)**Toluidine blue O (C.I. 52040)****for microscopy**

Basic blue 17
 $\text{C}_{15}\text{H}_{16}\text{ClN}_3\text{S}$
 M 305,83 g/mol
 Solubility: 30 g/l (H_2O , 25°C)
 [92-31-9] • EC No. 202-146-2
 WGK 2

Type analysis:

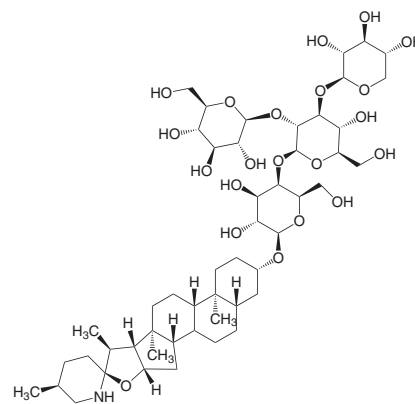
Appearance. dark green to black powder
 Dye content. $\geq 65\%$
 Absorption max. (in H_2O). 615-635 nm
 Suitability for microscopy. complies

0300.1	5 g	glass	17,10 €
0300.2	10 g	glass	25,70 €
0300.3	25 g	glass	48,30 €
0300.4	100 g	glass	138,70 €

For further information, please see page 1407

Toluylene red

► Neutral red (C.I. 50040) see p. 1985

Tomatin**Tomatin****ROTICHRON® TLC**

Reference substance for thin layer chromatography

$\text{C}_{50}\text{H}_{83}\text{NO}_{21}$
 M 1034,22 g/mol
 Storage temp.: $+4^\circ\text{C}$
 [17406-45-0] • EC No. 241-429-5
 UN No. 1544 • ADR 6.1 III • WGK 1

⚠ **Warning** H302

5676.1	25 mg	glass	38,20 €

TOTU

- ▶ O-[(Ethoxycarbonyl)cyanomethylenamino]-N,N,N',N'-tetramethyluronium tetrafluoroborate see p. 1812

Toxic acid

- ▶ Maleic acid see p. 1946

TPTZ

- ▶ 2,3,5-Triphenyltetrazolium chloride see p. 2222

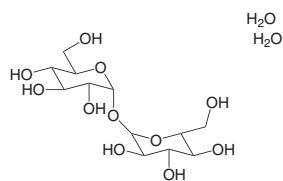
Transfection reagents

- ▶ DEAE Dextran see p. 1760
- ▶ DOTAP see p. 1794
- ▶ Roti®-Fect see p. 2096
- ▶ Roti®-Fect Plus see p. 2097
- ▶ Roti®-Insectofect see p. 2099

Transformation kit

- ▶ Roti®-Transform see p. 2114

D(+)-Trehalose dihydrate



D(+)-Trehalose dihydrate

≥99 %, for biochemistry

Mycose

C₁₂H₂₂O₁₁ · 2 H₂O

M 378,24 g/mol

mp 97 °C

[6138-23-4] • EC No. 202-739-6

Type analysis:

Appearance..... white powder
Assay (dry substance)..... ≥99,0 %
Water..... ≤11,0 %
Ash content..... ≤0,05 %

5151.1	5 g	plastic	12,80 €
5151.2	25 g	plastic	33,90 €
5151.4	50 g	plastic	60,10 €
5151.3	250 g	plastic	278,45 €

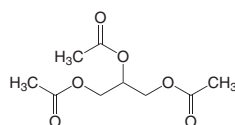
Trethylene

- ▶ Trichloroethylene see p. 2217

Tri

- ▶ Trichloroethylene see p. 2217

Triacetin



Triacetin

≥99 %

Glyceryl triacetate, 1,2,3-Triacetoxyp propane

C₉H₁₄O₆

M 218,21 g/mol

D ~1,16 • bp 258-260 °C

mp -78 °C • flp 138 °C

Solubility: 64 g/l (H₂O, 20 °C)

[102-76-1] • EC No. 203-051-9

WGK 1

Type analysis:

Appearance..... clear, colourless liquid
Assay (GC)..... ≥99,0 %
Density (d 20 °C/4 °C)..... 1,156-1,160
Refractive index n_D²⁰..... 1,430-1,432

6317.1	100 ml	glass	24,40 €

1,2,3-Triacetoxyp propane

- ▶ Triacetin see p. 2216

sym-Triaminotriazine

- ▶ Melamine see p. 1953

2,4,6-Triamino-1,3,5-triazine

- ▶ Melamine see p. 1953

1,2,4-Triazine-3,5-(2H,4H)-dione

- ▶ 6-Azauracil see p. 1660

1,2,4-Triazole



1,2,4-Triazole

≥99 %

Pyrroldiazole

C₂H₃N₃

M 69,07 g/mol

D 1,15 • bp 259-261 °C

mp 119-121 °C • flp 170 °C

Solubility: 547 g/l (H₂O, 22 °C)

[288-88-0] • EC No. 206-022-9

WGK 2

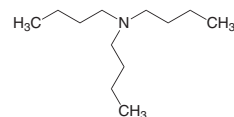
⚠ ⚠ Warning H302-H319-H361d

Type analysis:

Assay (titr.)..... ≥99,0 %
Solution (10 % in ethanol)..... colourless, clear
Water (KF)..... ≤0,5 %
Melting point..... 119-121 °C

5242.1	25 g	plastic	19,90 €
5242.2	100 g	plastic	55,80 €

Tributylamine



Tributylamine

≥99 %, for synthesis

N,N-Dibutyl-1-butanamine

C₁₂H₂₇N

M 185,35 g/mol

bp 215 °C

mp <-70 °C • flp 70 °C

[102-82-9] • EC No. 203-058-7

UN No. 2542 • ADR 6.1 II • WGK 2

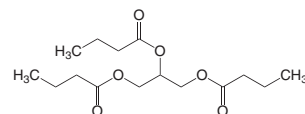
⚠ Danger H302-H310+H330-H315

Type analysis:

Assay..... ≥99,0 %
Water..... ≤0,2 %
Colour (APHA)..... ≤20

4089.1	100 ml	glass	14,55 €
4089.2	500 ml	glass	25,30 €
4089.3	1 l	glass	33,90 €
Original pack 6 x 1 l			32,21/1 l
4089.4	2,5 l	glass	59,05 €
Original pack 4 x 2,5 l			56,10/2,5 l

Tributyryn



Tributyryn

≥97,5 %, for biochemistry

Glyceryl tributryate

C₁₅H₂₆O₆

M 302,36 g/mol

D ~1,03 • bp 287-288 °C

mp -75 °C • flp 174 °C

Storage temp.: +4 °C

[60-01-5] • EC No. 200-451-5

WGK 1

Guarantee analysis:

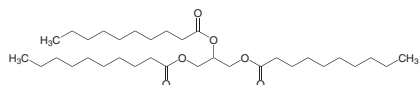
Appearance..... clear, colourless to yellow liquid
Assay (GC)..... ≥97,5 %

4813.1	100 ml	glass	73,00 €

Tricalcium citrate

- ▶ tri-Calcium dicitrate tetrahydrate see p. 1707

Tricaprin



Tricaprin

≥98 %

Glyceryl tricaprate

C₃₃H₆₂O₆

M 554,86 g/mol

mp -31 °C

Storage temp.: +4 °C

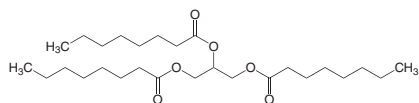
[621-71-6] • EC No. 210-702-0

Type analysis:

Assay (GC) ≥98 %
Melting point 31-35 °C

7252.1	10 g	glass	115,60 €

Tricaprylin



Tricaprylin

~98 %

Glyceryl tricaprylate

C₂₇H₅₀O₆

M 470,70 g/mol

D ~0,96

Storage temp.: +4 °C

[538-23-8] • EC No. 208-686-5

Type analysis:

Assay ~98 %

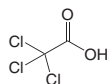
7249.1	10 g	glass	47,00 €

7249.2	100 g	glass	299,95 €

Trichloroacetaldehyde hydrate

► Chloral hydrate see p. 1728

Trichloroacetic acid



TCA

CCl₃COOH

M 163,40 g/mol

D 1,61 • bp 197 °C

mp 59 °C • flp >110 °C

Solubility: 1300 g/l (H₂O, 20 °C)

[76-03-9] • EC No. 200-927-2

UN No. 1839 • ADR 8 II • WGK 2

⚠ ⚠ ⚠ **Danger** H314-H400-H410-H335

Trichloroacetic acid

≥99 %, p.a.

Protein precipitant, fixative for microscopy.

Guarantee analysis:

Appearance scales, almost colourless
Assay ≥99,0 %
Nitrate (NO₃) ≤0,002 %
Phosphate (PO₄) ≤0,0005 %
Sulphate (SO₄) ≤0,02 %
Iron (Fe) ≤0,001 %
Heavy metals (as Pb) ≤0,002 %
Loss on drying ≤1,0 %
Sulphated ash ≤0,03 %

8789.2	500 g	glass	50,00 €

Original pack 6 x 500 g	47,50/500 g

8789.1	1 kg	glass	85,50 €

Original pack 6 x 1 kg	81,23/1 kg

Trichloroacetic acid

≥99 %, Ph.Eur, extra pure

For biochemistry.

Guarantee analysis:

Assay ≥99,0 %
Appearance of solution complies
Identity complies
Chloride (Cl) ≤0,01 %
Sulphate (SO₄) ≤0,02 %
Heavy metals (as Pb) ≤0,002 %
Sulphated ash ≤0,1 %

3744.2	500 g	glass	48,30 €

Original pack 6 x 500 g	45,89/500 g

3744.1	1 kg	glass	82,25 €

Original pack 6 x 1 kg	78,14/1 kg

Trichloroacetic acid solution

TCA solution

CCl₃COOH

M 163,40 g/mol

[76-03-9] • EC No. 200-927-2

UN No. 2564 • ADR 8 II • WGK 2

⚠ ⚠ ⚠ **Danger** H314-H335-H411

Trichloroacetic acid solution 20 %

p.a., 20 % aqueous solution

For removing protein from biological preparations.

7437.1	1 l	glass	30,00 €

Original pack 6 x 1 l	28,50/1 l

Trichloroacetic acid solution 10 %

p.a., 10 % aqueous solution

For removing protein from biological preparations

9383.2	1 l	glass	24,20 €

Original pack 6 x 1 l	22,99/1 l

9383.1	10 l	plastic	134,40 €

Trichloroethene

► Trichloroethylene see p. 2217

Trichloroethylene



Trichloroethylene

≥98 %, for synthesis, stab.

Trichloroethene, Acetylene trichloride, Trethylene, TCE

C₂HCl₃

M 131,39 g/mol

D ~1,46 • bp 87 °C

mp -86,4 °C

Solubility: 1 g/l (H₂O, 20 °C)

[79-01-6] • EC No. 201-167-4

UN No. 1710 • ADR 6.1 III • WGK 3

⚠ ⚠ **Danger**

H350-H341-H315-H336-H412

Type analysis:

Assay (GC) ≥98 %
Colour (Hazen) ≤20
Density (20 °C) 1,440-1,472
Water ≤0,02 %

9579.1	1 l	glass	25,70 €

Original pack 6 x 1 l	24,42/1 l

9579.3	2,5 l	glass	49,35 €

Original pack 4 x 2,5 l	46,88/2,5 l

9579.2	10 l	tinplate	163,95 €

Trichloromethane/Chloroform



Chloroform

CHCl₃

M 119,38 g/mol

D ~1,48 • bp 62 °C

mp -63 °C

Solubility: 8,2 g/l (H₂O, 20 °C)

[67-66-3] • EC No. 200-663-8

UN No. 1888 • ADR 6.1 III • WGK 3

⚠ ⚠ **Danger**

H331-H372-H351-H361d-H302-H315-H319

Trichloromethane/Chloroform ROTISOLV® HPLC

Guarantee analysis:

Assay (GC) ≥99,9 %
Water ≤0,005 %
Free acid ≤0,0001 %
Non volatile matter ≤0,0001 %
Transmission:
275 nm ≥99 %
255 nm ≥80 %
250 nm ≥50 %
Filtered through 0,2 µm membrane and filled under protective gas.
Stabilized with 1 % ethanol.

7331.2	1 l	glass	36,05 €

Original pack 6 x 1 l	34,25/1 l

7331.1	2,5 l	glass	75,15 €

Original pack 4 x 2,5 l	71,39/2,5 l

For further information, please see page 1515

Trichloromethane/Chloroform

ROTISOLV® ≥99,9 %, Pestilyse® plus

For determination of dioxins, furans, PCBs, pesticides, hydrocarbons etc.

Guarantee analysis:

Assay (GC).....	≥99,9 %
Colour (APHA).....	≤10
Water (KF).....	≤0,01 %
Free acid (as HCl).....	≤0,0005 %
Evaporation residue.....	≤0,0003 %
GC/ECD suitability (as heptachloro epoxide).....	≤0,1 ng/l
GC/ECD dioxins, furans and PCBs (as lindane).....	≤5 ng/l
GC/ECD pesticides (as lindane).....	≤5 ng/l
GC/NPD pesticides (as parathion).....	≤10 ng/l
Oil index (any hydrocarbon C ₁₀ -C ₄₀).....	≤0,1 mg/l
PAH-test (less than 2 ppb, HPLC).....	complies
Fluorescence (as quinine):	
254 nm.....	≤1 ppb
365 nm.....	≤1 ppb
Stabilized with 30-60 ppm amylene	

7554.1	2,5 l	glass	67,65 €
Original pack 4 x 2,5 l			64,27/2,5 l

Trichloromethane/Chloroform

ROTISOLV® ≥99,8 %, Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
GC/ECD (individual signal as lindane).....	≤5 ng/l
GC/PND (individual signal as ethylparathion).....	≤10 ng/l
Stabilized with 1 % ethanol.	

T901.1	2,5 l	glass	66,35 €
Original pack 4 x 2,5 l			63,03/2,5 l

Trichloromethane/Chloroform

ROTISOLV® ≥99,8 %, UV/IR-Grade

For chromatography and spectroscopy.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,01 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Transmission:	
280 nm.....	≥98 %
260 nm.....	≥90 %
250 nm.....	≥50 %
Stabilized with approx. 1 % ethanol	

4432.1	2,5 l	glass	57,55 €
Original pack 4 x 2,5 l			54,67/2,5 l

Trichloromethane/Chloroform

ROTIDRY® ≥99,8 % (≤50 ppm H₂O)

Dried, for analysis and organic synthesis.

Guarantee analysis:

Assay (GC).....	≥99,8 %
Water (KF).....	≤0,005 %
Acidity.....	≤0,0005 meq/g
Evaporation residue.....	≤0,0005 %
Stabilized with approx. 50 ppm amylene	

4423.1	1 l	glass	24,65 €
Original pack 6 x 1 l			23,42/1 l

Trichloromethane/Chloroform

ROTIPURAN® ≥99 %, p.a.

Guarantee analysis:

Assay (GC).....	≥99 %
Other chlorinated compounds.....	complies
Water (KF).....	≤0,02 %
Chloride (Cl).....	complies
Acids (HCl).....	≤0,001 %
Aluminium (Al).....	≤0,00005 %
Barium (Ba).....	≤0,00001 %
Lead (Pb).....	≤0,000005 %
Cadmium (Cd).....	≤0,000005 %
Calcium (Ca).....	≤0,00005 %
Chromium (Cr).....	≤0,000002 %
Cobalt (Co).....	≤0,000002 %
Iron (Fe).....	≤0,00005 %
Copper (Cu).....	≤0,000005 %
Manganese (Mn).....	≤0,000002 %
Nickel (Ni).....	≤0,00001 %
Zinc (Zn).....	≤0,000005 %
Tin (Sn).....	≤0,00001 %
Evaporation residue.....	≤0,0015 %
Stabilized with 0,6-1% ethanol	

3313.4	100 ml	glass	14,95 €

3313.1	1 l	glass	38,60 €
Original pack 6 x 1 l			36,67/1 l
3313.2	2,5 l	glass	79,05 €
Original pack 4 x 2,5 l			75,10/2,5 l
3313.5	25 l	tinplate	418,20 €

Trichloromethane/Chloroform

≥99 %, DAB, BP, extra pure

Guarantee analysis:

Assay (GC).....	≥99,0 %
Identity.....	complies
Density (d 20 °C/4 °C).....	1,479-1,484
Boiling range.....	59-62 °C
Appearance of the substance.....	complies
Acidity/alkalinity.....	complies
Free chlorine (Cl).....	complies
Non volatile matter.....	≤0,002 %
Chloride (Cl).....	≤0,0005 %
Water.....	≤0,05 %
Aldehydes.....	complies
Other chlorinated compounds.....	complies
Reaction with H ₂ SO ₄	complies
Foreign odour.....	complies
Stabilized with 0,6-1% ethanol	

6340.4	100 ml	glass	14,75 €

6340.1	1 l	glass	33,90 €
Original pack 6 x 1 l			32,21/1 l
6340.2	2,5 l	glass	61,85 €
Original pack 4 x 2,5 l			58,76/2,5 l
6340.5	25 l	tinplate	299,95 €

Trichloromethane/Chloroform

≥99 %, for synthesis

Type analysis:

Appearance.....	clear, colourless liquid
Assay (GC).....	≥99,0 %
Density (20 °C).....	1,478-1,492
Water.....	≤0,01 %
Stabilized with 20-55 ppm amylene.	

Y015.1	1 l	glass	22,05 €
Original pack 6 x 1 l			20,95/1 l
Y015.2	2,5 l	glass	37,10 €
Original pack 4 x 2,5 l			35,25/2,5 l
Y015.3	10 l	tinplate	119,90 €
Y015.4	25 l	tinplate	224,70 €

Trichloromethane/ Chloroform D1

Chloroform D1

CCl₃D

M 120,39 g/mol

D 1,50 • bp 60 °C

mp -64 °C

[865-49-6] • EC No. 212-742-4

UN No. 1888 • ADR 6.1 III • WGK 3

 **Danger**

H331-H372-H351-H361d-H302-H315-H319

Trichloromethane/ Chloroform D1

100 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree.....	≥99,95 %
Water (KF, H ₂ O+D ₂ O).....	≤0,01 %

CP91.1	10 x 0,75 ml	glass ampoule	25,30 €

Trichloromethane/ Chloroform D1

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree.....	≥99,8 %
Water (KF, H ₂ O+D ₂ O).....	≤0,02 %

7903.1	10 x 0,75 ml	glass ampoule	16,70 €

Trichloromethane/ Chloroform D1

99,8 Atom%D, stab. with Ag

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree.....	≥99,8 %
Water (KF, H ₂ O+D ₂ O).....	≤0,02 %

AE54.4	25 ml	glass	17,75 €

AE54.1	100 ml	glass	42,90 €

AE54.3	100 ml	septum bottle	45,05 €

AE54.2	500 ml	glass	196,20 €

Trichloromethane/ Chloroform D1 with TMS (0,03 vol.%)

Chloroform D1 with TMS

CCl₃D

M 120,39 g/mol

D 1,50 • bp 60 °C

mp -64 °C

[865-49-6] • EC No. 212-742-4

UN No. 1888 • ADR 6.1 III • WGK 3

Danger

H302-H331-H315-H319-H351-H361d-H372

Trichloromethane/ Chloroform D1 with TMS (0,03 vol.%)

99,8 Atom%D

For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,8 %
Water (KF, H₂O+D₂O). ≤0,02 %
Trimethylsilane (TMS). 0,03 %

7905.1	10 x 0,75 ml	glass ampoule	16,70 €

Trichloromethane/Chloroform D1 with TMS (0,03 vol.%)

99,8 Atom%D, stab. with Ag

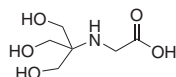
For nuclear magnetic resonance spectroscopy.

Guarantee analysis:

Deuterising degree. ≥99,8 %
Water (KF, H₂O+D₂O). ≤0,02 %
Tetramethylsilane (TMS). 0,03 %

AE59.1	100 ml	glass	42,50 €

TRICINE



TRICINE

PUFFERAN® ≥99 %

N-Tris-(hydroxymethyl)-methyl-glycine

C₆H₁₃NO₅

M 179,2 g/mol

mp 187 °C

Solubility: 100 g/l (H₂O, 20 °C)

[5704-04-1] • EC No. 227-193-6 • WGK 1

Guarantee analysis:

Assay. ≥99 %
Loss on drying. ≤1,0 %
pH value (1 % in H₂O, 25 °C). 4,0-6,0
Solubility (0,1 M in H₂O). clear, soluble
UV-absorption (0,1 M in H₂O):
280 nm. ≤0,02
260 nm. ≤0,04

6977.1	50 g	plastic	24,65 €

6977.4	250 g	plastic	97,75 €

6977.2	500 g	plastic	203,20 €

Original pack 6 x 500 g	193,04/500 g

6977.3	1 kg	plastic	284,90 €

Original pack 6 x 1 kg	270,66/1 kg

6977.5	2,5 kg	plastic	568,70 €

For further information, please see page 1215

Tricyclo[3.3.1.1^{3,7}]decane

► Adamantane see p. 1615

n-Tridecane



n-Tridecane

ROTICHRON® GC

Reference substance for GC

C₁₃H₂₈

M 184,35 g/mol

D 0,755 • bp 224-226 °C

mp -5,5 °C • flp 79 °C

Storage temp.: +4 °C

[629-50-5] • EC No. 211-093-4

WGK 1

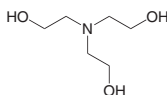
Danger H304-EU066

Type analysis:

Purity (GC). ≥98 %

4822.1	1 g	plastic	75,15 €

Triethanolamine



Triethanolamine

≥99 %, for synthesis

Tris(2-hydroxyethyl)-amine, TEA

C₆H₁₅NO₃

M 149,19 g/mol

D ~1,12 • bp 360 °C

mp 21 °C • flp 190 °C

[102-71-6] • EC No. 203-049-8

WGK 1

Type analysis:

Assay (GC). ≥99 %
Water. ≤0,1 %
Colour number (APHA). ≤30
Diethanolamine (GC). ≤0,4 %
2-Aminoethanol (GC). ≤0,1 %
Highly boiling matter (GC). ≤0,5 %

6300.1	1 l	plastic	23,90 €

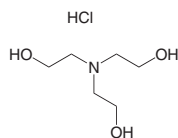
Original pack 6 x 1 l	22,71/1 l

6300.3	2,5 l	plastic	38,60 €

Original pack 4 x 2,5 l	36,67/2,5 l

6300.2	10 l	tinplate	124,60 €

Triethanolamine hydrochloride



Triethanolamine hydrochloride

≥99 %, for biochemistry

Tris-(2-hydroxyethyl)-ammoniumchloride

C₆H₁₅NO₃ · HCl

M 185,65 g/mol

D ~1,12

mp 174-182 °C

[637-39-8] • EC No. 211-284-2

WGK 1

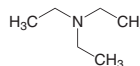
Type analysis:

Appearance. white cryst. powder
Assay (titr. dry substance). ≥99,0 %
Water (KF). ≤0,1 %
Melting point. 174-182 °C

4804.1	100 g	plastic	53,25 €

For further information, please see page 1215

Triethylamine



Triethylamine

≥99,5 %, for synthesis

N,N-Diethylethane amine, TEA

C₆H₁₅N

M 101,19 g/mol

D 0,73 • bp 90 °C

mp -115 °C • flp -11 °C

[121-44-8] • EC No. 204-469-4

UN No. 1296 • ADR 3 (8) II • WGK 1

Danger

H225-H314-H302-H311+H331-H335

Type analysis:

Assay (GC). ≥99,5 %
Colour (APHA). ≤15
Water. ≤0,1 %

X875.1	100 ml	glass	11,00 €

X875.2	500 ml	glass	15,30 €

X875.3	1 l	glass	22,50 €

Original pack 6 x 1 l	21,38/1 l

X875.4	2,5 l	glass	40,35 €

Original pack 4 x 2,5 l	38,33/2,5 l

Triethylendiamine

► DABCO® see p. 1758

Triethylene glycol



Triethylene glycol

≥98 %, for synthesis

Triglycol

C₆H₁₄O₄

M 150,18 g/mol

D 1,12 • bp 285-295 °C

mp -7 °C • flp 117 °C

[112-27-6] • EC No. 203-953-2

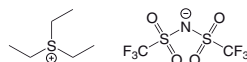
WGK 1

Type analysis:

Assay (GC)..... ≥98 %
 Colour (APHA)..... ≤50
 Density (20 °C)..... 1,122-1,127
 Refractive index n_D²⁰..... 1,453-1,459

4520.1	1 l	glass	21,40 €
Original pack 6 x 1 l			20,33/1 l
4520.3	2,5 l	glass	40,35 €
Original pack 4 x 2,5 l			38,33/2,5 l
4520.2	10 l	plastic	115,60 €

Triethylsulfonium-bis-(trifluoromethylsulphonyl)-imide (S222 BTA)



Triethylsulfonium-bis-(trifluoromethylsulphonyl)-imide (S222 BTA)

≥99 %

Ionic liquid

S222 BTA

C₈H₁₅F₆NO₄S₃

M 399,38 g/mol

D 1,462

[321746-49-0]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... clear, colourless
 Assay..... ≥99 %
 Water (KF)..... ≤0,01 %
 Halogens..... ≤0,01 %

2096.1	25 g	glass	407,45 €
2096.2	100 g	glass	736,40 €

For further information, please see page 1459

2,2,2-Trifluor-N,O-bis(trimethylsilyl)-acetamide

▶ N,O-Bis(trimethylsilyl)-trifluoroacetamide see p. 1680

Trifluoroacetic acid



TFA

C₂HF₃O₂

M 114,02 g/mol

D 1,48 • bp 72 °C

mp -15 °C

[76-05-1] • EC No. 200-929-3

UN No. 2699 • ADR 8 I • WGK 2

⚠ ⚠ Danger H290-H314-H332-H412

Trifluoroacetic acid

≥99,9 %, for (peptide-)synthesis

Guarantee analysis:

Assay..... ≥99,9 %
 Water..... ≤0,02 %
 Non volatile matter..... ≤0,002 %

P088.1	100 ml	glass	56,90 €

P088.2	500 ml	glass	166,65 €

P088.3	1 l	glass	292,40 €

Original pack 6 x 1 l 277,78/1 l

Trifluoroacetic acid

≥99,9 %

Acid for biochemistry and synthesis.

Type analysis:

Appearance..... clear, colorless liquid
 Assay..... ≥99,9 %
 Water (KF)..... ≤0,1 %
 Chloride (Cl)..... ≤0,001 %
 Fluoride (F)..... ≤0,005 %
 Sulphate (SO₄)..... ≤0,001 %

6957.1	500 ml	glass	103,10 €

6957.2	1 l	glass	181,70 €

Original pack 6 x 1 l 172,62/1 l

6957.3	2,5 l	glass	399,90 €

Original pack 4 x 2,5 l 379,91/2,5 l

Trifluoroacetic acid D

Trifluoroacetic acid D

99,5 Atom%D

For nuclear magnetic resonance spectroscopy.

Deuterio-trifluoroacetic acid, TFA-D

C₂DF₃O₂

M 115,03 g/mol

D 1,50 • bp 71 °C

mp -15 °C

[599-00-8] • EC No. 209-961-2

UN No. 2699 • ADR 8 I • WGK 2

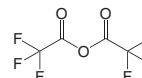
⚠ ⚠ Danger H314-H290-H412-H332

Guarantee analysis:

Deuterising degree..... ≥99,5 %
 Water (KF, H₂O+D₂O)..... ≤0,05 %

CP97.1	10 ml	glass ampoule	49,35 €

Trifluoroacetic anhydride



Trifluoroacetic anhydride

≥99 %, for GC

Acylation reagent

TFAA

C₄F₆O₃

M 210,03 g/mol

D 1,51 • bp ~40 °C

mp -65 °C

[407-25-0] • EC No. 206-982-9

UN No. 3265 • ADR 8 I • WGK 2

⚠ ⚠ Danger H314-H332-H412-EU014

Type analysis:

Assay (titr.)..... ≥99 %
 Appearance..... clear, colourless liquid
 Sulphate (SO₄)..... ≤0,05 %
 Chloride (Cl)..... ≤0,005 %
 Fluoride (F)..... ≤0,005 %

0027.1	100 g	glass	96,65 €

For further information, please see page 1494

2,2,2-Trifluoroethanol



2,2,2-Trifluoroethanol

>99,8 %, for synthesis

β,β,β-Trifluoroethylalcohol

CF₃CH₂OH

M 100,04 g/mol

bp ~75 °C

mp -43,5 °C • flp 33 °C

[75-89-8] • EC No. 268-546-4

UN No. 1992 • ADR 3 (6.1) III • WGK 1

⚠ ⚠ ⚠ ⚠ Danger H226-H301+H331-

H361-H373-H318-H312-H315

Type analysis:

Appearance..... clear liquid
 Assay (GC)..... >99,8 %
 Water (KF)..... <0,1 %
 Chloride (Cl)..... <0,001 %

CP29.1	100 ml	glass	33,25 €

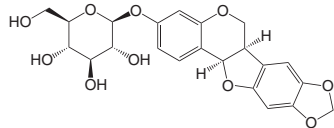
CP29.2	250 ml	glass	59,70 €

CP29.3	1 l	glass	188,15 €

Original pack 6 x 1 l 178,74/1 l

Trifoliin

▶ Isoquercitrin see p. 1912

Trifolirhizin**Trifolirhizin**

ROTICHROM® ~CHR

C₂₂H₂₂O₁₀

M 446 g/mol

mp 142-144 °C

[6807-83-6]

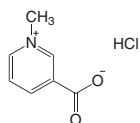
4738.1 25 mg glass 160,20 €

Trifolit

► Kaempferol see p. 1915

Triglycol

► Triethylene glycol see p. 2220

Trigonelline hydrochloride**Trigonelline hydrochloride**

≥97,5 %, for biochemistry

C₇H₇NO₂ · HCl

M 173,61 g/mol

mp ~260 °C

[6138-41-6] • EC No. 228-119-5

WGK 1

Type analysis:

Appearance white crystals

Assay (arg. titr.) ≥97,5 %

5413.1 1 g glass 66,55 €

1,2,3-Trihydroxybenzene

► Pyrogallol see p. 2074

1,3,5-Trihydroxybenzene

► Phloroglucinol dihydrate see p. 2038

3,4,5-Trihydroxybenzoic acid hydrate

► Gallic acid monohydrate see p. 1844

4',5,7-Trihydroxyflavanone

► Naringenin see p. 1981

3,5,7-Trihydroxyflavone

► Galangin see p. 1844

4',5,7-Trihydroxyflavone

► Apigenin see p. 1651

5,6,7-Trihydroxyflavone

► Baicalein see p. 1664

4',5,7-Trihydroxyisoflavone

► Genistein see p. 1847

3,5,7-Trihydroxy-4'-methoxyflavonone

► Hesperetin see p. 1873

2,6,8-Trihydroxypurine

► Uric acid see p. 2233

2,4,6-Trihydroxypyrimidine

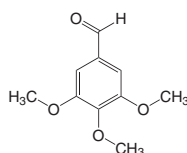
► Barbituric acid see p. 1665

trans-3,4',5-Trihydroxystilbene

► Resveratrol see p. 2083

Triiodmethane

► Iodoform see p. 1903

3,4,5-Trimethoxybenzaldehyde**3,4,5-Trimethoxybenzaldehyde**

≥98 %

C₁₀H₁₂O₄

M 196,21 g/mol

bp 163-165 °C

mp 73-76 °C

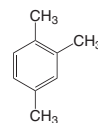
[86-81-7] • EC No. 201-701-6

WGK 1

Type analysis:

Assay (HPLC) ≥98 %

4831.1 25 g glass 54,30 €

1,2,4-Trimethylbenzene**1,2,4-Trimethylbenzene**

ROTICHROM® GC

Reference substance for GC

Pseudocumene

C₉H₁₂

M 120,20 g/mol

D 0,89 • bp 168 °C

mp -44 °C • flp 48 °C

Solubility: 0,057 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[95-63-6] • EC No. 202-436-9

UN No. 3295 • ADR 3 III • WGK 2

Warning

H226-H332-H315-H319-H335-H411

Type analysis:

Purity (GC) ≥98 %

4913.1 1 g glass 22,50 €

(1R)-7,7,7-Trimethylbicyclo[2.2.1]heptan-2-one

► (+)-Camphor see p. 1710

Trimethyl carbinol

► tert-Butanol see p. 1697

Trimethylchlorosilane**Trimethylchlorosilane**

≥99 %, for GC

Silylation agent

TMCS, Trimethylsilyl chloride,

Chlorotrimethylsilane

C₃H₉ClSi

M 108,64 g/mol

D 0,86 • bp -57 °C

mp -58 °C • flp -20 °C

[75-77-4] • EC No. 200-900-5

UN No. 1298 • ADR 3 (8) II • WGK 1

Danger

H225-H314-H335-H312-EUH014

Type analysis:

Appearance clear liquid

Assay (GC) ≥99,0 %

2338.1 25 g glass 45,05 €

For further information, please see page 1440

(-)-1,3,3-Trimethyl-2-norbornanone

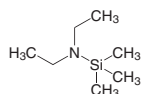
► (-)-Fenchone see p. 1826

2,2,4-Trimethylpentane

► Isooctane see p. 1911

Trimethylsilylchloride

► Trimethylchlorosilane see p. 2221

N-(Trimethylsilyl)-diethylamine**N-(Trimethylsilyl)-diethylamine**

≥98 %, for GC

Silylation agent

TMSDEA

C₇H₁₉NSi

M 145,32 g/mol

D 0,76 • bp ~126 °C

mp -10 °C • flp 15 °C

[996-50-9] • EC No. 213-637-6

UN No. 2733 • ADR 3 (8) II • WGK 1

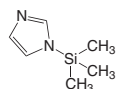
Danger H225-H314
Type analysis:

Appearance..... clear, colourless liquid

Assay..... ≥98 %

0013.1	25 g	glass	119,90 €

For further information, please see page 1494

N-(Trimethylsilyl)-imidazole**N-(Trimethylsilyl)-imidazole**

≥95 %, for GC

Silylation agent

TSIM

C₆H₁₂N₂Si

M 140,26 g/mol

D 0,95 • bp 212 °C (dec.)

mp -42 °C

[18156-74-6] • EC No. 242-040-3

UN No. 1993 • ADR 3 II • WGK 1

Danger

H225-H315-H319-H335-EUHO14

Type analysis:

Appearance..... clear, colourless liquid

Assay (GC)..... ≥95 %

0012.1	10 g	glass	38,60 €

For further information, please see page 1494

N,N,N-Trimethyl-1-tetradecan-ammonium bromide

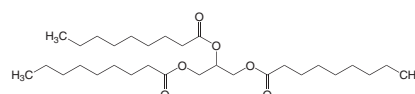
► Tetradecyltrimethylammonium bromide see p. 2203

N,N,N'-Trimethylthionin

► Azure B (C.I. 52010) see p. 1664

1,3,7-Trimethylxanthine

► Caffeine see p. 1704

Tripelargonin**Tripelargonin**

ROTICHRON® CHR

C₃₀H₅₆O₆

M 512,77 g/mol

D ~0,94

Storage temp.: +4 °C

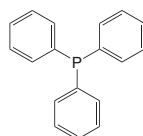
[126-53-4] • EC No. 204-791-5

8877.1	10 g	glass	50,00 €

8877.2	100 g	glass	396,70 €

Triphenylphosphane

► Triphenylphosphine see p. 2222

Triphenylphosphine**Triphenylphosphine**

≥99,5 %, for synthesis

Triphenylphosphane, PPh₃P(C₆H₅)₃

M 262,29 g/mol

D 1,19 • bp 360 °C

mp ~81 °C • flp 18 °C

[603-35-0] • EC No. 210-036-0

WGK 2

Warning H302-H317-H373-H413
Type analysis:

Appearance..... pastilles

Assay..... ≥99,5 %

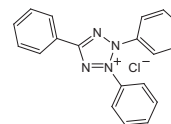
4110.1	10 g	plastic	11,50 €

4110.2	100 g	plastic	17,75 €

4110.3	250 g	plastic	32,15 €

4110.4	1 kg	plastic	95,15 €

Original pack 6 x 1 kg 90,39/1 kg

2,3,5-Triphenyltetrazolium chloride**2,3,5-Triphenyltetrazolium chloride**

≥98,5 %, p.a.

For microbiology and histochemistry.

For vital staining of cells.

Tetrazolium red, TTC, TTZ, TPTZ

C₁₉H₁₅ClN₄

M 334,79 g/mol

mp 243 °C (dec.)

Solubility: ~150 g/l (H₂O, 25 °C)

Storage temp.: +4 °C

[298-96-4] • EC No. 206-071-6

WGK 3

Warning H315-H319-H335
Guarantee analysis:

Assay (arg., dry substance)..... ≥98,5 %

Loss on drying (120 °C)..... ≤2,0 %

Sulphated ash..... ≤0,2 %

KK13.1	10 g	glass	46,15 €

KK13.2	50 g	glass	190,85 €

For further information, please see page 1407

Triple Sugar Iron Agar**Triple Sugar Iron Agar****Ph.Eur., for microbiology**For identification and differentiation of enterobacteria and for determination of *Salmonellae*.

Application: Use 64,6 g for 1 l agar.

Agar medium M (Ph.Eur. 6.0), **TSI agar**

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Beef extract..... 3 g/l

Yeast extract..... 3 g/l

Beef- and casein peptone..... 20 g/l

Sodium chloride (NaCl)..... 5 g/l

Lactose monohydrate..... 10 g/l

Saccharose..... 10 g/l

Glucose monohydrate..... 1 g/l

Ammonium iron(III) citrate..... 0,3 g/l

Sodium thiosulphate..... 0,3 g/l

Phenol red..... 0,025 g/l

Agar..... 12 g/l

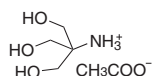
pH value..... 7,4 ±0,2

AE49.1	500 g	plastic	74,10 €

Original pack 6 x 500 g 70,40/500 g

For further information, please see page 1344

TRIS acetate



TRIS acetate

PUFFERAN® ≥99 %

Tris(hydroxymethyl)-aminomethane acetate

$C_6H_{15}NO_5$

M 181,19 g/mol

mp ~120 °C

[6850-28-8] • EC No. 229-939-6

Type analysis:

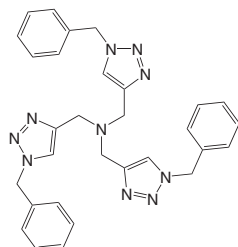
Assay	≥99,0 %
pH value (1 % solution)	6,0-7,0
Chloride (Cl)	≤0,005 %
Sulphate (SO ₄)	≤0,005 %
Heavy metals (as Pb)	≤0,0005 %
Absorption:	
260 nm	≤0,1 %
280 nm	≤0,05 %

7125.1	25 g	plastic	27,85 €

7125.2	100 g	plastic	99,90 €

For further information, please see page 1215

Tris[(1-benzyl-1H-1,2,3-triazol-4-yl)methyl]amine (TBTA)



TBTA

$C_{30}H_{30}N_{10}$

M 530,63 g/mol

mp 132-144 °C

Storage temp.: -20 °C • Transport temp.: room temp.

[510758-28-8]

WGK 3

Tris[(1-benzyl-1H-1,2,3-triazol-4-yl)methyl]amine (TBTA)

≥97 %, ROTI®click Grade

Ligand for Click Chemistry

Type analysis:

Appearance	white to tan powder
Assay (HPLC)	≥97 %
Alkyne- and Azide-free	complies

7814.1	5 mg	plastic	20,25 €

7814.2	10 mg	plastic	33,90 €

7814.3	50 mg	plastic	75,80 €

7814.4	100 mg	plastic	126,35 €

Tris[(1-benzyl-1H-1,2,3-triazol-4-yl)methyl]amine (TBTA)

≥97 %

Ligand for Click Chemistry

Type analysis:

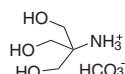
Appearance	off-white powder
Assay (HPLC)	≥97 %
Identity	complies

7380.1	50 mg	glass	70,85 €

7380.3	100 mg	glass	127,95 €

7380.2	500 mg	glass	568,70 €

TRIS carbonate



TRIS carbonate

PUFFERAN®

Tris-(hydroxymethyl)-aminomethane-carbonate

$C_6H_{22}N_2O_6$

M 304,30 g/mol

Storage temp.: +4 °C

[68123-29-5] • WGK 1

⚠ Warning H315-H319-H335

Type analysis:

Appearance	white crystals
Solution (10 % in H ₂ O)	clear, colourless
pH value (1 % solution)	~8,5

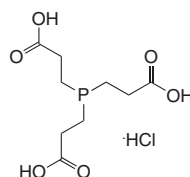
9158.1	50 g	plastic	33,25 €

9158.2	500 g	plastic	109,55 €

Original pack 6 x 500 g 104,07/500 g

For further information, please see page 1215

Tris-(2-carboxyethyl)-phosphine hydrochloride



Tris-(2-carboxyethyl)-phosphine hydrochloride

≥98 %, for biochemistry

Reducing reagent

TCEP · HCl

$C_9H_{15}O_6P \cdot HCl$

M 286,65 g/mol

Storage temp.: +4 °C

[51805-45-9]

UN No. 3261 • ADR 8 II • WGK 2

⚠ Danger H314

Guarantee analysis:

Assay (titr.)	≥98,0 %
Solution (1 % in H ₂ O)	colourless, clear
Loss on drying (80 °C, Vakuum)	≤ 1,0 %

HN95.1	1 g	glass	44,00 €

HN95.2	5 g	glass	142,90 €

For further information, please see page 1201 1250

Tris(carboxymethyl)-amine

▶ Nitrotri-acetic acid see p. 1990

2,4,6-Tris(dimethyl-aminomethyl)-phenol

▶ Glycidether Accelerator DMP-30 see p. 1860

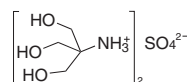
TRIS-EDTA-BUFFER

▶ Roti®-Stock 100x TE see p. 2112

Tris-HCl

▶ TRIS hydrochloride see p. 2224

TRIS hemisulphate



TRIS hemisulphate

PUFFERAN® ≥98 %

Tris(hydroxymethyl)-aminomethane hemisulphate

$C_4H_{11}NO_3 \cdot 0,5 H_2SO_4$

M 170,18 g/mol

[6992-38-7] • EC No. 230-259-7

Type analysis:

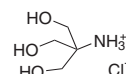
Assay (titr.)	≥98 %
Water (KF)	≤1,0 %
pH value (1 % solution)	4,5-5,1

6986.1	25 g	plastic	19,25 €

6986.2	100 g	plastic	44,00 €

For further information, please see page 1215

TRIS hydrochloride



TRIS hydrochloride

PUFFERAN® ≥99 %, p.a.

Ideal for all molecular biological applications.

Tris(hydroxymethyl)aminomethane hydrochloride, Tris-HCl

$C_4H_{11}NO_3 \cdot HCl$

M 157,60 g/mol

mp 150-153 °C

[1185-53-1] • EC No. 214-684-5

WGK 1

⚠ Warning H315-H319-H335

Guarantee analysis:

Appearance	white powder
Assay (titr., dry substance)	≥99,0 %
pH value	3,5-5,0
Solubility (1 M in H ₂ O)	clear, colourless
Loss on drying	≤1,0 %
Iron (Fe)	≤0,0001 %
Heavy metals (as Pb)	≤0,0005 %
Melting point	150-153 °C
UV-Absorption (0,5 M in H ₂ O):	
260 nm	≤0,02
280 nm	≤0,02

9090.1	50 g	plastic	13,15 €
9090.2	500 g	plastic	81,60 €
Original pack 6 x 500 g 77,52/500 g			
9090.3	1 kg	plastic	120,95 €
Original pack 6 x 1 kg 114,90/1 kg			
9090.5	2,5 kg	plastic	258,00 €
9090.4	5 kg	plastic	493,45 €

For further information, please see page 1562

Tris-(2-hydroxyethyl)-amine

► Triethanolamine see p. 2219

Tris-(2-hydroxyethyl)-ammonium chloride

► Triethanolamine hydrochloride see p. 2219

Tris-(hydroxymethyl)-amino methane

► TRIS see p. 2223

Tris-(hydroxymethyl)-aminomethane acetate

► TRIS acetate see p. 2224

Tris-(hydroxymethyl)-aminomethane carbonate

► TRIS carbonate see p. 2224

Tris-(hydroxymethyl)-aminomethane hemisulphate

► TRIS hemisulphate see p. 2224

Tris-(hydroxymethyl)-aminomethane hydrochloride

► TRIS hydrochloride see p. 2224

Tris-(hydroxymethyl)-aminomethane maleate

► TRIS maleate see p. 2225

N-Tris(hydroxymethyl)methyl-2-aminoethanesulphonic acid

► TES see p. 2200

3-N-Tris-(hydroxymethyl)-methylamino-2-hydroxypropanesulphonic acid sodium salt

► TAPSO see p. 2196

3-N-Tris(hydroxymethyl)-methylamino-2-hydroxypropanesulphonic acid sodium salt

► TAPSO sodium salt see p. 2197

N-Tris(hydroxymethyl)-methyl-3-amino-propane sulphonic acid

► TAPS see p. 2196

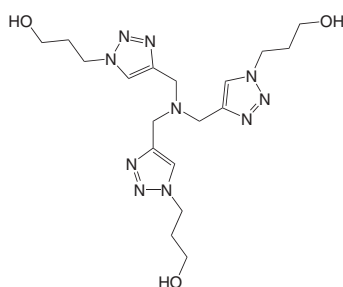
N-Tris(hydroxymethyl)-methyl-3-amino-propane sulphonic acid sodium salt

► TAPS sodium salt see p. 2196

N-Tris(hydroxymethyl)-methyl-glycine

► TRICINE see p. 2219

Tris(3-hydroxypropyl-triazolylmethyl)amine (THPTA)



Tris(3-hydroxypropyltriazolyl-methyl)amine (THPTA)

≥95 %, ROTI®click Grade

Ligand for Click Chemistry

THPTA

$C_{18}H_{30}N_{10}O_3$

M 434,50 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[760952-88-3]

WGK 3

⚠ Warning H315-H319-H335

Type analysis:

Appearance..... white powder

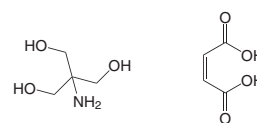
Assay (HPLC)..... ≥95 %

Solubility..... H_2O , DMSO/t-Butanol Solvent

For a 0,1 M solution: add 230 µl to 10 mg.

7822.1	5 mg	plastic	20,25 €
7822.2	10 mg	plastic	33,90 €
7822.3	50 mg	plastic	75,80 €
7822.4	100 mg	plastic	126,35 €

TRIS maleate



TRIS maleate

PUFFERAN® ≥98 %

Tris(hydroxymethyl)-aminomethane maleate

$C_8H_{15}NO_7$

M 237,21 g/mol

[72200-76-1] • EC No. 276-455-6

Type analysis:

Appearance..... white solid

Assay..... ≥98,0 %

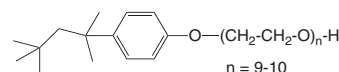
6991.1	100 g	plastic	89,15 €

For further information, please see page 1215

Trisodium phosphate

► tri-Sodium phosphate dodecahydrate see p. 2156

Triton® X 100



Polyethylene glycol alkylphenyl ether

$C_{33}H_{60}O_{10}$

M 624 g/mol

bp 270 °C

flp 251 °C

UN No. 3077 • ADR 9 III • WGK 1

⚠ ⚠ ⚠ Danger H318-H302-H411

Triton® X 100

extra pure

Non-ionic detergent. For biochemistry and molecular biology.

Type analysis:

Appearance..... clear, colourless to light yellow viscous liquid

Cloud point (1%, H_2O)..... 63-69 °C

3051.3	250 ml	plastic	15,60 €
3051.4	500 ml	plastic	20,35 €
3051.2	1 l	plastic	28,50 €
Original pack 6 x 1 l 27,08/1 l			
3051.1	10 l	plastic	177,40 €

Triton® X 100

for scintillation

Non-ionic detergent

6683.1	1 l	plastic	32,15 €
Original pack 6 x 1 l 30,54/1 l			
6683.2	10 l	plastic	235,45 €

Trochol

► Betulin(ol) see p. 1675

Tropaeolin OO

► Orange IV sodium salt (C.I. 13080)
see p. 2014

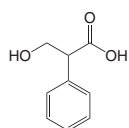
Tropaeolin O sodium salt

► Resorcinol yellow (C.I. 14270)
see p. 2083

3-α-Tropanol

► Tropine see p. 2226

DL-Tropic acid



DL-Tropic acid

≥97 %, for biochemistry

2-Phenylhydracrylic acid

C₉H₁₀O₃

M 166,17 g/mol

mp 116-118 °C

Solubility: 20 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[529-64-6] • EC No. 208-465-3

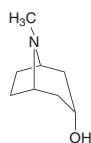
WGK 2

Type analysis:

Appearance..... white powder
Assay (acidim.)..... ≥97 %

4052.1	25 g	plastic	125,70 €

Tropine



Tropine

pure

3α-Tropanol

C₈H₁₅NO

M 141,21 g/mol

D 1,04 • bp 232-234 °C

mp 49-52 °C

Solubility: 100 g/l (H₂O, 20 °C)

[120-29-6] • EC No. 204-384-2

WGK 3

⚠ Warning H302+H332

Type analysis:

Melting point..... 49-52 °C

4049.1	10 g	glass	24,20 €

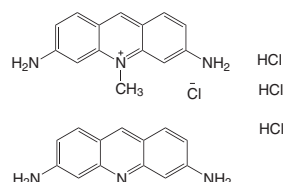
Tropine mandelate hydrobromide

► Homatropine hydrobromide see p. 1880

H-DL-Trp-OH

► DL-Tryptophane see p. 2227

Trypaflavine



Trypaflavine

>99 %, for biochemistry

Acriflavinium chloride, Acriflavinium

hydrochloride, Neutral acriflavine

[8063-50-3]

UN No. 3077 • ADR 9 III • WGK 2

⚠ ⚠ ⚠ Danger H318-H302-H411

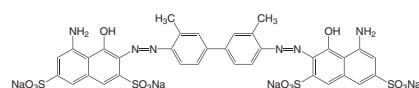
Type analysis:

Appearance..... red-brown, cryst. powder
Assay (dry substance)..... ≥99,0 %
Sulphated ash..... ≤1,0 %
Loss on drying..... ≤6,5 %

9621.1	10 g	glass	22,40 €

9621.2	50 g	glass	66,15 €

Trypan blue (C.I. 23850)



Trypan blue (C.I. 23850)

for microscopy and cell staining

For vital and histological staining.

Benzamine blue, Toluidin-diazo-bis-8-amino-1-naphthol-3,6-disulphonic acid tetrasodium salt

C₃₄H₂₄N₆Na₄O₁₄S₄

M 960,82 g/mol

mp >300 °C (dec.)

Solubility: 10 g/l (H₂O, 25 °C)

[72-57-1] • EC No. 200-786-7

WGK 3

⚠ Danger H350

Type analysis:

Dye content..... ≥80 %
Loss on drying..... ≤10 %
Absorption max. (50:50 H₂O:ethanol)..... 590-610 nm

CN76.1	10 g	glass	21,40 €

CN76.2	25 g	glass	38,60 €

CN76.3	50 g	glass	69,80 €

For further information, please see page 1407

Trypsin

M ~24,000 g/mol

[9002-07-7] • EC No. 232-650-8

⚠ ⚠ Danger H334-H335-H315-H319

Trypsin

5000 USP-U/mg, free from salt

Isolated from porcine pancreas, lyophilised.

Storage temp.: -20 °C

Transport temp.: room temp.

Type analysis:

Activity..... ~5000 USP-U/mg

2193.1	100 mg	glass	26,35 €

2193.2	500 mg	glass	79,05 €

For further information, please see page 1277

Trypsin

≥2500 USP-U/mg, cryst.

Isolated from porcine pancreas, lyophilised.

Storage temp.: +4 °C

Type analysis:

Appearance..... beige to light brown hygroscopic powder

Identity..... complies

Activity..... ≥2500 USP-U/mg Trypsin

pH value (1 % solution)..... 3,0-6,0

Sulphated ash..... <2,5 %

Loss on drying (60 °C)..... <5 %

5455.1	100 mg	glass	21,75 €

5455.2	1 g	glass	76,90 €

For further information, please see page 1277

Trypsin inhibitor

[9035-81-8] • EC No. 232-906-9

Trypsin inhibitor

≥10000 BAEE U/mg

Made from soy beans. High-activity inhibitor of trypsin, chymotrypsin, and other proteolytic enzymes.

Storage temp.: +4 °C

Type analysis:

Colour..... beige to light yellow

Dry extract..... >930 mg/g

Proteins..... >740 mg/g

pH value (1 % solution)..... 7,0 ±0,8

Activity..... ≥10000 BAEE U/mg

2949.1	25 mg	plastic	28,70 €

2949.2	100 mg	plastic	71,50 €

2949.3	250 mg	plastic	149,45 €

2949.4	500 mg	plastic	252,65 €

2949.5	1 g	plastic	428,95 €

For further information, please see page 1277

Trypsin inhibitor

salt free ≥ 7000 BAEE U/mg

Made from soy beans. Inhibition of trypsin, chymotrypsin, plasmin, kallikrein, thrombin and other proteolytic enzymes; free from salt.

Storage temp.: -20 °C • Transport temp.: room temp.

Type analysis:

Appearance: white to beige powder
Activity: ≥ 7000 BAEE U/mg

5279.1	100 mg	glass	17,10 €
5279.4	250 mg	glass	32,80 €
5279.5	500 mg	glass	54,75 €
5279.2	1 g	glass	92,35 €
5279.3	5 g	glass	375,20 €

For further information, please see page 1233

Tryptic Soy Broth

► CASO Broth see p. 1720

Tryptone Bile Salts Agar

Tryptone Bile Salts Agar

DEV, EN ISO 9308-1:2000, for microbiology

For detection and enumeration of *E. coli* in foods and water samples.

Application: Use 36,5 g for 1 l agar.

TBA

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Tryptone: 20 g/l
Bile salts: 1,5 g/l
Agar: 15 g/l
pH value: 7,2 $\pm$ 0,1

CP69.1	500 g	plastic	110,20 €
Original pack 6 x 500 g			104,69/500 g

For further information, please see page 1344

Tryptone/Peptone ex casein

Similar to NZamine

Solubility: 200 g/l

Storage temp.: +20 °C

[91079-40-2] • EC No. 293-428-4

WGK 1

Tryptone/Peptone ex casein pancreatic digest, for microbiology

Type analysis:

Total nitrogen: ≥ 10 %
Amino nitrogen: $\geq 3,9$ %
Loss on drying: ≤ 6 %
Ash: ≤ 15 %
pH value (2 % solution): 6,5-7,5

8952.1	250 g	plastic	47,85 €
8952.3	500 g	plastic	83,75 €
Original pack 6 x 500 g			79,56/500 g
8952.2	1 kg	plastic	145,15 €
Original pack 6 x 1 kg			137,89/1 kg
8952.4	2,5 kg	plastic	317,15 €
8952.5	5 kg	plastic	547,20 €

For further information, please see page 1367

Tryptone/Peptone ex casein, granulated

granulated, pancreatic digest, for microbiology

Type analysis:

Total nitrogen: ≥ 10 %
Amino nitrogen: $\geq 3,9$ %
Loss on drying: ≤ 6 %
Ash: ≤ 15 %
pH value (2 % solution): 6,5-7,5
Granulation: complies

6681.1	250 g	plastic	60,10 €
6681.2	500 g	plastic	103,75 €
Original pack 6 x 500 g			98,56/500 g
6681.3	1 kg	plastic	182,25 €
Original pack 6 x 1 kg			173,14/1 kg
6681.4	2,5 kg	plastic	356,90 €
6681.5	5 kg	plastic	671,90 €

For further information, please see page 1367

Tryptone Soy Agar

Tryptone Soy Agar

DEV, EN ISO 9308-1:2000, for microbiology

For the detection and enumeration of *E. coli* and other coliform bacteria in foods and water samples.

Application: Use 40 g for 1 l agar.

TSA, Trypticase-Soya-Agar

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Casein, tryptic digest: 15 g/l
Soy peptone: 5 g/l
Sodium chloride (NaCl): 5 g/l
Agar: 15 g/l
pH value: 7,2 $\pm$ 0,1

CP70.1	500 g	plastic	74,10 €
Original pack 6 x 500 g			70,40/500 g

For further information, please see page 1344

Tryptone Soy Agar Lethen

► CASO Agar with Lecithin/Polysorbate 80
see p. 1719

D-Tryptophane

D-Tryptophane

$\geq 98,5$ %, for biochemistry

2-Amino-3-(3-indolyl)propionic acid,
H-D-Trp-OH

$C_{11}H_{12}N_2O_2$

M 204,23 g/mol

[153-94-6] • EC No. 205-819-9

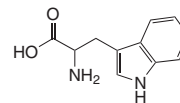
WGK 1

Type analysis:

Appearance: white to whitish powder
Assay: 98,5-102,0 %
Ash: $\leq 0,1$ %
Specific rotation $[\alpha]_D^{25}$ (1 % in H_2O): +30° to +33°
Loss on drying: $\leq 0,2$ %
Enantiomeric purity: $\leq 0,3$ % L-Enantiomer

7700.1	5 g	plastic	44,00 €
7700.2	25 g	plastic	128,90 €

DL-Tryptophane



DL-Tryptophane

≥ 98 %, for biochemistry

DL-2-Amino-3-(3-indolyl)propionic acid,
3- β -Indolylalanine, H-DL-Trp-OH

$C_{11}H_{12}N_2O_2$

M 204,23 g/mol

mp 289-290 °C

Storage temp.: +4 °C

[54-12-6] • EC No. 200-194-9

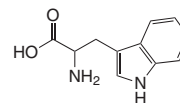
WGK 1

Type analysis:

Assay (titr.): $\geq 98,0$ %
Solution (1 % in 1 N HCl): colourless to yellow
Loss on drying: $\leq 1,0$ %

5236.1	10 g	plastic	14,20 €
5236.2	25 g	plastic	26,80 €
5236.3	100 g	plastic	85,90 €

L-Tryptophane



L-2-Amino-3-(3-indolyl)propionic acid,
H-L-Trp-OH

$C_{11}H_{12}N_2O_2$

M 204,23 g/mol

mp $\sim$ 290 °C

Solubility: $\sim$ 10 g/l (H_2O , 20 °C)

[73-22-3] • EC No. 200-795-6

WGK 1

L-Tryptophane

≥ 99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins: $\leq 6,0$ E.U./g
Assay: ≥ 99 %
Loss on drying: $\leq 0,5$ %
Specific rotation $[\alpha]_D^{25}$: -33,0° to -30,0°
Foreign amino acids: complies
Ammonium (NH_4): $\leq 0,02$ %
Chloride (Cl): $\leq 0,02$ %
Sulphate (SO_4): $\leq 0,03$ %
Heavy metals (as Pb): $\leq 0,001$ %
Iron (Fe): $\leq 0,002$ %

1739.1	25 g	plastic	26,80 €
1739.2	100 g	plastic	79,05 €
1739.3	500 g	plastic	327,90 €
Original pack 6 x 500 g			311,51/500 g

L-Tryptophane

≥98,5 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance.....	white to yellowish, cryst. powder
Assay.....	98,5-101,0 %
Identity.....	complies
Specific rotation $[\alpha]_D^{20}$	-33,0° to -30,0°
Heavy metals (as Pb).....	≤0,001 %
Foreign amino acids.....	complies
Loss on drying.....	≤0,5 %
Sulphated ash.....	≤0,1 %
Chloride (Cl).....	≤0,02 %
Sulphate (SO ₄).....	≤0,03 %
Ammonium (NH ₄).....	≤0,02 %
Iron (Fe).....	≤0,002 %

4858.1	10 g	glass	13,65 €

4858.2	100 g	plastic	65,05 €

4858.4	250 g	plastic	136,45 €

4858.3	1 kg	plastic	489,15 €

Original pack 6 x 1 kg	464,69/1 kg

Tryptophane Culture Broth

Tryptophane Culture Broth

DEV, EN ISO 9308-1:2000, for microbiology
For the detection of *E. coli* in foods and water samples by indole production.

Application: Use 16 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Casein, tryptic digest.....	10 g/l
L-Tryptophan.....	1 g/l
Sodium chloride (NaCl).....	5 g/l
pH value.....	7,5 ±0,1

CP71.1	500 g	plastic	151,05 €

Original pack 6 x 500 g	143,50/500 g

For further information, please see page 1345

Tryptose Soy Citrate Agar

► TSC Agar (Base) see p. 2228

TSA

► Tryptone Soy Agar see p. 2227

TSA Letheen

► CASO Agar with Lecithin/Polysorbate 80 see p. 1719

TSB Broth

► CASO Broth see p. 1720

TSC Agar (Base)

TSC Agar (Base)

DEV, EN ISO 7937:2004, for microbiology

For detection and enumeration of *Clostridium perfringens* in foods and animal feed.

Application: Use 42 g for 1 l agar. After autoclaving add 2 vials (4 ml) reconstituted *Clostridium perfringens* Supplement (Art. No. CL52.1). Add 50 ml egg yolk emulsion (Art. No. 2977.1).

Tryptose Soy Citrate Agar, *Perfringens* Agar, *Clostridium perfringens* Agar

Storage temp.: +20 °C • WGK 1

Warning H319

Guarantee analysis:

Tryptose.....	15 g/l
Soy peptone.....	5 g/l
Yeast extract.....	5 g/l
Sodium bisulfite.....	1 g/l
Ammonium iron(III)citrate.....	1 g/l
Agar.....	15,0 g/l
pH value.....	7,6 ±0,2

CL51.1	500 g	plastic	107,40 €

Original pack 6 x 500 g	102,03/500 g

For further information, please see page 1345

TSIM

► N-(Trimethylsilyl)-imidazole see p. 2222

TSPP

► tetra-Sodium diphosphate decahydrate see p. 2146

TSTU

► O-(N-Succinimidyl)-N,N,N',N'-tetra-methyluronium tetrafluoroborate see p. 2187

TTC

► 2,3,5-Triphenyltetrazolium chloride see p. 2222

TTC Chapman Agar (with sodium heptadecylsulphate) (Base)

TTC Chapman Agar (with sodium heptadecylsulphate) (Base)

DEV, EN ISO 9308-1:2000, for microbiology

For isolation and enumeration of coliform bacteria from water samples.

Application: Use 56,2 g for 1 l agar. Contains Tergitol. After autoclaving add TTC solution (Art. No. CP72.1) to 0,0025 %.

Chapman TTC Agar, Chapman Lactose Agar

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Lactose.....	20 g/l
Peptone.....	10 g/l
Yeast extract.....	6 g/l
Meat extract.....	5 g/l
Bromothymol blue.....	0,05 g/l
Sodium heptadecyl sulphate (Tergitol 7).....	0,1 g/l
Agar.....	15 g/l
pH value.....	7,2 ±0,1

CP65.1	500 g	plastic	75,80 €

Original pack 6 x 500 g	72,01/500 g

For further information, please see page 1345

TTC-Supplement

TTC-Supplement

lyophilised

Media supplement for identification of coliform enterobacteria.

One box of 10 x 50 mg TTC-Supplement is sufficient for 20 l TTC Chapman Agar.

2,3,5-Triphenyl-tetrazolium chloride, Red tetrazolium

mp 243-245 °C (dec.)

Storage temp.: +4 °C

[298-96-4] • EC No. 206-071-6

WGK 3

Warning H315-H319-H335

Guarantee analysis:

Triphenyltetrazolium chloride (per vial)..... 50 mg

CP72.1	10 vials	glass	68,70 €

For further information, please see page 1352

TTX

► Tetrodotoxin see p. 2205

TTZ

► 2,3,5-Triphenyltetrazolium chloride see p. 2222

Tulipanin

► Delphinidin 3-rutinoside chloride see p. 1762

Tungsten(VI) oxide

Tungsten(VI) oxide

ROTI®METIC 99,995 % (4N5)

Tungsten trioxide

WO₃

M 231,84 g/mol

D 7,2 • bp ~1700 °C

mp 1473 °C

[1314-35-8] • EC No. 215-231-4

WGK 1

Warning H302

Type analysis:

Assay (metals basis).....99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5399.1	50 g	plastic	252,65 €

5399.2	100 g	plastic	439,70 €

Tungsten Standards

- Tungsten AAS Standard Solution see p. 2169
- Tungsten ICP Standard Solution see p. 2174
- Tungsten ICP Standard Solution see p. 2178

Tungsten trioxide

- Tungsten(VI) oxide see p. 2228

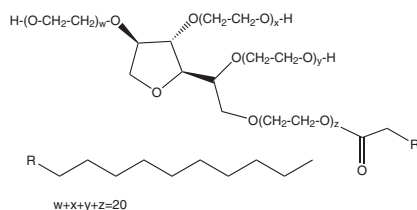
Tungstic acid sodium salt dihydrate

- Sodium tungstate dihydrate see p. 2160

Tungstophosphoric acid

- Phosphotungstic acid hydrate see p. 2040

Tween® 20



Tween® 20

Ph.Eur.

Non-ionic detergent

Polyoxyethylene-20-sorbitan monolaurate,
Polysorbate 20

D ~1,1 • bp >100 °C

flp >149 °C

[9005-64-5]

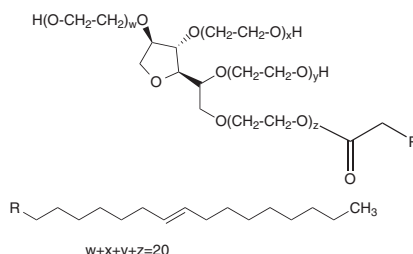
WGK 1

Guarantee analysis:

Appearance..... yellow clear to light turbid liquid
Identity..... complies
Hydroxyl number (mg KOH/g)..... 96-108
Acid value (mg KOH/g)..... ≤2
Peroxide value..... ≤5
Saponification value (mg KOH/g)..... 40-50
Water..... ≤3 %
Sulphated ash..... ≤0,2 %
Heavy metals..... ≤0,001 %
Volatile organic impurities..... complies
1,4-Dioxane..... ≤0,001 %
Free ethylene oxide..... ≤0,0001 %
Fatty acid compound..... complies

9127.1	250 g	plastic	19,25 €
9127.2	1 kg	plastic	47,85 €
Original pack 6 x 1 kg			45,46/1 kg
9127.3	2,5 kg	plastic	82,70 €

Tween® 80



Polyoxyethylene-80-sorbitan monooleate,
Polysorbate 80

D ~1,08 • bp >100 °C

flp >149 °C

[9005-65-6]

WGK 1

Tween® 80

Ph.Eur.

Non-ionic detergent

Guarantee analysis:

Appearance..... yellow, viscous liquid
Identity..... complies
Hydroxyl number (mg KOH/g)..... 65-80
Acid value (mg KOH/g)..... ≤2
Peroxide value..... ≤5
Saponification value (mg KOH/g)..... 45-55
Water..... ≤3,0 %
Sulphated ash..... ≤0,25 %
Heavy metals..... ≤0,001 %
Volatile organic impurities..... complies
1,4-Dioxane..... ≤0,001 %
Free ethylene oxide..... ≤0,0001 %
Fatty acid compound..... complies

9139.1	250 g	plastic	20,65 €
9139.3	500 g	plastic	34,95 €
Original pack 6 x 500 g			33,20/500 g
9139.2	1 kg	plastic	57,55 €
Original pack 6 x 1 kg			54,67/1 kg

Tween® 80

extra pure

For bacteriology.

Type analysis:

Appearance..... yellow, viscous liquid
Water..... ≤3,0 %
Heavy metals..... ≤0,001 %

4859.1	25 g	glass	17,45 €

Tylose®

- Methylcellulose see p. 1965

Tyramine

Tyramine

≥98 %, for biochemistry

2-(4-Hydroxyphenyl)-ethylamine

C₈H₁₁NO

M 137,18 g/mol

mp ~165 °C

[51-67-2] • EC No. 200-115-8

WGK 1

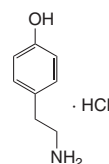
⚠ Warning H315-H319-H335

Type analysis:

Appearance..... beige powder
Assay (titr.)..... ≥98,0 %
Melting point..... 159-163 °C
Water (KF)..... ≤1,0 %

4862.2	1 g	glass	13,90 €
4862.1	5 g	glass	21,40 €
4862.3	25 g	glass	53,65 €

Tyramine hydrochloride



Tyramine hydrochloride

≥98 %, for biochemistry

4-(2-Aminoethyl)phenol hydrochloride,
4-Hydroxyphenylethylamine hydrochloride,
Tyrosamine hydrochloride

C₈H₁₂ClNO

M 173,64 g/mol

mp 274-280 °C

[60-19-5] • EC No. 200-462-5

WGK 1

⚠ Warning H315-H319-H335

Type analysis:

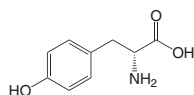
Assay (titr.)..... ≥98,0 %
Solution (5 % in H₂O)..... colourless
Water (KF)..... ≤1,0 %
Melting point..... 274-280 °C

5234.1	5 g	plastic	15,60 €
5234.2	25 g	plastic	48,30 €
5234.3	50 g	plastic	83,75 €

Tyrosamine hydrochloride

- Tyramine hydrochloride see p. 2229

D-Tyrosine



D-Tyrosine

≥98 %, for biochemistry

(R)-2-Amino-3-(4-hydroxyphenyl)-propionic acid, H-D-Tyr-OH

C₉H₁₁NO₃

M 181,2 g/mol

Storage temp.: +4 °C

[556-02-5] • EC No. 209-112-6

WGK 1

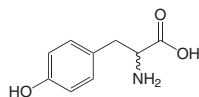
⚠ Warning H315-H319-H335

Type analysis:

Assay 98,0-101,0 %
Specific rotation [α]_D²⁰ (c=5 in 1 N HCl) +10,5° to +12,3°
Loss on drying ≤0,2 %

7890.1	1 g	glass	19,90 €
7890.2	5 g	plastic	60,10 €
7890.3	25 g	plastic	181,70 €

DL-Tyrosine



DL-Tyrosine

≥98,5 %, for biochemistry

4-Hydroxyphenylalanine

C₉H₁₁NO₃

M 181,19 g/mol

mp >300 °C

Storage temp.: +4 °C

[556-03-6] • EC No. 209-113-1

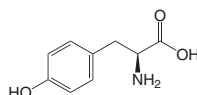
WGK 1

Type analysis:

Appearance white to off-white powder
Assay ≥98,5 %
Identity (IR) complies
Loss on drying ≤0,5 %

8608.1	10 g	plastic	22,50 €
8608.2	50 g	plastic	66,55 €
8608.3	250 g	plastic	256,95 €

L-Tyrosine



(S)-2-Amino-3-(4-hydroxyphenyl)-propionic acid, H-L-Tyr-OH

C₉H₁₁NO₃

M 181,19 g/mol

D 1,46

mp 297-298 °C (dec.)

Solubility: ~0,4 g/l (H₂O, 20 °C)

[60-18-4] • EC No. 200-460-4

L-Tyrosine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins ≤6,0 E.U./g
Assay ≥99 %
Loss on drying ≤0,5 %
Specific rotation [α]_D²⁰ -12,3° to -11,0°
Foreign amino acids complies
Ammonium (NH₄) ≤0,02 %
Chloride (Cl) ≤0,02 %
Sulphate (SO₄) ≤0,03 %
Heavy metals (as Pb) ≤0,001 %
Iron (Fe) ≤0,001 %

1741.1	25 g	plastic	21,75 €
1741.2	100 g	plastic	56,90 €
1741.3	500 g	plastic	239,20 €
Original pack 6 x 500 g			227,24/500 g

L-Tyrosine

≥99 %, Ph.Eur., for biochemistry

Guarantee analysis:

Appearance white cryst. powder
Assay (dry substance) 99,0-101,0 %
Identity complies
Specific rotation [α]_D²⁰ -12,3° to -11,0°
Ammonium (NH₄) ≤0,02 %
Chloride (Cl) ≤0,02 %
Sulphate (SO₄) ≤0,03 %
Iron (Fe) ≤0,001 %
Heavy metals (as Pb) ≤0,001 %
Foreign amino acids complies
Loss on drying ≤0,5 %
Sulphated ash ≤0,1 %

T207.1	25 g	plastic	14,75 €
T207.2	100 g	plastic	36,05 €
T207.3	500 g	plastic	145,15 €
Original pack 6 x 500 g			137,89/500 g

UBA

► Universal Beer Agar (Base) see p. 2231

Ubiquinone 50

► Coenzyme Q 10 see p. 1741

Ultrasonic cleaner Elma clean 10

Ultrasonic cleaner Elma clean 10

pH ~12,3

Alkalic cleaning concentrate.

D 1,045 • bp >100 °C

flp 52 °C

UN No. 1824 • ADR 8 III • WGK 1

⚠ Danger H290-H315-H318

CC48.1	1 l	plastic	15,05 €

For further information, please see page 1063

Ultrasonic cleaner Elma clean 60

Ultrasonic cleaner Elma clean 60

pH <1

Acidic instruments cleaner for the laboratory and workshop.

D 1,45 • bp >100 °C

UN No. 1805 • ADR 8 III • WGK 1

⚠ Danger H290-H314

CC44.1	1 l	plastic	21,75 €

For further information, please see page 1063

Ultrasonic cleaner Elma clean 65

Ultrasonic cleaner Elma clean 65

pH ~7

Gentle neutral cleansers with corrosion inhibitor.

D 1,04 • bp >100 °C

flp 59 °C

WGK 2

⚠ Danger H318

CC45.1	1 l	plastic	13,45 €

For further information, please see page 1063

Ultrasonic cleaner Elma clean 70

Ultrasonic cleaner Elma clean 70

pH ~13

Alkalic, universal cleaning concentrate.

D 1,132 • bp >100 °C

WGK 1

⚠ Danger H315-H318

CC46.1	1 l	plastic	13,65 €

For further information, please see page 1063

Ultrasonic cleaner Elma clean 75

Ultrasonic cleaner Elma clean 75

pH ~10,5

Ammoniacal cleaning concentrate for use in the laboratory, in workshops and for cleaning jewellery.

D 0,99

flp 36 °C

WGK 2

 **Danger** H315-H318-H336-H412

CC47.1	1 l	plastic	15,05 €

For further information, please see page 1063

Ultrasonol® 11 alkaline

Ultrasonol® 11 alkaline

Liquide concentrate, pH 12,9

For cleaning non-corroding objects.

D 1,09

UN No. 1824 • ADR 8 III • WGK 1

 **Danger** H290-H314-EUH031

5354.1	1 l	plastic	14,75 €

5354.2	5 l	plastic	54,30 €

For further information, please see page 1062

Ultrasonol® 7 neutral

Ultrasonol® 7 neutral

Liquide concentrate, pH 7

For cleaning sensitive objects in Ultrasonic baths.

D 1,07

WGK 1

 **Warning** H319

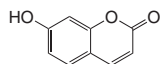
5356.1	1 l	plastic	15,05 €

5356.2	5 l	plastic	54,75 €

5356.4	20 kg	plastic	173,10 €

For further information, please see page 1062

Umbelliferone



Umbelliferone

≥96 %, for biochemistry

7-Hydroxycoumarin, Fluorescence indicator

C₉H₆O₃

M 162,14 g/mol

mp ~229 °C (dec.)

[93-35-6] • EC No. 202-240-3

Type analysis:

Appearance..... off-white powder

Assay (HPLC)..... ≥96 %

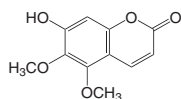
Sulphated ash..... <0,1 %

Loss on drying (3 h, 105 °C)..... <0,3 %

5437.1	10 g	plastic	34,30 €

5437.2	100 g	plastic	203,20 €

Umckalin



Umckalin

ROTICHRON® HPLC

Reference substance for HPLC

From *Pelargonium sidoides*.

7-Hydroxy-5,6-dimethoxycoumarin

C₁₁H₁₀O₅

M 222,19 g/mol

Storage temp.: +4 °C

[43053-62-9] • WGK 1

Type analysis:

Purity (HPLC)..... ≥99 %

2827.1	5 mg	glass	224,70 €

n-Undecane



n-Undecane

≥95 %, for synthesis

C₁₁H₂₄

M 156,31 g/mol

bp 195 °C

mp -26 °C • flp 67 °C

[1120-21-4] • EC No. 214-300-6

UN No. 2330 • ADR 3 III • WGK 1

 **Danger** H304-EUH066
Type analysis:

Appearance..... clear colourless liquid

Assay..... ≥95,0 %

Density (15 °C)..... 0,741-0,747

Aromatic compounds..... ≤0,1 %

Refractive index n_D²⁰..... 1,414-1,420

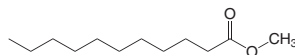
8781.1	100 ml	glass	17,10 €

8781.2	500 ml	glass	70,85 €

8781.3	1 l	glass	127,95 €

Original pack 6 x 1 l 121,55/1 l

Undecanoic acid methyl ester



Undecanoic acid methyl ester

≥98 %

C₁₂H₂₄O₂

M 200,32 g/mol

D 0,87 • bp 247-249 °C

mp -10 °C • flp 115 °C

Storage temp.: +4 °C

[1731-86-8] • EC No. 217-053-2

Type analysis:

Purity (GC)..... ≥98 %

4866.1	10 ml	glass	60,10 €

1-Undecanol



1-Undecanol

ROTICHRON® GC

Reference substance for GC

C₁₁H₂₄O

M 172,31 g/mol

D ~0,830 • bp 243 °C

mp 11-16 °C • flp >110 °C

Storage temp.: +4 °C

[112-42-5] • EC No. 203-970-5

UN No. 3082 • ADR 9 III • WGK 2

 **Warning** H315-H317-H411
Type analysis:

Purity (GC)..... ≥97 %

3701.1	1 g	plastic	75,15 €

Universal absorber Rotisorb®

Universal absorber Rotisorb®

Ideal for absorption of inflammable, oily, and aggressive liquids.

1710.1	800 g (in square HDPE container)	21,40 €

1710.2	25 kg (in PE flat bag)	79,05 €

For further information, please see page 676

Universal Beer Agar (Base)

Universal Beer Agar (Base)

for microbiology

For cultivation of beer spoiling microorganisms.

Application: Use 55 g for 1 l agar. Add 250 ml beer.

UBA

Storage temp.: +20 °C

WGK 1

Formulation:

Peptonised milk..... 15 g/l

Yeast extract..... 10 g/l

Dextrose..... 10 g/l

Tomato juice..... 7 g/l

Potassium phosphate..... 0,5 g/l

Dipotassium phosphate..... 0,5 g/l

Sodium chloride (NaCl)..... 0,01 g/l

Magnesium sulphate (MgSO₄)..... 0,01 g/l

Manganese sulphate..... 0,01 g/l

Iron sulphate..... 0,01 g/l

Agar..... 12 g/l

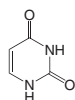
pH value..... 6,3 ±0,2

8337.1	500 g	plastic	100,55 €

Original pack 6 x 500 g 95,52/500 g

For further information, please see page 1345

Uracil



Uracil

≥99 %, for biochemistry

C₄H₄N₂O₂

M 112,09 g/mol

mp >300 °C

[66-22-8] • EC No. 200-621-9

WGK 1

Type analysis:

Appearance.....white to off-white powder
Assay.....≥99,0 %
Chloride (Cl).....≤0,01 %
Sulphate (SO₄).....≤0,5 %
Heavy metals (as Pb).....≤0,002 %
Loss on drying.....≤0,3 %

7288.1	5 g	glass	14,20 €

7288.2	25 g	plastic	24,40 €

7288.3	100 g	plastic	60,10 €

Uracil-6-carboxylic acid

► Orotic acid see p. 2015

► Orotic acid Monohydrate see p. 2016

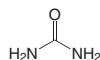
Uracil-1-β-D-ribofuranoside

► Uridine see p. 2233

Uranin

► Fluorescein disodium salt see p. 1830

Urea



Carbamide

CH₄N₂O

M 60,06 g/mol

D 1,323

mp 132-135 °C

Solubility: 1080 g/l (H₂O, 20 °C)

[57-13-6] • EC No. 200-315-5

WGK 1

Urea

≥99,5 %, p.a., BioScience-Grade

For molecular biology and biochemistry.

Guarantee analysis:

Appearance.....white, small crystals
Assay (TLC).....≥99,5 %
Chloride (Cl).....≤0,001 %
Sulphate (SO₄).....≤0,001 %
Melting point (TLC).....132-135 °C
Heavy metals (as Pb).....≤0,001 %
UV-absorption (8 M solution):
260 nm.....≤0,1
280 nm.....≤0,1
DNases (exo- and endonucleases).....not detected
Ribonucleases activity.....not detected

2317.3	500 g	plastic	27,85 €

Original pack 6 x 500 g	26,46/500 g

2317.1	1 kg	plastic	48,30 €

Original pack 6 x 1 kg	45,89/1 kg

2317.4	2,5 kg	plastic	106,45 €

2317.2	5 kg	plastic	188,15 €

Urea

≥99,5 %, p.a.

For molecular biology and biochemistry.

Guarantee analysis:

Assay (ex N).....99,5 %
In C₂H₅OH insoluble matter.....≤0,01 %
Melting range.....132-135 °C
Sulphated ash.....≤0,01 %
Chloride (Cl).....≤0,007 %
Sulphate (SO₄).....≤0,001 %
Ammonium (NH₄).....≤0,05 %
Heavy metals (as Pb).....≤0,0003 %
Arsenic (As).....≤0,00005 %
Iron (Fe).....≤0,0001 %
Copper (Cu).....≤0,0001 %
Biuret.....≤0,1 %

3941.3	500 g	plastic	13,45 €

Original pack 6 x 500 g	12,78/500 g

3941.1	1 kg	plastic	23,15 €

Original pack 6 x 1 kg	21,99/1 kg

3941.2	5 kg	plastic	95,15 €

Urea

≥99,5 %, Ph.Eur., cryst.

For molecular biology and biochemistry.

Guarantee analysis:

Appearance.....fine, white crystals
Assay (dry substance).....≥99,5 %
Identity.....complies
Appearance of solution.....complies
Melting range.....132-135 °C
Alkaline reacting substances.....complies
Loss on drying.....≤1,0 %
Sulphated ash.....≤0,1 %
Ammonium (NH₄).....≤0,05 %
Heavy metals (as Pb).....≤0,0003 %
Biuret.....≤0,1 %

X999.1	500 g	plastic	12,80 €

Original pack 6 x 500 g	12,16/500 g

X999.2	1 kg	plastic	19,05 €

Original pack 6 x 1 kg	18,10/1 kg

X999.3	5 kg	plastic	80,30 €

Urea

≥99,6 %, cryst.

Type analysis:

Appearance.....white crystals
Assay.....≥99,6 %
In H₂O insoluble matter.....≤0,001 %
Water (KF).....≤0,2 %
Heavy metals.....≤0,0003 %
Iron (Fe).....≤0,0001 %
Biuret.....≤0,1 %

7638.1	1 kg	plastic	18,20 €

Original pack 6 x 1 kg	17,29/1 kg

7638.2	5 kg	plastic	67,65 €

7638.5	25 kg	cardboard	213,95 €

Urea Agar acc. to Christensen (Base)

Urea Agar acc. to Christensen (Base)

ISO 6579, ISO 19250, for microbiology

For differentiation of enterobacteria on the basis of urease production.

Application: Use 29 g for 1 l agar. Add 15 g Agar.

Christensen Agar

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Urea.....20 g/l
Sodium chloride (NaCl).....5 g/l
Potassium phosphate.....2 g/l
Gelatine peptone.....1 g/l
Dextrose.....1 g/l
Phenol red.....0,012 g/l
pH value.....6,8 ±0,2

8320.1	500 g	plastic	111,30 €

Original pack 6 x 500 g	105,74/500 g

For further information, please see page 1346

Urea for electrophoresis

► Rotiphorese® NF-Urea see p. 2108

Urea hydrogen peroxide

Urea hydrogen peroxide

in tablet form

Oxidation, bleach and fixing agent

CH₄N₂O · H₂O₂

M 94,07 g/mol

mp 75-85 °C

[124-43-6] • EC No. 204-701-4

UN No. 1511 • ADR 5.1 (8) III • WGK 2

⚠ ⚡ ⚠ Danger H272-H315-H318-H335

7641.1	500 tablets (= 500 g)	plastic	34,30 €

Urease

M ~480000 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[9002-13-5] • EC No. 232-656-0

WGK 1

Urease

≥220 Nessler U/mg material

From jack bean, freeze-dried

Type analysis:

Appearance.....white material
Activity.....≥220 Nessler U/mg material

6065.1	0,25 MU	plastic	149,45 €

For further information, please see page 1225

Urease

~1 U/mg, for biochemistry

From jack beans *Canavalia ensiformis*.

Type analysis:

Appearance.....slightly cream-coloured powder
Activity.....~1 U/mg

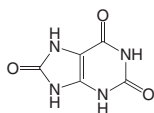
7537.1 5 g plastic 117,20 €

For further information, please see page 1225

5-Ureidohydantoin

▶ Allantoin see p. 1624

Uric acid



Uric acid

≥99 %, for biochemistry

2,6,8-Trihydroxypurine

C₅H₄N₄O₃

M 168,11 g/mol

mp >300 °C

[69-93-2] • EC No. 200-720-7

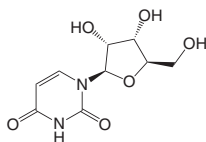
Type analysis:

Assay (HPLC).....≥99,0 %
Loss on drying (105 °C).....≤0,5 %
Heavy metals (as Pb).....≤0,001 %

4999.1 25 g glass 32,80 €

4999.2 50 g glass 52,70 €

Uridine



Uridine

≥99 %, for biochemistry

Uracil-1-β-D-ribofuranoside

C₉H₁₂N₂O₆

M 244,20 g/mol

mp 165-168 °C

[58-96-8] • EC No. 200-407-5

WGK 1

Type analysis:

Assay.....≥99,0 %
Heavy metals.....≤0,001 %

0714.1 5 g plastic 18,85 €

0714.2 10 g plastic 26,80 €

0714.3 25 g plastic 51,10 €

Uridine-5'-triphosphate

▶ UTP see p. 2233

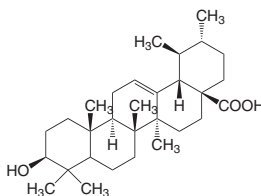
Urinary Tract Infection chromogenic Agar

▶ UTI chromogenic Agar see p. 2233

Urotropin

▶ Hexamethylene tetramine see p. 1875

Ursolic acid



Ursolic acid

ROTICHRON® HPLC

Reference substance for HPLC

From *Arctostaphylos uva ursi*

C₃₀H₄₈O₃

M 456,68 g/mol

mp 291 °C (dec.)

Storage temp.: +4 °C

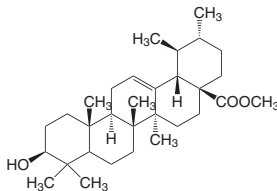
[77-52-1] • EC No. 201-034-0

Type analysis:

Purity (HPLC).....≥98,5 %

7429.1 10 mg glass 149,45 €

Ursolic acid methyl ester



Ursolic acid methyl ester

ROTICHRON® HPLC

Reference substance for HPLC

C₃₁H₅₀O₃

M 470,74 g/mol

mp ~286 °C

Storage temp.: +4 °C

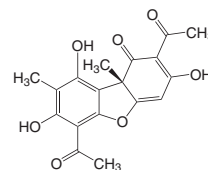
[32208-45-0] • EC No. 250-953-3

Type analysis:

Purity (HPLC).....≥99 %

7430.1 25 mg glass 203,20 €

(+)-Usnic acid



(+)-Usnic acid

ROTICHRON® ~CHR

C₁₈H₁₆O₇

M 344,31 g/mol

[7562-61-0] • EC No. 231-456-0

WGK 3

⚠ Warning H302

4565.1 10 g plastic 92,35 €

UTI chromogenic Agar

UTI chromogenic Agar

for microbiology

For detection and differentiation of microorganisms causing urinary tract infections.

Application: Use 47,5 g for 1 l agar.

Urinary Tract Infection chromogenic Agar

Storage temp.: +4 °C

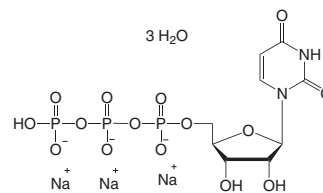
Formulation:

Nutrients.....13 g/l
Peptone.....16 g/l
Tryptophane.....2 g/l
Chromogene Mixture.....0,5 g/l
Agar.....16 g/l
pH value.....7,2 ±0,2

3089.1 100 g plastic 134,40 €

For further information, please see page 1346

UTP



UTP

≥90 %, lyophilised

Uridine-5'-triphosphate tri-sodium salt

C₉H₁₂N₂O₁₅P₃Na₃ · 3 H₂O

M 604,12 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

[19817-92-6] • EC No. 243-347-5

WGK 1

K055.1 100 mg plastic 35,40 €

K055.2 500 mg plastic 130,65 €

For further information, please see page 1214

UTP solution

UTP

≥99 %, 100 mM solution

Uridine-5'-triphosphate

C₉H₁₂N₂O₁₅P₃

M 481,11 g/mol

Storage temp.: -20 °C

Transport temp.: cooled

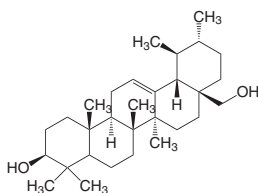
[19817-92-6] • EC No. 243-347-5

WGK 1

K046.1	25 µmol (250 µl)	plastic	37,10 €

For further information, please see page 1213

Uvaol



Uvaol

ROTICHROM® HPLC

Reference substance for HPLC

C₃₀H₅₀O₂

M 442,73 g/mol

Storage temp.: +4 °C

[545-46-0] • EC No. 208-888-3

Type analysis:

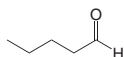
Purity (HPLC)..... ≥98 %

7433.1	5 mg	glass	155,90 €

Valeral

► n-Valeraldehyde see p. 2234

n-Valeraldehyde



n-Valeraldehyde

≥96,5 %

1-Pentanal, Valeral

C₅H₁₀O₂

M 86,13 g/mol

D ~0,81 • bp 102-104 °C

mp -91,5 °C • flp 7 °C

Solubility: 14 g/l (H₂O, 20 °C)

Storage temp.: +4 °C

[110-62-3] • EC No. 203-784-4

UN No. 2058 • ADR 3 II • WGK 1

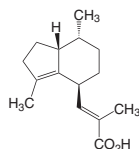
Danger H225-H318-H332-H315

Type analysis:

Appearance..... colourless to pale yellow liquid
Assay (GC)..... ≥96,5 %

4873.1	100 ml	glass	25,30 €

Valerenic acid



C₁₅H₂₂O₂

M 234,34 g/mol

mp ~140 °C

[3569-10-6]

WGK 3

Valerenic acid

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤2,0 %

Water (KF)..... ≤3,0 %

Assay (qNMR)..... ≥90,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.
The certificate includes all results of analytical tests and validations.

NE32.1	25 mg	glass	794,45 €

Valerenic acid

ROTICHROM® Working Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Identity..... complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC32.1	50 mg	glass	267,70 €

Valerenic acid

with analytical records

From *Valeriana officinalis*.

Storage temp.: +4 °C

Type analysis:

Purity (HPLC)..... ≥99,0 %

Analytical records: HPLC, TLC, ¹H-NMR, ¹³C-NMR, UV, IR, MS, elementary analysis, melting point.

4712.2	50 mg	glass	525,70 €

4712.1	100 mg	glass	966,45 €

Valerenic acid

ROTICHROM® HPLC

Reference substance for HPLC.

From *Valeriana officinalis*.

Storage temp.: +4 °C

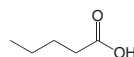
Type analysis:

Purity (HPLC)..... >99 %

4488.1	25 mg	glass	346,70 €

4488.2	50 mg	glass	579,45 €

n-Valeric acid



n-Valeric acid

≥96,5 %

Pentanoic acid

C₅H₁₀O₂

M 102,14 g/mol

D ~0,94 • bp ~186 °C

mp -32 °C • flp 86 °C

[109-52-4] • EC No. 203-677-2

UN No. 3265 • ADR 8 III • WGK 1

Danger H314-H412

Type analysis:

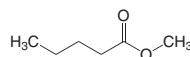
Appearance..... colourless liquid

Assay (GC, area %)..... ≥96,5 %

Density (d 20 °C/4 °C)..... 0,938-0,940

4874.1	250 ml	glass	28,50 €

n-Valeric acid methyl ester



n-Valeric acid methyl ester

≥98 %

Methyl valerate

C₆H₁₂O₂

M 116,16 g/mol

D ~0,89 • bp 126-128 °C

mp -91 °C • flp 27 °C

Solubility: 5 g/l (H₂O, 25 °C)

[624-24-8] • EC No. 210-838-0

UN No. 3272 • ADR 3 II • WGK 2

Danger H225-H332

Type analysis:

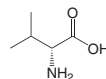
Assay (GC)..... ≥98,0 %

Density (20 °C)..... 0,8880-0,8920

Refractive index n_D²⁰..... 1,3971-1,3991

4876.1	100 ml	glass	44,00 €

D-Valine



D-Valine

≥98,5 %, for biochemistry

D-α-Aminoisovaleric acid, H-D-Val-OH

C₅H₁₁NO₂

M 117,2 g/mol

Storage temp.: +4 °C

[640-68-6] • EC No. 211-368-9

WGK 1

Type analysis:

Appearance..... white to off-white powder

Assay..... ≥98,5 %

Specific rotation [α]_D²⁰ (c=2 in 6 N HCl)..... -29,0° to -26,0°

Loss on drying..... ≤0,5 %

7891.1	5 g	plastic	22,50 €
7891.2	25 g	plastic	67,20 €
7891.3	100 g	plastic	213,95 €

DL-Valine

DL-Valine

≥99 %, for biochemistry

DL-α-Aminoisovaleric acid

C₅H₁₁NO₂

M 117,15 g/mol

mp 295-300 °C

[516-06-3] • EC No. 208-220-0

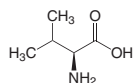
WGK 1

Type analysis:

Assay..... ≥99,0 %
Heavy metals..... ≤0,002 %

7540.1	50 g	plastic	23,55 €
7540.2	100 g	plastic	37,55 €
7540.3	250 g	plastic	81,60 €

L-Valine



L-α-Aminoisovaleric acid, H-L-Val-OH

C₅H₁₁NO₂

M 117,15 g/mol

D 1,23

mp ~315 °C

Solubility: 85 g/l (H₂O, 20 °C)

[72-18-4] • EC No. 200-773-6

WGK 1

L-Valine

≥99 %, CELLPURE®

For cell culture and biochemistry.

Guarantee analysis:

Endotoxins..... ≤6,0 E.U./g
Assay..... ≥99 %
Loss on drying..... ≤0,2 %
Specific rotation [α]_D²⁰..... +27,6° to +28,7°
Foreign amino acids..... complies
Ammonium (NH₄)..... ≤0,02 %
Chloride (Cl)..... ≤0,02 %
Sulphate (SO₄)..... ≤0,02 %
Heavy metals (as Pb)..... ≤0,001 %
Iron (Fe)..... ≤0,001 %

1742.1	25 g	plastic	19,25 €
1742.2	100 g	plastic	37,55 €
1742.3	500 g	plastic	138,70 €
Original pack 6 x 500 g			131,77/500 g

L-Valine

≥98,5 %, USP, for biochemistry

Guarantee analysis:

Appearance..... white cryst. powder
Assay..... 98,5-101,0 %
pH value..... 5,5-6,5
Specific rotation [α]_D²⁰..... +27,6° to +28,7°
Ash content..... ≤0,1 %
Loss on drying..... ≤0,2 %
Foreign amino acids..... complies
Heavy metals (as Pb)..... ≤0,001 %
Chloride (Cl)..... ≤0,02 %
Sulphate (SO₄)..... ≤0,02 %
Ammonium (NH₄)..... ≤0,02 %
Iron (Fe)..... ≤0,001 %

4879.1	25 g	plastic	15,60 €
4879.3	100 g	plastic	35,40 €
4879.4	250 g	plastic	67,65 €
4879.5	500 g	plastic	107,40 €
Original pack 6 x 500 g			102,03/500 g
4879.2	1 kg	plastic	213,95 €
Original pack 6 x 1 kg			203,25/1 kg

Vanadium Standards

- ▶ Vanadium AAS Standard Solution see p. 2169
- ▶ Vanadium ICP Standard Solution see p. 2174
- ▶ Vanadium ICP Standard Solution see p. 2178

Vanadium(V) oxide

Vanadium(V) oxide

ROTI®METIC 99,995 % (4N5)

Vanadium pentoxide

V₂O₅

M 181,88 g/mol

D 3,35 • bp 1750 °C (dec.)

mp 690 °C

Solubility: 0,7 g/l (H₂O, 20 °C)

[1314-62-1] • EC No. 215-239-8

UN No. 2862 • ADR 6.1 III • WGK 3

⚠ ⚠ ⚠ Danger

H302+H332-H335-H341-H361d-H372-H411

Type analysis:

Assay (metals basis)..... 99,995 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5370.1	5 g	plastic	69,35 €
5370.2	25 g	plastic	278,45 €

Vanadium pentoxide

- ▶ Vanadium(V) oxide see p. 2235

Vancomycin hydrochloride

Vancomycin hydrochloride

≥900 U./mg, CELLPURE®

Bacteriostatic antibiotic. For cell culture and biochemistry.

Glycopeptide antibiotic

C₆₆H₇₅Cl₂N₉O₂₄ · HCl

M 1485,73 g/mol

Storage temp.: +4 °C

[1404-93-9]

WGK 1

⚠ Warning H317

Type analysis:

Assay..... ≥93,0 %
Activity..... ≥900 U/mg
pH value..... 2,5-4,5
Water..... ≤5,0 %
Endotoxins..... ≤0,33 E.U./mg

0242.1	250 mg	glass	30,65 €
0242.2	500 mg	glass	50,00 €
0242.3	1 g	glass	89,80 €

For further information, please see page 1380

Van Gieson's picrofuchsin

- ▶ Van Gieson's Solution see p. 2235

Van Gieson's Solution

Van Gieson's Solution

for microscopy

For visualising connective tissue during van Gieson trichrome staining and Elastica van Gieson staining.

Van Gieson's picrofuchsin

WGK 1

EUH001

3925.1	500 ml	glass	23,15 €
3925.2	1 l	glass	33,90 €
Original pack 6 x 1 l			32,21/1 l

For further information, please see page 1396

Van Gieson trichrome staining kit

Van Gieson trichrome staining kit



for microscopy

Staining kit for visualising connective tissue, incl. instructions for use.

Storage temp.: +20 °C

UN No. 1219 • ADR 3 II

⚠ ⚠ ⚠ Danger

H225-H318-H336-EUH001

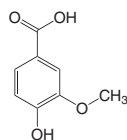
Formulation:

Hematoxylin solution A acc. to Weigert (Art. No. X906).
..... 500 ml
Hematoxylin solution B acc. to Weigert (Art. No. X907).
..... 500 ml
Van Gieson's Solution (Art.-No. 3925).
..... 500 ml

9193.1	1 kit	glass	85,50 €

For further information, please see page 1396

Vanillic acid



Vanillic acid

≥98 %

4-Hydroxy-3-methoxybenzoic acid

C₈H₈O₄

M 168,14 g/mol

mp 208-212 °C

[121-34-6] • EC No. 204-466-8

WGK 1

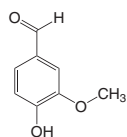
Type analysis:

Assay (acidim.)..... ≥98 %

Melting range..... 208-212 °C

3685.1	10 g	plastic	34,95 €

Vanillin



4-Hydroxy-3-methoxybenzaldehyde

C₈H₈O₃

M 152,15 g/mol

D 1,06 • bp 285 °C

mp 81-83 °C • flp 153 °C

Solubility: 10 g/l (H₂O, 20 °C)

[121-33-5] • EC No. 204-465-2

WGK 1

⚠ Warning H302-H319

Vanillin

≥99 %, for biochemistry

Type analysis:

Appearance..... cryst. powder

Assay (HPLC)..... ≥99 %

Arsenic (As)..... ≤0,0003 %

Heavy metals (as Pb)..... ≤0,001 %

Sulphated ash..... ≤0,05 %

Loss on drying..... ≤0,06 %

7887.1	100 g	plastic	15,60 €

7887.2	1 kg	plastic	79,05 €

Original pack 6 x 1 kg	75,10/1 kg

Vanillin

ROTI®CALIPURE

Melting point standard 81-83 °C

Type analysis:

Meniscus formation..... 81-83 °C

Complete liquefaction..... 81-83 °C

9714.1	1 g	glass	27,85 €



Vanillin

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥96 %

5108.1	1 g	plastic	75,15 €

6-Vanilloylcatalpol

▶ Picrosid II see p. 2041

Vaseline

Vaseline

Ph.Eur.

flp >150 °C

[8009-03-8] • EC No. 232-384-2 • WGK 1

Guarantee analysis:

Appearance..... white to almost white

Identity..... complies

Solidification point..... 50-55 °C

Viscosity (100 °C)..... 7,5-10 mm²/s

Aromatic polycyclic hydrocarbons..... complies

Sulphated ash..... ≤0,05 %

Consistency..... 165-185 1/10 mm

Acid or alkaline react. substances..... complies

5775.2	500 g	plastic	16,70 €

Original pack 6 x 500 g	15,87/500 g

5775.1	1 kg	plastic	22,50 €

Original pack 6 x 1 kg	21,38/1 kg

5775.4	10 kg	plastic	112,35 €

Vaseline oil

Vaseline oil

techn., white

D 0,86

mp -15 °C • flp >190 °C • WGK 1

Type analysis:

Viscosity (40 °C)..... 18-25 mm²/s

9336.1	1 l	plastic	21,40 €

Original pack 6 x 1 l	20,33/1 l

9336.2	2,5 l	plastic	37,55 €

Original pack 4 x 2,5 l	35,67/2,5 l

9336.3	5 l	plastic	59,05 €

Original pack 2 x 5 l	56,10/5 l

Venice turpentine

Venice turpentine

natural

From *Larix decidua*

Terebinthina veneta

D 1,0

flp 42 °C

[94266-48-5] • EC No. 304-455-9

UN No. 1272 • ADR 3 III • WGK 2

⚠ ⚠ ⚠ Warning

H226-H400-H410-H315-H317

Type analysis:

Appearance..... dark viscous, light brownish oil

4485.1	250 g	glass	59,05 €

Veratric acid

▶ 3,4-Dimethoxybenzoic acid see p. 1780

Veratric aldehyde

▶ 3,4-Dimethoxybenzaldehyde see p. 1780

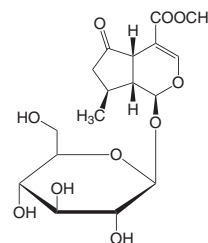
Veratryl alcohol

▶ 3,4-Dimethoxybenzyl alcohol see p. 1781

Verbascoside

▶ Acteoside see p. 1614

Verbenalin



Verbenalin

ROTICHRON® ~CHR

Verbenalloside, Cornin

C₁₇H₂₄O₁₀

M 388,37 g/mol

[548-37-8]

9450.1	5 mg	glass	149,45 €

Verbenalloside

▶ Verbenalin see p. 2236

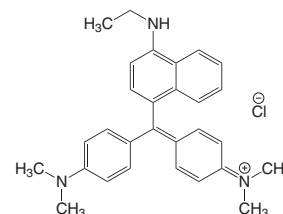
Versene®/DPBS

▶ Roti®-CELL DPBS/EDTA see p. 2091

Vesuvium

▶ Bismarck brown R (C.I. 21010)
see p. 1678

Victoria blue R (C.I. 44040)



Victoria blue R (C.I. 44040)

extra pure

Basic blue 11

C₂₉H₃₂N₃Cl

M 458,04 g/mol

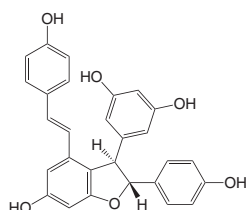
[2185-86-6] • EC No. 218-572-7 • WGK 1

⚠ Warning H302

Type analysis:

Appearance: dark blue powder

7742.1	5 g	glass	12,80 €
7742.2	25 g	glass	21,40 €
7742.3	100 g	glass	53,65 €

ε-Viniferin**ε-Viniferin****ROTICHRON® HPLC**Reference substance for HPLC.
From *Vitis vinifera*.

trans-ε-Viniferin

C₂₈H₂₂O₆

M 454,48 g/mol

Storage temp.: +4 °C

[62218-08-0]

WGK 3

Type analysis:

Purity (HPLC).....≥98 %

6697.1	20 mg	glass	435,40 €

Vinyl benzene

► Styrene see p. 2186

**Violet Red Bile Agar
with Dextrose and Lactose****Violet Red Bile Agar
with Dextrose and Lactose****Ph.Eur., for microbiology**For detection and enumeration of
enterobacteria.

Application: Use 51,5 g for 1 l agar.

Agar Medium F (Ph.Eur. 6.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Yeast extract	3 g/l
Pancreas hydrolysate made from gelatin	7 g/l
Cholate	1,5 g/l
Lactose monohydrate	10 g/l
Sodium chloride (NaCl)	5 g/l
Glucose monohydrate	10 g/l
Neutral red	0,03 g/l
Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4 ±0,2

AE45.1	500 g	plastic	73,65 €

Original pack 6 x 500 g 69,97/500 g

For further information, please see page 1346

**Violet Red Bile Agar
with Glucose****Violet Red Bile Agar
with Glucose****ISO 21528, Ph.Eur., for microbiology**For cultivation and enumeration of
enterobacteria in water, foods and other
materials.

Application: Use 41,5 g for 1 l agar.

Violet Red Bile Glucose Agar (Ph.Eur. 6.3, 7.0
and 8.0), **VRBD Agar**

Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Yeast extract	3 g/l
Pancreas hydrolysate made from gelatin	7 g/l
Sodium chloride (NaCl)	5 g/l
Bile salts	1,5 g/l
Glucose monohydrate	10 g/l
Neutral red	0,03 g/l
Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4 ±0,2

X939.1	500 g	plastic	68,30 €

Original pack 6 x 500 g 64,89/500 g

X939.2	1 kg	plastic	115,60 €

Original pack 6 x 1 kg 109,82/1 kg

X939.3	2,5 kg	plastic	220,40 €

For further information, please see page 1346

**Violet Red Bile Agar
with Lactose****Violet Red Bile Agar
with Lactose****ISO 4832, for microbiology**For detection and enumeration of coliforms in
milk, foods and other materials.

Application: Use 41,5 g for 1 l agar.

VRB Agar

Storage temp.: +20 °C • WGK 1

Guarantee analysis:

Yeast extract	3 g/l
Gelatine peptone	7 g/l
Sodium chloride (NaCl)	5 g/l
Bile salts	1,5 g/l
Lactose	10 g/l
Neutral red	0,03 g/l
Crystal Violet	0,002 g/l
Agar	15 g/l
pH value	7,4 ±0,2

X940.1	500 g	plastic	68,30 €

Original pack 6 x 500 g 64,89/500 g

For further information, please see page 1347

β-Viscol

► Lupeol see p. 1939

Vitamin B

► Nicotinic acid see p. 1986

Vitamin B₁ hydrochloride

► Thiamine hydrochloride see p. 2206

Vitamin B₂

► Riboflavine see p. 2085

Vitamin B₅

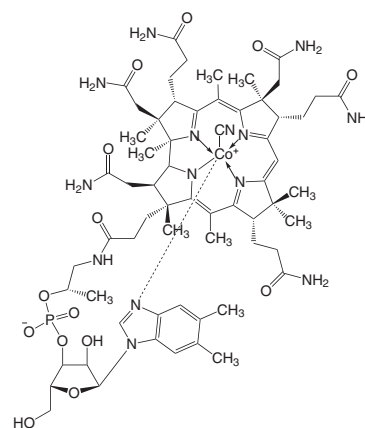
► Calcium D(+)-pantothenate see p. 1709

Vitamin B₆ hydrochloride

► Pyridoxine hydrochloride see p. 2073

Vitamins

Art. No.	Description	Page
3525	L(+)-Ascorbic acid	1656
6288	L(+)-Ascorbic acid	1657
NE00	L(+)-Ascorbic acid	1657
NC00	L(+)-Ascorbic acid	1657
3149	L(+)-Ascorbic acid sodium salt	1657
7819	L(+)-Ascorbic acid sodium salt	1657
3822	D(+)-Biotin	1677
3812	Calcium D(+)-pantothenate	1709
T912	Folic acid	1837
3815	Nicotinic acid	1986
T914	Pyridoxine hydrochloride	2073
9607	Riboflavine	2085
T911	Thiamine hydrochloride	2206
3806	DL-α-Tocopherol	2212
NE16	DL-α-Tocopherol	2212
NC16	DL-α-Tocopherol	2213
NE18	RRR-α-Tocopherol	2213
NC18	RRR-α-Tocopherol	2213
3805	DL-α-Tocopherol acetate	2213
NE17	DL-α-Tocopherol acetate	2213
NC17	DL-α-Tocopherol acetate	2213
T915	Vitamin B ₁₂	2237
3804	Vitamin K ₁	2238

Vitamin B₁₂**Vitamin B₁₂**

≥96 %, for biochemistry

Cyanocobalamin

C₆₃H₈₈CoN₁₄O₁₄P

M 1355,4 g/mol

Solubility: 12 g/l (H₂O, 25 °C)

Storage temp.: +4 °C

[68-19-9] • EC No. 200-680-0 • WGK 1

Type analysis:

Appearance: dark-red cryst. powder
 Assay (dry substance): 96,0-102,0 %
 Related substances:≤5 %
 Loss on drying:≤12,0 %

T915.1	500 mg	glass	39,25 €

T915.2	1 g	glass	66,15 €

Vitamin C

- ▶ L(+)-Ascorbic acid see p. 1656

Vitamin E

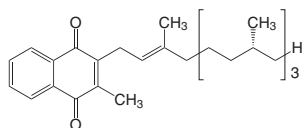
- ▶ DL- α -Tocopherol see p. 2212
▶ RRR- α -Tocopherol see p. 2213

Vitamin E acetate

- ▶ DL- α -Tocopherol acetate see p. 2213

Vitamin H

- ▶ D(+)-Biotin see p. 1677

Vitamin K₁**Vitamin K₁**

≥97 %, for biochemistry

Phytomenadione

$C_{31}H_{46}O_2$

M 450,68 g/mol

D 0,97

mp -20 °C • flp 110 °C

Storage temp.: +4 °C

[84-80-0] • EC No. 201-564-2

Type analysis:

Appearance.....gold-yellow, viscous oil

Assay (HPLC).....97,0-103,0 %

Refractive index (20 °C).....1,523-1,526

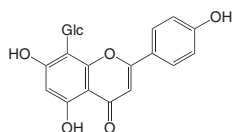
Sulphated ash.....≤0,1 %

3804.1	1 g	glass	26,80 €

3804.2	10 g	glass	145,70 €

Vitexicarpin

- ▶ Casticin see p. 1720

Vitexin

Orientoside, Apigenin-8-glucoside

$C_{21}H_{20}O_{10}$

M 432,36 g/mol

[3681-93-4] • EC No. 222-963-8

WGK 3

Vitexin

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤3,0 %

Water (KF).....≤5,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE56.1	10 mg	glass	639,65 €

Vitexin

ROTI®CHROM® Working Standard

Storage temp.: +4 °C

Type analysis:

Assay (HPLC).....≥85,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC56.1	25 mg	glass	557,95 €

Vitexin

ROTI®CHROM® HPLC

Reference substance for HPLC

Storage temp.: +4 °C

Type analysis:

Purity (HPLC).....≥99 %

6418.1	5 mg	glass	192,45 €

Vitexin

ROTI®CHROM® TLC

Reference substance for thin layer chromatography

Storage temp.: +4 °C

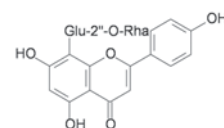
5579.1	10 mg	glass	36,45 €

Vitexin

ROTI®CHROM® ~CHR

Storage temp.: +4 °C

4173.1	10 mg	glass	34,95 €

Vitexin-2''-O-rhamnoside

$C_{27}H_{30}O_{14}$

M 578,53 g/mol

[64820-99-1]

WGK 3

Vitexin-2''-O-rhamnoside

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC).....≥95,0 %

Residual solvents (GC).....≤5,0 %

Water (KF).....≤8,0 %

Assay (qNMR).....≥85,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE34.1	10 mg	glass	704,15 €

Vitexin-2''-O-rhamnoside

ROTI®CHROM® Working Standard

Type analysis:

Assay (HPLC).....≥80,0 %

Identity.....complies

Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC34.1	25 mg	glass	378,95 €

Vitexin-2''-O-rhamnoside

ROTI®CHROM® TLC

Reference substance for thin layer chromatography

Storage temp.: +4 °C

5819.1	10 mg	glass	77,95 €

Volumetric Karl Fischer solutions

- Karl Fischer methanol see p. 1916
- Karl Fischer Roti®hydroquant C2 see p. 1916
- Karl Fischer Roti®hydroquant C5 K see p. 1916
- Karl Fischer Roti®hydroquant S see p. 1916
- Karl Fischer Roti®hydroquant T see p. 1917

Volumetric solutions in ampoules

- Chapter anorganic and analytical reagents see p. 1547

Volumetric solutions, ready to use

- Chapter anorganic and analytical reagents see p. 1547

Volumetric Solutions in Ampoules

Art. No.	Description	Page
CN50	Ammonium thiocyanate solution (0,1 N)	1644
CN52	EDTA disodium salt solution (0,01 N)	1798
CN51	EDTA disodium salt solution (0,1 N)	1799
CN61	Hydrochloric acid (0,1 N)	1886
CN62	Hydrochloric acid (0,5 N)	1886
CN63	Hydrochloric acid (1 N)	1886
CN69	Nitric acid (0,1 N)	1990
CN60	Nitric acid (1 N)	1990
CN59	Oxalic acid solution (0,1 N)	2017
CN53	Potassium hydroxide solution (0,1 N)	2058
CN54	Potassium hydroxide solution (1 N)	2058
CN66	Silver nitrate solution (0,1 N)	2137
CN68	Sodium carbonate solution (0,1 N)	2143
CN67	Sodium chloride solution (0,1 N)	2144
CN56	Sodium hydroxide solution (0,1 N)	2152
CN57	Sodium hydroxide solution (0,5 N)	2152
CN58	Sodium hydroxide solution (1 N)	2153
CN55	Sodium thiosulphate solution (0,1 N)	2160
CN64	Sulphuric acid (0,1 N)	2193
CN65	Sulphuric acid (1 N)	2194

Volumetric Solutions ready to use

Art. No.	Description	Page
KK62	Acetic acid (1 N)	1599
KK60	Ammonium iron(II) sulphate solution (0,12 N)	1641
P718	Ammonium thiocyanate solution (0,1 N)	1644
N054	Barium hydroxide solution (0,1 N)	1667
KK61	Barium perchlorate solution (0,005 N)	1667
8131	Bromide bromate solution (0,1 N)	1689
P719	Ceric(IV) sulphate solution (0,1 N)	1724
CN34	EDTA disodium salt solution (0,01 N)	1798
KK75	EDTA disodium salt solution (0,05 N)	1798
K714	EDTA disodium salt solution (0,1 N)	1799
8084	EDTA disodium salt solution (0,2 N)	1799
T136	EDTA disodium salt solution A (0,1 N)	1799
T137	EDTA disodium salt solution B (0,01783 N)	1799
KK63	Hanus solution (0,2 N)	1866
KK64	Hyamine® 1622-solution (0,004 M)	1881
N075	Hydrochloric acid (0,01 N)	1885
8085	Hydrochloric acid (0,05 N)	1885
K024	Hydrochloric acid (0,1 N)	1885
4120	Hydrochloric acid (0,2 N)	1886
P708	Hydrochloric acid (0,5 N)	1886
K025	Hydrochloric acid (1 N)	1886
T134	Hydrochloric acid (2 N)	1886
N076	Hydrochloric acid (4 N)	1886
0281	Hydrochloric acid (6 N)	1886
KK65	Iodid-iodate solution (1/64 N)	1902
K016	Iodine solution (0,1 N)	1902
X868	Iodine solution (1 N)	1902
KK72	Mercury(II) nitrate solution (0,1 N)	1957
X871	Mercury(II) sulphate solution 80 g/l	1957
KK73	Nitric acid (0,1 N)	1990
N070	Nitric acid (1 N)	1990
CN35	Oxalic acid solution (0,1 N)	2017
K023	Perchloric acid (0,1 N)	2028
8089	ortho-Phosphoric acid (0,3 N)	2040
8091	ortho-Phosphoric acid (0,5 N)	2040
8141	ortho-Phosphoric acid (3 N)	2040
8130	Potassium bromide solution (0,1 N)	2052
4117	Potassium chloride solution (0,2 N)	2053
T138	Potassium chloride solution (3 N)	2053
P722	Potassium dichromate solution (0,1 N)	2054
P720	Potassium dichromate solution (0,12 N)	2054
P721	Potassium dichromate solution (0,25 N)	2054
K018	Potassium hydroxide solution (0,1 N)	2058
N071	Potassium hydroxide solution (0,5 N)	2058
K017	Potassium hydroxide solution (1 N)	2058
P706	Potassium hydroxide solution in ethanol (0,1 N)	2059
P707	Potassium hydroxide solution in ethanol (0,5 N)	2059
KK68	Potassium hydroxide solution in isopropanol	2059
KK66	Potassium hydroxide solution in methanol (0,1 N)	2059
KK67	Potassium hydroxide solution in methanol (0,5 N)	2059
K019	Potassium permanganate solution (0,1 N)	2061
KK69	Potassium permanganate solution (0,5 N)	2061
6835	Silver nitrate solution (0,05 N)	2136
K713	Silver nitrate solution (0,1 N)	2137
6838	Silver nitrate solution (0,2 N)	2136
6841	Silver nitrate solution (1 N)	2137

6839	Silver nitrate solution (0,5 N)	2137
X870	Silver sulphate solution (10 g/l)	2138
8115	Sodium chloride solution (1 N)	2144
N073	Sodium hydroxide solution (0,01 N)	2152
K020	Sodium hydroxide solution (0,1 N)	2152
N074	Sodium hydroxide solution (0,2 N)	2152
P711	Sodium hydroxide solution (0,25 N)	2152
P710	Sodium hydroxide solution (0,5 N)	2152
K021	Sodium hydroxide solution (1 N)	2152
T135	Sodium hydroxide solution (2 N)	2153
T198	Sodium hydroxide solution (4 N)	2153
KK71	Sodium hydroxide solution (5 N)	2153
X869	Sodium thiosulphate solution (0,01 N)	2160
K022	Sodium thiosulphate solution (0,1 N)	2160
X872	Sulphuric acid (0,02 N)	2193
K026	Sulphuric acid (0,1 N)	2193
N072	Sulphuric acid (0,2 N)	2193
P709	Sulphuric acid (0,5 N)	2193
K027	Sulphuric acid (1 N)	2193
X873	Sulphuric acid (2 N)	2194
KK74	Sulphuric acid (5 N)	2194
CN36	Wijs-solution (0,2 N)	2242
P723	Zinc sulphate solution (0,1 N)	2253

Volumetric Solutions Reag. Ph. Eur.

Art. No.	Description	Page
6764	EDTA disodium salt solution (0,1 N)	1799
6789	Hydrochloric acid (0,1 N)	1885
6790	Hydrochloric acid (0,5 N)	1886
6792	Hydrochloric acid (1 N)	1886
6765	Iodine solution (0,1 N)	1902
6769	Iodine solution (1 N)	1902
9525	Perchloric acid (0,1 N)	2029
9522	Potassium hydroxide solution (1 N)	2058
9523	Potassium permanganate solution (0,1 N)	2061
9526	Silver nitrate solution (0,1 N)	2137
6783	Sodium hydroxide solution (0,1 N)	2152
6785	Sodium hydroxide solution (1 N)	2152
6782	Sodium thiosulphate solution (0,1 N)	2160
6793	Sulphuric acid (0,1 N)	2193
6794	Sulphuric acid (1 N)	2193

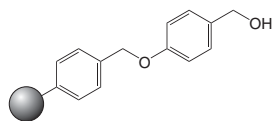
VRB Agar

- Violet Red Bile Agar with Lactose see p. 2237

VRBD Agar

- Violet Red Bile Agar with Glucose see p. 2237

Wang resin



Wang resin

100-200 mesh, 1 % DVB

For peptide synthesis

4-Benzyloxybenzyl alcohol resin

Storage temp.: +4 °C

WGK 3

Type analysis:

Appearance	colourless to yellow beads
Loading	1,0-1,4 mmol/g
Identity (IR)	complies
Swelling	4,0-7,0 ml/g (DMF, 24 h)
Swelling	4,0-8,0 ml/g (CH ₂ Cl ₂ , 24 h)
Kaiser test	negative
Loss on drying	≤2 %

7506.1	1 g	glass	13,90 €
7506.2	5 g	plastic	30,65 €
7506.3	25 g	plastic	107,40 €

Water Ultra-quality

Water Ultra-quality

ROTIPURAN® Ultra

Extra highpure water (ppt quality) for sample preparation in ultra trace analysis.

H₂O

M 18,02 g/mol

D 1,0 • bp 100 °C

mp 0 °C

[7732-18-5] • EC No. 231-791-2

Guarantee analysis:

Colour (APHA)	≤10
Chloride (Cl)	≤1 ppb
Phosphate (PO ₄)	≤1 ppb
Sulphate (SO ₄)	≤1 ppb
Aluminium (Al)	≤20 ppt
Antimony (Sb)	≤10 ppt
Arsenic (As)	≤10 ppt
Barium (Ba)	≤10 ppt
Beryllium (Be)	≤10 ppt
Lead (Pb)	≤10 ppt
Boron (B)	≤20 ppt
Cadmium (Cd)	≤10 ppt
Cesium (Cs)	≤10 ppt
Calcium (Ca)	≤10 ppt
Cerium (Ce)	≤10 ppt
Chromium (Cr)	≤10 ppt
Dysprosium (Dy)	≤1 ppt
Iron (Fe)	≤10 ppt
Erbium (Er)	≤1 ppt
Europium (Eu)	≤1 ppt
Gadolinium (Gd)	≤1 ppt
Gallium (Ga)	≤10 ppt
Germanium (Ge)	≤10 ppt
Gold (Au)	≤10 ppt
Hafnium (Hf)	≤1 ppt
Holmium (Ho)	≤1 ppt
Indium (In)	≤1 ppt
Potassium (K)	≤10 ppt
Cobalt (Co)	≤10 ppt
Copper (Cu)	≤10 ppt
Lanthanum (La)	≤1 ppt
Lithium (Li)	≤10 ppt
Lutetium (Lu)	≤1 ppt
Magnesium (Mg)	≤10 ppt
Manganese (Mn)	≤10 ppt
Molybdenum (Mo)	≤10 ppt

Sodium (Na)	≤10 ppt
Neodymium (Nd)	≤1 ppt
Nickel (Ni)	≤10 ppt
Niobium (Nb)	≤10 ppt
Palladium (Pd)	≤10 ppt
Platinum (Pt)	≤10 ppt
Praseodymium (Pr)	≤10 ppt
Mercury (Hg)	≤20 ppt
Rhenium (Re)	≤10 ppt
Rhodium (Rh)	≤10 ppt
Rubidium (Rb)	≤10 ppt
Ruthenium (Ru)	≤10 ppt
Samarium (Sm)	≤10 ppt
Scandium (Sc)	≤10 ppt
Selenium (Se)	≤50 ppt
Silver (Ag)	≤10 ppt
Strontium (Sr)	≤10 ppt
Tantal (Ta)	≤10 ppt
Tellur (Te)	≤1 ppt
Terbium (Tb)	≤10 ppt
Thallium (Tl)	≤10 ppt
Thorium (Th)	≤1 ppt
Thulium (Tm)	≤10 ppt
Titanium (Ti)	≤10 ppt
Uranium (U)	≤1 ppt
Vanadium (V)	≤10 ppt
Bismuth (Bi)	≤10 ppt
Tungsten (W)	≤10 ppt
Ytterbium (Yb)	≤10 ppt
Yttrium (Y)	≤1 ppt
Zinc (Zn)	≤10 ppt
Tin (Sn)	≤10 ppt
Zirconium (Zr)	≤10 ppt

HN68.1	500 ml	LDPE	46,15 €
HN68.2	1 l	LDPE	69,35 €
Original pack 6 x 1 l			65,88/1 l
HN68.3	2 l	LDPE	131,70 €

For further information, please see page 1573

Water

H₂O

M 18,02 g/mol

D 1,0 • bp 100 °C

mp 0 °C

[7732-18-5] • EC No. 231-791-2

Water

ROTIPURAN® Low organic

High-purity water for sample preparation in organic trace analysis and for molecular biology.

Guarantee analysis:

TOC (Total Organic Carbon)	≤20 ppb
Spec. electric resistance (at time of preparation)	≥18 MΩ·cm
Colour (APHA)	≤5
Evaporation residue	≤0,0001 %
Fluorescence (as quinine)	≤100 ppt
Optical absorbance:	
200 nm	≤0,01
254 nm	≤0,005
300 nm	≤0,005
400 nm	≤0,005
LC-gradient suitability test	complies

HN57.1	1 l	glass	59,70 €
Original pack 6 x 1 l			56,72/1 l
HN57.2	4 l	glass	97,75 €

For further information, please see page 1573

Water

ROTISOLV® Ultra LC-MS

Guarantee analysis:

Spec. electric resistance (at time of preparation)

≥18,2 MΩ·cm

Free acid (as CH₃COOH) ≤0,0002 %Free alkali (as NH₃) ≤0,00005 %

Non volatile matter ≤0,0001 %

TOC (Total Organic Carbon) ≤10 ppb

Gradient test:

UV-absorption of the greatest eluted peak.

210 nm ≤0,003 AU

254 nm ≤0,0005 AU

Fluorescence (as quinine):

254 nm ≤0,5 ppb

365 nm ≤0,5 ppb

Trace impurities:

Aluminium (Al) ≤20 ppb

Calcium (Ca) ≤100 ppb

Iron (Fe) ≤30 ppb

Potassium (K) ≤50 ppb

Magnesium (Mg) ≤20 ppb

Sodium (Na) ≤100 ppb

Filtered through 0,1 µm membrane and filled under protective gas.

HN43.1	1 l	glass	33,65 €
Original pack 6 x 1 l			31,97/1 l
HN43.2	2,5 l	glass	72,60 €
Original pack 4 x 2,5 l			68,97/2,5 l

Water

ROTISOLV® LC-MS Grade

Guarantee analysis:

Spec. electric resistance (at time of preparation)

≥18,2 MΩ·cm

Free acid (as CH₃COOH) ≤0,001 %Free alkali (as NH₃) ≤0,0005 %

Non volatile matter ≤0,0001 %

Transmission:

230 nm ≥99 %

200 nm ≥95 %

Gradient test:

UV-absorption of the greatest eluted peak.

210 nm ≤3,0 mAU

365 nm ≤1,0 mAU

Fluorescence (as quinine):

254 nm ≤0,5 ppb

365 nm ≤0,5 ppb

Trace impurities:

Aluminium (Al) ≤0,05 ppm

Calcium (Ca) ≤0,05 ppm

Iron (Fe) ≤0,05 ppm

Potassium (K) ≤0,05 ppm

Magnesium (Mg) ≤0,05 ppm

Sodium (Na) ≤0,05 ppm

LC-MS suitability test complies

Filtered through 0,2 µm membrane and filled under protective gas.

AE72.1	1 l	plastic	27,10 €
Original pack 6 x 1 l			25,75/1 l
AE72.2	5 l	plastic	122,05 €
Original pack 2 x 5 l			115,95/5 l

Water

ROTISOLV® HPLC, Gradient Grade

Guarantee analysis:

Spec. electric resistance (at time of preparation). $\geq 18,2 \text{ M}\Omega\cdot\text{cm}$
 Evaporation residue. $\leq 0,0003 \%$
 Free acid (as CH_3COOH). $\leq 0,0002 \%$
 Free alkali (as NH_3). $\leq 0,0002 \%$
 Gradient test (Gradient water / acetonitrile):
 UV absorption of the greatest eluted peak
 210 nm. $\leq 5,0 \text{ mAU}$
 254 nm. $\leq 0,5 \text{ mAU}$
 Fluorescence (as quinine):
 254 nm. $\leq 1,0 \text{ ppb}$
 365 nm. $\leq 0,5 \text{ ppb}$
 Filtered through $0,2 \mu\text{m}$ membrane and filled under protective gas.

A511.1	1 l	glass	16,25 €
Original pack 6 x 1 l			15,44/1 l
A511.2	2,5 l	glass	29,80 €
Original pack 4 x 2,5 l			28,31/2,5 l
A511.3	5 l	plastic	54,75 €
Original pack 2 x 5 l			52,01/5 l

For further information, please see page 1515

Water

ROTISOLV® Pestilyse®

For residue and environmental analysis.

Guarantee analysis:

Spec. electric resistance (at time of preparation). $\geq 18,2 \text{ M}\Omega\cdot\text{cm}$
 Acidity. $\leq 0,0003 \text{ meq/g}$
 Evaporation residue. $\leq 0,0002 \%$
 Heavy metals (as Pb). $\leq 0,000001 \%$
 TOC (Total Organic Carbon). $\leq 0,000005 \%$
 GC/ECD (individual signal as lindane). $\leq 5 \text{ ng/l}$
 GC/PND (individual signal as ethylparathion). $\leq 10 \text{ ng/l}$

T905.1	2,5 l	glass	43,55 €
Original pack 4 x 2,5 l			41,37/2,5 l

Water

ROTIPURAN® p.a., ACS

Water for varied applications in analytical chemistry (e.g. as solvent and diluent).

Guarantee analysis:

pH value. 5,0-8,0
 Specific conductivity (25°C , at the time of preparation). $\leq 1 \mu\text{S/cm}$
 KMnO_4 reducing substances (as O). complies
 Evaporation residue. $\leq 0,0001 \%$
 Ash content. $\leq 0,0002 \%$
 Chloride (Cl). $\leq 0,00001 \%$
 Nitrate (NO_3). $\leq 0,00002 \%$
 Phosphate (PO_4). $\leq 0,000005 \%$
 Sulphate (SO_4). $\leq 0,00001 \%$
 Aluminium (Al). $\leq 0,000002 \%$
 Ammonium (NH_4). $\leq 0,000001 \%$
 Barium (Ba). $\leq 0,000001 \%$
 Beryllium (Be). $\leq 0,000002 \%$
 Lead (Pb). $\leq 0,000001 \%$
 Cadmium (Cd). $\leq 0,000001 \%$
 Calcium (Ca). $\leq 0,00001 \%$
 Chromium (Cr). $\leq 0,000001 \%$
 Iron (Fe). $\leq 0,000001 \%$
 Potassium (K). $\leq 0,000005 \%$
 Cobalt (Co). $\leq 0,000001 \%$
 Copper (Cu). $\leq 0,000001 \%$
 Lithium (Li). $\leq 0,000002 \%$
 Magnesium (Mg). $\leq 0,000005 \%$
 Manganese (Mn). $\leq 0,000001 \%$
 Sodium (Na). $\leq 0,00001 \%$
 Nickel (Ni). $\leq 0,000001 \%$
 Heavy metals (as Pb). $\leq 0,000001 \%$
 Silver (Ag). $\leq 0,000001 \%$
 Silicate (SiO_2). $\leq 0,000001 \%$
 Strontium (Sr). $\leq 0,000005 \%$

Zinc (Zn). $\leq 0,000005 \%$
 A 254 nm (in H_2O). $\leq 0,01$
 Silicates (SiO_2). $\leq 0,000001 \%$
 ISO 3696: 1987 (Type 2). complies
 The water complies to ISO: 3696:1987

T172.1	1 l	plastic	10,25 €
Original pack 6 x 1 l			9,74/1 l
T172.2	2,5 l	plastic	20,35 €
Original pack 4 x 2,5 l			19,33/2,5 l
T172.3	5 l	plastic	28,95 €
Original pack 2 x 5 l			27,50/5 l
T172.5	30 l	plastic	107,40 €

Water

purified, Ph.Eur.

Guarantee analysis:

Properties. complies
 pH value. 5,0-7,0
 Chloride (Cl). complies
 Sulphate (SO_4). complies
 Nitrate (NO_3). $\leq 0,00002 \%$
 Ammonium (NH_4). $\leq 0,00002 \%$
 Calcium and Magnesium (as Ca). complies
 Heavy metals (as Pb). $\leq 0,00001 \%$
 Total organic carbon. $\leq 0,50 \text{ mg/l}$
 Acid or alkaline react. substances. complies
 Oxidizable matter. complies
 Evaporation residue. $\leq 0,001 \%$
 Conductivity. complies
 Microbiological impurities. complies
 Meets in all aspects the demands of Ph.Eur. for Aqua purificata (purified water).

2652.1	1 l	plastic	9,15 €
Original pack 6 x 1 l			8,69/1 l

Water

hypotonic, sterile, free from pyrogen

Guarantee analysis:

Pyrogenity (LAL-Test). complies
 pH value. 4,0-7,0
 Heavy metals. $\leq 0,1 \text{ ppm}$
 Evaporation residue. $\leq 0,001 \%$

3255.1	1 l	plastic	8,40 €
Original pack 6 x 1 l			7,98/1 l

For further information, please see page 1272

Water

redistilled

Type analysis:

Appearance. clear, colourless
 pH value. 5,0-7,0
 Conductivity. $< 2,0 \mu\text{S/cm}$
 After demineralisation in a borosilicate apparatus, the water is distilled twice.

3478.1	1 l	plastic	6,35 €
Original pack 6 x 1 l			6,03/1 l
3478.4	5 l	plastic	18,20 €
Original pack 2 x 5 l			17,29/5 l
3478.2	10 l	plastic	28,95 €
3478.3	30 l	plastic	75,15 €

Water

demineralised, not sterile

Type analysis:

Appearance. clear, colourless
 pH value. 6,2-7,5
 Conductivity. $< 5,0 \mu\text{S/cm}$

3175.1	10 l	plastic	17,55 €
3175.2	30 l	plastic	39,25 €

Water

BioScience Grade, nuclease-free, steam sterilised, DEPC treated water

For molecular biology.

T143.1	250 ml	glass	24,20 €
T143.2	500 ml	glass	27,45 €
T143.3	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
T143.4	50 x 1 ml	plastic	81,20 €
T143.5	5 x 20 ml	glass	18,50 €

Water D2

► Deuterium oxide see p. 1765

Water with 0,1 % formic acid

Water with 0,1 % formic acid

ROTISOLV® LC-MS Grade

Eluent mixture for high performance liquid chromatography.

Water mixture

H_2O

M 18,01 g/mol

Guarantee analysis:

Formic acid (v/v). 0,095-0,105 %
 pH value. 2,6-2,8
 Transmission:
 254 nm. $\geq 99 \%$
 230 nm. $\geq 45 \%$
 210 nm. $\geq 5 \%$
 Gradient test:
 210 nm. $\leq 0,05 \text{ AU}$
 254 nm. $\leq 0,01 \text{ AU}$
 Trace impurities:
 Aluminium (Al). $\leq 0,05 \text{ ppm}$
 Calcium (Ca). $\leq 0,05 \text{ ppm}$
 Iron (Fe). $\leq 0,05 \text{ ppm}$
 Potassium (K). $\leq 0,05 \text{ ppm}$
 Magnesium (Mg). $\leq 0,05 \text{ ppm}$
 Sodium (Na). $\leq 0,05 \text{ ppm}$
 LC-MS suitability test. complies
 Filtered through $0,2 \mu\text{m}$ membrane and filled under protective gas.

CP03.1	1 l	glass	40,35 €
Original pack 6 x 1 l			38,33/1 l
CP03.2	2,5 l	glass	71,95 €
Original pack 4 x 2,5 l			68,35/2,5 l

Water with 0,1 % acetic acid

Water with 0,1 % acetic acid ROTISOLV® LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Water mixture

H₂O

M 18,01 g/mol

Guarantee analysis:

Acetic acid (v/v) 0,095-0,105 %

pH value 3,2-3,4

Transmission:

254 nm ≥99 %

230 nm ≥75 %

210 nm ≥20 %

Gradient test:

210 nm ≤0,05 AU

254 nm ≤0,01 AU

Trace impurities:

Aluminium (Al) ≤0,05 ppm

Calcium (Ca) ≤0,05 ppm

Iron (Fe) ≤0,05 ppm

Potassium (K) ≤0,05 ppm

Magnesium (Mg) ≤0,05 ppm

Sodium (Na) ≤0,05 ppm

LC-MS suitability test complies

Filtered through 0,2 µm membrane and filled under protective gas.

CP04.1	1 l	glass	41,85 €

Original pack 6 x 1 l	39,76/1 l

CP04.2	2,5 l	glass	80,55 €

Original pack 4 x 2,5 l	76,52/2,5 l

Water with 0,1 % trifluoroacetic acid

Water with 0,1 % trifluoroacetic acid ROTISOLV® LC-MS-Grade

Eluent mixture for high performance liquid chromatography.

Water mixture

H₂O

M 18,01 g/mol

Guarantee analysis:

Trifluoroacetic acid (v/v) 0,095-0,105 %

pH value 1,8-2,0

Transmission:

254 nm ≥98 %

230 nm ≥85 %

210 nm ≥25 %

Gradient test:

210 nm ≤0,05 AU

254 nm ≤0,01 AU

Trace impurities:

Aluminium (Al) ≤0,05 ppm

Calcium (Ca) ≤0,05 ppm

Iron (Fe) ≤0,05 ppm

Potassium (K) ≤0,05 ppm

Magnesium (Mg) ≤0,05 ppm

Sodium (Na) ≤0,05 ppm

LC-MS suitability test complies

Filtered through 0,2 µm membrane and filled under protective gas.

CP05.2	2,5 l	glass	79,05 €

Original pack 4 x 2,5 l	75,10/2,5 l

Water determination acc. to Karl Fischer

► Karl Fischer Roti®hydroquant C2
see p. 1916

► Karl Fischer methanol see p. 1916

► Karl Fischer Roti®hydroquant S see p. 1916

► Karl Fischer Roti®hydroquant T
see p. 1917

► Karl Fischer Roti®hydroquant C5 K
see p. 1916

Water for cell culture

► Roti®-CELL Water see p. 2094

Water glass

► Sodium silicate see p. 2157

Water hardness kit

Water hardness kit

Test reagent in dropping bottle.

bp 82 °C

UN No. 1993 • ADR 3 III • WGK 1

Warning H226-H319-H336

0519.1	2 x 15 ml	19,15 €

For further information, please see page 1558

Weigert's Hematoxylin solution

► Hematoxylin solution A acc. to Weigert
see p. 1869

Weigert's iron hematoxylin staining kit

Weigert's iron hematoxylin staining kit

for microscopy

Staining kit for acid resistant
staining of nuclei, incl. instructions for use.

Storage temp.: +20 °C

UN No. 1219 • ADR 3 II

Danger H225-H318-H336

Formulation:

Hematoxylin solution A acc. to Weigert (Art. No. X906).

..... 500 ml

Hematoxylin solution B acc. to Weigert (Art. No. X907).

..... 500 ml

9192.1	1 kit	glass	64,40 €

For further information, please see page 1396

Weigert's Resorcinol-Fuchsine solution

► Resorcinol-Fuchsine-solution acc. to
Weigert see p. 2082

Wheat germ oil

Wheat germ oil

Ph.Eur., refined

D ~0,93

[8006-95-9]

Guarantee analysis:

Relative density (20 °C) ~0,925

Refractive index n_D²⁰ ~1,475

Acid value (mg KOH/g) ≤0,9

Peroxide value ≤10

Water ≤0,1 %

Unsaponifiable matter ≤5 %

Alkaline reacting substances complies

Brassicasterol ≤0,3 %

GC fatty acid constituents:

C 16:0 Palmitic acid 14-19 %

C 18:0 Stearic acid ≤2 %

C 18:1 Oleic acid 12-23 %

C 18:2 Linoleic acid 52-59 %

C 18:3 Linolenic acid 3-10 %

C 20:1 Eicosenoic acid ≤2 %

Isolated from the germs of wheat.

4242.1	1 l	glass	54,75 €

Original pack 6 x 1 l	52,01/1 l

White spirit

► Petroleum benzine 135-180 see p. 2032

► Petroleum benzine 145-200 see p. 2032

► Petroleum benzine 180-210 see p. 2032

► Petroleum benzine 190-245 see p. 2032

► Petroleum benzine 235-265 see p. 2032

White spirit

► Petroleum benzine 80-110 see p. 2031

Wijs-solution (0,2 N)

Wijs-solution

0,1 mol ICl/I - 0,2 N

For determination of the iodine number

[DIN 53241-1]

Iodine solution according to Wijs.

EC No. 200-580-7

UN No. 2789 • ADR 8 (3) II • WGK 2

Danger H314-H226-H290

Type analysis:

Amount-of-substance conc. (20 °C) 0,1 mol/l ±2 %

Titer 0,98-1,02

CN36.1	1 l	plastic	69,35 €

Original pack 6 x 1 l	65,88/1 l

For further information, please see page 1547

William's E cell culture medium

► Roti®-CELL William's E see p. 2094

Woods metal

► Alloy acc. to Wood see p. 1624

Wood sugar

► D(+)-Xylose see p. 2247

Wool fat

► Lanolin see p. 1922

Woolgreen S► Lissamine green B (C.I. 44090)
see p. 1933**Working Standards**

Art. No.	Description	Page
NC36	Acetoxyvaleric acid	1608
NC33	Acteoside	1614
NC37	Apigenin	1651
NC19	Apigenin-7-glucoside	1651
NC38	p-Arbutin	1654
NC00	L-(+)-Ascorbic acid	1657
NC01	Benzaldehyde	1669
NC03	Benzoic acid	1670
NC11	Benzoic acid sodium salt	1671
NC02	Benzyl alcohol	1673
NC20	Bilobalid	1676
NC04	Butylated hydroxyanisole	1698
NC05	Butylated hydroxytoluene	1699
NC08	Caffeic acid	1704
NC39	Casticin	1720
NC06	Chlorogenic acid	1730
NC55	(+)-Dihydroquercetin	1777
NC52	3,4-Dihydroxybenzoic acid	1778
NC40	Echinacoside	1797
NC41	(-)-Epicatechin	1805
NC42	Eriocitrin	1806
NC43	Ginkgolide A	1849
NC44	Ginsenoside Rb1	1850
NC45	Ginsenoside Re	1851
NC62	Ginsenoside Rg1	1851
NC21	Harpagoside	1867
NC46	Hederacoside C	1868
NC47	Herniarin	1873
NC07	4-Hydroxybenzoic acid ethyl ester	1890
NC10	4-Hydroxybenzoic acid methyl ester	1890
NC13	4-Hydroxybenzoic acid propyl ester	1891
NC48	Hydroxyvaleric acid	1894
NC22	Hypericin	1895
NC23	Hyperoside	1895
NC24	Isoquercitrin	1912
NC25	Isovitexin	1913
NC26	Kaempferol	1915
NC49	Luteolin	1939
NC50	Oleanolic acid	2012
NC51	Osthonol	2016
NC12	2-Phenoxyethanol	2035
NC09	Potassium sorbate	2062
NC27	Quercetin dihydrate	2076
NC28	Quercetin-3-O-β-Glucuronide	2077
NC29	Quercitrin	2077
NC30	Rosmarinic acid	2087
NC14	Rutin trihydrate	2115
NC53	Sennoside A	2125
NC54	Sennoside B	2126
NC31	Silybin	2138
NC15	Sorbic acid	2164
NC16	DL-α-Tocopherol	2213
NC18	RRR-α-Tocopherol	2213
NC17	DL-α-Tocopherol acetate	2213
NC32	Valeric acid	2234
NC56	Vitexin	2238
NC34	Vitexin-2''-O-rhamnoside	2238
NC35	Xanthohumol	2244

Wort Agar (Base)**Wort Agar (Base)****for microbiology**

For cultivation and enumeration of yeasts.

Application: Use 48,25 g for 1 l agar.

Add 2,35 g (1,9 ml) glycerol.

Storage temp.: +20 °C

WGK 1

Formulation:

Malt extract.....	15 g/l
Maltose.....	12,75 g/l
Dextrine.....	2,75 g/l
di-Potassium hydrogen phosphate.....	1 g/l
Ammonium chloride.....	1 g/l
Peptone.....	0,75 g/l
Agar.....	15 g/l
pH value.....	4,8 ± 0,2

CL04.1	500 g	plastic	142,45 €

Original pack 6 x 500 g 135,33/500 g

For further information, please see page 1347

Wort Broth**Wort Broth****for microbiology**For cultivation and enumeration of fungi,
particularly of yeast.

Application: Use 33 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Malt extract.....	15 g/l
D-Maltose.....	12,5 g/l
Dextrine.....	2,5 g/l
Casein peptone.....	1 g/l
Dipotassium hydrogen phosphate.....	1 g/l
Ammonium chloride.....	1 g/l
pH value.....	4,8 ± 0,2

5779.1	500 g	plastic	125,25 €

Original pack 6 x 500 g 118,99/500 g

For further information, please see page 1347

Wright's eosin methylene blue solution**Wright's eosin methylene blue solution****for microscopy**

Wright's staining solution, eosin methylene blue solution acc. to Wright.

UN No. 1230 • ADR 3 (6.1) II • WGK 1

 **Danger**

H225-H370-H301+H311+H331

Type analysis:

Suitability for microscopy..... complies

CN05.1	500 ml	glass	23,90 €

CN05.2	1 l	glass	34,30 €

Original pack 6 x 1 l 32,59/1 l

For further information, please see page 1393

Wright's stain**Wright's stain****for microscopy**

Eosin methylene blue

[68988-92-1]

WGK 3

Type analysis:

Appearance..... green cryst. powder

Appearance of solution (0,1 % in MeOH) ... clear, blue

7744.1	5 g	glass	13,15 €

7744.2	25 g	glass	22,50 €

7744.3	100 g	glass	55,80 €

For further information, please see page 1407

Xanthan**Xanthan****extra pure, E-415**

Xanthan gum

Transport temp.: room temp.

[11138-66-2] • EC No. 234-394-2

WGK 1

Type analysis:

Appearance..... cream-coloured, yellowish/white powder

Moisture..... <15 %

pH value (1 % solution)..... 6,0-8,0

Viscosity (1 % KCl solution)..... 1200-1800 mPas

Lead (Pb)..... ≤0,0002 %

Particle size..... ~80 mesh

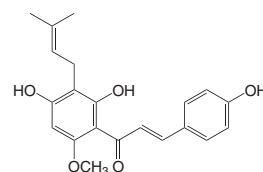
3557.2	100 g	plastic	20,35 €

3557.1	500 g	plastic	59,70 €

Original pack 6 x 500 g 56,72/500 g

Xanthan gum

► Xanthan see p. 2243

XanthohumolC₂₁H₂₂O₅

M 354,40 g/mol

[6754-58-1]

WGK 3

Xanthohumol

ROTI®STAR Primary Standard

Type analysis:

Assay (HPLC)..... ≥95,0 %

Residual solvents (GC)..... ≤2,0 %

Water (KF)..... ≤2,0 %

Assay (qNMR)..... ≥95,0 %

Proof of identity by ¹H-NMR, ¹³C-NMR, MS, UV.

The certificate includes all results of analytical tests and validations.

NE35.1	10 mg	glass	729,95 €

Xanthohumol

ROTICHRON® Working Standard

Type analysis:

Assay (HPLC) ≥95,0 %
Identity complies
Traceable to a primary reference standard. With proof of identity and batch specific certificate of analysis.

NC35.1	25 mg	glass	246,20 €

Xanthohumol

ROTICHRON® HPLC

Reference substance for HPLC

From *Humulus lupulus*.

Storage temp.: +4 °C

Type analysis:

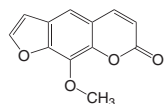
Purity (HPLC) ≥99 %

2828.1	10 mg	glass	188,15 €

Xanthophyll

► Lutein see p. 1939

Xanthotoxin



Xanthotoxin

≥98 %

Ammoidin, Methoxsalen, 8-Methoxypsoralen

C₁₂H₈O₄

M 216,19 g/mol

mp 142-148 °C

[298-81-7] • EC No. 206-066-9

WGK 2

⚠ Warning H302-H317

Type analysis:

Appearance white to off-white powder

Assay (HPLC) ≥98,0 %

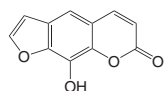
Water (KF) ≥0,5 %

5497.1	250 mg	glass	18,85 €

5497.2	1 g	glass	32,15 €

5497.3	5 g	glass	111,30 €

Xanthotoxol



Xanthotoxol

ROTICHRON® -CHR

C₁₁H₆O₄

M 202,16 g/mol

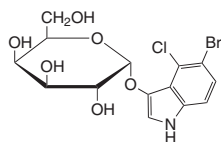
mp ~250 °C

[2009-24-7] • EC No. 217-923-1

⚠ Warning H302

7499.2	25 mg	glass	192,45 €

X-α-Gal



X-α-Gal

≥98 %, for biochemistry

Colorimetric substrate of α-galactosidase.

5-Bromo-4-chloro-3-indolyl-α-D-galacto-

pyranoside

C₁₄H₁₅BrClNO₆

M 405,63 g/mol

mp ~223 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[107021-38-5]

Type analysis:

Assay ≥98 %

Water ≤1,0 %

Specific rotation [α]_D²⁰ +140° to +150°

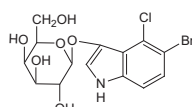
HN36.1	25 mg	glass	66,55 €

HN36.2	100 mg	glass	203,20 €

HN36.3	250 mg	glass	471,95 €

For further information, please see page 1238

X-β-Gal



X-β-Gal

≥99 %, BioScience-Grade

Colorimetric substrate of β-galactosidase.

For biochemistry and molecular biology.

5-Bromo-4-chloro-3-indolyl-β-D-galactoside

C₁₄H₁₅BrClNO₆

M 408,6 g/mol

mp 225-230 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[7240-90-6] • EC No. 230-640-8

Guarantee analysis:

Appearance white powder

Assay (HPLC) ≥99 %

Specific rotation [α]_D²⁰ (c=1 in DMF/H₂O 1:1) -62° ±2°

Water (KF) ≤0,2 %

DNases, RNases, Protease none detected

2315.1	100 mg	glass	19,25 €

2315.2	500 mg	glass	53,65 €

2315.3	1 g	glass	101,60 €

2315.4	5 g	glass	349,40 €

For further information, please see page 1237

X-Glc

► X-Glu see p. 2244

X-GlcA

► X-Glc see p. 2244

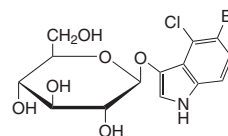
X-β-D-Glc

► X-Glu see p. 2244

X-β-D-GlcNAc

► 5-Bromo-4-chloro-3-indoxyl-N-acetyl-β-D-glucosaminide see p. 1689

X-Glu



X-Glu

≥98 %, for biochemistry

Glycosidase substrate

5-Bromo-4-chloro-3-indoxyl-β-D-glucopyranoside, X-Glu, X-β-D-glucoside,

X-β-D-Glu

C₁₄H₁₅BrClNO₆

M 408,64 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[15548-60-4] • EC No. 239-603-0 • WGK 1

Type analysis:

Assay (HPLC) ≥98,0 %

Solution (5 % in DMF) colourless

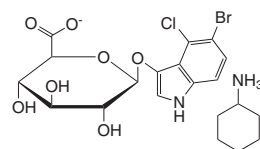
Water (KF) ≤0,5 %

Specific rotation [α]_D²⁰ (c=1 in DMF) -81,0° ±2°

4041.1	50 mg	glass	35,40 €

4041.2	100 mg	glass	59,05 €

X-Gluc



X-Gluc

≥99 %, for microbiology

Glucuronidase substrate

5-Bromo-4-chloro-3-indolyl-β-D-glucuronide

cyclohexyl ammonium salt monohydrate,

X-GlcA

C₂₀H₂₆N₂O₇ClBr · H₂O

M 539,81 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[114162-64-0] • WGK 1

Guarantee analysis:

Appearance white to off-white powder

Purity (HPLC) ≥99,0 %

Water (KF) ≤5,0 %

Specific rotation [α]_D²⁰ (c=1 in DMF/H₂O 1:1) -91,0° to -87,0°

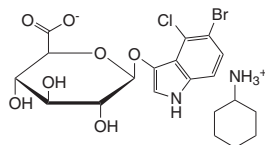
Solution (1 % in DMF/H₂O 1:1) colourless, clear

0018.1	100 mg	glass	92,35 €

0018.2	500 mg	glass	349,40 €

0018.3	1 g	glass	590,20 €

For further information, please see page 1240

X-Glucuro CHASalt**X-Glucuro CHASalt**

≥99 %, for biochemistry

Glycosidase substrate

5-Bromo-4-chloro-3-indolyl-β-D-glucuronide
cyclohexylammonium salt, X-GlcAC₁₄H₁₃BrClNO₇ · C₆H₁₃N · H₂O

M 539,81 g/mol

Storage temp.: -20 °C

Transport temp.: room temp.

[114162-64-0]

WGK 1

Guarantee analysis:

Assay (HPLC)..... ≥99 %
 Solution (1 % in DMF/H₂O 1:1)..... colourless, clear
 Water (KF)..... ≤4,5 %
 Specific rotation [α]_D²⁰ (c=1 in DMF/H₂O 1:1)..... -89,0° ±2,0°

4056.1	50 mg	glass	34,85 €

4056.4	1 g	glass	424,65 €

For further information, please see page 1237

XLD-Agar**XLD-Agar****Ph.Eur., for microbiology**For isolation of enteropathogenic bacteria,
especially from the genera *Shigella* and
Salmonella.

Application: Use 55,2 g for 1 l agar.

Agar medium K (Ph.Eur. 6.0), Xylose Lysine
Desoxycholate Agar (Ph.Eur. 6.3, 7.0 and 8.0)

Storage temp.: +20 °C

WGK 1

Guarantee analysis:

Xylose..... 3,5 g/l
 Lactose monohydrate..... 7,5 g/l
 L-Lysin..... 5 g/l
 Saccharose..... 7,5 g/l
 Sodium chloride (NaCl)..... 5 g/l
 Yeast extract..... 3 g/l
 Phenol red..... 0,08 g/l
 Ammonium iron(III)citrate..... 0,8 g/l
 Sodium deoxycholate..... 2,5 g/l
 Sodium thiosulphate..... 6,8 g/l
 Agar..... 13,5 g/l
 pH value..... 7,4 ±0,2

X941.1	500 g	plastic	93,00 €

Original pack 6 x 500 g	88,35/500 g

X941.2	1 kg	plastic	160,20 €

Original pack 6 x 1 kg	152,19/1 kg

For further information, please see page 1347

X-Phos► 5-Bromo-4-chloro-3-indolyl phosphate
p-toluidine salt see p. 1689**X-Phos disodium salt**► 5-Bromo-4-chloro-3-indolyl phosphate
disodium salt see p. 1689**X-Phosphate disodium salt**► 5-Bromo-4-chloro-3-indolyl phosphate
disodium salt see p. 1689**Xylan****Xylan**≥95 % xylooligosaccharides,
from corn cob(C₅H₈O₄)_nM (132)_n g/mol

mp >300 °C

[9014-63-5] • EC No. 232-760-6

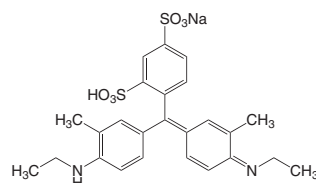
WGK 2

Type analysis:

Appearance..... white to off-white powder
 Assay (XOs, HPLC)..... ≥95 %
 pH value..... 3,5-6,5
 Loss on drying..... ≤5,0 %
 Loss on ignition..... ≤0,5 %

8659.1	50 g	plastic	32,15 €

NEW

Xylene cyanole**Xylene cyanole (C.I. 42135)****for histology and electrophoresis**Staining agent for visualisation of running
distance in gel electrophoresis.C₂₅H₂₇N₂NaO₆S₂

M 538,6 g/mol

Solubility: 1 g/l (H₂O, 20 °C)

[2650-17-1] • EC No. 220-167-5

WGK 2

⚠ Warning H319

Type analysis:

Maximum absorption..... 600-620 nm
 Loss on drying (110 °C)..... ≤5,0 %

A513.1	10 g	glass	54,75 €

Xylene (isomers)

Dimethylbenzene

C₈H₁₀

M 106,17 g/mol

D -0,87 • bp 137-140 °C

mp -5-13 °C • flp 25 °C

Solubility: 200 mg/l (H₂O, 20 °C)

[1330-20-7] • EC No. 215-535-7

UN No. 1307 • ADR 3 III • WGK 2

⚠ ⚠ ⚠ **Danger** H226-H312+H332-H304-
 H315-H319-H335-H373

Xylene (isomers)**ROTIPURAN® ≥99 %, p.a., ACS, ISO****Guarantee analysis:**

Total content of C₈H₁₀-isomeres (GC)..... ≥99,0 %
 Colour (Hazen)..... ≤10
 Water..... ≤0,03 %
 Acidity..... ≤0,00025 meq/g
 Alkalinity..... ≤0,00025 meq/g
 Density (d 20 °C/4 °C)..... 0,862-0,869
 Evaporation residue..... ≤0,001 %
 Benzene (GC)..... ≤0,1 %
 Toluene (GC)..... ≤0,1 %
 Ethylbenzene (GC)..... ≤25 %
 Aluminium (Al)..... ≤0,00005 %
 Barium (Ba)..... ≤0,00001 %
 Lead (Pb)..... ≤0,00001 %
 Boron (B)..... ≤0,000002 %
 Cadmium (Cd)..... ≤0,000005 %
 Calcium (Ca)..... ≤0,00005 %
 Chromium (Cr)..... ≤0,000002 %
 Iron (Fe)..... ≤0,00001 %
 Cobalt (Co)..... ≤0,000002 %
 Copper (Cu)..... ≤0,000002 %
 Magnesium (Mg)..... ≤0,00001 %
 Manganese (Mn)..... ≤0,000002 %
 Nickel (Ni)..... ≤0,000002 %
 Tin (Sn)..... ≤0,00001 %
 Zinc (Zn)..... ≤0,00001 %
 Thiophene..... complies
 Sulphur compounds (as S)..... ≤0,003 %
 Matter discoloured by H₂SO₄ (Hazen)..... complies

4436.1	1 l	glass	35,40 €

Original pack 6 x 1 l	33,63/1 l

4436.2	2,5 l	glass	76,90 €

Original pack 4 x 2,5 l	73,06/2,5 l

4436.3	5 l	aluminium	110,65 €

Original pack 2 x 5 l	105,12/5 l

Xylene (isomers)

≥98,5 %, Ph.Helv., extra pure

Guarantee analysis:

Assay (GC, isomers)..... ≥98,5 %
 Identity..... complies
 Identity (IR)..... complies
 Boiling range..... 137-143 °C
 Density (d 20 °C/4 °C)..... 0,85-0,87
 Water..... ≤0,05 %
 Evaporation residue..... ≤0,01 %
 Acid or alkaline react. substances..... complies
 Sulphuric acid assay..... complies
 Foreign odour..... complies

CN80.1	1 l	glass	24,95 €

Original pack 6 x 1 l	23,70/1 l

CN80.2	2,5 l	glass	45,05 €

Original pack 4 x 2,5 l	42,80/2,5 l

CN80.5	5 l	aluminium	69,35 €

Original pack 2 x 5 l	65,88/5 l

CN80.3	10 l	tinplate	120,95 €

CN80.4	25 l	tinplate	235,45 €

Xylene (isomers)

>98 %, pure, for histology

Ideal for dewaxing microtome sections.

Type analysis:

Appearance..... clear, colourless, liquid
Assay (GC)..... >98,0 %
Colour (Hazen)..... ≤20
Water..... ≤0,5 %
Benzene..... ≤0,05 %
Density (20 °C)..... 0,860-0,880
Viscosity (20 °C)..... 0,6-0,8 mPa s
Refractive index n_D^{20} 1,495-1,498
Mixture of isomers o-Xylene, m-Xylene, p-Xylene and benzene..... complies

9713.1	1 l	glass	23,55 €
Original pack 6 x 1 l			22,37/1 l
9713.3	2,5 l	glass	43,55 €
Original pack 4 x 2,5 l			41,37/2,5 l
9713.5	5 l	aluminium	65,50 €
Original pack 2 x 5 l			62,23/5 l
9713.2	10 l	tinplate	112,35 €

9713.4	25 l	tinplate	208,55 €

For further information, please see page 1380

Xylene (isomers)

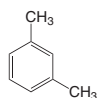
>97 %, for synthesis

Type analysis:

Assay..... ≥97,0 %
Water..... ≤0,02 %

2662.1	1 l	glass	18,85 €
Original pack 6 x 1 l			17,91/1 l
2662.2	2,5 l	glass	28,95 €
Original pack 4 x 2,5 l			27,50/2,5 l
2662.5	5 l	aluminium	50,00 €
Original pack 2 x 5 l			47,50/5 l
2662.3	10 l	tinplate	80,55 €
2662.4	25 l	tinplate	167,20 €

m-Xylene



1,3-Dimethylbenzene

C_8H_{10}

M 106,17 g/mol

D ~0,86 • bp ~139 °C

mp -47,9 °C • flp 25 °C

[108-38-3] • EC No. 203-576-3

UN No. 1307 • ADR 3 III • WGK 2

Warning H226-H312+H332-H315

m-Xylene

>98,5 %, for synthesis

Type analysis:

Appearance..... clear, colourless liquid
Assay (GC)..... >98,5 %
Water (KF)..... ≤0,5 %
Refractive index n_D^{20} 1,496-1,498
Boiling range..... 136-140 °C

3791.3	100 ml	glass	14,95 €
3791.4	500 ml	glass	28,95 €
3791.1	1 l	glass	44,00 €
Original pack 6 x 1 l			41,80/1 l
3791.2	2,5 l	glass	88,05 €
Original pack 4 x 2,5 l			83,65/2,5 l

m-Xylene

ROTICHRON® GC

Reference substance for GC

Storage temp.: +4 °C

Type analysis:

Purity (GC)..... ≥99 %

4912.1	1 g	glass	24,20 €

o-Xylene



o-Xylene

>98 %, for synthesis

1,2-Dimethyl benzene

C_8H_{10}

M 106,17 g/mol

bp 143-145 °C

mp 25 °C • flp 31 °C

[95-47-6] • EC No. 202-422-2

UN No. 1307 • ADR 3 III • WGK 2

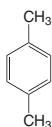
Warning H226-H312+H332-H315

Type analysis:

Appearance..... clear colourless liquid
Assay..... ≥98,0 %
Density (d 20 °C/4 °C)..... 0,878-0,881
Refractive index n_D^{20} ~1,505

8749.1	100 ml	glass	12,80 €
8749.2	500 ml	glass	22,50 €
8749.3	1 l	glass	32,15 €
Original pack 6 x 1 l			30,54/1 l
8749.4	2,5 l	glass	53,65 €
Original pack 4 x 2,5 l			50,97/2,5 l

p-Xylene



p-Xylene

>99 %, for synthesis

1,4-Dimethylbenzene

C_8H_{10}

M 106,17 g/mol

bp 138 °C

mp 12-15 °C • flp 30 °C

[106-42-3] • EC No. 203-396-5

UN No. 1307 • ADR 3 III • WGK 2

Warning H226-H312+H332-H315

Type analysis:

Appearance..... clear colourless liquid
Assay..... ≥99,0 %
Density (d 20 °C/4 °C)..... 0,860-0,862
Refractive index n_D^{20} ~1,495

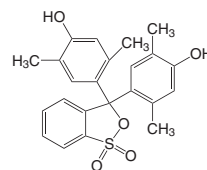
8817.1	100 ml	glass	12,80 €
8817.2	500 ml	glass	24,65 €
8817.3	1 l	glass	37,55 €
Original pack 6 x 1 l			35,67/1 l
8817.4	2,5 l	glass	75,15 €
Original pack 4 x 2,5 l			71,39/2,5 l

Xylene substitutes

▶ Roti®-Histol see p. 2099

▶ Roticlear® see p. 2094

Xylenolblue



Xylenolblue

p.a.

Indicator pH 1,2-2,8 and pH 8,0-9,8

$C_{23}H_{22}O_5S$

M 410,49 g/mol

mp 212 °C (dec.)

[125-31-5] • EC No. 204-736-5

WGK 3

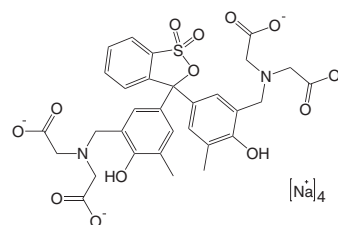
Warning H315-H319-H335

Type analysis:

Appearance..... dark brown to purple powder
pH-transition range..... 1,2 (red)-2,8 (yellow)
pH-transition range..... 8,0 (yellow)-9,8 (violet)

7746.1	1 g	glass	13,15 €
7746.2	5 g	glass	33,25 €
7746.3	10 g	glass	55,80 €

Xylenol orange tetrasodium salt



Xylenol orange tetrasodium salt

p.a., ACS

Indicator for metal titration.

3,3'-Bis[N,N-bis(carboxymethyl)aminomethyl]-o-cresolsulfonephthalein tetrasodium salt

$C_{31}H_{26}N_2Na_4O_{13}S$

M 760,59 g/mol

mp 210 °C (dec.)

Solubility: 510 g/l (H_2O , 20 °C)

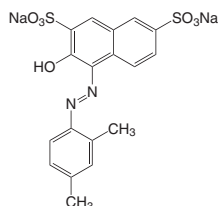
[3618-43-7] • EC No. 222-805-8

WGK 1

Guarantee analysis:

Appearance of solution..... complies
Loss on drying (110 °C)..... ≤10 %
Suitability for zinc titration..... complies

2727.1	1 g	glass	25,70 €
2727.2	5 g	glass	57,95 €
2727.3	10 g	glass	94,10 €
2727.4	50 g	glass	342,95 €

**Xylidine Ponceau 2R
(C.I. 16150)****Xylidine Ponceau 2R
(C.I. 16150)****for microscopy**

Xylidine red, Ponceau de Xylidine

 $C_{18}H_{14}N_2Na_2O_7S_2$

M 480,40 g/mol

[3761-53-3]

WGK 3

Warning H351**Type analysis:**

Appearance..... red powder

Appearance of solution (0,1 % in H_2O)..... clear, red

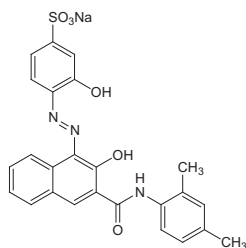
Loss on drying (1 h, 110 °C)..... ≤5 %

7747.1	5 g	glass	13,25 €

7747.2	25 g	glass	22,40 €

7747.3	100 g	glass	56,10 €

For further information, please see page 1407

Xylidine red► Xylidine Ponceau 2R (C.I. 16150)
see p. 2247**Xylidyl blue sodium salt****Xylidyl blue sodium salt**

≥88 %, p.a.

Indicator for metal ions.

Magnesium reagent acc. to Mann and Yoe

 $C_{25}H_{20}N_3NaO_6S$

M 513,51 g/mol

Solubility: slightly soluble (H_2O , 20 °C)

[14936-97-1] • EC No. 239-012-8

WGK 2

Guarantee analysis:

Assay..... ≥88,0 %

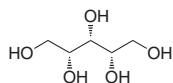
Specific Extinction E (1%/1cm)..... ≥300

Absorption max. (in H_2O)..... 570,0-578,0 nm

Solubility (1 mg/ml methanol)..... soluble

KK35.1	1 g	glass	19,25 €

KK35.2	5 g	glass	67,65 €

Xylitol**Xylitol**

≥98,5 %, Ph.Eur., for biochemistry

 $C_5H_{12}O_5$

M 152,15 g/mol

mp 92-96 °C

[87-99-0] • EC No. 201-788-0

Guarantee analysis:

Appearance..... white to almost white cryst. powder

Assay (dry substance)..... 98,5-101,0 %

Identity..... complies

Appearance of solution..... complies

Water..... ≤1,0 %

Related substances..... complies

Melting temperature..... 92-96 °C

Conductivity..... ≤20 μS/cm

Lead (Pb)..... ≤0,00005 %

Nickel (Ni)..... ≤0,0001 %

Reducing sugar..... ≤0,2 %

9711.1	250 g	plastic	20,35 €

9711.3	500 g	plastic	38,60 €

Original pack 6 x 500 g 36,67/500 g

9711.2	1 kg	plastic	75,15 €

Original pack 6 x 1 kg 71,39/1 kg

9711.4	2,5 kg	plastic	145,15 €

D(+)-Xylose**D(+)-Xylose**

≥98,5 %, for biochemistry

Wood sugar

 $C_5H_{10}O_5$

M 150,13 g/mol

D 1,53

mp 146-152 °C

Solubility: 550 g/l (H_2O , 20 °C)

[58-86-6] • EC No. 200-400-7

Type analysis:

Appearance..... white, fine powder

Assay (HPLC)..... ≥98,5 %

Solubility (c=10, H_2O)..... clear, colourlessSpecific rotation $[\alpha]_D^{20}$ (c=10 in H_2O)..... +18,5° to +19,5°

Loss on drying..... ≤0,5 %

Sulphated ash..... ≤0,05 %

Heavy metals (as Pb)..... ≤0,0005 %

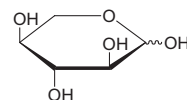
5537.1	100 g	plastic	21,00 €

5537.2	500 g	plastic	66,55 €

Original pack 6 x 500 g 63,22/500 g

5537.3	1 kg	plastic	104,20 €

Original pack 6 x 1 kg 98,99/1 kg

L-Xylose**L-Xylose**

≥99 %, for biochemistry

Microbiology

 $C_5H_{10}O_5$

M 150,13 g/mol

mp ~150 °C

[609-06-3] • EC No. 210-174-1

WGK 1

Guarantee analysis:

Assay (HPLC)..... ≥99 %

Solution (10 % in H_2O)..... colourless to light coloured, clear to light turbid

Loss on drying (3 h, 60 °C, vacuum)..... ≤1,0 %

Specific rotation $[\alpha]_D^{20}$ (c=10 in H_2O , after 24 h)..... -20° ±1,0°

Ash content..... ≤0,2 %

Heavy metals (as Pb)..... ≤0,0005 %

Sulphate (SO_4)..... ≤0,02 %

Chloride (Cl)..... ≤0,02 %

4061.3	1 g	glass	26,35 €

4061.1	5 g	glass	99,90 €

4061.2	10 g	glass	152,15 €

**Xylose Lysine Desoxycholate
Agar**

► XLD-Agar see p. 2245

Yeast Extract

Storage temp.: +20 °C

[8013-01-2] • EC No. 232-387-9

Yeast Extract**powdered, for bacteriology****Guarantee analysis:**

Total nitrogen..... ≥8 %

Amino nitrogen..... 4,8-6,3 %

Ratio AN/TN..... 41-60

Loss on drying..... ≤6 %

Ash..... ≤18 %

pH value..... 6,4-7,4

Solubility (2 % solution)..... clear

2363.1	250 g	plastic	39,70 €

2363.3	500 g	plastic	73,00 €

Original pack 6 x 500 g 69,35/500 g

2363.2	1 kg	plastic	140,30 €

Original pack 6 x 1 kg 133,29/1 kg

2363.4	2,5 kg	plastic	260,70 €

2363.5	5 kg	plastic	471,95 €

For further information, please see page 1367

Yeast Extract, micro-granulated micro-granulated, for bacteriology

Type analysis:

Total nitrogen.....	≥10 %
Amino nitrogen.....	≥4,5 %
Dry substance.....	≥94 %
Ash.....	≤16 %
pH value (2 % solution).....	6,8-7,2

2904.1	250 g	plastic	45,05 €
2904.2	500 g	plastic	83,35 €
Original pack 6 x 500 g			79,18/500 g
2904.3	1 kg	plastic	165,05 €
Original pack 6 x 1 kg			156,80/1 kg
2904.4	2,5 kg	plastic	295,65 €
2904.5	5 kg	plastic	536,45 €

For further information, please see page 1367

Yeast Extract Agar

Yeast Extract Agar

DEV, EN ISO 6222, for microbiology

For the isolation and enumeration of microorganisms in general, e.g. bacteria, moulds, or yeast. Particularly for count of microorganisms isolated from water samples.

Application: Use 24 g for 1 l agar.

Water Plate Count Agar, **WPCA**

Storage temp.: +20 °C

Guarantee analysis:

Tryptone.....	6 g/l
Yeast extract.....	3 g/l
Agar.....	15 g/l
pH value.....	7,2 ±0,2

CP63.1	500 g	plastic	77,95 €
Original pack 6 x 500 g			74,05/500 g

For further information, please see page 1347

Yeast Glucose Agar (with chloroamphenicol)

Yeast Glucose Agar (with chloroamphenicol)

for microbiology

Selective medium for enumeration of yeasts and mould in milk and dairy products.

Application: Use 40,2 g for 1 l agar.

YGC Agar

Storage temp.: +20 °C

WGK 2

 **Danger** H340-H350

Formulation:

Yeast extract.....	5 g/l
Glucose.....	20 g/l
Chloroamphenicol.....	0,2 g/l
Agar.....	15 g/l
pH value.....	6,6 ±0,2

CL00.1	500 g	plastic	80,10 €
Original pack 6 x 500 g			76,10/500 g
CL00.2	1 kg	plastic	142,45 €
Original pack 6 x 1 kg			135,33/1 kg

For further information, please see page 1348

Yeast-Nitrogen-Base (without Amino Acids)

Yeast-Nitrogen-Base (without Amino Acids)

for molecular biology

For yeast classification based on amino acid and carbohydrate requirements.

Application: Add 6,7 g for 100 ml broth for 10x stock solution. Use selected sugar/amino acid. Do not boil, do not autoclave! Sterilise by sterile filtration!

YNB Medium

Storage temp.: +20 °C • WGK 2

Formulation:

Ammonium sulphate.....	5,0 g/l
Potassium phosphate.....	1,0 g/l
Magnesium sulphate.....	0,5 g/l
Calcium chloride.....	0,1 g/l
Sodium chloride (NaCl).....	0,1 g/l
Inositol.....	2,0 mg/l
Boric acid.....	0,5 mg/l
Niacin.....	0,4 mg/l
Thiamine hydrochloride.....	0,4 mg/l
Pyridoxin hydrochloride.....	0,4 mg/l
Calcium pantothenate.....	0,4 mg/l
Manganese sulphate.....	0,4 mg/l
Zinc sulphate.....	0,4 mg/l
p-Aminobenzoic acid.....	0,2 mg/l
Iron chloride.....	0,2 mg/l
Riboflavin.....	0,2 mg/l
Sodium molybdate.....	0,2 mg/l
Potassium iodide.....	0,1 mg/l
Copper sulphate.....	0,04 mg/l
Biotin.....	0,002 mg/l
Folic acid.....	0,002 mg/l
pH value.....	5,4 ±0,2

HP26.1	500 g	plastic	131,70 €
Original pack 6 x 500 g			125,12/500 g

For further information, please see page 1360

Yellow prussiate of potash

► Potassium hexacyanoferrate(II) trihydrate see p. 2055

Yersinia Agar acc. to Schiemann

► Yersinia Selective Agar (Base) see p. 2248

Yersinia Selective Agar (Base)

Yersinia Selective Agar (Base)

ISO 10273, for microbiology

Selective medium for isolation of *Yersinia*, particularly *Y. enterocolitica*.

Application: Use 58 g for 1 l agar. After cooling add 2 vials (2x5 ml) reconstituted Yersinia Supplement (Art. No. 4880.1).

CIN Agar, Yersinia Agar acc. to Schiemann

Storage temp.: +20 °C • WGK 1

Guarantee analysis:

D-Mannitol.....	20 g/l
Gelatine peptone.....	17 g/l
Peptone mixture.....	3 g/l
Yeast extract.....	2 g/l
Sodium pyruvate.....	2 g/l
Sodium chloride.....	1 g/l
Sodium deoxycholate.....	0,5 g/l
Neutral red.....	0,03 g/l
Magnesium sulphate anhydrous.....	0,01 g/l
Crystal Violet.....	0,001 g/l
Agar.....	12,5 g/l
pH value.....	7,4 ±0,2

5780.1	500 g	plastic	102,70 €
Original pack 6 x 500 g			97,57/500 g

For further information, please see page 1348

Yersinia Supplement

Yersinia Supplement

lyophilised

Media supplement for selective isolation of *Yersinia enterocolitica*

One box of 10 vials Yersinia Supplement is sufficient for 10 x 500 ml Yersinia Selective Agar.

CIN Supplement

Storage temp.: +4 °C

UN No. 3077 • ADR 9, III • WGK 2

   **Danger**

H315-H317-H319-H334-H400-H410

Formulation:

Cefsulodin.....	7,5 mg
Novobiocin.....	1,25 mg
Irgasan.....	2 mg
per vial	

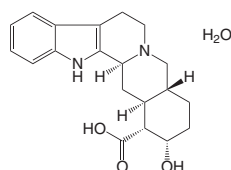
4880.1	10 vials	glass	99,35 €

For further information, please see page 1352

YGC Agar

► Yeast Glucose Agar (with chloroamphenicol) see p. 2248

Yohimbic acid monohydrate



Yohimbic acid monohydrate

≥98,5 %, for biochemistry

$C_{20}H_{24}N_2O_3 \cdot H_2O$

M 358,44 g/mol

mp 267-268 °C

[522-87-2] • EC No. 208-337-7

UN No. 1544 • ADR 6.1 II

 **Danger** H301+H311+H331

Type analysis:

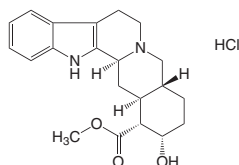
Assay (titr.).....	98,5-101,5 %
Optical rotation (1 % in pyridine).....	+140° to +144°

7193.1	1 g	glass	133,85 €

δ-Yohimbine

► Ajmalicine see p. 1619

Yohimbine hydrochloride



Yohimbine hydrochloride

≥98 %, for biochemistry

 $C_{21}H_{26}N_2O_3 \cdot HCl$

M 390,9 g/mol

mp 286-304 °C

[65-19-0] • EC No. 200-600-4

UN No. 1544 • ADR 6.1 II • WGK 2

Danger H301+H311+H331

Type analysis:

Assay (dry substance) 98,0-102,0 %
 Melting point 286-304 °C
 Loss on drying (105 °C) ≤0,5 %
 Specific rotation $[\alpha]_D^{20}$ (1g/100ml) +101° to +105°

9716.1	10 g	plastic	89,15 €

α-Yohimbine hydrochloride

▶ Rauwolfscine hydrochloride see p. 2079

YPD Agar

YPD Agar

for molecular biology

Application: Use 65 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Peptone 20 g/l
 Yeast extract 10 g/l
 Glucose 20 g/l
 Agar-Agar 15 g/l
 pH value 6,5 ±0,2

X971.1	500 g	plastic	70,85 €
Original pack 6 x 500 g			67,31/500 g
X971.2	1 kg	plastic	122,55 €
Original pack 6 x 1 kg			116,42/1 kg
X971.3	2,5 kg	plastic	284,35 €

For further information, please see page 1362

YPD Broth

YPD Broth

for molecular biology

Application: Use 50 g for 1 l broth.

Storage temp.: +20 °C

WGK 1

Formulation:

Peptone 20 g/l
 Yeast extract 10 g/l
 Glucose 20 g/l
 pH value 6,5 ±0,2

X970.1	500 g	plastic	55,40 €
Original pack 6 x 500 g			52,63/500 g
X970.2	1 kg	plastic	97,30 €
Original pack 6 x 1 kg			92,44/1 kg
X970.3	2,5 kg	plastic	223,10 €

For further information, please see page 1361

2xYT Agar

2xYT Agar

for molecular biology

Application: Use 46 g for 1 l agar.

Storage temp.: +20 °C

WGK 1

Formulation:

Tryptone 16 g/l
 Yeast extract 10 g/l
 Sodium chloride (NaCl) 5 g/l
 Agar 15 g/l
 pH value 7,0 ±0,2

X967.1	500 g	plastic	66,15 €
Original pack 6 x 500 g			62,84/500 g

For further information, please see page 1362

2xYT Broth

WGK 1

2xYT Broth

for molecular biology

Application: Use 31 g for 1 l broth.

Storage temp.: +20 °C

Formulation:

Tryptone 16 g/l
 Yeast extract 10 g/l
 Sodium chloride (NaCl) 5 g/l
 pH value 7,0 ±0,2

X966.1	500 g	plastic	60,75 €
Original pack 6 x 500 g			57,71/500 g
X966.2	1 kg	plastic	104,85 €
Original pack 6 x 1 kg			99,61/1 kg
X966.3	2,5 kg	plastic	246,20 €

For further information, please see page 1362

2x YT Broth, granulated

granulated, for molecular biology

Application: Use 31 g for 1 l broth.

Formulation:

Tryptone 16 g/l
 Yeast extract 10 g/l
 Sodium chloride (NaCl) 5 g/l
 pH value 7,0 ±0,2
 Granulation complies

6676.1	500 g	plastic	91,30 €
Original pack 6 x 500 g			86,74/500 g
6676.2	1 kg	plastic	155,90 €
Original pack 6 x 1 kg			148,11/1 kg
6676.3	2,5 kg	plastic	353,70 €

For further information, please see page 1359

2x YT Broth Autoinduct

2x YT Broth Autoinduct

for molecular biology

Autoinduction broth for IPTG free protein expression in recombinant *E. coli*. Induces *lac* promoter driven expression.

Application: Use 45,85 g for 1 l broth.

Autoclavable (115 °C, 20 min).

Autoinduction broth

Storage temp.: +20 °C

WGK 1

Formulation:

Tryptone 16 g/l
 Yeast extract 10 g/l
 Lactose 2 g/l
 Glucose 0,5 g/l
 Salts acc. to Studier 17,35 g/l
 pH value 7,0 ±0,1

9187.1	100 g	plastic	24,20 €

9187.2	250 g	plastic	47,85 €

9187.3	500 g	plastic	85,50 €

Original pack 6 x 500 g			81,23/500 g

9187.4	1 kg	plastic	158,05 €

Original pack 6 x 1 kg			150,15/1 kg

9187.5	2,5 kg	plastic	376,25 €

For further information, please see page 1356

Ytterbium Standards

▶ Ytterbium ICP Standard Solution see p. 2174

▶ Ytterbium ICP Standard Solution see p. 2178

Ytterbium(III) chloride hexahydrate

Ytterbium trichloride

 $YbCl_3 \cdot 6 H_2O$

M 387,49 g/mol

D 2,57

mp 160 °C (dec.)

[10035-01-5] • EC No. 237-632-3

WGK 1

Ytterbium(III) chloride hexahydrate

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %
 Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5749.1	10 g	plastic	160,20 €

Ytterbium(III) nitrate pentahydrate

Ytterbium(III) nitrate pentahydrate

ROTI®REMETIC 99,9 %

Yb(NO₃)₃ · 5 H₂O

M 449,13 g/mol

[35725-34-9] • EC No. 237-384-6

UN No. 1477 • ADR 5.1 II • WGK 3

  **Danger** H272-H315-H319-H335

Type analysis:

Assay (TREO*) 99,9 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7257.1	5 g	plastic	37,10 €
7257.2	25 g	plastic	78,40 €

Ytterbium(III) oxide

Diytterbium trioxide

Yb₂O₃

M 394,08 g/mol

D 9,2 • bp 4070 °C

mp 2355 °C

[1314-37-0] • EC No. 215-234-0

WGK 3

 **Warning** H315-H319-H335

Ytterbium(III) oxide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5303.1	5 g	plastic	75,15 €
5303.2	25 g	plastic	267,70 €

Ytterbium(III) oxide

ROTI®REMETIC 99,99 %

Type analysis:

Assay (TREO*) 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7353.1	10 g	plastic	80,55 €

Yttrium Standards

- ▶ Yttrium AAS Standard Solution see p. 2169
- ▶ Yttrium ICP Standard Solution see p. 2174
- ▶ Yttrium ICP Standard Solution see p. 2178

Yttrium(III) carbonate hydrate

Yttrium(III) carbonate hydrate

ROTI®REMETIC 99,99 %

Y₂(CO₃)₃ · x H₂O

M 357,84 + x H₂O g/mol

[38245-39-5] • EC No. 227-585-7 • WGK 3

Type analysis:

Assay (TREO*) 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7284.1	25 g	plastic	112,35 €
7284.2	50 g	plastic	203,20 €

Yttrium(III) oxide

Diyttrium trioxide

Y₂O₃

M 255,81 g/mol

D 5,01 • bp 4300 °C

mp 2438 °C

[1314-36-9] • EC No. 215-233-5

Yttrium(III) oxide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5751.1	10 g	plastic	63,35 €
5751.2	50 g	plastic	188,15 €

Yttrium(III) oxide

ROTI®REMETIC 99,99 %

Type analysis:

Assay (TREO*) 99,99 %

*Total rare earth oxide

Chemical analysis (ICP, AAS): specified trace impurities in ppm range

7352.1	25 g	plastic	81,60 €
7352.2	100 g	plastic	144,60 €

Zaponlack varnish

Zaponlack varnish

liquid

Clear varnish on a nitrocellulose base for sealing.

bp 78 °C

flp 13 °C

UN No. 1263 • ADR 3 II • WGK 1

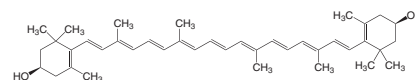
  **Danger**

H225-H319-H336-EUH066-H412

6804.1	500 ml	glass	32,15 €

For further information, please see page 1101

Zeaxanthin



Zeaxanthin

ROTICHRON® TLC

Reference substance for thin layer chromatography

C₄₀H₅₆O₂

M 568,85 g/mol

mp ~215 °C

Storage temp.: -20 °C

Transport temp.: room temp.

[144-68-3] • EC No. 205-636-4 • WGK 1

5672.1	1 mg	glass	203,20 €
5672.2	5 mg	glass	364,45 €

Zephiran chloride

▶ Benzalkonium chloride see p. 1669

Ziehl-Neelsen staining kit

Ziehl-Neelsen staining kit



for microscopy

Staining kit for visualising acid-fast bacteria (e.g. bacteria of TB), incl. instructions for use.

Storage temp.: +20 °C

UN No. 1760 • ADR 8 II • WGK 2

  **Danger** H314-H341-H371

Formulation:

Löffler's methylene blue solution (Art. No. AE64) 500 ml

Carbol fuchsin solution (Art. No. A130) 500 ml

8276.1	1 kit	glass	38,60 €

For further information, please see page 1398

Zinc

Zn

M 65,37 g/mol

D 7,14 • bp 906 °C

mp 419 °C

[7440-66-6] • EC No. 231-175-3

Zinc shot

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis) 99,999 %

Particle size ~3-6 mm

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5345.1	25 g	plastic	41,40 €
5345.2	100 g	plastic	127,95 €

Zinc granule

≥99,99 %, p.a., particle size: 5-15 mm

Reducing agent, Arsenic detection

Type analysis:

Assay (Zinc).....	≥99,99 %
Aluminium (Al).....	≤0,001 %
Lead (Pb).....	≤0,003 %
Cadmium (Cd).....	≤0,003 %
Iron (Fe).....	≤0,002 %
Copper (Cu).....	≤0,001 %
Tin (Sn).....	≤0,001 %

AE99.1	250 g	plastic	16,05 €
AE99.2	500 g	plastic	24,20 €
Original pack 6 x 500 g			22,99/500 g
AE99.3	1 kg	plastic	34,30 €
Original pack 6 x 1 kg			32,59/1 kg

Zinc dust**Zinc dust**

>98 %, particle size <63 µm

Zn

D 7,14 • bp 908 °C

mp 419 °C

[7440-66-6] • EC No. 231-175-3

UN No. 3077 • ADR 9 III • WGK 2

⚠ Warning H400-H410

Type analysis:

Assay (metals basis).....	>98 %
Lead (Pb).....	<0,003 %
Iron (Fe).....	<0,002 %
Cadmium (Cd).....	<0,003 %

9524.2	500 g	glass	26,80 €
Original pack 6 x 500 g			25,46/500 g
9524.3	1 kg	glass	37,55 €
Original pack 6 x 1 kg			35,67/1 kg
9524.1	2,5 kg	glass	66,55 €

Zinc Standards

- ▶ Zinc AAS Standard Solution see p. 2169
- ▶ Zinc ICP Standard Solution see p. 2174
- ▶ Zinc ICP Standard Solution see p. 2178

Zinc acetate**Zinc acetate**

≥95 %, pure, anhydrous

C₄H₆O₄Zn

M 183,48 g/mol

D 1,84

Solubility: 430 g/l (H₂O, 20 °C)

[557-34-6] • EC No. 209-170-2

UN No. 3077 • ADR 9 III • WGK 3

⚠ Warning H319-H400-H410

Type analysis:

Assay.....	≥95,0 %
pH value (5 %).	~7
Lead (Pb).....	≤0,01 %

9625.1	100 g	plastic	16,05 €
9625.2	500 g	plastic	32,15 €
Original pack 6 x 500 g			30,54/500 g
9625.3	1 kg	plastic	42,90 €
Original pack 6 x 1 kg			40,76/1 kg

Zinc acetate dihydrateZn(CH₃COO)₂ · 2 H₂O

M 219,49 g/mol

D 1,74

mp 237 °C

Solubility: 430 g/l (H₂O, 20 °C)

[5970-45-6] • EC No. 209-170-2

UN No. 3077 • ADR 9 III • WGK 3

⚠ Warning H400-H410-H302-H319

Zinc acetate dihydrate

≥99,5 %, p.a., ACS

Guarantee analysis:

Assay (compl.).....	≥99,5 %
In H ₂ O insoluble matter.	≤0,005 %
Chloride (Cl).....	≤0,0005 %
Total nitrogen (as N).....	≤0,005 %
Sulphate (SO ₄).....	≤0,002 %
Nitrate (NO ₃).....	≤0,005 %
Arsenic (As).....	≤0,00005 %
Calcium (Ca).....	≤0,005 %
Cadmium (Cd).....	≤0,001 %
Iron (Fe).....	≤0,0005 %
Magnesium (Mg).....	≤0,005 %
Sodium (Na).....	≤0,01 %
Copper (Cu).....	≤0,001 %
Potassium (K).....	≤0,01 %
Manganese (Mn).....	≤0,001 %
Lead (Pb).....	≤0,001 %

P035.1	500 g	plastic	40,75 €
Original pack 6 x 500 g			38,71/500 g
P035.2	1 kg	plastic	66,15 €
Original pack 6 x 1 kg			62,84/1 kg

Zinc acetate dihydrate

≥99 %, Ph.Eur.

Guarantee analysis:

Assay.....	99,0-101,0 %
Identity.....	complies
pH value (5 % solution).	5,8-7,0
Appearance of solution.....	complies
Chloride (Cl).....	≤0,005 %
Sulphate (SO ₄).....	≤0,01 %
Aluminium (Al).....	≤0,0005 %
Arsenic (As).....	≤0,0002 %
Lead (Pb).....	≤0,001 %
Iron (Fe).....	≤0,005 %
Copper (Cu).....	≤0,005 %
Cadmium (Cd).....	≤0,0002 %
Reducing substances.....	complies

X893.1	500 g	plastic	19,25 €
Original pack 6 x 500 g			18,29/500 g
X893.2	1 kg	plastic	32,15 €
Original pack 6 x 1 kg			30,54/1 kg
X893.3	5 kg	plastic	113,85 €

Zinc bromide**Zinc bromide**

≥98 %

ZnBr₂

M 225,21 g/mol

D 4,20 • bp 697 °C

mp 394 °C

Solubility: 4470 g/l (H₂O, 20 °C)

[7699-45-8] • EC No. 231-718-4

UN No. 3260 • ADR 8 III • WGK 3

⚠ Danger

H314-H302-H317-H400-H410

Type analysis:

Assay.....	≥98 %
Sulphate (SO ₄).....	≤0,01 %
Barium (Ba).....	≤0,001 %
Lead (Pb).....	≤0,005 %
Calcium (Ca).....	≤0,01 %
Iron (Fe).....	≤0,001 %
Potassium (K).....	≤0,01 %
Magnesium (Mg).....	≤0,01 %
Sodium (Na).....	≤0,01 %

9743.1	250 g	glass	99,90 €

Zinc chlorideZnCl₂

M 136,28 g/mol

D 2,91 • bp 732 °C

mp 283 °C

Solubility: 3680 g/l (H₂O, 20 °C)

[7646-85-7] • EC No. 231-592-0

UN No. 2331 • ADR 8 III • WGK 3

⚠ Danger H314-H400-H410-H302

Zinc chloride

≥97 %, p.a.

Analytical reagent; starting material for the preparation of zinc iodine chloride solution.

Guarantee analysis:

Assay (arg.).....	≥97,0 %
In HCl insoluble matter.	≤0,005 %
Ammonium (NH ₄).....	≤0,005 %
Nitrate (NO ₃).....	≤0,003 %
Sulphate (SO ₄).....	≤0,01 %
Lead (Pb).....	≤0,005 %
Calcium (Ca).....	≤0,06 %
Iron (Fe).....	≤0,001 %
Magnesium (Mg).....	≤0,01 %
Sodium (Na).....	≤0,05 %

T887.1	500 g	plastic	48,30 €
Original pack 6 x 500 g			45,89/500 g
T887.2	1 kg	plastic	73,00 €
Original pack 6 x 1 kg			69,35/1 kg

Zinc chloride

≥97 % cryst.

Type analysis:

Assay.....	≥97 %
Lead (Pb).....	≤0,002 %
Cadmium (Cd).....	≤0,002 %
Iron (Fe).....	≤0,002 %
Copper (Cu).....	≤0,001 %

3533.1	1 kg	plastic	17,55 €
Original pack 6 x 1 kg			16,67/1 kg
3533.3	2,5 kg	plastic	33,25 €
3533.2	10 kg	plastic	110,65 €

Zinc

Zinc EDTA disodium salt dihydrate

► Ethylenediamine tetraacetic acid zinc disodium salt dihydrate see p. 1817

Zinc iodide

Zinc iodide

≥98 %, powder

ZnI₂

M 319,18 g/mol

D 4,74 • bp 624 °C

mp 445 °C

Solubility: 4500 g/l (H₂O, 20 °C)

[10139-47-6] • EC No. 233-396-0

WGK 3

⚠ **Warning** H315-H319-H335

Type analysis:

Appearance: white to slightly yellow powder
Assay: ≥98 %

2730.1	25 g	glass	39,70 €

Zinc iodine chloride solution

Zinc iodine chloride solution

acc. to Behrens, for microscopy

Reagent for cellulose.

D ~1,3

UN No. 1840 • ADR 8 III • WGK 3

⚠ **Danger** H314-H400-H410-H302

Type analysis:

Suitability for microscopy: complies

6395.1	100 ml	glass	23,15 €

For further information, please see page 1400

Zinc nitrate hexahydrate

Zinc nitrate hexahydrate

≥99 %, p.a.

Zn(NO₃)₂ · 6 H₂O

M 297,47 g/mol

mp 36,4 °C

Solubility: 1800 g/l (H₂O, 20 °C)

[10196-18-6] • EC No. 231-943-8

UN No. 1514 • ADR 5.1 II • WGK 3

⚠ **Danger**

H272-H302-H315-H319-H335-H410

Guarantee analysis:

Appearance: white cryst. powder
Assay: 99,0-101,0 %
Insoluble matter: ≤0,005 %
Sulphate (SO₄): ≤0,005 %
Lead (Pb): ≤0,005 %
Iron (Fe): ≤0,0005 %
Copper (Cu): ≤0,0005 %
pH value (5 % H₂O, 25 °C): 3,5-6,0

6634.1	100 g	plastic	18,20 €

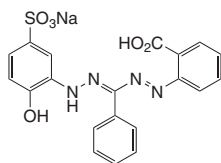
6634.2	500 g	plastic	37,55 €

Original pack 6 x 500 g	35,67/500 g

6634.3	1 kg	plastic	57,55 €

Original pack 6 x 1 kg	54,67/1 kg

Zincon



Zincon

≥95 %, p.a.

For determination of Cu and Zn.

2-Carboxy-2'-hydroxy-5'-sulphoformazyl-benzene-monosodium salt, 2-[5-(2-Hydroxy-5-sulphophenyl)-3-phenyl-1-formazyl]-benzoic acid-monosodium salt

C₂₀H₁₅N₄NaO₆S

M 462,41 g/mol

Storage temp.: +4 °C

[62625-22-3] • EC No. 263-651-1 • WGK 3

Guarantee analysis:

Appearance: brown to brownish red cryst. powder
Assay (titr.): ≥95,0 %
Solution (1 % in 0,1 N NaOH): ... brown to brownish red
Loss on drying: ≤10,0 %

5563.1	1 g	glass	22,05 €

5563.2	5 g	plastic	67,20 €

Zinc oxide

ZnO

M 81,37 g/mol

D ~5,61

mp 1975 °C

Solubility: 0,0016 g/l (H₂O, 20 °C)

[1314-13-2] • EC No. 215-222-5

UN No. 3077 • ADR 9 III • WGK 2

⚠ **Warning** H400-H410

Zinc oxide

ROTI®METIC 99,999 % (5N)

Type analysis:

Assay (metals basis): 99,999 %
Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5421.1	25 g	plastic	109,55 €

5421.2	100 g	plastic	353,70 €

Zinc oxide

≥99 %, p.a., ACS

Guarantee analysis:

Assay (compl.): ≥99,0 %
In H₂SO₄ insoluble matter: ≤0,01 %
Alkalinity: complies
Sulphur compounds (as SO₄): ≤0,01 %
Chloride (Cl): ≤0,001 %
Nitrate (NO₃): ≤0,002 %
Arsenic (As): ≤0,0001 %
Lead (Pb): ≤0,005 %
Cadmium (Cd): ≤0,002 %
Calcium (Ca): ≤0,005 %
Iron (Fe): ≤0,0005 %
Potassium (K): ≤0,005 %
Cobalt (Co): ≤0,0005 %
Copper (Cu): ≤0,0005 %
Magnesium (Mg): ≤0,005 %
Manganese (Mn): ≤0,0005 %
Sodium (Na): ≤0,005 %
Nickel (Ni): ≤0,0005 %

T114.1	500 g	plastic	66,55 €

Original pack 6 x 500 g	63,22/500 g

T114.2	1 kg	plastic	85,90 €

Original pack 6 x 1 kg	81,61/1 kg

Zinc oxide

≥99 %, extra pure

Type analysis:

Assay: ≥99 %
Lead (Pb): ≤0,002 %
Cadmium (Cd): ≤0,001 %
Iron (Fe): ≤0,001 %

9348.2	500 g	plastic	17,75 €

Original pack 6 x 500 g	16,86/500 g

9348.1	1 kg	plastic	31,10 €

Original pack 6 x 1 kg	29,55/1 kg

9348.3	2,5 kg	plastic	59,05 €

Zinc oxide

≥99 %, Ph.Eur., USP

Type analysis:

Appearance: white to slightly yellowish powder
Assay: 99-100,5 %
Identity: complies
Solubility: complies
Alkaline reacting substances: complies
Carbonate and acid insoluble matters: complies
Loss on ignition: ≤1,0 %
Arsenic (As): ≤0,0005 %
Lead (Pb): ≤0,005 %
Cadmium (Cd): ≤0,001 %
Iron (Fe): ≤0,02 %

5297.1	250 g	plastic	18,85 €

5297.2	500 g	plastic	28,50 €

Original pack 6 x 500 g	27,08/500 g

5297.3	1 kg	plastic	44,00 €

Original pack 6 x 1 kg	41,80/1 kg

5297.4	2,5 kg	plastic	88,05 €

Zinc oxide, nano

Zinc oxide, nano

ROTI®nanoMETIC ≥99,5 %, 25 nm

ZnO

M 81,37 g/mol

D ~5,61

mp 1975 °C

Solubility: 0,0016 g/l (H₂O, 20 °C)

[1314-13-2] • EC No. 215-222-5

UN No. 3077 • ADR 9 III • WGK 2

⚠ Warning H400-H410

Type analysis:

Assay (dry substance) ≥99,5 %

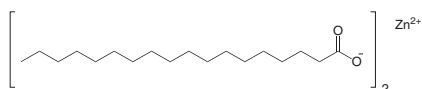
Particle size ~25 nm

8278.1	10 g	glass	26,80 €
8278.2	50 g	glass	100,95 €
8278.3	100 g	glass	188,15 €

Zinc staining

▶ Roti®-White see p. 2114

Zinc stearate



Zinc stearate

powder

Stearic acid zinc salt

C₃₆H₇₀O₄Zn

M 632,29 g/mol

D 1,10

mp 120-122 °C • flp 277 °C

[557-05-1] • EC No. 209-151-9

Type analysis:

Appearance powder

Ash 13,2-14,0 %

Free fatty acid ≤1,0 %

Melting point 120-122 °C

Particle size 99 % <71 µm

9295.1	1 kg	plastic	37,30 €
	Original pack 6 x 1 kg		35,44/1 kg
9295.5	25 kg	Kunst.	364,45 €

Zinc sulphate monohydrate

Zinc sulphate monohydrate

≥97 %, pure

ZnSO₄ · H₂O

M 179,49 g/mol

D 3,2

mp 740 °C

Solubility: 350 g/l (H₂O, 20 °C)

[7446-19-7] • EC No. 231-793-3

UN No. 3077 • ADR 9 III • WGK 3

⚠ ⚠ ⚠ Danger H302-H318-H410

Type analysis:

Assay 97,0 %

pH value (5 %) 3,0-6,5

Chloride (Cl) ≤0,05 %

Iron (Fe) ≤0,01 %

9466.1	250 g	plastic	18,20 €
9466.2	500 g	plastic	26,80 €
	Original pack 6 x 500 g		25,46/500 g
9466.3	1 kg	plastic	42,90 €
	Original pack 6 x 1 kg		40,76/1 kg

Zinc sulphate heptahydrate

White vitriol

ZnSO₄ · 7 H₂O

M 287,54 g/mol

D 1,97 • mp 40 °C

Solubility: 965 g/l (H₂O, 20 °C)

[7446-20-0] • EC No. 231-793-3

UN No. 3077 • ADR 9 III • WGK 3

⚠ ⚠ ⚠ Danger H302-H318-H400-H410

Zinc sulphate heptahydrate

≥99,5 %, p.a., ACS

For removing protein from blood and urine.

Guarantee analysis:

Assay (compl.) ≥99,5 %

pH value (5 % in H₂O) 4,4-6,0

In H₂O insoluble matter ≤0,005 %

Total nitrogen (as N) ≤0,0005 %

Chloride (Cl) ≤0,0005 %

Arsenic (As) ≤0,00005 %

Lead (Pb) ≤0,002 %

Cadmium (Cd) ≤0,001 %

Calcium (Ca) ≤0,001 %

Iron (Fe) ≤0,0005 %

Potassium (K) ≤0,005 %

Cobalt (Co) ≤0,0005 %

Copper (Cu) ≤0,0005 %

Magnesium (Mg) ≤0,001 %

Manganese (Mn) ≤0,0003 %

Sodium (Na) ≤0,005 %

K301.1	500 g	plastic	22,25 €
	Original pack 6 x 500 g		21,14/500 g
K301.2	1 kg	plastic	39,25 €
	Original pack 6 x 1 kg		37,29/1 kg
K301.3	2,5 kg	plastic	70,85 €
K301.5	25 kg	plastic	600,95 €

Zinc sulphate heptahydrate

≥99 %, Ph.Eur., USP, BP

Guarantee analysis:

Assay (compl.) 99,0-104,0 %

Identity complies

pH value (5 % solution) 4,4-5,6

Appearance of solution complies

Free acid complies

Chloride (Cl) ≤0,03 %

Alkali and alkaline-earth metals ≤0,5 %

Arsenic (As) ≤0,0002 %

Lead (Pb) ≤0,001 %

Calcium (Ca) ≤0,02 %

Iron (Fe) ≤0,005 %

Residual solvents complies

T884.1	500 g	plastic	26,80 €
	Original pack 6 x 500 g		25,46/500 g
T884.2	1 kg	plastic	42,90 €
	Original pack 6 x 1 kg		40,76/1 kg
T884.3	5 kg	plastic	181,70 €

Zinc sulphate heptahydrate

≥97 %, extra pure

Type analysis:

Assay ≥97,0 %

Chloride (Cl) ≤0,5 %

Lead (Pb) ≤0,001 %

Iron (Fe) ≤0,005 %

Nickel (Ni) ≤0,001 %

7316.1	500 g	plastic	16,70 €
	Original pack 6 x 500 g		15,87/500 g
7316.2	1 kg	plastic	25,50 €
	Original pack 6 x 1 kg		24,23/1 kg
7316.3	2,5 kg	plastic	52,15 €

Zinc sulphate solution (0,1 N)

Zinc sulphate solution

0,1 mol/l - 0,1 M volumetric standard solution

UN No. 3082 • ADR 9 III • WGK 1

⚠ ⚠ Warning H319-H411

Type analysis:

Amount-of-substance conc. (20 °C) ... 0,1 mol/l ±0,2 %

Titer 0,998-1,002

P723.1	1 l	plastic	24,20 €
	Original pack 6 x 1 l		22,99/1 l

For further information, please see page 1547

Zirconium Standards

- ▶ Zirconium AAS Standard Solution see p. 2169
- ▶ Zirconium ICP Standard Solution see p. 2174
- ▶ Zircon ICP Standard Solution see p. 2178

Zirconium(IV) oxide

Zirconium(IV) oxide

≥99 %

ZrO₂

M 123,22 g/mol

D 5,70 • bp ~5000 °C

mp ~2680 °C

[1314-23-4] • EC No. 215-227-2

WGK 1

Type analysis:

Appearance white powder

Assay ≥99 %

Iron (Fe) ≤0,1 %

Titanium (Ti) ≤0,1 %

9303.2	100 g	plastic	39,25 €

9303.1	500 g	plastic	153,20 €

Original pack 6 x 500 g 145,54/500 g

Zirconium(IV) oxide, nano

Zirconium(IV) oxide, nano

ROTI®nanoMETIC ≥92,5 %, 10-30 nm

ZrO₂

M 123,22 g/mol

mp 2715 °C

[1314-23-4] • EC No. 215-227-2

WGK 1

Type analysis:

Assay ≥92,5 %

Particle size 10-30 nm

Specific surface (BET) 35-55 m²/g

Aluminium oxide (Al₂O₃) ≤0,1 %

Hafnium dioxide (HfO₂) ≤2,0 %

Silicate (SiO₂) ≤0,1 %

Yttrium oxide (Y₂O₃) ≤5,5 %

8255.1	10 g	glass	25,70 €

8255.2	50 g	glass	98,40 €

8255.3	100 g	glass	184,90 €

Zirconium oxynitrate

- ▶ Zirconyl nitrate hydrate see p. 2254

Zirconyl chloride octahydrate

Zirconyl chloride octahydrate

ROTI®METIC 99,995 % (4N5)

ZrOCl₂ · 8 H₂O

M 322,25 g/mol

D 1,91

mp 400 °C (dec.)

[13520-92-8]

UN No. 3260 • ADR 8 II • WGK 1

 **Danger** H314

Type analysis:

Assay (metals basis) 99,995 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

4502.1	10 g	plastic	55,80 €

Zirconyl nitrate hydrate

Zirconyl nitrate hydrate

ROTI®METIC 99,99 % (4N)

Zirconium oxynitrate

ZrO(NO₃)₂ · x H₂O

M 231,23 + x H₂O g/mol

[14985-18-3] • EC No. 237-529-3

UN No. 1479 • ADR 5.1 III • WGK 1

  **Danger** H272-H315-H319-H335

Type analysis:

Assay (metals basis) 99,99 %

Chemical analysis (ICP, AAS): up to 60 specified trace metal impurities in ppm range

5415.1	25 g	plastic	224,70 €

5415.2	100 g	plastic	665,45 €

Abbreviations and Symbols

Information on purity and application

▷	see		
[]	Chemical Abstracts Registry Number (CAS)		
>	more than	CHR	A compound in this catalogue is designated as being thin-layer chromatographically pure (CHR) if no impurities can be detected during test conditions with 20 µg sample.
<	less than		
min	minimum		
max	maximum	~CHR	For products with impurities which under our conditions, (see CHR), allow the main compound to be designated; such products can be identified as being "almost thin-layer chromatographically pure" (~CHR).
µm	0,001 mm		
~	approximate		
$[\alpha]_D^{20}$	specific rotation		
+4°C	storage in refrigerating room	C.I. No	colour index number
-20°C	storage in deep-freeze room	conc.	concentrated
®	registered symbol, registered trade mark	cP	centipoise
	corrosive	cryst.	crystallized
	explosive	cSt	centistoke
 / 	highly flammable / extremely flammable	D	density
	fire-activating, oxidizing	DAB	Deutsches Arzneibuch (German Pharmacopoeia)
 / 	toxic / very toxic	DAC	Deutscher Arzneimittel-Codex (German Drugs Codex)
 n	harmful	DC	thin-layer chromatography
 i	irritant	dec.	decomposition
	dangerous for the environment	depur.	depuratum, purified quality
	GHS01 exploding bomb	dest.	distilled
	GHS02 flame	DIN	German Industrial Standards
	GHS03 flame over circle	E No	number codes for food additives that have been assessed for use within the EC
	GHS04 gas cylinder	EC No	the official number of a chemical substance that is commercially available within the EC
	GHS05 corrosion	extra pure	suitable for laboratory use
	GHS06 skull and crossbones	F	melting point, melting range
	GHS07 exclamation mark	FCC	Food chemical codex
	GHS08 health hazard	FIP	Fédération Internationale Pharmaceutique
	GHS09 environment	Flp	flash point
Å	Ångström = 10 ⁻¹⁰ m	g	gramme
ACS	American Chemical Society	GC	gas chromatography
ADR	European agreement on international road transport of hazardous goods	(GC)	content defined by gas chromatography
AW	atomic weight	H	Hazard statement acc. to regulation (EC) No 1272/2008 (CLP, GHS)
Amp.	ampoule	HPLC	high performance liquid chromatography
aq	water	IE	international unit (Internationale Einheit)
art.	artificial	ISO	International Organization for Standardization
asym.	asymmetrical	IU	international unit
AT	argentometric titration	JP	Japanese Pharmacopoeia
BP	British Pharmacopoeia	kg	kilogramme
bp	boiling point, boiling range	l, ltr	litre
bp ₁₂	boiling point at 12 torr	Lit.	literature
c	amount-of-substance concentration	LSC	liquid scintillation counting
CAS	Chemical Abstract Service	lyophil.	lyophilized (readily soluble form)
CELLPURE®	suitable for cell culture	M or mol/l	molarity, amount-of-substance concentration

Abbreviations and Symbols

M	molecular weight or molar mass	ROTICUBE®	Combi-box of 5 litre or 10 litre, consisting of a stable outer card box with inner bag made of PE; comes with stopcock.
mg	milligramm	ROTIDRY®	dried solvents, filled under protective gas
ml	millilitre	ROTIDRY®SEPT	dried solvents, in a septum bottle
Mol. %	molar percent	ROTIGEN®	product is suitable for DNA-synthesis
nat.	natural	ROTIPHORESE®	product is suitable for electrophoresis
n_D	refractive index	ROTIPURAN®	highly pure product
o.r.	on request	ROTISOLV®	solvent for specific use - brand name Roth
P	Precautionary statement acc. to regulation (EC) No 1272/2008 (CLP, GHS)	ROTITAINER®	Stackable containers which can also be handled easily by female workers. Matching safety pumps are available. Solid substances are delivered in plastic buckets.
Pa s	Pascal second	S	Safety statement acc. to regulation 67/548/EEC
p.a.	pro analysi = for analytical purposes	sec.	secondary
Pestilyse®	solvent, suitable for residue analysis (environmental, water and food analysis)	sicc.	dry, anhydrous (siccus)
pH	pH value	sine H ₂ O	water free
pKa	pKa value	stab.	stabilized
pharm.	pharmaceutical quality, for pharmaceutical purposes	subl.	sublimated
Ph.Eur.	European Pharmacopoeia	sym.	symmetrical
ppb	parts per billion = 1 µg per kg	synth.	synthetic
ppm	parts per million = 0,0001 %, 1 mg per kg	techn.	technical quality. Products with the purity designation "technicum" feature a different content. They are generally mass produced and may have a slightly foreign odour and colour. They are used for general technical purposes.
ppt	parts per trillion = 1 ng per kg	tert.	tertiary; standard for thin-layer chromatography (TLC)
prim.	primary	TLC	thin layer chromatography
PUFFERAN®	can be used as buffer	U	unit
pulv.	pulverised	USP	United States Pharmacopoeia
pure	suitable for synthesis and laboratory use	WGK	water hazard class
puriss.	purissimum, especially pure quality. Products with such designation have a content of at least 99%, unless a different content is stated in %. Their appearance and characteristic data correspond to the appertaining literature or deviate only slightly from it. They are suitable for purposes requiring a high degree of purity. With a number of products having this degree of purity, analysis certificates plus guarantee will be supplied or attached to the container. Delicate products are packaged under protective gas.	WGK 1	generally not water hazardous
purum	chemically pure quality. Products having the purity designation "purum" have a content of at least 97%, unless a different content is stated, and their colour and characteristic data, apart from minor deviations, correspond to the literature. This degree of purity is recommended for laboratory work such as syntheses, which are subject to purity requirements. Delicate products are packaged under protective gas.	WGK 2	water hazardous
R	Risk statement acc. to regulation 67/548/EEC	WGK 3	extremely water hazardous
rect.	rectification		
redest.	redistilled		
resubl.	resublimated		
ROTICHROM®	suitable as standard in chromatography		
ROTICHROM®GC	reference substance for gas chromatography, delivered with GC chromatogram		
ROTICHROM®HPLC	reference substance for HPLC, delivered with HPLC chromatogram		
ROTICHROM®TLC	reference substance for thin-layer chromatography, delivered with thin-layer chromatogram		

Symbols		Risk-phrases	Safety-phrases
	T+	Very toxic	26, 27, 28, 39
	T	Toxic	23, 24, 25, 39, 45, 46, 48, 49, 60, 61
	Xn	Harmful	20, 21, 22, 40, 42, 46, 48, 60, 61, 62, 63, 64, 65, 68
	C	Corrosive	34, 35
	Xi	Irritant	36, 37, 38, 41, 43
	E	Explosive	1, 2, 3, 4, 5, 6, 16
	O	Oxidizing	7, 8, 9
	F+	Extremely flammable	12
	F	Highly flammable	11, 15, 17
	N	Dangerous for the environment	50, 51, 52, 53, 54, 55, 56, 57, 58, 59

R-Phrases

R 1:	Explosive when dry.
R 2:	Risk of explosion by shock, friction, fire or other sources of ignition.
R 3:	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R 4:	Forms very sensitive explosive metallic compounds.
R 5:	Heating may cause an explosion.
R 6:	Explosive with or without contact with air.
R 7:	May cause fire.
R 8:	Contact with combustible material may cause fire.
R 9:	Explosive when mixed with combustible material.
R 10:	Flammable.
R 11:	Highly flammable.
R 12:	Extremely flammable.
R 14:	Reacts violently with water.
R 15:	Contact with water liberates extremely flammable gases.
R 16:	Explosive when mixed with oxidizing substances.
R 17:	Spontaneously flammable in air.
R 18:	In use, may form flammable/explosive vapour air mixture.
R 19:	May form explosive peroxides.
R 20:	Harmful by inhalation.
R 21:	Harmful in contact with skin.
R 22:	Harmful if swallowed.
R 23:	Toxic by inhalation.
R 24:	Toxic in contact with skin.
R 25:	Toxic if swallowed.
R 26:	Very toxic by inhalation.
R 27:	Very toxic in contact with skin.
R 28:	Very toxic if swallowed.
R 29:	Contact with water liberates toxic gas.
R 30:	Can become highly flammable in use.
R 31:	Contact with acids liberates toxic gas.
R 32:	Contact with acids liberates very toxic gas.
R 33:	Danger of cumulative effects.
R 34:	Causes burns.
R 35:	Causes severe burns.
R 36:	Irritating to eyes.
R 37:	Irritating to respiratory system.
R 38:	Irritating to skin.
R 39:	Danger of very serious irreversible effects.
R 40:	Limited evidence of a carcinogenic effect.
R 41:	Risk of serious damage to eyes.
R 42:	May cause sensitization by inhalation.
R 43:	May cause sensitization by skin contact.
R 44:	Risk of explosion if heated under confinement.
R 45:	May cause cancer.
R 46:	May cause heritable genetic damage.

R 48:	Danger of serious damage to health by prolonged exposure.
R 49:	May cause cancer by inhalation.
R 50:	Very toxic to aquatic organisms.
R 51:	Toxic to aquatic organisms.
R 52:	Harmful to aquatic organisms.
R 53:	May cause long-term adverse effects in the aquatic environment.
R 54:	Toxic to flora.
R 55:	Toxic to fauna.
R 56:	Toxic to soil organisms.
R 57:	Toxic to bees.
R 58:	May cause long-term adverse effects in the environment.
R 59:	Dangerous for the ozone layer.
R 60:	May impair fertility.
R 61:	May cause harm to the unborn child.
R 62:	Possible risk of impaired fertility.
R 63:	Possible risk of harm to the unborn child.
R 64:	May cause harm to breastfed babies.
R 65:	Harmful: may cause lung damage if swallowed.
R 66:	Repeated exposure may cause skin dryness or cracking.
R 67:	Vapours may cause drowsiness and dizziness.
R 68:	Possible risk of irreversible effects.

Combination of R-Phrases

R14/15:	Reacts violently with water, liberating extremely flammable gases.
R 15/29:	Contact with water liberates toxic, extremely flammable gas.
R 20/21:	Harmful by inhalation and in contact with skin.
R 20/22:	Harmful by inhalation and if swallowed.
R 20/21/22:	Harmful by inhalation, in contact with skin and if swallowed.
R 21/22:	Harmful in contact with skin and if swallowed.
R 23/24:	Toxic by inhalation and in contact with skin.
R 23/25:	Toxic by inhalation and if swallowed.
R 23/24/25:	Toxic by inhalation, in contact with skin and if swallowed.
R 24/25:	Toxic in contact with skin and if swallowed.
R 26/27:	Very toxic by inhalation and in contact with skin.
R 26/28:	Very toxic by inhalation and if swallowed.
R 26/27/28:	Very toxic by inhalation, in contact with skin and if swallowed.
R 27/28:	Very toxic in contact with skin and if swallowed.
R 36/37:	Irritating to eyes and respiratory system.
R 36/38:	Irritating to eyes and skin.
R 36/37/38:	Irritating to eyes, respiratory system and skin.
R 37/38:	Irritating to respiratory system and skin.
R 39/23:	Toxic : danger of very serious irreversible effects through inhalation.
R 39/24:	Toxic : danger of very serious irreversible effects in contact with skin.

R 39/25:	Toxic : danger of very serious irreversible effects if swallowed.
R 39/23/24:	Toxic : danger of very serious irreversible effects through inhalation and in contact with skin.
R 39/23/25:	Toxic : danger of very serious irreversible effects through inhalation and if swallowed.
R 39/24/25:	Toxic : danger of very serious irreversible effects in contact with skin and if swallowed.
R 39/23/24/25:	Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R 39/26:	Very toxic : danger of very serious irreversible effects through inhalation.
R 39/27:	Very toxic : danger of very serious irreversible effects in contact with skin.
R 39/28:	Very toxic : danger of very serious irreversible effects if swallowed.
R 39/26/27:	Very toxic : danger of very serious irreversible effects through inhalation and in contact with skin.
R 39/26/28:	Very toxic : danger of very serious irreversible effects through inhalation and if swallowed.
R 39/27/28:	Very toxic : danger of very serious irreversible effects in contact with skin and if swallowed.
R 39/26/27/28:	Very toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R 42/43:	May cause sensitization by inhalation and skin contact.
R 48/20:	Harmful : danger of serious damage to health by prolonged exposure through inhalation
R 48/21:	Harmful : danger of serious damage to health by prolonged exposure in contact with skin.
R 48/22:	Harmful : danger of serious damage to health by prolonged exposure if swallowed.
R 48/20/21:	Harmful : danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R 48/20/22:	Harmful : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R 48/21/22:	Harmful : danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R 48/20/21/22:	Harmful : danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R 48/23:	Toxic : danger of serious damage to health by prolonged exposure through inhalation.
R 48/24:	Toxic : danger of serious damage to health by prolonged exposure in contact with skin.
R 48/25:	Toxic : danger of serious damage to health by prolonged exposure if swallowed.
R 48/23/24:	Toxic : danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R 48/23/25:	Toxic : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R 48/24/25:	Toxic : danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R 48/23/24/25:	Toxic : danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

R 50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 51/53:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 52/53:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 68/20:	Harmful : possible risk of irreversible effects through inhalation.
R 68/20/21:	Harmful : possible risk of irreversible effects through inhalation and in contact with skin.
R 68/20/21/22:	Harmful : possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
R 68/20/22:	Harmful : possible risk of irreversible effects through inhalation and if swallowed.
R 68/21:	Harmful : possible risk of irreversible effects in contact with skin.
R 68/21/22:	Harmful : possible risk of irreversible effects in contact with skin and if swallowed.
R 68/22:	Harmful : possible risk of irreversible effects if swallowed.

S-Phrases

S1:	Keep locked up.
S2:	Keep out of the reach of children.
S3:	Keep in a cool place.
S4:	Keep away from living quarters.
S5:	Keep contents under ... (appropriate liquid to be specified by the manufacturer).
S6:	Keep under ...(inert gas to be specified by the manufacturer).
S7:	Keep container tightly closed.
S8:	Keep container dry.
S9:	Keep container in a well-ventilated place.
S12:	Do not keep the container sealed.
S13:	Keep away from food, drink and animal feeding stuffs.
S14:	Keep away from ... (incompatible materials to be indicated by the manufacturer).
S15:	Keep away from heat.
S16:	Keep away from sources of ignition - No smoking.
S17:	Keep away from combustible material.
S18:	Handle and open container with care.
S20:	When using do not eat or drink.
S21:	When using do not smoke.
S22:	Do not breathe dust.
S23:	Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
S24:	Avoid contact with skin.
S25:	Avoid contact with eyes.
S26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27:	Take off immediately all contaminated clothing.
S28:	After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).

S29:	Do not empty into drains.
S30:	Never add water to this product.
S33:	Take precautionary measures against static discharges.
S35:	This material and its container must be disposed of in a safe way.
S36:	Wear suitable protective clothing.
S37:	Wear suitable gloves.
S38:	In case of insufficient ventilation, wear suitable respiratory equipment.
S39:	Wear eye/face protection.
S40:	To clean the floor and all objects contaminated by this material, use ... (to be specified by the manufacturer).
S41:	In case of fire and/or explosion do not breathe fumes.
S42:	During fumigation/spraying wear suitable respiratory equipment (appropriate wording to be specified by the manufacturer).
S43:	In case of fire, use ... (indicate in the space the precise type of fire-fighting equipment. If water increases risk, add - 'Never use water').
S45:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S46:	If swallowed, seek medical advice immediately and show this container or label.
S47:	Keep at temperature not exceeding ... °C (to be specified by the manufacturer).
S48:	Keep wet with ... (appropriate material to be specified by the manufacturer).
S49:	Keep only in the original container.
S50:	Do not mix with ... (to be specified by the manufacturer).
S51:	Use only in well-ventilated areas.
S52:	Not recommended for interior use on large surface areas.
S53:	Avoid exposure - obtain special instructions before use.
S56:	Dispose of, this material and its container at hazardous or special waste collection point.
S57:	Use appropriate container to avoid environmental contamination.
S59:	Refer to manufacturer/supplier for information on recovery/recycling.
S60:	This material and its container must be disposed of as hazardous waste.
S61:	Avoid release to the environment. Refer to special instructions/Safety data sheets.
S62:	If swallowed, do not induce vomiting : seek medical advice immediately and show this container or label.
S63:	In case of accident by inhalation : remove casualty to fresh air and keep at rest.
S64:	If swallowed, rinse mouth with water (only if the person is conscious).

Combination of S-Phrases

S 1/2	Keep locked up and out of the reach of children.
S 3/7	Keep container tightly closed in a cool place.
S 3/9/14	Keep in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer).
S 3/9/14/49	Keep only in the original container in a cool, well-ventilated place away from ... (incompatible materials to be indicated by the manufacturer).
S 3/9/49	Keep only in the original container in a cool, well-ventilated place.
S 3/14	Keep in a cool place away from ... (incompatible materials to be indicated by the manufacturer).
S 7/8	Keep container tightly closed and dry.
S 7/9	Keep container tightly closed and in a well-ventilated place.
S 7/47	Keep container tightly closed and at a temperature not exceeding ... °C (to be specified by the manufacturer).
S 20/21	When using do not eat, drink or smoke.
S 24/25	Avoid contact with skin and eyes.
S 27/28	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of - (to be specified by the manufacturer).
S 29/35	Do not empty into drains; dispose of this material and its container in a safe way.
S 29/56	Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
S 36/37	Wear suitable protective clothing and gloves.
S 36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S 36/39	Wear suitable protective clothing and eye/face protection.
S 37/39	Wear suitable gloves and eye/face protection.
S 47/49	Keep only in the original container at a temperature not in-halation and in contact with skin.

Hazard Pictograms

The hazard pictogram on the designation label indicates the main hazard arising from a substance. If there are several hazardous qualities, several symbols are necessary.

Each pictogram is allocated a hazard designation and coding that do **not** appear on the designation label.



GHS01
exploding bomb



GHS02
flame



GHS03
flame over circle



GHS04
gas cylinder



GHS05
corrosion



GHS06
skull and crossbones



GHS07
exclamation mark



GHS08
health hazard



GHS09
environment

Hazard Statements H Codes

Hazard statements for physical hazards

H200	Unstable explosives.
H201	Explosive; mass explosion hazard.
H202	Explosive, severe projection hazard.
H203	Explosive; fire, blast or projection hazard.
H204	Fire or projection hazard.
H205	May mass explode in fire.
H220	Extremely flammable gas.
H221	Flammable gas.
H222	Extremely flammable aerosol.
H223	Flammable aerosol.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H229	Pressurised container: May burst if heated.
H230	May react explosively even in the absence of air.
H231	May react explosively even in the absence of air at elevated pressure and/or temperature.
H240	Heating may cause an explosion.
H241	Heating may cause a fire or explosion.
H242	Heating may cause a fire.
H250	Catches fire spontaneously if exposed to air.
H251	Self-heating; may catch fire.
H252	Self-heating in large quantities; may catch fire.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H261	In contact with water releases flammable gases.
H270	May cause or intensify fire; oxidiser.
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.
H281	Contains refrigerated gas; may cause cryogenic burns or injury.
H290	May be corrosive to metals.

Hazard statements for health hazards

H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

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H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H360F	May damage fertility.
H360D	May damage the unborn child.
H360FD	May damage fertility. May damage the unborn child.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361	Suspected of damaging fertility or the unborn child.
H361f	Suspected of damaging fertility .
H361d	Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H362	May cause harm to breast-fed children.
H370	Causes damage to organs.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H300+H310	Fatal if swallowed or in contact with skin.
H300+H330	Fatal if swallowed or if inhaled.
H310+H330	Fatal in contact with skin or if inhaled.
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled.
H301+H311	Toxic if swallowed or in contact with skin.
H301+H331	Toxic if swallowed or if inhaled.
H311+H331	Toxic in contact with skin or if inhaled.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H302+H312	Harmful if swallowed or in contact with skin.
H302+H332	Harmful if swallowed or if inhaled.
H312+H332	Harmful in contact with skin or if inhaled.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.

Hazard statements for environmental hazards

H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
H420	Harms public health and the environment by destroying ozone in the upper atmosphere.

Supplemental Hazard Information H Codes

EUH001	Explosive when dry.
EUH006	Explosive with or without contact with air.
EUH014	Reacts violently with water.
EUH018	In use may form flammable/explosive vapour-air mixture.
EUH019	May form explosive peroxides.
EUH029	Contact with water liberates toxic gas.
EUH031	Contact with acids liberates toxic gas.
EUH032	Contact with acids liberates very toxic gas.
EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH070	Toxic by eye contact.
EUH071	Corrosive to the respiratory tract.
EUH201	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.
EUH201A	Warning! Contains lead.
EUH202	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
EUH203	Contains chromium (VI). May produce an allergic reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.
EUH205	Contains epoxy constituents. May produce an allergic reaction.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).
EUH207	Warning! Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer. Comply with the safety instructions.
EUH208	Contains (name of sensitising substance). May produce an allergic reaction.
EUH209	Can become highly flammable in use.
EUH209A	Can become flammable in use.
EUH210	Safety data sheet available on request.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Classification			Labelling			
Hazard class	Category codes		Pictogram, code	Signal word	Hazard statements	
Explosive	Unstable explosives	Unst. Expl.	 GHS01	Danger	H200	Unstable explosives.
	Divisions 1.1	Expl. 1.1			H201	Explosive; mass explosion hazard.
	Divisions 1.2	Expl. 1.2			H202	Explosive, severe projection hazard.
	Divisions 1.3	Expl. 1.3			H203	Explosive; fire, blast or projection hazard.
	Divisions 1.4	Expl. 1.4		Warning	H204	Fire or projection hazard.
	Divisions 1.5	Expl. 1.5	No pictogram	Danger	H205	May mass explode in fire.
	Divisions 1.6	Expl. 1.6	No pictogram, no signal word, no hazard statement			
Flammable gas	Category 1	Flam. gas 1	 GHS02	Danger	H220	Extremely flammable gas.
	Category 2	Flam. gas 2	No pictogram	Warning	H221	Flammable gas.
Flammable aerosol	Category 1	Flam. aerosol 1	 GHS02	Danger	H222	Extremely flammable aerosol.
	Category 2	Flam. aerosol 2		Warning	H223	Flammable aerosol.
Oxidising gas	Category 1	Ox. gas 1	 GHS03	Danger	H270	May cause or intensify fire; oxidiser.
Gas under pressure	Compressed gas	Press. gas	 GHS04	Warning	H280	Contains gas under pressure; may explode if heated.
	Dissolved gas					
	Liquefied gas					
	Refrigerated liquefied gas				H281	Contains refrigerated gas; may cause cryogenic burns or injury.
Flammable liquid	Category 1	Flam. Liq. 1	 GHS02	Danger	H224	Extremely flammable liquid and vapour.
	Category 2	Flam. Liq. 2			H225	Highly flammable liquid and vapour.
	Category 3	Flam. Liq. 3		Warning	H226	Flammable liquid and vapour.
Flammable solid	Category 1	Flam. Sol. 1		Danger	H228	Flammable solid.
	Category 2	Flam. Sol. 2		Warning		

Classification & Labelling acc. to (EC) 1272/2008

Classification			Labelling			
Hazard class	Category codes		Pictogram, code	Signal word	Hazard statements	
Self-reactive substance or mixture	Type A	Self-react. A	 GHS01	Danger	H240	Heating may cause an explosion.
		Org. Perox. A				
	Type B	Self-react. B	 GHS01 + GHS02		H241	Heating may cause a fire or explosion.
		Org. Perox. B				
	Type C and D	Self-react. CD	 GHS02	Danger	H242	Heating may cause a fire.
		Org. Perox. CD				
	Type E and F	Self-react. EF		Warning		
		Org. Perox. EF				
Type G	Self-react. G	No pictogram, no signal word, no hazard statement				
	Org. Perox. G					
Pyrophoric liquid	Category 1	Pyr. Liq. 1	 GHS02	Danger	H250	Catches fire spontaneously if exposed to air.
Pyrophoric solid	Category 1	Pyr. Sol. 1				
Self-heating substance or mixture	Category 1	Self-heat. 1		Danger	H251	Self-heating; may catch fire.
	Category 2	Self-heat. 2		Warning	H252	Self-heating in large quantities; may catch fire.
Substance or mixture which in contact with water emits flammable gas	Category 1	Water-react. 1		Danger	H260	In contact with water releases flammable gases which may ignite spontaneously.
	Category 2	Water-react. 2		Danger	H261	In contact with water releases flammable gases.
	Category 3	Water-react. 3		Warning		
Oxidising liquid Oxidising solid	Category 1	Ox. Liq. 1	 GHS03	Danger	H271	May cause fire or explosion; strong oxidiser.
		Ox. Sol. 1				
	Category 2	Ox. Liq. 2		Danger	H272	May intensify fire; oxidiser.
		Ox. Sol. 2				
	Category 3	Ox. Liq. 3		Warning		
		Ox. Sol. 3				
Substance or mixture corrosive to metals	Category 1	Met. Corr. 1	 GHS05	Warning	H290	May be corrosive to metals.
Acute toxicity	Category 1	Acute Tox. 1	 GHS06	Danger	H300 H310 H330	Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.
	Category 2	Acute Tox. 2				
	Category 3	Acute Tox. 3			H301 H311 H331	Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.
	Category 4	Acute Tox. 4	 GHS07	Warning	H302 H312 H332	Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

Classification			Labelling			
Hazard class	Category codes		Pictogram, code	Signal word	Hazard statements	
Skin corrosion/irritation	Category 1A	Skin Corr. 1A	 GHS05	Danger	H314	Causes severe skin burns and eye damage.
	Category 1B	Skin Corr. 1B				
	Category 1C	Skin Corr. 1C				
	Category 2	Skin Irrit. 2	 GHS07	Warning	H315	Causes skin irritation.
Serious eye damage/eye irritation	Category 1	Eye Dam. 1	 GHS05	Danger	H318	Causes serious eye damage.
	Category 2	Eye Irrit. 2	 GHS07	Warning	H319	Causes serious eye irritation.
Respiratory sensitization	Category 1 Category 1A Category 1B	Resp. Sens. 1 Resp. Sens. 1A Resp. Sens. 1B	 GHS05	Danger	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	Category 1 Category 1A Category 1B	Skin Sens. 1 Skin Sens. 1A Skin Sens. 1B	 GHS07	Warning	H317	May cause an allergic skin reaction.
Germ cell mutagenicity	Category 1A	Muta. 1A	 GHS08	Danger	H340	May cause genetic defects. (*)
	Category 1B	Muta. 1B		Warning	H341	Suspected of causing genetic defects. (*)
	Category 2	Muta. 2				
Carcinogenicity	Category 1A	Carc. 1A	GHS08	Danger	H350 H350i	May cause cancer. (*) May cause cancer by inhalation.
	Category 1B	Carc. 1B		Warning	H351	Suspected of causing cancer. (*)
	Category 2	Carc. 2				
(*) state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard						
Reproductive toxicity	Category 1A	Repr. 1A	 GHS08	Danger	H360 H360F H360D H360FD	May damage fertility or the unborn child. (*) May damage fertility. (*) May damage the unborn child. (*) May damage fertility. May damage the unborn child. (*)
	Category 1B	Repr. 1B				
	Category 2	Repr. 2			H361 H361f H361d H361fd	Suspected of damaging fertility or the unborn child. Suspected of damaging fertility. Suspected of damaging the unborn child. Suspected of damaging fertility. Suspected of damaging the unborn child.
	Additional category for effects on or via lactation	Lact.	No pictogram	No signal word	H362	May cause harm to breast-fed children.
(*) state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard						

Classification & Labelling acc. to (EC) 1272/2008

Classification			Labelling			
Hazard class	Category codes		Pictogram, code	Signal word	Hazard statements	
Specific target organ toxicity – single exposure	Category 1	STOT SE 1	 GHS08	Danger	H370	Causes damage to organs. (*)
	Category 2	STOT SE 2		Warning	H371	May cause damage to organs. (*)
	Category 3	STOT SE 3	 GHS07	Warning	H335	May cause respiratory irritation.
H336					May cause drowsiness or dizziness.	
Specific target organ toxicity – repeated exposure	Category 1	STOT RE 1	 GHS08	Danger	H372	Causes damage to organs through prolonged or repeated exposure. (*)
	Category 2	STOT RE 2		Warning	H373	May cause damage to organs through prolonged or repeated exposure. (*)
	(*) state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard					
Aspiration hazard	Category 1	Asp. Tox. 1	 GHS08	Danger	H304	May be fatal if swallowed and enters airways.
Acute aquatic hazard	Acute 1	Aquatic Acute 1	 GHS09	Warning	H400	Very toxic to aquatic life.
Long-term aquatic hazard	Chronic 1	Aquatic Chronic 1		Warning	H410	Very toxic to aquatic life with long lasting effects.
	Chronic 2	Aquatic Chronic 2	No pictogram	No signal word	H411	Toxic to aquatic life with long lasting effects.
	Chronic 3	Aquatic Chronic 3		No signal word	H412	Harmful to aquatic life with long lasting effects.
	Chronic 4	Aquatic Chronic 3			H413	May cause long lasting harmful effects to aquatic life.
Hazardous for the ozone layer	Category 1	Ozone 1	 GHS07	Warning	H420	Harms public health and the environment by destroying ozone in the upper atmosphere.