Chemicals

TOP Offers

Flame Test Kits

Set for the identification of minerals in the Bunsen burner flame through the characteristic flame colouring of the salts in the “flame test”.

Our flame test kits also contain 10 magnesia rods and a wooden clamp for better handling. This provides the materials needed to demonstrate the flame colours of six different metals. During combustion, the metal or semi-metal ion contained in each chemical gives the flame a characteristic colour.

Application:

- Dip the magnesia rod into diluted hydrochloric acid (not included in the scope of delivery)
- Pick up some of the salt with the moistened magnesia rod
- Hold the end of the rod with the salt in the swooshing burner flame

Directions for use
If necessary, burn out the magnesia rods in the burner flame.
The flame must be colourless. Otherwise there will still be residues of chemicals from previous experiments.

Product name	Composition	Art. No.	Pack Qty.	DKK	DKK
Flame Test Kit 1	Ca^{2+}, Na^{+}, K^{+}, Li^{+}, Ba^{2+}, Sr^{2+}	**1PE8.1**	1 set	~~439,50~~	**351,40**
Flame Test Kit 2	Ba^{2+}, Cu^{2+}, In^{3+}, Cs^{+}, Rb^{+}	**1PE6.1**	1 set	~~689,65~~	**551,25**

incl. magnesia rods (10 pcs.) and a wooden clamp.

Platinum wire in glass rod

melted down

For tests on flame colouring, spectroscopy, etc.

Glass rod 100 x 3 mm

Pt wire 50 x 0.2 mm

Pt · M 195,08 g/mol

Art. No.	Pack Qty.	Pack.	DKK	DKK
23XE.1	1 unit(s)	cardboard	~~160,50~~	**127,90**

Valid from 4 March to 31 May 2024

FRISENETTE

Frisenette ApS · Energivej 134 · 8420 Knebel, Denmark
Phone: +45 86 34 22 44 · E-Mail: roth@frisenette.dk · Internet: www.frisenette.dk

DK-EN

Standard solutions

ROTI®Volum, Volumetric Solutions in Ampoules

Advantages:

- Concentrated standard solutions packaged in practical ampoules
- Designed for flexible and easy handling, and as a space-saving alternative to ready-to-use custom solutions
- Standard solutions are prepared through dilution to a final volume of exactly one litre

New Packaging

Product name	Brand/Purity	Art. No.	Pack Qty.	DKK	DKK
Ammonium thiocyanate solution	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YP4.1**	1 unit(s)	~~254,25~~	**202,90**
EDTA disodium salt solution	ROTI®Volum 0,01 mol/l – 0,01 N, volumetric standard solution	**1YP5.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YP6.1**	1 unit(s)	~~254,25~~	**202,90**
Hydrochloric acid	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YPN.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 0,5 mol/l – 0,5 N, volumetric standard solution	**1YPP.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 1 mol/l – 1 N, volumetric standard solution	**1YPT.1**	1 unit(s)	~~197,65~~	**157,90**
Nitric acid	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YPK.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 1 mol/l – 1 N, volumetric standard solution	**1YPL.1**	1 unit(s)	~~310,50~~	**248,25**
Oxalic acid solution	ROTI®Volum 0,05 mol/l – 0,1 N, volumetric standard solution	**1YPH.1**	1 unit(s)	~~197,65~~	**157,90**
Potassium hydroxide solution	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YP7.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 1 mol/l – 1 N, volumetric standard solution	**1YT1.1**	1 unit(s)	~~289,50~~	**231,40**
Silver nitrate solution	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YT0.1**	1 unit(s)	~~625,15~~	**499,90**
Sodium chloride solution	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YP8.1**	1 unit(s)	~~197,65~~	**157,90**
Sodium hydroxide solution	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YPA.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 0,5 mol/l – 0,5 N, volumetric standard solution	**1YPC.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 1 mol/l – 1 N, volumetric standard solution	**1YPE.1**	1 unit(s)	~~197,65~~	**157,90**
Sodium thiosulphate solution	ROTI®Volum 0,1 mol/l – 0,1 N, volumetric standard solution	**1YP9.1**	1 unit(s)	~~197,65~~	**157,90**
Sulphuric acid	ROTI®Volum 0,05 mol/l – 0,1 N, volumetric standard solution	**1YPX.1**	1 unit(s)	~~197,65~~	**157,90**
	ROTI®Volum 0,5 mol/l – 1 N, volumetric standard solution	**1YPY.1**	1 unit(s)	~~197,65~~	**157,90**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Volumetric Standard Solutions, ready-to-use

The advantages of this over making them yourself are:

- Manufactured and tested using modern manufacturing and analytical methods
- Ready-to-use solutions

NEW ready-to-use

Product name	Purity	Pack.	Art. No.	Pack Qty.	DKK	DKK
Ammonia solution	1 mol/l – 1 N, volumetric standard solution	plastic	**255L.1**	1 l	~~959,65~~	**767,25**
	2 mol/l – 2 N, volumetric standard solution	plastic	**255N.1**	1 l	~~1.282,15~~	**1.025,25**
	3 mol/l – 3 N, volumetric standard solution	plastic	**255P.1**	1 l	~~1.120,90~~	**896,25**
Barium chloride solution	1 mol/l – 2 N, volumetric standard solution	plastic	**1YNC.1**	1 l	~~907,15~~	**725,65**
Citric acid solution	1 mol/l – 1 M	plastic	**255K.1**	500 ml	~~798,40~~	**638,25**
Hydrochloric acid	0,005 mol/l – 0,005 N, volumetric standard solution	plastic	**221T.1**	1 l	~~588,00~~	**469,90**
	0,25 mol/l – 0,25 N, volumetric standard solution	plastic	**221X.1**	1 l	~~588,00~~	**469,90**
	0,3 mol/l – 0,3 N, volumetric standard solution	plastic	**221Y.1**	1 l	~~588,00~~	**469,90**
	0,75 mol/l – 0,75 N, volumetric standard solution	plastic	**222A.1**	1 l	~~588,00~~	**469,90**
	1,5 mol/l – 1,5 N, volumetric standard solution	plastic	**222C.1**	1 l	~~588,00~~	**469,90**
	2,5 mol/l – 2,5 N, volumetric standard solution	plastic	**222E.1**	1 l	~~588,00~~	**469,90**
Iodine solution	0,01 mol I_2/l – 0,02 N, volumetric standard solution	glass	**255X.1**	500 ml	~~556,50~~	**444,75**
	0,025 mol I_2/l – 0,05 N, volumetric standard solution	glass	**255T.1**	500 ml	~~556,50~~	**444,75**
Potassium permanganate solution	0,2 mol/l – 1 N, volumetric standard solution	glass	**1Y0T.1**	1 l	~~673,50~~	**538,50**
Sodium hydroxide solution	0,025 mol/l – 0,025 N, volumetric standard solution	plastic	**221A.1**	1 l	~~588,00~~	**469,90**
	0,04 mol/l – 0,04 N, volumetric standard solution	plastic	**221C.1**	1 l	~~588,00~~	**469,90**
	0,4 mol/l – 0,4 N, volumetric standard solution	plastic	**221E.1**	1 l	~~588,00~~	**469,90**
	0,6 mol/l – 0,6 N, volumetric standard solution	plastic	**221H.1**	1 l	~~588,00~~	**469,90**
	1,5 mol/l – 1,5 N, volumetric standard solution	plastic	**221K.1**	1 l	~~588,00~~	**469,90**
	2,5 mol/l – 2,5 N, volumetric standard solution	plastic	**221L.1**	1 l	~~588,00~~	**469,90**
	3 mol/l – 3 N, volumetric standard solution	plastic	**221N.1**	1 l	~~588,00~~	**469,90**
	8 mol/l – 8 N, volumetric standard solution	plastic	**221P.1**	1 l	~~588,00~~	**469,90**
Sulphuric acid	3 mol/l – 6 N, volumetric standard solution	plastic	**1Y0X.1**	1 l	~~636,40~~	**508,50**
	4 mol/l – 8 N, volumetric standard solution	plastic	**1Y0Y.1**	1 l	~~1.443,40~~	**1.154,25**
	5 mol/l – 10 N, volumetric standard solution	plastic	**1Y10.1**	1 l	~~459,00~~	**366,75**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Dried Solvents

ROTIDRY® plus – Dried Solvents with Molecular Sieve

Properties:

- Very low water content
- Extremely high product purity
- Good price-performance ratio
- Contains molecular sieve 3 Å

Product name	Purity	Art. No.	Pack Qty.	DKK	DKK
Acetic acid ethyl ester	≥99,8 % (≤50 ppm H_2O), with molecular sieve	**1A9P.1**	1 l	~~512,25~~	**409,50**
Acetonitrile	≥99,7 % (≤50 ppm H_2O), with molecular sieve	**25A8.1**	1 l	~~724,90~~	**579,40**
Dichloromethane	≥99,9 % (≤30 ppm H_2O), with molecular sieve	**1A9K.1**	1 l	~~563,65~~	**450,40**
Diethyl ether	≥99,5 % (≤60 ppm H_2O), with molecular sieve, stabilised	**1A9X.1**	1 l	~~636,40~~	**508,50**
Dimethyl sulphoxide (DMSO)	≥99,5 % (≤50 ppm H_2O), with molecular sieve	**25A9.1**	1 l	~~1.282,15~~	**1.025,25**
1,4-Dioxane	≥99 % (≤50 ppm H_2O), with molecular sieve	**25AA.1**	1 l	~~765,40~~	**611,65**
Methanol	≥99,8 % (≤50 ppm H_2O), with molecular sieve	**1A9L.1**	1 l	~~579,75~~	**463,50**
Tetrahydrofuran	≥99,5 % (≤50 ppm H_2O), with molecular sieve, stabilised	**1A9Y.1**	1 l	~~684,75~~	**547,15**
Toluene	≥99,5 % (≤50 ppm H_2O), with molecular sieve	**1A9T.1**	1 l	~~616,90~~	**493,15**
Trichloromethane/Chloroform	≥99,9 % (≤30 ppm H_2O), with molecular sieve, stabilised	**1A9N.1**	1 l	~~595,90~~	**476,25**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Molecular Sieves

For drying or keeping dry

Product name	Purity	Pack.	Art. No.	Pack Qty.	DKK	DKK
Molecular sieve 3 Å	0,3 nm, type 564, beads	glass	**8487.1**	250 g	~~294,40~~	**235,15**
			8487.2	750 g	~~684,75~~	**547,15**
		plastic	**8487.3**	2.5 kg	~~1.794,00~~	**1.435,15**
			8487.7	5 kg	~~3.297,75~~	**2.637,75**
	0,3 nm, type 562 C, beads	glass	**P729.1**	250 g	~~294,40~~	**235,15**
			P729.2	750 g	~~684,75~~	**547,15**
		plastic	**P729.3**	2.5 kg	~~1.794,00~~	**1.435,15**
Molecular sieve 4 Å	0,4 nm, type 514, beads	glass	**8471.1**	250 g	~~313,90~~	**250,50**
			8471.2	750 g	~~700,90~~	**560,25**
		plastic	**8471.3**	2.5 kg	~~1.834,50~~	**1.467,40**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Dyes

Dyes and Indicators in p.a. Quality

Product name	Purity	Pack.	Art. No.	Pack Qty.	DKK	DKK
Bromothymol blue	p.a., ACS	glass	**T117.1**	5 g	~~233,25~~	**186,00**
			T117.2	25 g	~~588,00~~	**469,90**
			T117.3	50 g	~~1.008,00~~	**806,25**
			T117.7	100 g	~~1.765,90~~	**1.412,25**
Crystal violet (C.I. 42555)	p.a.	glass	**T123.2**	5 g	~~173,65~~	**138,40**
			T123.1	25 g	~~281,65~~	**224,65**
			T123.3	100 g	~~684,75~~	**547,15**
Murexide (C. I. 56085)	ACS	glass	**T124.1**	5 g	~~262,15~~	**209,65**
			T124.2	25 g	~~604,15~~	**482,65**
			T124.3	50 g	~~1.008,00~~	**806,25**
Ninhydrin	≥99 %, p.a., ACS	glass	**4378.1**	25 g	~~399,40~~	**319,15**
			4378.2	100 g	~~1.008,00~~	**806,25**
			4378.3	500 g	~~3.942,75~~	**3.153,75**
Phenolphthalein (C.I. 764)	≥97 %, p.a., ACS	plastic	**T126.2**	50 g	~~168,75~~	**134,65**
			T126.1	100 g	~~233,25~~	**186,00**
			T126.3	500 g	~~641,25~~	**512,65**
Tiron	≥99 %, p.a.	glass	**7302.1**	10 g	~~160,50~~	**127,90**
			7302.2	25 g	~~257,25~~	**205,50**
			7302.3	100 g	~~660,40~~	**528,00**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Fluorescent Dyes

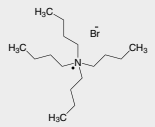
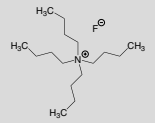
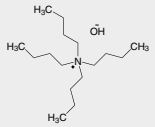
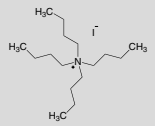
Product name	Purity	Pack.	Art. No.	Pack Qty.	DKK	DKK
Acridine orange (C.I. 46005)	for microscopy	glass	**0249.1**	10 g	~~241,15~~	**192,40**
			0249.2	25 g	~~447,75~~	**357,75**
DAPI	≥98 %, p.a.	glass	**6335.1**	25 mg	~~879,00~~	**702,75**
			6335.2	100 mg	~~2.539,90~~	**2.031,75**
Eosin Y (C.I. 45380)	for microscopy	glass	**7089.1**	50 g	~~351,00~~	**280,50**
			7089.2	100 g	~~609,00~~	**486,75**
			7089.3	500 g	~~1.975,50~~	**1.580,25**
Erythrosine B (C.I. 45430)	for microscopy	glass	**0331.2**	5 g	~~133,15~~	**106,15**
		plastic	**0331.1**	25 g	~~330,00~~	**263,65**
		glass	**0331.3**	100 g	~~911,25~~	**728,65**
Fluorescein disodium salt (C.I. 45350)	extra concentrated	glass	**5283.3**	25 g	~~213,75~~	**170,65**
		plastic	**5283.1**	100 g	~~354,00~~	**282,75**
			5283.2	500 g	~~1.169,25~~	**935,25**
Luminol	≥95 %, for synthesis	plastic	**4203.1**	5 g	~~483,00~~	**385,90**
			4203.2	25 g	~~1.894,90~~	**1.515,75**
Nile red	extra pure	glass	**7726.1**	1 g	~~402,40~~	**321,40**
			7726.2	5 g	~~1.572,40~~	**1.257,75**
			7726.3	10 g	~~3.023,65~~	**2.418,75**
Propidiumiodide	≥95 %, p.a.	glass	**CN74.1**	25 mg	~~724,90~~	**579,40**
			CN74.2	50 mg	~~1.249,90~~	**999,75**
			CN74.3	100 mg	~~2.217,40~~	**1.773,75**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Synthesis Reagents

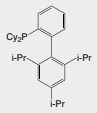
Quaternary ammonium compounds are organic ammonium compounds, for which all four valences of a nitrogen atom are bonded organically. These ammonium compounds are often used as phase-transfer catalysts and ion pair reagents.

Quaternary Ammonium Compounds

Structural formula	Product name	Purity	Molecular formula	CAS No.	Art. No.	Pack Qty.	DKK	DKK
	Tetrabutylammonium bromide (TBAB)	≥99 %, for synthesis	$C_{16}H_{36}BrN$	1643-19-2	**6633.1**	50 g	~~273,40~~	**218,25**
					6633.2	250 g	~~781,50~~	**624,75**
					6633.3	500 g	~~1.330,50~~	**1.064,25**
	Tetrabutylammoniumfluoride (TBAF)	1 mol/l in THF, stabilised	$(C_4H_9)_4NF$	429-41-4	**1448.1**	25 ml	~~249,40~~	**199,15**
					1448.2	100 ml	~~749,25~~	**598,90**
					1448.3	250 ml	~~1.411,15~~	**1.128,75**
	Tetrabutylammonium hydroxide (TBAH)	40 % in water	$C_{16}H_{37}NO$	2052-49-5	**5026.1**	25 ml	~~225,00~~	**179,65**
					5026.2	100 ml	~~496,15~~	**396,40**
					5026.3	250 ml	~~879,00~~	**702,75**
					5026.4	1 l	~~3.055,90~~	**2.444,25**
	Tetrabutylammonium iodide (TBAI)	≥99 %, p.a.	$C_{16}H_{36}IN$	311-28-4	**4735.1**	25 g	~~152,65~~	**121,50**
					4735.2	100 g	~~410,65~~	**328,15**
					4735.3	500 g	~~1.733,65~~	**1.386,75**
	Tetramethylammonium chloride (TMAC)	≥98 %, for synthesis	$C_4H_{12}ClN$	75-57-0	**4747.1**	100 g	~~265,50~~	**211,90**
					4747.2	500 g	~~1.040,25~~	**831,75**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Phosphine Ligands

Structural formula	Product name	Purity	CAS No.	Art. No.	Pack Qty.	DKK	DKK
	(*rac*)-BINAP	≥97 %	98327-87-8	**1845.1**	1 g	~~310,50~~	**248,25**
				1845.2	5 g	~~826,50~~	**661,15**
				1845.3	10 g	~~1.249,90~~	**999,75**
	SPhos	≥98 %	657408-07-6	**1911.1**	1 g	~~246,00~~	**196,50**
				1911.2	5 g	~~959,65~~	**767,25**
	Triphenylphosphine	≥99,5 %, for synthesis	603-35-0	**4110.1**	10 g	~~120,40~~	**95,65**
				4110.2	100 g	~~217,15~~	**173,25**
				4110.3	250 g	~~418,50~~	**334,50**
				4110.4	1 kg	~~1.330,50~~	**1.064,25**
	Xantphos	≥98 %	161265-03-8	**2058.1**	1 g	~~318,75~~	**254,65**
				2058.2	5 g	~~1.040,25~~	**831,75**
	XPhos	≥97 %	564483-18-7	**1445.1**	1 g	~~265,50~~	**211,90**
				1445.2	5 g	~~959,65~~	**767,25**
				1445.3	10 g	~~1.604,65~~	**1.283,25**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Chiral Phosphine Ligands

Structural formula	Product name	Purity	CAS No.	Art. No.	Pack Qty.	DKK	DKK
	(*R*)-BINAP	≥98 %	76189-55-4	**2040.1**	250 mg	~~184,90~~	**147,40**
				2040.2	1 g	~~418,50~~	**334,50**
				2040.3	5 g	~~1.169,25~~	**935,25**
	(*S*)-BINAP	≥98 %	76189-56-5	**1950.1**	250 mg	~~173,65~~	**138,40**
				1950.2	1 g	~~362,25~~	**289,15**
				1950.3	5 g	~~1.040,25~~	**831,75**

For safety information and additional data, see our current catalogue or at www.carlroth.com

Determination of the Hydrocarbon Index

Determination of the Hydrocarbon Index

The hydrocarbon index is defined as the total of all organic substances that can be extracted with hexane, but cannot be adsorbed in Florisil® (magnesium silicate). On a covalent GC column, these elute between *n*-decane and *n*-tetracontane and have a boiling range of 175–525 °C. These include heating oils, diesel fuels, kerosene, lubricants and transmission fluids. Petrols are not detected using this method. Carl ROTH offers an extensive range of products for the determination of the hydrocarbon index in accordance with **EN ISO 9377-2-Mod. (DIN H53).**

Standards
According to **EN ISO 9377-2-Mod. (DIN H53)**

- Manufactured in accordance with **ISO 17034** in an accredited environment
- Tested in a laboratory accredited to **ISO/IEC 17025**
- Ideal for calibration of GC-FID, GC-TCD, GC-ECD, GC-MS, GC-MS/MS, LC-UV, LC-MS and LC-MS/MS
- With an detailed, batch-related certificate of analysis

Determination of the Hydrocarbon Index

Product name	Purity	Pack.	Art. No.	Pack Qty.	DKK	DKK
Diesel	≥99 %	glass amp.	**1PHK.1**	1 ml	~~805,50~~	**603,75**
		glass	**1PHK.2**	100 ml	~~3588,00~~	**2690,65**
			1PHK.3	250 ml	~~5119,90~~	**3839,65**
n-Alkane standard solution (C_{10}-C_{40}, all even)	16 components (each 50 mg/l) in *n*-hexane	glass amp.	**1772.1**	1 ml	~~1088,65~~	**816,00**
			1772.2	5 ml	~~1653,00~~	**1239,40**
	16 components (each 100 mg/l) in *n*-hexane/petroleum ether	glass amp.	**9331.1**	5 ml	~~2378,65~~	**1783,50**
n-Alkane standard solution (C_7, C_8, C_9, C_{10}-C_{40}, all even)	19 components (each 50 mg/l) in isooctane	glass amp.	**9629.1**	5 ml	~~9070,50~~	**6802,50**
Extraction solvent stock solution	20 µl/l *n*-decane and 20 mg/l *n*-tetracontane in *n*-hexane	glass amp.	**1750.2**	10 ml	~~1008,00~~	**755,65**
Florisil® quality control standard	1 000 mg/l mineral oil and diesel in *n*-hexane	glass amp.	**9334.1**	5 ml	~~721,90~~	**540,75**
Standard mixture of mineral oils	500 mg/l mineral oil and diesel in acetone	glass amp.	**1774.2**	5 ml	~~1008,00~~	**755,65**
	5 000 mg/l mineral oil and diesel in *n*-hexane	glass amp.	**1773.2**	5 ml	~~879,00~~	**658,90**
	10 000 mg/l mineral oil and diesel in *n*-hexane	glass amp.	**1XX9.1**	5 ml	~~1201,50~~	**900,75**
			1XX9.2	10 ml	~~1927,15~~	**1444,90**
	50 000 mg/l mineral oil and diesel in *n*-hexane	glass amp.	**1LCE.1**	1 ml	~~1733,65~~	**1299,75**
			1LCE.2	5 ml	~~6522,75~~	**4891,90**
	10 000 mg/l mineral oil and diesel in *n*-heptane	glass amp.	**1XXA.1**	10 ml	~~1927,15~~	**1444,90**
	50/50 mineral oil and diesel, solvent-free	glass amp.	**1LCH.1**	1 ml	~~1008,00~~	**755,65**
			1LCH.2	5 ml	~~1927,15~~	**1444,90**
Stearyl stearate test solution	2 000 mg/l in *n*-hexane	glass amp.	**1760.2**	10 ml	~~1169,25~~	**876,75**

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Additional Chemicals for Determination of the Hydrocarbon Index

Product name	Brand/Purity	Pack.	Art. No.	Pack Qty.	DKK	DKK
Acetone	ROTISOLV® Pestilyse® plus ≥99,9 %	glass	**7535.1**	2.5 l	~~612,00~~	**458,65**
Florisil®	for hydrocarbon index analysis, 60–100 mesh	plastic	**CN39.1**	100 g	~~552,40~~	**414,00**
			CN39.3	500 g	~~2136,75~~	**1602,40**
			CN39.2	1 kg	~~3588,00~~	**2690,65**
			CN39.4	2.5 kg	~~7490,25~~	**5617,50**
n-Hexane	ROTISOLV® ≥95 %, GC Ultra Grade	glass	**KK48.1**	2.5 l	~~1088,65~~	**816,00**
	ROTISOLV® Pestilyse® plus ≥96 %	glass	**7567.1**	2.5 l	~~1040,25~~	**780,00**
	ROTISOLV® Pestilyse® ≥97,5 %	glass	**T165.2**	1 l	~~434,65~~	**325,50**
			T165.1	2.5 l	~~987,75~~	**740,25**
			T165.3	4 l	~~1169,25~~	**549,40**
Hydrochloric acid	ROTIPURAN® ≥25 %, p.a., ISO	glass	**6331.1**	1 l	~~197,65~~	**147,75**
		plastic	**6331.3**	1 l	~~181,50~~	**135,75**
		glass	**6331.2**	2.5 l	~~346,15~~	**259,15**
		plastic	**6331.4**	2.5 l	~~330,00~~	**247,15**
			6331.5	10 l	~~927,40~~	**695,25**
			6331.7	25 l	~~2011,90~~	**1508,25**
Magnesium sulphate heptahydrate	≥99 %, p.a., ACS	plastic	**P027.1**	500 g	~~241,15~~	**180,40**
			P027.2	1 kg	~~386,25~~	**289,15**
			P027.3	2.5 kg	~~733,15~~	**549,40**
Petroleum ether 40–60 °C	ROTISOLV® Pestilyse® plus	glass	**7588.1**	2.5 l	~~749,25~~	**76,95**
	ROTISOLV® Pestilyse®	glass	**T170.2**	1 l	~~358,90~~	**561,40**
			T170.1	2.5 l	~~708,75~~	**268,90**
			T170.3	4 l	~~1008,00~~	**531,00**
Sodium sulphate	≥99 %, p.a., ACS, anhydrous, grained	plastic	**0966.1**	500 g	~~201,00~~	**150,40**
			0966.2	1 kg	~~302,65~~	**226,50**
			0966.3	5 kg	~~1229,65~~	**921,75**

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Accessories for the determination of the Hydrocarbon Index

SPE glass column CHROMABOND® Na_2SO_4/Florisil®

Macherey-Nagel. Material: glass (borosilicate type I) with glass fiber (GF) filter elements.

For environmental analysis

Extraction of hydrocarbons from water according to DIN H53 / ISO DIS 9377-4

Special combination phase of sodium sulphate and Florisil®

Column volume (ml)	Filling quantity (mg)	Pack.	Art. No.	Pack Qty.	DKK	DKK
6	2000/2000	6 x 5 units	**N744.1**	30 unit(s)	~~1.789,90~~	**1.610,65**
6	2000/2000	5 x 50 units	**N744.2**	250 unit(s)	~~11.932,50~~	**10.739,25**

Hydrocarbons in water acc. to ISO DIS 9377-4 / DIN H-53

Internal standard solution:
Solve 20 mg *n*-tetracontane ($C_{40}H_{82}$) in cyclohexane, add 20 ml *n*-nonane (C_9H_{20}) and fill up to 1 l with cyclohexane (corresponds to extraction agent stock solution, Art. No. 1750.2). To prepare the extraction standard solution dilute the stock solution with cyclohexane 1:10 immediately before use.

Sample pretreatment:
Adjust 900 ml water (10 °C) to pH 2 with HCl and add 80 g $MgSO_4$. Add 50 ml of the extraction solution, close the bottle, and stir the suspension intensively for 30 min. Add water and separate the organic from the aqueous phase.

Column conditioning:
5 ml cyclohexane

Sample application:
Slowly force or aspirate the organic solution through the column (SPE glass column CHROMABOND® Na_2SO_4/Florisil®, Réf. N744.1).

Elution:
Wash with 10 mL cyclohexane.

Evaporation:
Evaporate the combined organic solutions carefully to 1 ml or less. If necessary, fill up to 1 ml exactly. (Evaporation to 1 ml can be unnecessary, if the hydrocarbon content is high.)

Further analysis:
Gas chromatography (GC Capillary Columns ROTI®Cap-5 HT, ROTI®Cap-5, ROTI®Cap-1)

GC Capillary Columns ROTI®Cap-5 HT

Silarylene Phase

- **Non-polar**
- Selectivity similar to a **5 % phenyl – 95 % methylpolysiloxane phase**
- Low column bleed
- **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

Column length	Ø internal	Film thickness	Art. No.	Pack Qty.	DKK	DKK
15 m	0.25 mm	0.10 µm	**3883.1**	1 unit(s)	~~2.572,15~~	**2.314,50**
	0.32 mm		**3884.1**	1 unit(s)	~~2.652,75~~	**2.387,25**
	0.25 mm	0.25 µm	**3885.1**	1 unit(s)	~~2.572,15~~	**2.314,50**
	0.32 mm		**3888.1**	1 unit(s)	~~2.652,75~~	**2.387,25**
30 m	0.25 mm	0.10 µm	**3889.1**	1 unit(s)	~~4.152,40~~	**3.736,90**
	0.32 mm		**3890.1**	1 unit(s)	~~4.394,25~~	**3.954,40**
	0.25 mm	0.25 µm	**3891.1**	1 unit(s)	~~4.152,40~~	**3.736,90**
	0.32 mm		**3892.1**	1 unit(s)	~~4.394,25~~	**3.954,40**

GC Capillary Columns ROTI®Cap-5

5 % Phenyl – 95 % Methylpolysiloxane

- **Non-polar**
- **Application areas:** standard phase with large range of applications

Similar phases:

- SE-54, SE-52, HP-5, SPB®-5, CP-SIL 8, Rtx-5, 007-5, BP5, MDN-5, AT™-5, ZB-5
- Équivalent aux phases USP G27 / G36

Column length	Ø internal	Film thickness	Art. No.	Pack Qty.	DKK	DKK
10 m	0.25 mm	0.25 µm	**6253.1**	1 unit(s)	~~1.685,25~~	**1.516,50**
25 m	0.20 mm	0.50 µm	**6283.1**	1 unit(s)	~~3.588,00~~	**3.228,75**
25 m	0.32 mm	1.00 µm	**6298.1**	1 unit(s)	~~3.829,90~~	**3.446,65**
30 m	0.32 mm	0.10 µm	**1387.1**	1 unit(s)	~~3.829,90~~	**3.446,65**
30 m	0.25 mm	0.25 µm	**CN11.1**	1 unit(s)	~~3.588,00~~	**3.228,75**
50 m	0.32 mm	1.00 µm	**6324.1**	1 unit(s)	~~6.442,15~~	**5.797,50**

GC Capillary Columns ROTI®Cap-1

100 % Dimethylpolysiloxane

- **Non-polar**
- **Application areas:** Excellent column for routine applications.

Similar phases:

- OV-1, DB-1, SE-30, HP-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

Column length	Ø internal	Film thickness	Art. No.	Pack Qty.	DKK	DKK
10 m	0.25 mm	0.25 µm	**6081.1**	1 unit(s)	~~1.685,25~~	**1.516,50**
15 m	0.53 mm	1.00 µm	**2849.1**	1 unit(s)	~~2.491,50~~	**2.242,15**
15 m	0.32 mm	0.25 µm	**6074.1**	1 unit(s)	~~2.298,00~~	**2.067,75**
25 m	0.25 mm	0.25 µm	**6135.1**	1 unit(s)	~~3.588,00~~	**3.228,75**
25 m	0.32 mm	0.25 µm	**6148.1**	1 unit(s)	~~3.829,90~~	**3.446,65**
30 m	0.32 mm	0.25 µm	**1220.1**	1 unit(s)	~~3.829,90~~	**3.446,65**
50 m	0.53 mm	5.00 µm	**6222.1**	1 unit(s)	~~6.853,15~~	**6.167,65**

Metallo-organic single element standards

ROTI®Star

- Certified and traceable to NIST standard reference materials
- Manufactured in accordance with **ISO 17034** in an accredited environment
- Tested in a laboratory accredited to **ISO/IEC 17025**
- Detailed, batch-specific certificate of analysis is available online

Properties:

- Metallo-organic compounds in 75 cSt hydrocarbon oil
- Trace metal concentrations determined by ICP-OES
- Suitable for use with ASTM D4927, D4951, D5185, D5708, D6443, D6481, D6595 and other standard test methods for elemental analysis
- Many of these standards are sulfonate-based and thus contain high levels of sulfur
- Excellent for AAS, ICP, RDE, XRF and other elemental analysis techniques
- 12 months shelf life for unopened bottle

Product name	Purity	Art. No.	Pack Qty.	DKK	DKK
Aluminium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Al, Metallo-Organic Certified Reference Material	1PN8.1	50 g	~~846,75~~	719,25
Antimony Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Sb, Metallo-Organic Certified Reference Material	1PLN.1	50 g	~~846,75~~	719,25
Arsenic Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g As, Metallo-Organic Certified Reference Material	1PN7.1	50 g	~~927,40~~	787,90
Barium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Ba, Metallo-Organic Certified Reference Material	1PLP.1	50 g	~~846,75~~	719,25
Beryllium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Be, Metallo-Organic Certified Reference Material	1PLL.1	50 g	~~959,65~~	815,25
Bismuth Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Bi, Metallo-Organic Certified Reference Material	1PNC.1	50 g	~~846,75~~	719,25
Boron Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g B, Metallo-Organic Certified Reference Material	1PN2.1	50 g	~~846,75~~	719,25
Cadmium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Cd, Metallo-Organic Certified Reference Material	1PP1.1	50 g	~~846,75~~	719,25
Calcium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Ca, Metallo-Organic Certified Reference Material	1PNK.1	50 g	~~1.169,25~~	993,40
Cerium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Ce, Metallo-Organic Certified Reference Material	1PN1.1	50 g	~~846,75~~	719,25
Chromium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Cr, Metallo-Organic Certified Reference Material	1PNN.1	50 g	~~959,65~~	815,25
Cobalt Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Co, Metallo-Organic Certified Reference Material	1PNX.1	50 g	~~927,40~~	787,90
Copper Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Cu, Metallo-Organic Certified Reference Material	1PLC.1	50 g	~~685,50~~	582,40
Iron Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Fe, Metallo-Organic Certified Reference Material	1PLA.1	50 g	~~846,75~~	719,25
Lanthanum Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g La, Metallo-Organic Certified Reference Material	1PNP.1	50 g	~~685,50~~	582,40
Lead Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Pb, Metallo-Organic Certified Reference Material	1PLH.1	50 g	~~846,75~~	719,25
Lithium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Li, Metallo-Organic Certified Reference Material	1PP3.1	50 g	~~846,75~~	719,25
Magnesium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Mg, Metallo-Organic Certified Reference Material	1PNA.1	50 g	~~846,75~~	719,25
Manganese Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Mn, Metallo-Organic Certified Reference Material	1PN0.1	50 g	~~1.572,40~~	1.336,15
Mercury Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Hg, Metallo-Organic Certified Reference Material	1PLK.1	50 g	~~959,65~~	815,25
Molybdenum Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Mo, Metallo-Organic Certified Reference Material	1PNH.1	50 g	~~846,75~~	719,25
Neodymium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Nd, Metallo-Organic Certified Reference Material	25TA.1	50 g	~~626,25~~	547,15
Nickel Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Ni, Metallo-Organic Certified Reference Material	1PL9.1	50 g	~~802,50~~	681,40
Phosphorus Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g P, Metallo-Organic Certified Reference Material	1PLX.1	50 g	~~802,50~~	681,40
Potassium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g K, Metallo-Organic Certified Reference Material	1PNY.1	50 g	~~846,75~~	719,25
Scandium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Sc, Metallo-Organic Certified Reference Material	1PL8.1	50 g	~~1.330,50~~	1.130,65
Selenium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Se, Metallo-Organic Certified Reference Material	1PN3.1	50 g	~~959,65~~	815,25
Silicium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Si, Metallo-Organic Certified Reference Material	1PN6.1	50 g	~~846,75~~	719,25
Silver Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Ag, Metallo-Organic Certified Reference Material	1PL7.1	50 g	~~802,50~~	681,40
Sodium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Na, Metallo-Organic Certified Reference Material	1PP2.1	50 g	~~846,75~~	719,25
Strontium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Sr, Metallo-Organic Certified Reference Material	1PLY.1	50 g	~~685,50~~	582,40
Sulphur Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g S, Metallo-Organic Certified Reference Material	1PNT.1	50 g	~~802,50~~	681,40
Thallium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Tl, Metallo-Organic Certified Reference Material	1PN4.1	50 g	~~959,65~~	815,25
Tin Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Sn, Metallo-Organic Certified Reference Material	1PN9.1	50 g	~~846,75~~	719,25
Titanium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Ti, Metallo-Organic Certified Reference Material	1PN5.1	50 g	~~1.201,50~~	1.021,15
Tungsten Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g W, Metallo-Organic Certified Reference Material	1PNE.1	50 g	~~733,15~~	622,50
Vanadium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g V, Metallo-Organic Certified Reference Material	1PP0.1	50 g	~~846,75~~	719,25
Yttrium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Y, Metallo-Organic Certified Reference Material	1PLT.1	50 g	~~685,50~~	582,40
Zinc Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Zn, Metallo-Organic Certified Reference Material	1PNL.1	50 g	~~1.169,25~~	993,40
Zirconium Standard Solution in 75 cSt Hydrocarbon Oil	1 000 µg/g Zr, Metallo-Organic Certified Reference Material	1PLE.1	50 g	~~846,75~~	719,25

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FRISENETTE

Phone

+45 86 34 22 44 · roth@frisenette.dk