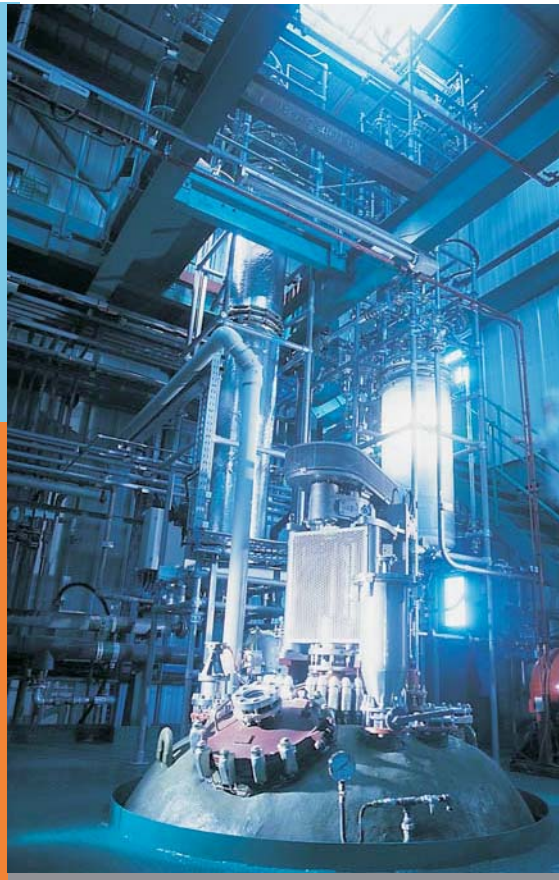
Fisher Chemical

Analytical Reagents Catalogue

Volume 1

Part of Thermo Fisher Scientific

Choice, Quality and Value from the World Leader in Serving Science



Welcome

Welcome to Volume 1 of the Fisher Chemical Analytical Reagents catalogue, a reference handbook from Thermo Fisher Scientific. Our cutting edge analytical technology and more than 100 years experience in the manufacture and supply of an extensive portfolio of analytical reagents ensures that Fisher Scientific has the ability to safely provide our customers with consistent, high purity chemicals and logistic. Thermo Fisher Scientific is the supplier of choice when it comes to your analytical reagent needs.

Why choose Fisher Chemical Analytical Reagents?

We hold ISO14001 and ISO9001:2000 environmental and quality accreditations, which incorporates a guarantee that we will supply product that meets the current catalogue specification.
All of our CertiFied (AR and HPLC grade) products include lot specific data on the label and, for HPLC solvents, a UV absorbance curve further demonstrating that we are meeting the stringent requirements that the laboratory marketplace demands.
Consistency and continuity are assured through our multiple manufacturing facilities which include;
Solvent distillation and repackaging facilities
Re-crystallisation and multi purpose manufacturing capability
An extensive QA/QC department
Volumetric solution manufacture and repacking capabilities.

Through the Fisher Scientific organisations, you have access to industry leading e-commerce, logistics and procurement solutions which allow you to optimise the supply chain process.

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Fisher Chemical range & application guide

Fisher Chemical analytical reagents are available in different grades designed for your application.
For easy reading the different grades have been colour coded in this catalogue and carry a special quality label on the bottle.

Certified HPLC-MS

HPLC solvents specified for use with a MS detector. Guaranteed for low level of trace metals and non volatile residue. Low level of absorbance, performance under gradient conditions.

HPLC LC-MS

Certified HPLC Gradient

HPLC solvents suitable for Gradient analysis. Guaranteed for low absorbance/high UV transmission and low concentration of non-volatile impurities. In some instance may be suitable for fluorescence detection. Actual lot analysis including absorbance curve on the pack label.

Certified AR

Certified Advanced HPLC Gradient

Advanced HPLC gradient grade. HPLC gradient guarantee with a very low level of gradient baseline drift. Actual lot analysis including absorbance curve on the pack label.

advanced HPLC

HPLC Fluorescence

HPLC solvents for Fluorescence and UV detectors. Guaranteed for low fluorescence between 250 nm and 750 nm emission & excitation wavelenghts. Low UV absorbance/high transmission.

HPLC fluorescence

HPLC Electrochemical

HPLC solvents for Electrochemical and UV detectors. Guaranteed for electrochemical activity and low UV absorbance/high transmission.

HPLC electrochemical

GPC

Gel Permeation Chromatography. Low water, residue and colour. Unique chemical range – Actual lot analysis on the pack label.

GPC

Optima® grade

ICP-MS Ultra Traces Metal® analysis. Ultrapure acids, bases & water tested for up to 65 parameters at 1-100 ppt level. The highest performance acid range.

Optima

Trace Metal® grade

ICP Traces Metal® analysis . Acids, bases tested for up to 65 parameters at 1 ppb level.

TraceMetal

Primar Plus® grade

AAS & ICP Trace metal® analysis acids and bases tested for up to 26 parameters at ppb level. Single and multi element standards solutions with NIST traceability. Actual lot analysis on the pack label.

PrimarPlus

Distol®

For pesticide and petroleum residue analysis. Specified for ECD, NPD and FID detectors. Supplied with GC analysis.

Distol

Dried Distilled

For organic synthesis. Guaranteed low water contents.

Dried distilled

For Analysis

Certified reagents for analytical application. Tested for up to 18 guaranteed parameters. Actual lot analysis on the pack label.

Certified AR

For Analysis Conform Eur.Ph.

Certified reagents for analytical application. Conform to Eur.Pharmacopeia. Tested for up to 18 guaranteed parameters. In some instance may be meet USP and BP Pharmacopeia. Actual lot analysis on the pack label.

Certified AR

Specified SLR

General laboratory reagents for Research application. Extra-Pure grade - Tested for major parameters.

Specified

Volumetric solution

Standard solutions for Volumetric analysis.
Accuracy factor ±0,001
NIST traceability. Ready to use.

Volumetric

Solutrate

Concentrated solutions for volumetric analysis.
Supplied in singles or pack of six sealed ampoules.

Solutrate

Buffers

Standard (colour coded) NIST certified solutions for pH metry. Ready to use, with an accuracy factor of ±0.02 pH at 20°C. Also available as concentrates, packaged in ampoules.

Buffers

Aqualine™

Karl Fischer reagents for the determination of moisture Volumetric and Coulometric reagents and standards. Pyridine free, rapid titration and a stable end-point.

Aqualine™ volumetric

Packaging

Fisher Chemical products offer convenience and ultimate safety for the lab chemist and the warehouse manager

1 2 3 4

Plastic bottle HDPE

1	500 ml GL45	Natural HDPE	177 x Ø 78 mm	52 g
	1000 ml GL45	Natural HDPE	212 x 97 x 97 mm	112 g
2	1000 ml GL45	Black HDPE	213 x 97 x 97 mm	112 g
3	2500 ml GL45	Black HDPE	292 x 127 x 127 mm	158 g
4	2500 ml GL45	Natural HDPE	291 x 127 x 127 mm	158 g
	2500 ml GL45	Natural HDPE	300 x Ø 134 mm	190 g
	2500 ml GL45	Black HDPE	301 x Ø 134 mm	190 g
	5000 ml GL45	Natural HDPE	339 x 168 x 168 mm	321 g
	5000 ml GL45	Black HDPE	340 x 168 x 168 mm	321 g

5 6 7 8 9

Glass bottle

5	100 ml GL31	Amber Glass	122 x 50 x 50 mm	140 g
6	250 ml GL31	Amber Glass	160 x 63 x 63 mm	270 g
7	500 ml GL54	Amber Glass	183 x Ø 83 mm	430 g
8	1000 ml GL45	Amber Glass	230 x Ø 102 mm	685 g
9	2500 ml GL45	Amber Glass	298 x Ø 134 mm	1300 g
	100 ml GL31	Coated Amber Glass	122 x 51 x 51 mm	157 g
	250 ml GL31	Coated Amber Glass	160 x 64 x 64 mm	287 g
	500 ml GL54	Coated Amber Glass	183 x Ø 84 mm	453 g
	1000 ml GL45	Coated Amber Glass	230 x Ø 103 mm	720 g
	2500 ml GL45	Coated Amber Glass	298 x Ø 135 mm	1360 g

15 16 17

10 11 12 13 14

HDPE Plastic bottle solids (wide opening)

10	150 ml GL40	white HDPE	85 x 58 x 58 mm	30 g
11	300 ml GL40	white HDPE	108 x 70 x 70 mm	38 g
12	500 ml GL54	white HDPE	130 x 81 x 81 mm	65 g
13	750 ml GL54	white HDPE	143 x 93 x 93 mm	77 g
14	1000 ml GL54	white HDPE	155 x 106 x 106 mm	100 g
15	1500 ml GL80	white HDPE	176 x 118 x 118 mm	140 g
16	2300 ml GL80	white HDPE	199 x 135 x 135 mm	205 g
17	3500 ml GL80	white HDPE	255 x 190 x 190 mm	376 g

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Glass bottle solids

	30 ml GL25	Amber Glass	66 x Ø 33 mm	40 g
18	100 ml GL32	Amber Glass	110 x 45 x 45 mm	300 g
	250 ml GL45	Amber Glass	150 x 60 x 60 mm	750 g
	500 ml GL54	Amber Glass	175 x 70 x 70 mm	1500 g
	1000 ml GL54	Amber Glass	215 x 90 x 90 mm	3000 g

All chemicals are sent in recyclable boxes that are compliant with UN-regulations:

- **secure transportation**
- **reduce storage volume**

Plastic Coated bottle *avoiding leakage when bottle breaks*

Accessories for drum

Order by lot numbers, *at a cheaper price*

KF - Plastic Keg

GB - Amber Glass Bottle

PB - Plastic Bottle

BB - Bag in Box

Pj - Plastic jar

Unique system of packing that employs recycled paper

GC - Coated Glass Bottle

PB - Plastic Bottle

AM - Ampoule

Cardboard tube

19

20

21

22

23

24

25

Other packagings

19		Plastic Ampoule	HDPE		15 g
20	5 l	drum GL45	Aluminium	300 x Ø 175 mm	360 g
21	5 l	drum with extractible cap GL45	Mild steel	295 x Ø 165 mm	460 g
22	10 l	Cubitainer	Bag HDPE in Box	236 x 236 x 236 mm	460 g
23	10 l	Plastic Jerrican	HDPE transparent & black	325 x 195 x 230 mm	640 g
24	25 l	Mild steel drum (2" & 3/4")	Mild steel internally lacquered	473 x Ø 285 mm	3840 g
	25 l	Plastic drum	HDPE	445 x 286 x 286 mm	1350 g
	15 l	Plastic screw top keg	PP	297 x Ø 338 mm	810 g
25	20 l	Plastic screw top keg	PP	377 x Ø 338 mm	1080 g
	25 l	Plastic screw top keg	PP	457 x Ø 338 mm	1370 g
26	25 kg	Fibre keg	Fibre		3000 g

26

How to read the catalogue

This catalogue has been designed for your convenience and as your companion in the laboratory carrying the full chemical data and specifications of the complete product range.

1 colour coded application :

2 application grade
3 pack size & packaging
4 price per unit & box
5 physical and chemical data
6 transportation data
7 hazard symbol
8 specifications

How to read the Fisher Chemical product codes:

9 Fisher packaging rules: e.g. code: A/0627/15

	Code suffix	Pack size
Liquids	07	= 250ML
	08	= 500ML
	15	= 1L
	17	= 2.5L
	21	= 5L
	24	= 10L
	25	= 25L

	Code suffix	Pack size
Solids	48	= 100GR
	50	= 250GR
	53	= 500GR
	60	= 1KG
	63	= 3KG
	65	= 5KG
	70	= 25KG

Acetonitrile — Certified, Eur.Ph
HPLC for gradient analysis

HPLC

packaging		product code	€ x1	€ x4
1 l	Glass bottle	A/0627/15	61.19	52.01
2.5 l	Glass bottle	A/0627/17	125.57	106.74
2.5 l	Coated Glass Bottle	A/0627/PB17	127.07	108.01
5 l	Aluminium drum	A/0627/21	254.35	216.20
25 l	Metal drum	A/0627/DH25	on request	
200 l	Metal drum	A/0627/27SS	on request	

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F
Xn

Assay (CG): >99.9%

Guaranteed analysis
Acidity / Alkalinity ..... <0.0008 meq/g
Residue after evaporation ..... <2 ppm
Water ..... <0.01%

Absorbance specification
Absorbance max. (cuve 10 mm, eau HPLC)

195 nm	<0.1 A.U.	230 nm	<0.005 A.U.
200 nm	<0.05 A.U.	240 nm	<0.005 A.U.
210 nm	<0.02 A.U.	250 nm	<0.005 A.U.
220 nm	<0.01 A.U.	Gradient (max eluted peak).	<0.01 A.U.

HPLC Analysis :
Absorbance of the largest eluted peak < 0.01 A.U.
Conditions :
Column: C 18 reverse phase.
Flow: 2 ml / min
Wavelength 210 nm
Absorbance range: 0-0.32 AU.
Solvent A: Water
Solvent B: acetonitrile
Gradient: linear 95% /5% B 100% B during 20 min.
Analysis batch and absorbance curve on the label.
Filtered to 0.2 µm.
see Tap table page 275

Get an immediate overview of the range of the following Fisher Chemical product families

EASY ACCESS

Acids & Bases for Trace analysis **see page 9**
Buffers **see page 45**
Indicators **see page 127**
Karl Fischer reagents "Aqualine®" **see page 137**
Mono & Multi-elemental Standard solutions **see page 256**
Reagents & Solvents conform to Pharmacopeia **see page 191**
Tap & compatibilty material chart **see page 279**
Volumetric Standards **see page 266**

OPTIMA® grade for Ultra Trace Metal analysis

Optima — as low as 1-100 ppt level detection, tested up to 65 parameters
For ICP-MS & ICP equipment

designation	packsize	package type	product code	€ x1	€ x4	page
Acetic acid glacial	250 ml	Bottle Teflon FEP	A/0415/07	251.00	213.40/6	2
	500 ml	Bottle Teflon FEP	A/0415/08	373.00	317.10/6	2
	1 l	Bottle Teflon FEP	A/0415/15	601.00	510.90/6	2
Ammonia solution 20%	250 ml	HDPE bottle	A/3365/07	161.00	136.90/6	17
	500 ml	HDPE bottle	A/3365/08	289.00	245.70/6	17
	1 l	HDPE bottle	A/3365/15	504.00	428.40/6	17
Hydrobromic acid 44-49%	500 ml	Bottle Teflon FEP	H/0955/08	563.00	478.60/6	111
Hydrochloric acid 32-35%	250 ml	Bottle Teflon PFA	H/1205/07	241.00	204.90/6	113
	500 ml	Bottle Teflon PFA	H/1205/08	368.00	312.80/6	113
	1 l	Bottle Teflon PFA	H/1205/15	606.00	515.10/6	113
Hydrofluoric acid 47-51%	250 ml	Bottle Teflon PFA	H/1435/07	328.00	278.80/6	116
	500 ml	Bottle Teflon PFA	H/1435/08	490.00	416.50/6	116
	1 l	Bottle Teflon PFA	H/1435/15	877.00	745.50/6	116
Hydrogen peroxide 30-32 %	500 ml	Teflon FEP bottle	H/1830/08	204.00	173.40/6	117
Nitric acid 67-70%	250 ml	Bottle Teflon FEP	N/2225/07	241.00	204.90/6	170
	500 ml	Bottle Tef[illegible]	[illegible]	[illegible]	[illegible]	170
	1 l	Bottle [illegible]	[illegible]	[illegible]	[illegible]	170
Perchloric acid 67-71%	250 ml	Teflon [illegible]	[illegible]	[illegible]	[illegible]	178
	500 ml	Teflon FE[illegible]	[illegible]	[illegible]	[illegible]	178
	1 l	Teflon FEP bottle	P/1295/15	720.00	612.00/6	178
Sulfuric acid 93-98%	250 ml	Bottle Teflon FEP	S/9225/07	276.00	234.60/6	272
	500 ml	Bottle Teflon FEP	S/9225/08	405.00	344.30/6	272
	1 l	Bottle Teflon FEP	S/9225/15	712.00	605.20/6	272
Water	500 ml	Teflon bottle	W/0115/08	29.00	24.70/6	297
	1 l	Teflon bottle	W/0115/15	48.00	40.80/6	297

All related products in one easy to read table!

Technical Information **see page 12 -16**

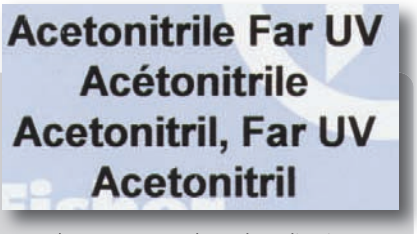
Labeling

Fisher Chemical labels provide all necessary information to work safely in your laboratory and some unique benefits for your daily work.

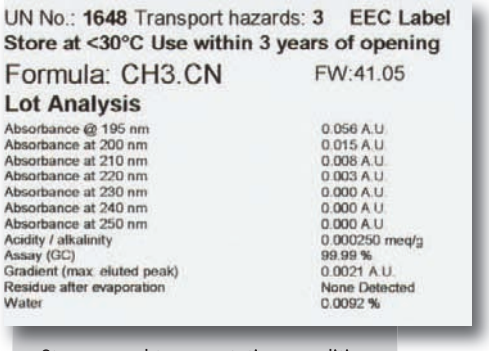
What is CertiFied ?

- Lot analysis on the label – the equivalent to a Certificate of Analysis = CoA
- Applies to AR and HPLC solvents
- HPLC solvents carry a lot specific absorbance curve on the label

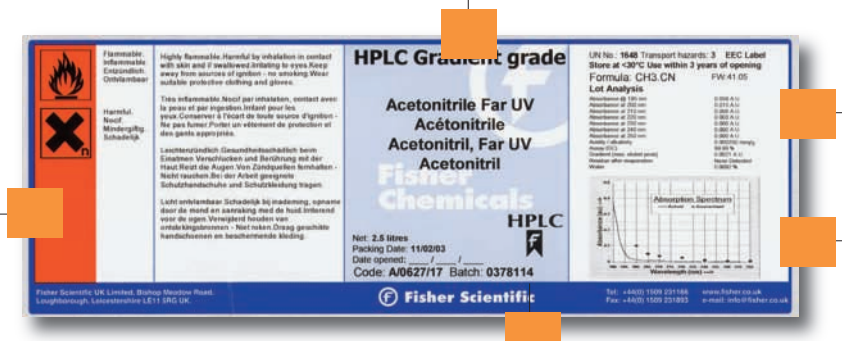
- Safety handling
- Risk and Safety phrases in 4 languages
- Full MSDS on the web



- Product name, grade and application

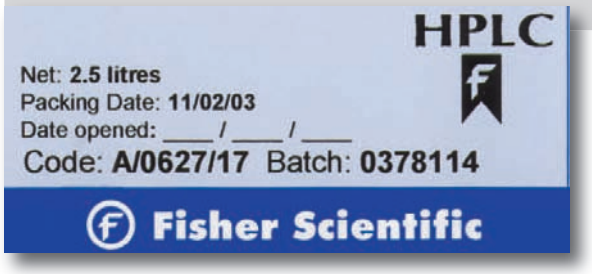


- Storage and transportation conditions
- Lot Analysis showing actual QC data

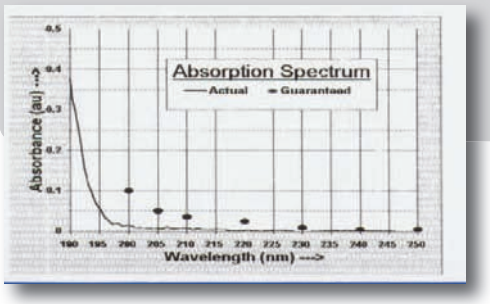


The labels of certified HPLC solvents carry detailed QC data and specifications from the catalogue

- Date opened: for your personal use
- Code: reference used in the catalogue / for ordering purposes
- Batch: use to retrieve certificates of analysis on the Internet for full traceability



- Dots represent specifications in the catalogue
- Absorption curve represents actual lot analysis
- This is a unique feature for Fisher Chemical Certified products



Feature products

Trace metal analysis as low as 1 to 100 ppt

OPTIMA® for Ultra Trace Metal® analysis

as low as 1-100 ppt level detection

The highest purity of acids & bases: all products are certified below 100 parts per trillion (ppt or pg/g). This range contains the fewest trace metallic impurities of any other acids tested up to 65 parameters at ppt levels.

Optima

Fisher Chemical Optima® Packaging:

Teflon FEP bottle, Teflon PFA with HCl and HF (to avoid vapor permeability issues)

- Bottled in class 10 clean room conditions.
- Individually double bagged in class 100 clean room for product integrity.
- Each bottle is packaged individually.

Trace Metal® Grade for Trace Metal® analysis

1 ppb level detection

High purity acids and bases: these products are certified below one part per billion (ppb or ng/g) and tested up to 65 parameters at ppb levels.

TraceMetal

Fisher Chemical Trace Metal® Packaging:

- Safety packaging PVC coated bottle: even if the glass bottle breaks, the safety coating will remain intact.
- Bottled in class 10 clean room conditions.

PRIMAR PLUS® for Trace Metal® analysis

1-10 ppb level detection

Range of acids for trace elemental analysis tested up to 40 parameters at ppb levels.

PrimarPlus

Fisher Chemical Primar Plus® Packaging:

- Safety packaging coated glass bottle.

Instrumentation from Thermo Fisher Scientific

ICP-Mass Spectrometry

ICP-MS is the routine tool for multielement analysis. From ultra-trace (ppq) to matrix (%) elements in a large variety of samples – the whole periodic table can be analyzed routinely in a few minutes. Thermo Fisher Scientific provides the most complete range of ICP-MS instrumentation.

To exploit the full power of ICP-MS chemicals of highest quality and purity are prerequisite.

Thermo Fisher Scientific with its combined strengths in chemicals and analytical instrumentation guarantees unmatched quality for highest performance and undisputable results. Fisher Chemical Optima® Series provides a full range of chemicals for ultra-pure analysis – superiority is guaranteed by quality control when using unparalleled instrumentation from Thermo Fisher Scientific.

For more information, go to www.thermo.com/trace

Instrumentation from Thermo Fisher Scientific

ICP-Emission Spectrometry

Fast multielement analysis

ICP is a fast multielement analysis technique capable of determining up to 72 elements in a very wide range of samples including food, environmental, metallurgy and petrochemical samples. With detection limits ranging from sub ppb to % levels and typical analysis times of 60-90 seconds, it is ideally suited for busy laboratories with a large workload. The Thermo Scientific iCAP 6000 Series is a dramatically different ICP specifically designed to have high performance, occupy less bench space, be easier to use, and reduce the cost of ownership.

The best performing ICP on the market deserves the best reagents. The combined strengths in reagents and instrumentation from the Thermo Scientific brand guarantees unmatched quality for highest performance and the best results. Fisher Chemical Trace Metal® and Primar® grade reagents allow the ultimate performance of the iCAP to be achieved and guarantee high quality results every time.

For more information, go to www.thermo.com/trace

Instrumentation from Thermo Fisher Scientific

AA spectrometry

AA spectrometry provides parts per million and parts per billion detection limits for most metallic elements in many different sample matrices with minimal interferences. Although invented over 50 years ago AA is still the technique of choice for many laboratories. The Thermo Scientific brand includes revolutionary stylish, intelligent and fully automatic AA spectrometers coupled with intelligent accessories that will meet and exceed your performance criteria for a wide range of analyses including environmental, clinical, food and WEEE/RoHS applications.

For more information, go to www.thermo.com/trace

For more information, go to www.thermo.com/elemental

Mono & Multi-elemental Standard solutions Certified

SPEX CertiPrep

As the recognised industry leader, only SPEX Certiprep can provide its unique "Triple Check Program" and comprehensive Certificates of Analysis

- ICP-AES analysis for the major element
- Classical wet assay for the major element
- Final ECP-AES analysis for the trace metal® impurities in the actual solution

The combination of SPEX and the Fisher Chemical brand offers superior quality Inorganic Certified Reference Materials for AAS, ICP,ICP-MS,IC and XRF techniques. Now we also offer NEW Organic Certified Reference Materials for GC, GC-MS and HPLC techniques. All materials are manufactured from the highest purity materials available, tested on our state-of-the-art instrumentation under the internationally accredited ISO 9001:2000 quality assurance program. These standards are manufactured under a quality system complying with ISO14025:2000 Ask for your copy of the SPEX catalog.

HPLC Solvents

HPLC

Accurate and consistent HPLC results using the highest quality chemicals.

To achieve accurate and consistent results from HPLC analysis it is essential that the chemicals used are of the highest purity. Fisher Scientific has over 100 years of experience in the production of high purity solvents - ensuring we can meet the needs of all our end users.

High Class Manufacturing and Customer Care

We pride ourselves on continually looking for ways to improve our purification processes, allowing us to offer solvents to increase stringent specifications. The following qualities enable us to maintain our leading position in the analytical market:

Product and service innovation

- Continuous investment
- ISO9002 and ISO14001 accreditation
- Quality Control consisting of four sections: Chromatography, Spectroscopy, Trace Metals Analysis and Classical Techniques
- Emphasis on safety and packaging
- Dedicated team of professionals

Diverse customer requirements have led us to develop products that meet the needs of specific applications. These include:

- Solvents, buffers and reagents for HPLC
- Solvents for fluorescence detection
- Solvents and reagents for electrochemical detection
- Solvents for LC-MS detection: "Liquid Chromatography mass spectrometry"
- Solvents for GPC: "Gel Permeation Chromatography"

HPLC LC-MS Solvents

HPLC LC-MS

Our new range of solvents has been developed to meet the stringent needs of LC-MS technology.

Fisher Chemical LC-MS solvents have: High quality, reproducible performance

- Increase the sensitivity of LC-MS applications
- True analyte peaks (< 50 ppb metal ions) for better analyte identification
- Smooth, flat baselines from low diode array detector background
- High ionization efficiency from low impurity levels

Quality characteristics

- Low residue
- Filtered at 0.2 microns
- Low absorbance levels under gradient conditions
- Low levels of trace metals, including alkaline earth metals
- Low acidity and alkalinity level

Convenience

- Formulated and tested specifically for LC-MS applications
- Accuracy of data from ease of mass spectra interpretation
- LC-MS and LC-UV compatible based on low UV absorbances

Quality Control

- Minimal free acid/alkali levels
- Tested for non-volatile matter and other elements
- LC-MS use test performed

Cost Savings

- Longer column life due to minimal impurities in the mobile phase
- Clog free operation of LC-MS system due to the absence of particles and foreign matter

Instrumentation
from Thermo F sher Sc ent f c

Thermo Scientific - Liquid Chromatography Solutions

Our unique chromatography technologies accelerate and improve your LC separations through Thermo Scientific columns, conventional and high speed LC instrumentation, and fast scanning MS detection.

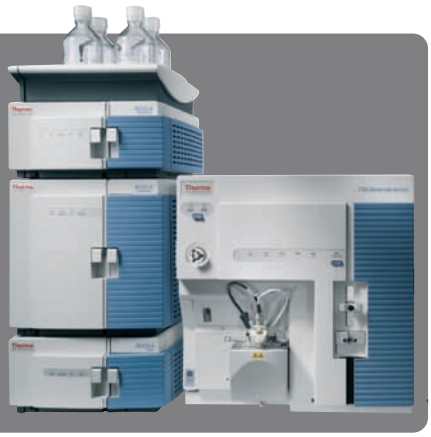
Accela High Speed HPLC and U-HPLC in One Efficient Limitless System

The Thermo Scientific Accela™ high-speed chromatographic system provides fast, efficient chromatographic separations over an expansive range of flow rates and pressures. Accela is designed to optimize performance of sub-two micron particle columns, providing seamless operation spanning conventional LC pressures from short LC columns, up to 15,000 psi for long-column separations of complex bio mixtures.

The Thermo Scientific TSQ Quantum Access is the benchmark triple quadrupole LC-MS/MS for pharmaceutical, environmental, food safety, clinical research, and forensics analysis. This system features the innovative QED-MS/MS scan mode for unmatched sensitivity and selectivity.

Thermo Fisher Scientific with its combined strength in chemicals and analytical instrumentation guarantees unmatched quality for highest performance and undisputable results.

For more information, go to www.thermo.com/chromatography



Product Guide per research activity

Products for ACADEMIC RESEARCH

for analytical experiments in the university and research institutes

- **HPLC , HPLC-MS**
  - Certified solvents
  - Certified Reagents & Buffers

  HPLC | HPLC LC-MS

- **Liquid chromatography & TLC (Thin Layer Chromatography)**
  - Solvents "For analysis " & "Extra-pure" grade

  Certified AR | Specified LR

- **Solvents "For analysis" & "Extra-pure" grade**

  Specified LR

- **Others products:**
  - Dried Solvents grade
  - Buffer standard solutions (ready to use or concentrated) (see table page 45)
  - Volumetric standard solutions (see table page 266)

  Buffers | Solutrate

Products for ENVIRONMENTAL RESEARCH

for water control, trace and metal analysis at analytical laboratories

- **AAS, ICP & ICP-MS**
  - Acids, Bases & water Optima®, Trace Metal® and Primar Plus® grade (see table page 9)
  - Mono & Multi-elemental standard solution-NIST Traceability (see table page 256)

  Optima | TraceMetal | PrimarPlus

- **HPLC , UPLC & HPLC-MS**
  - Solvents Certified
  - Reagents & Buffers Certified

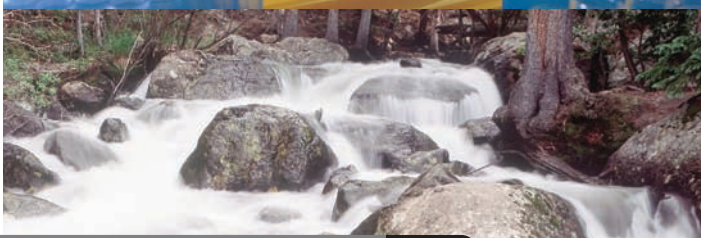
  HPLC LC-MS | HPLC

- **Gas Chromatography-GC**
  - Solvents for Pesticides Residue analysis Distol®

  Distol

- **Titrations**
  - Buffer standard solution (ready to use or concentrated) (see table page 45)
  - Volumetric standard Solution (see table page 266)
  - Karl Fischer Aqualine® reagents (see table page 137)
  - Acids & bases for analysis grade
  - Indicator & Stains (see table page 127)

  Buffers | Solutrate | Aqualine™ volumetric



for industrial research and production analytical control laboratories.

- **HPLC, UPLC & HPLC-MS**
  - Certified solvents
  - Certified Reagents & Buffers

HPLC HPLC

- **Titrations**
  - Buffer standard solution (ready to use or concentrated) (see table page 45)
  - Volumetric standard solutions (see table page 266)
  - Karl Fischer Aqualine® reagents (see table page 137)
  - Acids & bases for analysis grade
  - Indicator & Stains (see table page 127)

Aqualine™ volumetric

Solutrate

- **Liquid chromatography & TLC (Thin Layer Chromatography)**
  - Solvents "For analysis " & "Extra-pure" grade

Certified AR Specified LR

- **Gas Chromatography**-GC
  - Distol®, solvents for Pesticides Residue analysis

Distol

Instrumentation

from Thermo Fisher Scientific

Health, Safety and Regulatory information

Hazard warning symbols

Substances with known hazards are labeled in accordance with UK Regulations and EEC Directives and show Hazard symbol(s), Substance Identification Number and phrases covering major Risk and Safety precautions. Hazard symbols and Risk and Safety phrase numbers are shown in the catalogue. Flash points (closed cup) and special storage conditions are being given where appropriate. In addition, recommendations for First Aid, Fire, Spillage and Disposal treatment are shown in code form at the end of an item's entry. Explanation of the codes, hazard symbols, and general advice can be found on the following pages. All the above information is available in the form of a Health and Safety Data Sheet which will be provided on request.

Toxic

Substances which present a serious risk of acute or chronic poisoning, by inhalation, ingestion or skin absorption.

Harmful

Substances which present moderate risks to health by inhalation, ingestion or skin absorption.

Irritant

Substances which are non-corrosive but are liable to cause inflammation through immediate, prolonged or repeated contact with the skin or mucous membranes.

Dangerous to the environment

Substances which, were they to enter into the environment, would present or might present an immediate or delayed danger for one or more components of the environment.

Corrosive

Substances which destroy living tissue.

Explosive

Substances which may explode under the effect of flame or heat or which are more sensitive to shock or friction than dinitrobenzene.

Flammable

Extremely flammable liquids have a flash point less than 0°C and a boiling point less than or equal to 35°C.
Highly flammable substances include:
(a) those which may become hot and finally catch fire in contact with air at ambient temperature without application of energy.
(b) those which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the source of ignition.
(c) those which are gaseous and flammable in air at normal pressure.
(d) those in contact with water or damp air which evolve highly flammable gases in dangerous quantities.
(e) liquids have a flash point below 21°C.
Flammable liquids are those having a flash point equal to or greater than 21°C and less than or equal to 55°C.

Oxidising

Substances which give rise to highly exothermic reactions in contact with other substances, particularly flammable substances.

Health & safety information

Risk and safety information

R1 Explosive when dry.
R2 Risk of explosion by shock, friction, fire or other sources of ignition.
R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R4 Forms very sensitive explosive metallic compounds.
R5 Heating may cause an explosion.
R6 Explosive with or without contact with air.
R7 May cause fire.
R8 Contact with combustible material may cause fire.
R9 Explosive when mixed with combustible material.
R10 Flammable.
R11 Highly flammable.
R12 Extremely flammable.
R14 Reacts violently with water.
R15 Contact with water liberates extremely flammable gases.
R16 Explosive when mixed with oxidizing substances.
R17 Spontaneously flammable in air.
R18 In use, may form flammable/explosive vapour-air mixture.
R19 May form explosive peroxides.
R20 Harmful by inhalation.
R21 Harmful in contact with skin.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R24 Toxic in contact with skin.
R25 Toxic if swallowed.
R26 Very toxic by inhalation.
R27 Very toxic in contact with skin.
R28 Very toxic if swallowed.
R29 Contact with water liberates toxic gas.
R30 Can become highly flammable in use.
R31 Contact with acids liberates toxic gas.
R32 Contact with acids liberates very toxic gas.
R33 Danger of cumulative effects.
R34 Causes burns.
R35 Causes severe burns.
R36 Irritating to eyes.
R37 Irritating to respiratory system.
R38 Irritating to skin.
R39 Danger of very serious irreversible effects.
R40 Possible risks of irreversible effects.
R41 Risk of serious damage to eyes.
R42 May cause sensitization by inhalation.
R43 May cause sensitization by skin contact.
R44 Risk of explosion if heated under confinement.
R45 May cause cancer.
R46 May cause heritable genetic damage.
R48 Danger of serious damage to health by prolonged exposure.
R49 May cause cancer by inhalation.
R50 Very toxic to aquatic organisms.
R51 Toxic to aquatic organisms.
R52 Harmful to aquatic organisms.
R53 May cause long-term adverse effects in the aquatic environment.
R54 Toxic to flora.
R55 Toxic to fauna.
R56 Toxic to soil organisms.
R57 Toxic to bees.
R58 May cause long-term adverse effects in the environment.
R59 Dangerous for the ozone layer.
R60 May impair fertility.
R61 May cause harm to the unborn child.
R62 Possible risk of impaired fertility.
R63 Possible risk of harm to the unborn child.
R64 May cause harm to breastfed babies.
R65 Harmful: may cause lung damage if swallowed.

Combination of R-phrases

R14/15 Reacts violently with water, liberating extremely flammable gases.
R15/29 Contact with water liberates toxic, extremely flammable gas.
R20/21 Harmful by inhalation and in contact with skin.
R20/22 Harmful by inhalation and if swallowed.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R21/22 Harmful in contact with skin and if swallowed.
R23/24 Toxic by inhalation and in contact with skin.
R23/25 Toxic by inhalation and if swallowed.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R24/25 Toxic in contact with skin and if swallowed.
R26/27 Very toxic by inhalation and in contact with skin.
R26/28 Very toxic by inhalation and if swallowed.
R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
R27/28 Very toxic in contact with skin and if swallowed.
R36/37 Irritating to eyes and respiratory system.
R36/38 Irritating to eyes and skin.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37/38 Irritating to respiratory system and skin.
R39/23 Toxic: danger of very serious irreversible effects through inhalation.
R39/24 Toxic: danger of very serious irreversible effects in contact with skin.
R39/25 Toxic: danger of very serious irreversible effects if swallowed.
R39/23/24 Toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R39/23/25 Toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R39/24/25 Toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R39/26 Very toxic: danger of very serious irreversible effects through inhalation.
R39/27 Very toxic: danger of very serious irreversible effects in contact with skin.

R39/28 Very toxic: danger of very serious irreversible effects if swallowed.
R39/26/27 Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R39/26/28 Very toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R39/27/28 Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R39/26/27/28 Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40/20 Harmful: possible risk of irreversible effects through inhalation.
R40/21 Harmful: possible risk of irreversible effects in contact with skin.
R40/22 Harmful: possible risk of irreversible effects if swallowed.
R40/20/21 Harmful: possible risk of irreversible effects through inhalation and in contact with skin.
R40/20/22 Harmful: possible risk of irreversible effects through inhalation and if swallowed.
R40/21/22 Harmful: possible risk of irreversible effects in contact with skin and if swallowed.
R40/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
R42/43 May cause sensitization by inhalation and skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/21 Harmful: danger of serious damage to health by prolonged exposure in contact with skin.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R48/20/21 Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R48/21/22 Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R48/24 Toxic: danger of serious damage to health by prolonged exposure in contact with skin.
R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R48/23/24 Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R48/24/25 Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety 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).
S5A Keep contents under oil.
S5B Keep contents under liquids which are oxygen-free, e.g. kerosene, toluene, etc.
S6 Keep under... (inert gas to be specified by the manufacturer).
S6A Keep under nitrogen.
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).
S14A Keep away from acids, reducing agents and polymerisation catalysts.
S14B Keep away from organic material and metal powders.
S14C Keep away from water, acids and alkali.
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.
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).
S28A After contact with skin, wash immediately with plenty of water.
S28B After contact with skin, wash immediately with plenty of water and soap.
S28C After contact with skin, wash immediately with a Sodium borate solution.
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.
S43 In case of fire, use... (indicate in the space the precise type of fire-fighting equipment. If water increases the risk, add - 'Never use water').
S43A In case of fire, use dry chemical (never use water).
S43B In case of fire, use fire-fighting equipment on basis of sodium chloride or sodium bicarbonate (never use water).
S43C In case of fire use limestone powder, sodium chloride or dry sand (never use water).
S43D In case of fire, use sodium carbonate or dry sand (never use water).
S43E In case of fire, use dry sand (never use water).
S43F In case of fire, 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... degr. C (to be specified by the manufacturer).
S47A Keep at temperature not exceeding 65°C.
S47B Keep at temperature not exceeding 30°C.
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).
S50A Do not mix with acids.
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

Combination of S-phrases

S1/2 Keep locked up and out of the reach of children.
S3/7 Keep container tightly closed in a cool place.
S3/9/14 Keep in a cool, well-ventilated place away from... (incompatible material to be indicated by the manufacturer).
S3/9/14/49 Keep only in the original container in a cool, well-ventilated place away from... (incompatible materials to be indicated by the manufacturer).
S3/9/49 Keep only in the original container in a cool, well-ventilated place.
S3/14 Keep in a cool place away from... (incompatible materials to be indicated by the manufacturer).
S7/8 Keep container tightly closed and dry.
S7/9 Keep container tightly closed and in a well-ventilated place.
S7/47 Keep container tightly closed and at a temperature not exceeding...°C (to be specified by the manufacturer).
S20/21 When using do not eat, drink or smoke.
S24/25 Avoid contact with skin and eyes.
S29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
S36/37 Wear suitable protective clothing and gloves.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S36/39 Wear suitable protective clothing and eye/face protection.
S37/39 Wear suitable gloves and eye/face protection.
S47/49 Keep only in the original container at temperature not exceeding... °C (to be specified by the manufacturer).

Technical Information

pH variation with temperature

		Temperature												
Description		0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
pH 2.00	Glycine					2.000	2.101							
pH 3.00	Phtalate	2.910	2.912	2.918	2.919	2.924	2.932	2.936	2.944	2.953	2.962	2.973	2.984	2.910
pH 4.00	Phtalate	4.007	4.002	3.999	4.000	4.003	4.008	4.016	4.025	4.036	4.050	4.068	4.084	4.101
pH 5.00	Phtalate	4.998	4.980	4.969	4.958	4.955	4.955	4.957	4.963	4.974	4.989	5.006	5.028	5.052
pH 6.00	Phosphate				6.022	6.000	5.976	5.976	5.937					
pH 7.00	Phosphate	7.115	7.083	7.056	7.032	7.012	6.994	6.983	6.975	6.968	6.970	6.970	6.970	6.974
pH 8.00	Borate				8.017	8.000	7.990	7.975	7.967					
pH 9.20	Borate	9.431	9.361	9.302	9.247	9.200	9.155	9.114	9.079	9.046	9.017	8.993	8.968	8.944
ph 10.00	Carbonate	10.320	10.240	10.180	10.120	10.060	10.010	9.970		9.890		9.890		

Solvents miscibility cross-reference chart

	Acetone	Acetonitrile	Carbon tetrachloride	Chloroform	Cyclohexane	1,2 Dichloroethane	Dichloromethane	Diethyl ether	Dimethylformamide	Dimethylsulfoxide	1,4 Dioxane	Ethanol	Ethyl acetate	Heptane	Hexane	Methanol	Methyl-tert-butyl ether	Pentane	Propan-1-ol	Propan-2-ol	Tetrahydrofuran	Toluene	2,2,4 Trimethylpentane	Water
Acetone																								
Acetonitrile					●																		●	
Carbon tetrachloride													●	●			●							●
Chloroform																								●
Cyclohexane		●							●	●														●
1,2 Dichloroethane															●									●
Dichloromethane																								●
Diethyl ether										●														●
Dimethylformamide					●									●	●			●					●	
Dimethylsulfoxide					●			●						●	●			●					●	
1,4 Dioxane																								
Ethanol																								
Ethyl acetate																								●
Heptane		●							●	●						●								●
Hexane		●							●	●						●								●
Methanol					●									●	●			●						
Methyl-tert-butyl ether																								●
Pentane		●							●	●						●								●
Propan-1-ol																								
Propan-2-ol																								
Tetrahydrofuran																								
Toluene																								●
2,2,4 Trimethylpentane		●							●	●														●
Water			●	●	●	●	●	●					●	●	●		●	●				●	●	

● *Indicates that solvents are not miscible*

Fisher Chemical

Chemical resistance of plastics

Chemical	Polypropylene		Polycarbonate		Polyethylene			
					LD		HD	
	20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C
Acetic acid solution <90%	R	R	R	R	R	R	R	R
Acetic acid, glacial	R	U	U	U	A	U	R	L
Acetone	R	R	U	U	E	U	R	R
Ammonia	R	R	U	U	R	R	R	R
Aniline	R	R	U	U	U	U	R	R
Benzene	A	U	U	U	U	U	U	U
Boric acid	R	R	R	R	R	R	R	R
Bromine	U	U	U	U	U	U	U	U
Carbon tetrachloride	U	U	U	U	U	U	A	U
Chlorinated solvents	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
Cresols	U	U	U	U	U	U	U	U
Diethyl ether	U	U	U	U	U	U	U	U
Diethylene glycol	R	R	R	U	R	R	R	E
Ethers	U	U	A	U	E	U	A	U
Ethyl acetate	A	A			A	U	A	U
Ethanol	R	R	R	R	R	U	R	R
Ethylene glycol	R	R	R	U	R	R	E	E
Formaldehyde solutions 40%	R	R	R	R	R	E	R	R
Formic acid	R	R	R	R	R	E	R	R
Hydrochloric acid conc.	E	E	L	U	R	R	SW	SW
Hydrofluoric acid 1-60%	E	E	20%	U	R	R	R	L
Hydrofluoric acid conc.	E	E	L	U	R	U	R	L
Hydrogen peroxide 30-90%	R	R	R	R	R	U	R	A
Hypochlorous acid	R	R			A	U	R	R
Magnesium hydroxide	R	R			R	R	R	R
Maleic acid	R	R			R	R	R	R
Mineral oil	R	R	R	R	A	U	R	E
Nitric acid <25%	R	R	R	U	R	R	R	R
Nitric acid 25-70% R	E	U	U	A	U	L	U	
Nitric acid >70	E	U	U	U	U	U	U	U
Oxalic acid	R	A	R	R	R	R	R	R
Paraffin	R	A	R	R	A	U		
Petroleum ether	A	U	R	R	U	U	U	U
Phosphoric acid <30%	R	R	R	R	R	R	R	R
Phosphoric acid 30-85%	R	R	R	R	R	A	R	R
Phosphoric acid >85%	R	R	R	R	A	U	R	A
Potasium hydroxide	50%	10%	U	U	R	R	R	30%
Salicylic acid	R	R	R	R	R	R	R	R
Sodium hydroxide solution	50%	10%	U	U	R	R	R	30%
Sulfuric acid <60%	R	R	R	R	R	R	R	R
Sulfuric acid 60-70%	R	U	R	R	R	A	R	A
Sulfuric acid >70%	E	U	U	U	A	U	A	L
Silicone oil	R	R	R	R	A	U	E	E
Stearic acid	R	R	R	R	R	R	R	R
Toluene	U	U	U	U	U	U	U	U
Trichloroethylene	U	U	U	U	U	U	V	U
Water	R	R	R	R	R	R	R	R

Key

R	Resistant	SW	Swelling occurs
A	Slowly attacked (not recommended for long term storage)	V	Vapour diffusion
L	Limited resistance	E	Environmental stress cracking
U	Unsuitable	%	Max concentration

Technical Information

Properties and preparation of solutions

Normal and Molar solutions

Concentrated reagents	Specific gravity (SG)	Molarity (M)	Normality (N)	Volume (mL) required to make 1 litre of solution:	
				1M	1N
Acetic acid 99.5%		17.4	17.4	57.5	57.5
Ammonia 35%	0.880	18.1	18.1	55.3	55.3
Ammonia 25%	0.910	13.4	13.4	74.6	74.6
Hydrochloric acid 36%	1.18	11.65	11.65	85.8	85.8
Hydrochloric acid 32%	1.16	10.2	10.2	98.0	98.0
Hydrofluoric acid 40%	1.13	22.6	22.6	44.2	44.2
Nitric acid 70%	1.42	15.8	15.8	63.3	63.3
Perchloric acid 60%	1.54	9.2	9.2	108.7	108.7
Perchloric acid 70%	1.67	11.6	11.6	86.2	86.2
Orthophosphoric acid 85%	1.7	15.2	45.6	65.8	21.9
Sodium hydroxide 47%	1.5	17.6	17.6	56.7	56.7
Sulfuric acid 96%	1.83	18.0	36.0	53.1	26.2

Concentrations of solutions

Percent Composition (by mass)

Can consider percent by mass (or weight percent) in two ways:
- The parts of solute per 100 parts of solution.
- The fraction of a solute in a solution multiplied by 100.

You need two pieces of information to calculate the percent by mass of a solute in a solution:
- The mass of the solute in the solution.
- The mass of the solution.

Use the following equation to calculate percent by mass:

Mass Percentage = (Solute mass/Solution mass) X 100

Molarity

Molarity tells us the number of moles of solute in exactly one litre of a solution. (Note that molarity is represented by a capital M.)
You need two pieces of information to calculate the molarity of a solute in a solution:

- The moles of solute present in the solution.
- The volume of solution (in litres) containing the solute.

To calculate molarity use the equation:

Molarity = Moles of solute/ Volume of solution (L)

Molality

Molality, m, tells us the number of moles of solute dissolved in exactly one kilogram of solvent. (Note that molality is represented by a lower case m.)
You need two pieces of information to calculate the molality of a solute in a solution:

- The moles of solute present in the solution.
- The mass of solvent (in kilograms) in the solution.

To calculate molality we use the equation:

Molality = Moles of solute/ Mass of solvent (Kg)

Fisher Chemical

Conversion tables

Temperature Conversion Tables
Known temperature to be converted in center column.
Centigrade conversion to left, Fahrenheit to right.

Example
-12.2 10 50
therefore
10°C = 50°F
10°F = -12.2°C

TEMPERATURE			TRANSMITTANCE-ABSORBANCE UNITS			
°C	Known	°F	% T	A.U.	% T	A.U.
-17.8	0	32	1	2.000	51	.292
-15	5	41	2	1.699	52	.284
-12.2	10	50	3	1.523	53	.276
-9.4	15	59	4	1.398	54	.268
-6.7	20	68	5	1.301	55	.260
-3.9	25	77	6	1.222	56	.252
-1.1	30	86	7	1.155	57	.241
4.4	40	104	8	1.097	58	.237
10.0	50	122	9	1.046	59	.299
15.6	60	140	10	1.000	60	.222
21.1	70	158	11	.959	61	.215
26.7	80	176	12	.921	62	.208
32.2	90	194	13	.886	63	.201
37.8	100	212	14	.854	64	.194
43.3	110	230	15	.824	65	.187
48.9	120	248	16	.796	66	.180
54.4	130	266	17	.770	67	.174
60.0	140	284	18	.745	68	.167
65.6	150	302	19	.721	69	.161
71.1	160	320	20	.699	70	.155
76.7	170	338	21	.678	71	.149
82.2	180	356	22	.658	72	.143
87.8	190	374	23	.638	73	.137
93.3	200	392	24	.620	74	.131
98.9	210	410	25	.602	75	.125
104.4	220	428	26	.585	76	.119
110.0	230	446	27	.569	77	.114
115.6	240	464	28	.533	78	.108
121	250	482	29	.538	79	.102
149	300	572	30	.523	80	.097
177	350	662	31	.509	81	.092
204	400	752	32	.495	82	.086
232	450	842	33	.482	83	.081
260	500	932	34	.469	84	.076
288	550	1022	35	.469	85	.071
316	600	1112	36	.444	86	.066
343	650	1202	37	.432	87	.060
371	700	1292	38	.420	88	.056
399	750	1382	39	.409	89	.051
427	800	1472	40	.398	90	.046
454	850	1562	41	.387	91	.041
482	900	1652	42	.377	92	.036
510	950	1742	43	.367	93	.032
538	1000	1832	44	.357	94	.027
586	1050	1922	45	.347	95	.022
593	1100	2012	46	.337	96	.018
621	1150	2102	47	.328	97	.013
649	1200	2192	48	.319	98	.009
677	1250	2282	49	.310	99	.004
704	1300	2372	50	.301	100	.000
732	1350	2462				
760	1400	2552				
788	1450	2642				
816	1500	2732				
843	1550	2822				
871	1600	2912				
899	1650	3002				
927	1700	3092				
954	1750	3182				
982	1800	3272				
1010	1850	3362				
1038	1900	3452				
1066	1950	3542				
1093	2000	3632				

Technical Information

Sieve size conversion chart

Sieve size mm	BSS mesh	Microns	Nearest equivalent Tyler	Nearest equivalent US
3.35	5	3350	6	6
2.81	6	2810	7	7
2.41	7	2410	7	8
2.06	8	2060	9	10
1.68	10	1680	10	12
1.4	12	1405	12	14
1.2	14	1200	14	16
1	16	1000	16	18
0.853	18	853	20	20
0.699	22	699	24	25
0.599	25	599	28	30
0.5	30	500	32	35
0.422	36	422	35	40
0.353	44	353	48	50
0.295	52	295	48	50
0.251	60	251	60	60
0.211	72	211	65	70
0.178	85	178	80	80
0.152	100	152	100	100
0.125	120	125	115	120
0.104	150	104	150	140
0.089	170	88	170	170
0.076	200	76	200	200
0.066	240	66	250	230
0.044	350	44	325	325

Analytical abbreviation list

AAS	Absorption Atomique Spectroscopy
ACS	American Chemical Society Specification
ADR	European Agreement on the transportation of dangerous goods on public road
AOX	Absorbable Organic Halogens
APHA	American Public Health Association
ASTM	American Society for testing and Materials
B.P.	Boiling Point
BP	British Pharmacopeia
BSB	Bio-Chemical oxygen demand
CAS number	Chemical Abstract Registry N°
CI No	Colour Index number
CoA	Certificat of Analysis (depending on each batch of production)
COD	Chemical Oxygen Demand
CRM	Certified Reference Material
D.M	Dipolar moment
D	Density
DAB	Deutsches Arzneibuch
DAC	Deutscher Arzneimittel-Codex
DIN	German Institute for Standardization
ECD	Electron Capture Detector
EINECS	European Inventory of Existing Chemical substances N°
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
FIA	Fluorescence Indicator Analysis
GC	Gas Chromatography
GLC	Gas Liquid Chromatography
GMP	Good Manufacturing Practice
GPC	Gel Permeation Chromatography
HPLC	High Performance Liquid Chromatography with UV detection
HPLC gradient	HPLC elution gradient with UV detection
HPLC-Fluorescence	HPLC coupled Fluorescence detection
HPLC- EC	HPLC coupled Electrochemical detection
HPLC LC-MS	HPLC coupled with Mass Spectroscopy
HPTLC	High Performance Thin Layer Chromatography
IATA	Classification of aerial transport
IC	Ionic Chromatography
ICP	Induction Coupled Plasma
IR	Infrared Spectroscopy
IRMM	Institute for Reference Materials and Measurement
ISO	International Organization for Standardization
KF = Karl Fischer	Analysis for the determination of moisture
LD	Lethal Dose
LLE	Liquid Liquid Extraction
M	Molecular weight
M = mol/L	Molarity (mol/L solution)
M.P.	Melting Point
MS	Mass Spectrometry
MSDS	Material Safety Data Sheet
N	Normality (link between Molarity and Normality)
n20/D	Refraction Index at 20°C
NIST SRM	National Institute of Standards and Technology Standard Reference Materials
NMR	Nuclear Magnetic Resonnance
p.a	pro analysis (pure analysis)
Ph.Eur.	European Pharmacopeia
pHMetry	Measurement of pH
Potentiometry	Measurement of potentiometry
ppb	part per billion 10-7% = 1ppb
ppm	part per million 10-4% = 1ppm
ppt	part per trillion 10-10% = 1ppt
RID	European Agreement on the transportation of dangerous goods by rail
RTECS	Registry of Toxic effects of Chemical Substances
SPE	Solid Phase Extraction
Specification product sheet	Specification quality & parameters guarantee by supplier
SPME	Solid Phase Microextraction
Technical data Sheet	Physical & Chemical data sheet
TLC	Thin Layer Chromatography
TOC	Total Organic Carbon
USP	United States Pharmacopeia
UPLC	Ultra pressure Liquid Chromatography
UV	Ultraviolet spectroscopy
v/v	volume/volume
VOC	Volatile Organic Chemicals (carbon)
Volumetry	Analytical dosage requiring Volumetric or standard solution
w/v	weight/volume
w/w	weight/weight
WGK	Water Pollution Classew (German WGK)

Fisher Chemical

Acenaphthene
extra pure — SLR

Specified

packaging		product code
100 g	Plastic jar	A/0040/48

$C_{12}H_{10}$
CAS: 83-32-9
MW: 154.21
Density at 20°C: 1.06
Boiling point: 279°C
Boiling pressure: 760 mmHg

Melting point: 90 to 95°C
Flash point: 135°C
HS-Nr: 29029090
EINECS: 201-469-6
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis
Melting Point tested ..... 90 to 94°C Residue after ignition ..... <0.1%

Acetaldehyde
extra pure — SLR

Specified

packaging		product code
500 mL	Glass bottle	A/0080/08
2.5 L	Glass bottle	A/0080/17

C_2H_4O
CAS: 75-07-0
MW: 44.05
Density at 20°C: 0.78 to 0.782
Boiling point: 21°C
Boiling pressure: 760 mmHg
Melting point: -123°C

Flash point: -27°C
ADR/RID: 3/I
UN: 1089
HS-Nr: 29121200
EINECS: 200-836-8
Risk: R12, R36/37, R40
Safety: S16, S33, S36/37

F+ Xn

Assay (GC): >99%

Guaranteed analysis
Acidity ..... <0.05 meq/g

Acetaldehyde tetramer
See Metaldehyde, page 161

Acetamide
extra pure — SLR

Specified

packaging		product code
100 g	Plastic jar	A/0160/48

C_2H_5NO
CAS: 60-35-5
MW: 59.07
Boiling point: 221°C
Boiling pressure: 760 mmHg

Melting point: 79 to 81°C
HS-Nr: 29241900
EINECS: 200-473-5
Risk: R40
Safety: S36/37

Xn

Assay: >98%

Acetic acid glacial
for HPLC — Certified

HPLC

packaging		product code
500 mL	Coated Glass Bottle	A/0406/PB08
1 L	Coated Glass Bottle	A/0406/PB15

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

C

Assay: >99.7%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
260 nm ..... <0.1 A.U. 280 nm ..... <0.02 A.U.
270 nm ..... <0.02 A.U.

Acetic acid glacial (d=1.08) is equivalent to a strength of 17.4M (17.4N).
Lot analysis on the label.
Filtered to 0.2 µm.

Acetic acid glacial
HPLC for electrochemical detection — Certified

HPLC electrochemical

packaging		product code
500 mL	Coated Glass Bottle	A/0407/PB08

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

C

Assay: >99.7%

Guaranteed analysis
Electrochemical test ..... Conform Lead (Pb) ..... <5 ppm
Iron (Fe) ..... <5 ppm Total chloride (Cl) ..... <0.0005%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
260 nm ..... <0.1 A.U. 280 nm ..... <0.02 A.U.
270 nm ..... <0.02 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Electrode- Graphite.
Acetic acid glacial (d=1.08) is equivalent to a strength of 17.4M (17.4N).
Lot analysis on the label.
Filtered to 0.2 µm.

Acetic acid glacial
for ultra trace analysis — NEW SPEC. — OPTIMA

Optima

packaging		product code
250 mL	Bottle Teflon FEP	A/0415/07
500 mL	Bottle Teflon FEP	A/0415/08
1 L	Bottle Teflon FEP	A/0415/15

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
Risk: R10, R35
Safety: S23, S26, S45

C

Assay (CH_3COOH): >99.5%

Guaranteed analysis

Aluminium (Al)	<50 ppt	Neodymium (Nd)	<1 ppt
Antimony (Sb)	<50 ppt	Nickel (Ni)	<50 ppt
Arsenic (As)	<50 ppt	Platinum (Pt)	<50 ppt
Barium (Ba)	<10 ppt	Potassium (K)	<50 ppt
Beryllium (Be)	<10 ppt	Praseodymium (Pr)	<1 ppt
Bismuth (Bi)	<10 ppt	Rhenium (Re)	<10 ppt
Cadmium (Cd)	<10 ppt	Rhodium (Rh)	<50 ppt
Calcium (Ca)	<50 ppt	Rubidium (Rb)	<10 ppt
Cerium (Ce)	<10 ppt	Ruthenium (Ru)	<50 ppt
Chromium (Cr)	<10 ppt	Samarium (Sm)	<1 ppt
Cobalt (Co)	<10 ppt	Scandium (Sc)	<10 ppt
Copper (Cu)	<50 ppt	Silver (Ag)	<50 ppt
Dysprosium (Dy)	<1 ppt	Sodium (Na)	<100 ppt
Erbium (Er)	<1 ppt	Strontium (Sr)	<10 ppt
Europium (Eu)	<1 ppt	Tellurium (Te)	<1 ppt
Gadolinium (Gd)	<1 ppt	Terbium (Tb)	<1 ppt
Gallium (Ga)	<10 ppt	Thallium (Tl)	<10 ppt
Germanium (Ge)	<10 ppt	Thorium (Th)	<1 ppt
Hafnium (Hf)	<10 ppt	Thulium (Tm)	<1 ppt
Holmium (Ho)	<1 ppt	Tin (Sn)	<50 ppt
Indium (In)	<1 ppt	Titanium (Ti)	<10 ppt
Iron (Fe)	<50 ppt	Tungsten (W)	<10 ppt
Lanthanum (La)	<1 ppt	Uranium (U)	<1 ppt
Lead (Pb)	<10 ppt	Vanadium (V)	<10 ppt
Lithium (Li)	<10 ppt	Ytterbium (Yb)	<1 ppt
Lutetium (Lu)	<10 ppt	Yttrium (Y)	<1 ppt
Magnesium (Mg)	<50 ppt	Zinc (Zn)	<50 ppt
Manganese (Mn)	<10 ppt	Zirconium (Zr)	<10 ppt
Molybdenum (Mo)	<10 ppt		

Acetic acid glacial NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
500 mL	Coated Glass Bottle	A/0418/PB08
1 L	Coated Glass Bottle	A/0418/PB15

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.04
Density at 20°C: 1.05
Boiling point: 117-118°C
Boiling pressure: 760 mmHg
Melting point: 16-16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
Risk: R10, R35
Safety: S23, S26, S45

Assay: >99%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.5 ppb
Aluminium (Al)	<0.5 ppb	Praséodymium (Pr)	<0.1 ppb
Antimony (Sb)	<0.1 ppb	Rhenium (Re)	<0.1 ppb
Arsenic (As)	<0.1 ppb	Rhodium (Rh)	<0.1 ppb
Barium (Ba)	<0.1 ppb	Rubidium (Rb)	<0.1 ppb
Beryllium (Be)	<0.1 ppb	Ruthenium (Ru)	<0.1 ppb
Bismuth (Bi)	<0.1 ppb	Samarium (Sm)	<0.1 ppb
Cadmium (Cd)	<0.1 ppb	Scandium (Sc)	<0.1 ppb
Calcium (Ca)	<1 ppb	Selenium (Se)	<0.5 ppb
Cerium (Ce)	<0.1 ppb	Silver (Ag)	<0.1 ppb
Cesium (Cs)	<0.1 ppb	Sodium (Na)	<1 ppb
Chromium (Cr)	<0.1 ppb	Strontium (Sr)	<0.1 ppb
Cobalt (Co)	<0.1 ppb	Sulfate (SO_4)	<0.5 ppb
Copper (Cu)	<0.2 ppb	Tellurium (Te)	<0.1 ppb
Dysprosium (Dy)	<0.1 ppb	Terbium (Tb)	<0.1 ppb
Erbium (Er)	<0.1 ppb	Thallium (Tl)	<0.1 ppb
Europium (Eu)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Gadolinium (Gd)	<0.1 ppb	Thulium (Tm)	<0.1 ppb
Gallium (Ga)	<0.1 ppb	Tin (Sn)	<0.1 ppb
Germanium (Ge)	<0.1 ppb	Titanium (Ti)	<0.1 ppb
Hafnium (Hf)	<0.1 ppb	Total chloride (Cl)	<1 ppb
Holmium (Ho)	<0.1 ppb	Total phosphorus (P)	<1 ppb
Indium (In)	<0.1 ppb	Tungsten (W)	<0.1 ppb
Iron (Fe)	<1 ppb	Uranium (U)	<0.1 ppb
Lanthanum (La)	<0.1 ppb	Vanadium (V)	<0.1 ppb
Lead (Pb)	<0.1 ppb	Ytterbium (Yb)	<0.1 ppb
Lithium (Li)	<0.1 ppb	Yttrium (Y)	<0.1 ppb
Lutetium (Lu)	<0.1 ppb	Zinc (Zn)	<0.5 ppb
Magnesium (Mg)	<0.2 ppb	Zirconium (Zr)	<0.1 ppb
Manganese (Mn)	<0.1 ppb	Substances	
Molybdenum (Mo)	<0.2 ppb	reducing dichromate	Conform
Neodymium (Nd)	<0.1 ppb	Substances	
Nickel (Ni)	<0.1 ppb	reducing permanganate	Conform
Platinum (Pt)	<0.1 ppb		

Acetic acid glacial NEW SPEC. — Primar Plus
for trace metal analysis

PrimarPlus

packaging		product code
250 mL	Coated Glass Bottle	A/0411/PB07
500 mL	Coated Glass Bottle	A/0411/PB08
1 L	Coated Glass Bottle	A/0411/PB15
2.5 L	Coated Glass Bottle	A/0411/PB17

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.04
Density at 20°C: 1.05
Boiling point: 117-118°C
Boiling pressure: 760 mmHg
Melting point: 16-16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<0.005 ppm	Indium (In)	<0.005 ppm
Antimony (Sb)	<0.005 ppm	Iron (Fe)	<0.05 ppm
Arsenic (As)	<0.005 ppm	Lead (Pb)	<0.002 ppm
Barium (Ba)	<0.05 ppm	Lithium (Li)	<0.002 ppm
Beryllium (Be)	<0.005 ppm	Magnesium (Mg)	0.005 ppm
Bismuth (Bi)	<0.005 ppm	Manganese (Mn)	<0.002 ppm
Boron (B)	<0.005 ppm	Mercury (Hg)	<0.005 ppm
Cadmium (Cd)	<0.002 ppm	Molybdenum (Mo)	<0.002 ppm
Calcium (Ca)	<0.1 ppm	Nickel (Ni)	<0.002 ppm
Chromium (Cr)	<0.005 ppm	Potassium (K)	<0.05 ppm
Cobalt (Co)	<0.002 ppm	Selenium (Se)	<0.005 ppm
Copper (Cu)	<0.005 ppm	Strontium (Sr)	<0.002 ppm
Gallium (Ga)	<0.005 ppm	Thallium (Tl)	<0.005 ppm
Germanium (Ge)	<0.005 ppm		
Tin (Sn)	<0.005 ppm	Vanadium (V)	<0.002 ppm
Titanium (Ti)	<0.005 ppm	Zinc (Zn)	<0.01 ppm
Total chloride (Cl)	<1 ppm	Zirconium (Zr)	<0.005 ppm
Total phosphorus (P)	<0.5 ppm	Freezing Point	>16.3°C
Total sulphur (S)	<0.1 ppm		

Acetic acid glacial NEW SPEC. — Certified AR
for analysis

Certified AR

packaging		product code
500 mL	Plastic bottle	A/0400/PB08
1 L	Plastic bottle	A/0400/PB15
2.5 L	Plastic bottle	A/0400/PB17
25 L	Metal drum	A/0400/25

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

Assay: >99.7%

Guaranteed analysis

Colour	<10 APHA	Mercury (Hg)	<0.02 ppm
Substances		Molybdenum (Mo)	<0.01 ppm
reducing dichromate	<0.005%	Nickel (Ni)	<0.02 ppm
Residue after evaporation	<5 ppm	Potassium (K)	<0.5 ppm
Water	<0.2%	Silver (Ag)	<0.01 ppm
Aluminium (Al)	<0.01 ppm	Sodium (Na)	<1 ppm
Arsenic (As)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Calcium (Ca)	<1 ppm	Total chloride (Cl)	<0.0001 %
Chromium (Cr)	<0.2 ppm	Total nitrogen (N)	<2 ppm
Cobalt (Co)	<0.01 ppm	Total phosphorus (P)	<1 ppm
Copper (Cu)	<0.02 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<0.2 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<0.01 ppm	Vanadium (V)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Zinc (Zn)	<0.05 ppm
Magnesium (Mg)	<0.05 ppm	Acetic anhydride	<0.2 %
Manganese (Mn)	<0.01 ppm	Formic acid (H. COOH)	<0.05 %

Lot analysis on the label.
Acetic acid glacial (d=1.08) is equivalent to a strength of 17.4M (17.4N).
see page 279 for suitable Tap & accessories.

Acetic acid glacial 99-100% — SLR, Eur.Ph.,BP, USP
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	A/0360/PB15
2.5 L	Plastic bottle	A/0360/PB17
25 L	Metal drum	A/0360/25

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Freezing point: >15°C
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

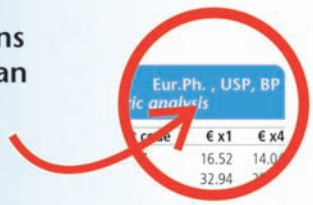
Assay: >99%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<10 ppm
Copper (Cu)	<1 ppm	Sodium (Na)	<20 ppm
Iron (Fe)	<2 ppm	Total chloride (Cl)	<0.0005%
Lead (Pb)	<2 ppm	Total sulphur (S)	<5 ppm
Magnesium (Mg)	<2 ppm	Zinc (Zn)	<1 ppm

Acetic acid glacial (d=1.08) is equivalent to a strength of 17.4M (17.4N).
see page 279 for suitable Tap & accessories.

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Acetic acid glacial
pure, For non aqueous titrations

packaging		product code
2.5 L	Coated Glass Bottle	A/0420/PB17

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

C

Guaranteed analysis
Water ..... <0.1%

Acetic acid glacial
pure, aldehyde free

packaging		product code
500 mL	Plastic bottle	A/0430/PB08

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
Density at 20°C: 1.05
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Freezing point: >16.1°C
Melting point: 16 to 16.5°C

Flash point: 40°C
ADR/RID: 3(8)/II
UN: 2789
HS-Nr: 29152100
EINECS: 200-580-7
Risk: R10, R35
Safety: S23, S26, S45

C

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
570 nm ..... <0.02 A.U.

Suitable for use in determination of total cholesterol in blood plasma.
Ref. Macyntre & Ralston, Biochem J.1954.56,XLIII.
Acetic acid glacial (d=1.08) is equivalent to a strength of 17.4M (17.4N).

Acetic acid solution 0.1M (0.1N)
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/0551C/05
6	ampoule	J/0551C/90

HS-Nr: 38220000

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Acetic acid solution 1M (1N approx.6%) NEW SPEC.
pure, ready to use

packaging		product code
2.5 L	Plastic bottle	J/0550/17

HS-Nr: 38220000

Acetic acid solution 2M (2N approx.12%) NEW SPEC.
pure, ready to use

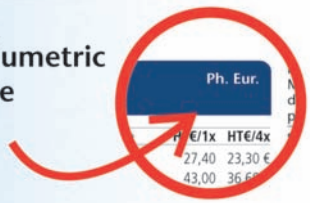
packaging		product code
2.5 L	Plastic bottle	J/0549/PB17

ADR/RID: 8/III
UN: 2790
HS-Nr: 29152100

Risk: R36/38
Safety: S23, S26, S45

Xi

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191



Acetic anhydride
for analysis — Certified AR

Certified AR

packaging		product code
500 mL	Plastic bottle	A/0480/PB08
2.5 L	Plastic bottle	A/0480/PB17

$C_4H_6O_3$
CAS: 108-24-7
MW: 102.09
Density at 20°C: 1.09
Boiling point: 140°C
Boiling pressure: 760 mmHg
Melting point: -73.1°C

Flash point: 54°C
ADR/RID: 3(8)/II
UN: 1715
HS-Nr: 29152400
EINECS: 203-564-8
Risk: R10, R20/22, R34
Safety: S26, S36/37/39, S45

C

Assay: >98%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.02 ppm
Substances reducing $KMnO_4$	<0.01%	Potassium (K)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Sodium (Na)	<1 ppm
Chromium (Cr)	<0.02 ppm	Total chloride (Cl)	<0.0002 %
Copper (Cu)	<0.02 ppm	Total nitrogen (N)	<5 ppm
Iron (Fe)	<0.1 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<0.02 ppm	Total sulphur (S)	<2 ppm
Magnesium (Mg)	<0.05 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Arsenic (As)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Vanadium (V)	<0.01 ppm
Lithium (Li)	<0.01 ppm		

Lot analysis on the label.

Acetic anhydride
extra pure — SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	A/0440/PB08
2.5 L	Plastic bottle	A/0440/PB17

$C_4H_6O_3$
CAS: 108-24-7
MW: 102.09
Density at 20°C: 1.09
Boiling point: 140°C
Boiling pressure: 760 mmHg
Melting point: -73.1°C

Flash point: 54°C
ADR/RID: 3(8)/II
UN: 1715
HS-Nr: 29152400
EINECS: 203-564-8
Risk: R10, R20/22, R34
Safety: S26, S36/37/39, S45

C

Assay: >97%

Guaranteed analysis

Colour	<20 APHA	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<10 ppm		

Acetone
for HPLC — Certified

HPLC

packaging		product code
1 L	Glass bottle	A/0606/15
2.5 L	Glass bottle	A/0606/17

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0003 meq/g	Water	<0.1%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

335 nm	<0.3 A.U.	360 nm	<0.005 A.U.
340 nm	<0.09 A.U.	370 nm	<0.005 A.U.
350 nm	<0.005 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

Acetone NEW SPEC. — Primar
for trace metal analysis

Primar

packaging		product code
2.5 L	Glass bottle	A/0604/17

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99.9%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Manganese (Mn)	<0.005 ppm
Colour	<5 APHA	Molybdenum (Mo)	<0.005 ppm
Residue after evaporation	<2 ppm	Nickel (Ni)	<0.005 ppm
Substances reducing $KMnO_4$	<0.0005%	Potassium (K)	<0.05 ppm
Water	<0.2%	Silver (Ag)	<0.005 ppm
Aluminium (Al)	<0.02 ppm	Sodium (Na)	<0.2 ppm
Barium (Ba)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Cadmium (Cd)	<0.005 ppm	Titanium (Ti)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Total phosphorus (P)	<0.02 ppm
Chromium (Cr)	<0.005 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.005 ppm	Total sulphur (S)	<0.1 ppm
Copper (Cu)	<0.01 ppm	Vanadium (V)	<0.005 ppm
Iron (Fe)	<0.05 ppm	Zinc (Zn)	<0.01 ppm
Lead (Pb)	<0.005 ppm	Di-iso-propylether	<0.005%
Lithium (Li)	<0.005 ppm	Methanol	<0.05%
Magnesium (Mg)	<0.02 ppm	Methylpentadienes	<0.02%

Acetone — Distol
for residue and pesticide analysis

Distol

packaging		product code
1 L	Glass bottle	A/0603/15
2.5 L	Glass bottle	A/0603/17

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.2%
GC (NPD) analysis	Conform		

GC Analysis
Pesticides analysis: *No impurity peak that has a retention time greater than Lindane will have a peak height greater than produced by 2500 pg / mL Heptachlorepoxide (ECD) and 10 pg / mL Parathion (NPD).*
Hydrocarbon analysis: *no impurity chain lenght is greater than Dodecane, is present at a concentration greater than 0.01 ppm (by FID).*
Conditions :
Column: J&W DB 5; 30m x 0.32mm x 0.1µm dF.
Temperature profile:
(1) 50°C, 2 min
(2) 40°C / min up to 320°C
(3) 320°C, 30 min
Injection: 5µl cold on-column.

Acetone
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Glass bottle	A/0602/15
2.5 L	Glass bottle	A/0602/17

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Acetone NEW SPEC.
for electronic use (MOS)

packaging		product code
2.5 L	Glass bottle	A/0601/17
5 L	Aluminium drum	A/0601/21
25 L	Metal drum	A/0601/25

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<0.02 ppm
Colour	<5 APHA	Manganese (Mn)	<0.02 ppm
Residue after evaporation	<5 ppm	Molybdenum (Mo)	<0.02 ppm
Substances reducing $KMnO_4$	<0.0005%	Nickel (Ni)	<0.02 ppm
Water	<0.2%	Potassium (K)	<0.1 ppm
Aluminium (Al)	<0.02 ppm	Sodium (Na)	<0.2 ppm
Barium (Ba)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Calcium (Ca)	<0.1 ppm	Total phosphorus (P)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Copper (Cu)	<0.01 ppm	Zinc (Zn)	<0.02 ppm
Iron (Fe)	<0.05 ppm	Di-iso-propylether	<0.005%
Lead (Pb)	<0.02 ppm	Methanol	<0.05%
Lithium (Li)	<0.02 ppm	Methylpentadienes	<0.02%

see page 279 for suitable Tap & accessories.

Acetone NEW SPEC. — Certified AR Eur.Ph
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	A/0600/15
2.5 L	Glass bottle	A/0600/17
2.5 L	Coated Glass Bottle	A/0600/PB17
2.5 L	Plastic bottle	A/0600/PC17
5 L	Metal can	A/0600/21
5 L	Plastic bottle	A/0600/PC21
25 L	Metal drum	A/0600/25
25 L	Metal drum	A/0600/DH25
200 L	Metal drum	A/0600/27

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<0.05 ppm
Colour	<5 APHA	Lead (Pb)	<0.02 ppm
Residue after evaporation	<5 ppm	Magnesium (Mg)	<0.02 ppm
Substances reducing $KMnO_4$	<0.0005%	Potassium (K)	<0.1 ppm
Water	<0.2%	Sodium (Na)	<0.2 ppm
Calcium (Ca)	<0.1 ppm	Total phosphorus (P)	<0.02 ppm
Copper (Cu)	<0.01 ppm	Zinc (Zn)	<0.02 ppm

Typical analysis

Aluminium (Al)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Di-iso-propylether	<0.05 %
Manganese (Mn)	<0.02 ppm	Methanol	<0.02 %
Molybdenum (Mo)	<0.02 ppm	Methylpentadienes	<0.02 %

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Acetone
extra pure
SLR

Specified LR

packaging		product code
1 L	Glass bottle	A/0560/15
2.5 L	Glass bottle	A/0560/17
2.5 L	Coated Glass Bottle	A/0560/PB17
5 L	Metal can	A/0560/21
5 L	Plastic bottle	A/0560/PC21
10 L	Plastic Keg	A/0560/PC24
25 L	Metal drum	A/0560/25
25 L	Metal drum	A/0560/DH25
200 L	Metal drum	A/0560/27

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Copper (Cu)	<2 ppm
Colour	<10 APHA	Iron (Fe)	<10 ppm
Residue after evaporation	<50 ppm	Lead (Pb)	<5 ppm
Substances		Magnesium (Mg)	<1 ppm
reducing $KMnO_4$	<0.005%	Potassium (K)	<1 ppm
Water	<0.5%	Sodium (Na)	<5 ppm
Calcium (Ca)	<1 ppm	Zinc (Zn)	<1 ppm

see page 279 for suitable Tap & accessories.

Acetone
Technical

packaging		product code
2.5 L	Glass bottle	A/0520/17
2.5 L	Coated Glass Bottle	A/0520/PB17
25 L	Metal drum	A/0520/25

C_3H_6O
CAS: 67-64-1
MW: 58.08
Density at 20°C: 0.79
Boiling point: 56°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: -20°C
ADR/RID: 3/II
UN: 1090
HS-Nr: 29141100
EINECS: 200-662-2
Risk: R11, R36, R66, R67
Safety: S9, S16, S26

F Xi

Assay (GC): >98%

see page 279 for suitable Tap & accessories.

Acetonitrile
for HPLC-MS
Certified

HPLC LC-MS

packaging		product code
1 L	Glass bottle	A/0638/15
2.5 L	Glass bottle	A/0638/17

C_2H_3N
CAS: 75-05-8
MW: 41.04
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Assay (GC): >99.9%

Guaranteed analysis

Acidity	<0.0002 meq/g	Copper (Cu)	<0.01 ppm
Alkalinity	<0.0001 meq/g	Iron (Fe)	<0.01 ppm
LC-MS analysis	Conform	Lead (Pb)	<0.01 ppm
Residue after evaporation	<2 ppm	Magnesium (Mg)	<0.01 ppm
Water	<0.01%	Manganese (Mn)	<0.01 ppm
Aluminium (Al)	<0.05 ppm	Nickel (Ni)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Potassium (K)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Silver (Ag)	<0.01 ppm
Calcium (Ca)	<0.01 ppm	Sodium (Na)	<0.05 ppm
Chromium (Cr)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Zinc (Zn)	<0.01 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.03 A.U.	Gradient (max eluted peak)	<0.2 mA.U.
230 nm	<0.005 A.U.		

Absorbance of the largest eluted peak < 0.2 mA.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 2 mL / min
Wavelength 254 nm
Solvent A: Water
Solvent B: Acetonitrile
Gradient: linear 95% /5% B 100% B during 20 min.
Lot analysis on the label including an absorbance curve.
This product has been tested on an LC-MS instrument to ensure suitability.
Filtered to 0.2 µm.

Acetonitrile NEW SPEC.
HPLC for gradient analysis
Certified Advanced HPLC

advanced HPLC

packaging		product code
1 L	Coated Glass Bottle	A/0632/PB15
2.5 L	Coated Glass Bottle	A/0632/PB17

C_2H_3N
CAS: 75-05-8
MW: 41.04
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0008 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

195 nm	<0.1 A.U.	240 nm	<0.005 A.U.
200 nm	<0.05 A.U.	250 nm	<0.005 A.U.
210 nm	<0.02 A.U.	Drift in the baseline	<8 mA.U.
220 nm	<0.01 A.U.	Gradient (max eluted peak)	<0.1 mA.U.
230 nm	<0.005 A.U.		

Absorbance of the largest eluted peak < 0.2 mA.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 3 mL / min
Wavelength 220 nm
Solvent A: Water
Solvent B: Acetonitrile
Gradient: 10 min at 30% solvent B followed by a linear gradient to 95% solvent B over 15 min.
Lot analysis on the label including an absorbance curve.

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Acetonitrile
HPLC for gradient analysis
Certified, Eur.Ph

packaging		product code
1 L	Glass bottle	**A/0627/15**
2.5 L	Glass bottle	**A/0627/17**
2.5 L	Coated Glass Bottle	**A/0627/PB17**
5 L	Aluminium drum	**A/0627/21**
25 L	Metal drum	**A/0627/DH25**
200 L	Stainless steel drum	**A/0627/27SS**

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

Assay (GC): >99.9%

Guaranteed analysis
Acidity / Alkalinity ..... <0.0008 meq/g
Water ..... <0.01%
Residue after evaporation ..... <2 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

195 nm	<0.1 A.U.	230 nm	<0.005 A.U.
200 nm	<0.05 A.U.	240 nm	<0.005 A.U.
210 nm	<0.02 A.U.	250 nm	<0.005 A.U.
220 nm	<0.01 A.U.	Gradient (max eluted peak).	<0.01 A.U.

HPLC Analysis :
Absorbance of the largest eluted peak < 0.01 A.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 2 mL / min
Wavelength 210 nm
Absorbance range: 0-0.32 AU.
Solvent A: Water
Solvent B: Acetonitrile
Gradient: linear 95% /5% B 100% B during 20 min.
Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Acetonitrile
for HPLC-RMN with low propionitrile level
Certified

packaging		product code
1 L	Glass bottle	**A/0636/15**
2.5 L	Glass bottle	**A/0636/17**

C_2H_3N
CAS: 75-05-8
MW: 41.04
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

Assay (GC): >99.9%

Guaranteed analysis
Acidity / Alkalinity ..... <0.0008 meq/g
Water ..... <0.01%
Residue after evaporation ..... <2 ppm
Proprionitrile ..... <0.0005%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

195 nm	<0.1 A.U.	230 nm	<0.005 A.U.
200 nm	<0.05 A.U.	240 nm	<0.005 A.U.
210 nm	<0.02 A.U.	250 nm	<0.005 A.U.
220 nm	<0.01 A.U.	Gradient (max eluted peak).	<10 mA.U.

HPLC Analysis :
Absorbance of the largest eluted peak < 0.01 A.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 2 mL / min
Wavelength 210 nm
Solvent A: Water
Solvent B: Acetonitrile
Gradient: linear 95% /5% B 100% B during 20 min.
Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

Acetonitrile
for HPLC
Certified

packaging		product code
1 L	Glass bottle	**A/0626/15**
2.5 L	Glass bottle	**A/0626/17**
2.5 L	Coated Glass Bottle	**A/0626/PB17**
5 L	Aluminium drum	**A/0626/21**
25 L	Stainless steel drum	**A/0626/25SS**
25 L	Metal drum	**A/0626/DH25**
200 L	Stainless steel drum	**A/0626/27SS**

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

Assay (GC): >99.8%

Guaranteed analysis
Acidity / Alkalinity ..... <0.0008 meq/g
Water ..... <0.05%
Residue after evaporation ..... <2 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

230 nm	<0.05 A.U.	260 nm	<0.005 A.U.
240 nm	<0.015 A.U.	270 nm	<0.005 A.U.
250 nm	<0.01 A.U.	280 nm	<0.005 A.U.
290 nm	<0.005 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Acetonitrile
HPLC for fluorescence detection
Certified

packaging		product code
1 L	Coated Glass Bottle	**A/0630/PB15**
2.5 L	Coated Glass Bottle	**A/0630/PB17**

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

Assay (GC): >99.9%

Guaranteed analysis
Acidity / Alkalinity ..... <0.0008 meq/g
Water ..... <0.02%
Residue after evaporation ..... <2 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.1 A.U.	230 nm	<0.01 A.U.
205 nm	<0.05 A.U.	240 nm	<0.005 A.U.
210 nm	<0.035 A.U.	250 nm	<0.005 A.U.
220 nm	<0.025 A.U.	Fluorescence	Conform

Excitation in the range 250-750nm produces no fluorescence emission greater than the solvent natural Raman signal at 350nm excitation.This is equivalent to the emission maximum of approximately 1ppb quinine sulfate.
Lot analysis on the label.
Filtered to 0.2 µm (excluding fluorescence scan).

Acetonitrile
HPLC for electrochemical detection
Certified

packaging		product code
2.5 L	Coated Glass Bottle	**A/0635/PB17**

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

Assay (GC): >99.6%

Guaranteed analysis

Acidity	<0.0008 meq/g	Residue after evaporation	<2 ppm
Electrochemical test	Conform	Water	<0.05%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

230 nm	<0.1 A.U.	260 nm	<0.008 A.U.
240 nm	<0.015 A.U.	270 nm	<0.006 A.U.
250 nm	<0.01 A.U.	280 nm	<0.005 A.U.

Purifed then tested by HPLC-EC to show low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Acetonitrile
for trace metal analysis
Primar

Primar

packaging		product code
2.5 L	Glass bottle	A/0624/17

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Assay (GC): >99.9%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Molybdenum (Mo)	<0.005 ppm
Colour	<5 APHA	Nickel (Ni)	<0.005 ppm
Residue after evaporation	<2 ppm	Potassium (K)	<0.05 ppm
Water	<0.05%	Silver (Ag)	<0.005 ppm
Aluminium (Al)	<0.02 ppm	Sodium (Na)	<0.2 ppm
Barium (Ba)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Cadmium (Cd)	<0.005 ppm	Titanium (Ti)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Total phosphorus (P)	<0.02 ppm
Chromium (Cr)	<0.005 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.005 ppm	Total sulphur (S)	<0.1 ppm
Copper (Cu)	<0.01 ppm	Vanadium (V)	<0.005 ppm
Iron (Fe)	<0.05 ppm	Zinc (Zn)	<0.01 ppm
Lead (Pb)	<0.005 ppm	Allyl alcohol	<0.005%
Lithium (Li)	<0.005 ppm	Methanol	<0.005%
Magnesium (Mg)	<0.02 ppm	Proprionitrile	<0.05%
Manganese (Mn)	<0.005 ppm		

Acetonitrile
for residue and pesticide analysis
Distol

Distol

packaging		product code
1 L	Glass bottle	A/0623/15
2.5 L	Glass bottle	A/0623/17

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Assay (GC): >99.5%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.1%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL heptachloreoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile:
(1) 50°C for 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Acetonitrile
extra dry, for synthesis

Dried distilled

packaging		product code
2.5 L	Coated Glass Bottle	A/0622/PB17

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269095
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Assay (GC): >99.5%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Acetonitrile
for analysis
Certified AR

Certified AR

packaging		product code
1 L	Coated Glass Bottle	A/0621/PB15
2.5 L	Coated Glass Bottle	A/0621/PB17
5 L	Metal can	A/0621/21
25 L	Metal drum	A/0621/25
200 L	Metal drum	A/0621/27

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269090
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0008 meq/g	Iron (Fe)	<0.2 ppm
Colour	<10 APHA	Lead (Pb)	<0.05 ppm
Residue after evaporation	<10 ppm	Magnesium (Mg)	<0.05 ppm
Water	<0.1%	Potassium (K)	<0.05 ppm
Calcium (Ca)	<0.05 ppm	Sodium (Na)	<1 ppm
Copper (Cu)	<0.05 ppm	Zinc (Zn)	<0.5 ppm

Typical analysis

Aluminium (Al)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Allyl alcohol	<0.05 %
Manganese (Mn)	<0.02 ppm	Methanol	<0.05 %
Molybdenum (Mo)	<0.02 ppm	Proprionitrile	<0.1 %

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Acetonitrile
extra pure
SLR

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	A/0620/PB08
2.5 L	Coated Glass Bottle	A/0620/PB17
5 L	Metal can	A/0620/21
25 L	Metal drum	A/0620/25
200 L	Metal drum	A/0620/27

C_2H_3N
CAS: 75-05-8
MW: 41.05
Density at 20°C: 0.78
Boiling point: 81 to 82°C
Boiling pressure: 760 mmHg
Melting point: -46°C

Flash point: 2°C
ADR/RID: 3/II
UN: 1648
HS-Nr: 29269090
EINECS: 200-835-2
Risk: R11, R20/21/22, R36
Safety: S16, S36/37

F Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Iron (Fe)	<2 ppm
Colour	<20 APHA	Lead (Pb)	<2 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<0.5 ppm
Water	<0.3%	Potassium (K)	<1 ppm
Calcium (Ca)	<1 ppm	Sodium (Na)	<5 ppm
Copper (Cu)	<2 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Acetophenone
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	A/0640/PB08

$C_6H_5COCH_3$
CAS: 98-86-2
MW: 120.15

HS-Nr: 29143000
EINECS: 202-708-7

Xn

Assay (GC): >99%

2-Acetoxybenzoic acid
See Acetylsalicylic acid, page 8

Acetylacetone
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	A/0800/PB08

$C_5H_8O_2$
CAS: 123-54-6
MW: 100.12
Density at 20°C: 0.98
Boiling point: 133 to 135°C
Boiling pressure: 760 mmHg
Melting point: -23°C

Flash point: 35.5°C
ADR/RID: 3(6.1)/III
UN: 2310
HS-Nr: 29141900
EINECS: 204-634-0
Risk: R10, R22
Safety: S21, S23, S24/25

Xn

Assay (GC): >98%

Guaranteed analysis

Colour	<30 APHA	Lead (Pb)	<5 ppm
Residue after evaporation	<100 ppm	Magnesium (Mg)	<0.5 ppm
Water	<0.5%	Potassium (K)	<0.5 ppm
Calcium (Ca)	<2 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<5 ppm	Zinc (Zn)	<0.5 ppm
Iron (Fe)	<5 ppm		

Acetyl chloride
for analysis — Certified AR

packaging		product code
100 mL	Coated Glass Bottle	A/0920/PB05
500 mL	Coated Glass Bottle	A/0920/PB08

C_2H_3ClO
CAS: 75-36-5
MW: 78.5
Density at 20°C: 1.1
Boiling point: 51°C
Boiling pressure: 760 mmHg
Melting point: -112°C

Flash point: 4°C
ADR/RID: 3(8)/II
UN: 1717
HS-Nr: 29159090
EINECS: 200-865-6
Risk: R11, R14, R34
Safety: S9, S16, S26, S45

F C

Assay: >99%

Guaranteed analysis

Colour	<20 APHA	Manganese (Mn)	<0.02 ppm
Residue after evaporation	<0.01%	Molybdenum (Mo)	<0.02 ppm
Aluminium (Al)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Potassium (K)	<2 ppm
Cadmium (Cd)	<0.02 ppm	Sodium (Na)	<2 ppm
Calcium (Ca)	<2 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<0.02 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<2 ppm
Lead (Pb)	<2 ppm	Vanadium (V)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<2 ppm		

Lot analysis on the label.

Save money!
Order 4 bottles in a box

Acetyl chloride
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	A/0880/PB08
2.5 L	Coated Glass Bottle	A/0880/PB17

C_2H_3ClO
CAS: 75-36-5
MW: 78.5
Density at 20°C: 1.1
Boiling point: 51°C
Boiling pressure: 760 mmHg
Melting point: -112°C

Flash point: 4°C
ADR/RID: 3(8)/II
UN: 1717
HS-Nr: 29159090
EINECS: 200-865-6
Risk: R11, R14, R34
Safety: S9, S16, S26, S45

F C

Assay: >98%

Guaranteed analysis

Residue after evaporation	<0.05%	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<10 ppm		

Acetyl chloride
technical

packaging		product code
5	Ampoules	A/0881/99

C_2H_3ClO
CAS: 75-36-5
MW: 78.5
Density at 20°C: 1.1
Boiling point: 51°C
Boiling pressure: 760 mmHg
Melting point: -112°C

Flash point: 4°C
ADR/RID: 3(8)/II
UN: 1717
HS-Nr: 29159090
EINECS: 200-865-6
Risk: R11, R14, R34
Safety: S9, S16, S26, S45

F C

Acetylsalicylic acid
extra pure — SLR

packaging		product code
500 g	Plastic jar	A/0960/53

$C_9H_8O_4$
CAS: 50-78-2
MW: 180.16
Density at 20°C: 1.35
Melting point: 136 to 140°C

Flash point: 250°C
HS-Nr: 29182200
EINECS: 200-064-1
Risk: R22, R36/37/38
Safety: S26, S36/37/39

Xn

Assay: >99.5%

Guaranteed analysis

Residue after ignition	<0.1%	Lead (Pb)	<10 ppm
Arsenic (As)	<2 ppm	Salicylic acid	<0.05%

Fisher Chemical products takes care of the environment!

Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

OPTIMA® grade for Ultra Trace Metal analysis

Optima as low as 1-100 ppt level detection, tested up to 65 parameters
For ICP-MS & ICP equipment

designation	packsize	package type	product code	page
Acetic acid glacial	1 L	Bottle Teflon FEP	A/0415/15	1
	250 mL	Bottle Teflon FEP	A/0415/07	1
	500 mL	Bottle Teflon FEP	A/0415/08	1
Ammonia solution 20%	1 L	HDPE bottle	A/3365/15	17
	250 mL	HDPE bottle	A/3365/07	17
	500 mL	HDPE bottle	A/3365/08	17
Hydrobromic acid 44-49%	500 mL	Bottle Teflon FEP	H/0955/08	117
Hydrochloric acid 32-35%	1 L	Bottle Teflon PFA	H/1205/15	118
	250 mL	Bottle Teflon PFA	H/1205/07	118
	500 mL	Bottle Teflon PFA	H/1205/08	118
Hydrofluoric acid 47-51%	1 L	Bottle Teflon PFA	H/1435/15	121
	250 mL	Bottle Teflon PFA	H/1435/07	121
	500 mL	Bottle Teflon PFA	H/1435/08	121
Hydrogen peroxide 30-32 %	500 mL	Teflon FEP bottle	H/1830/08	123
Nitric acid 67-70%	1 L	Bottle Teflon FEP	N/2275/15	175
	250 mL	Bottle Teflon FEP	N/2275/07	175
	500 mL	Bottle Teflon FEP	N/2275/08	175
Perchloric acid 67-71%	1 L	Teflon FEP bottle	P/1295/15	186
	250 mL	Teflon FEP bottle	P/1295/07	186
	500 mL	Teflon FEP bottle	P/1295/08	186
Sulfuric acid 93-98%	1 L	Bottle Teflon FEP	S/9225/15	274
	250 mL	Bottle Teflon FEP	S/9225/07	274
	500 mL	Bottle Teflon FEP	S/9225/08	274
Water	1 L	Teflon bottle	W/0115/15	303
	500 mL	Teflon bottle	W/0115/08	303

TRACE METAL ®grade for Trace Metal analysis NEW

TraceMetal at 1 ppb level detection, tested up to 65 parameters
For ICP-MS & ICP equipment

designation	packsize	package type	product code	page
Acetic acid glacial	1 L	Coated Glass Bottle	A/0418/PB15	2
	500 mL	Coated Glass Bottle	A/0418/PB08	2
Ammonia solution 20%	500 mL	HDPE bottle	A/3362/08	18
Hydrochloric acid 34-37%	1 L	Coated Glass Bottle	H/1202/PB15	118
	2.5 L	Coated Glass Bottle	H/1202/PB17	118
	500 mL	Coated Glass Bottle	H/1202/PB08	118
Hydrofluoric acid 47-51%	500 mL	LDPE bottle	H/1432/08	122
Hydrogen peroxide 30-32 %	1 L	LDPE bottle	H/1823/15	124
Nitric acid 67-70%	1 L	Coated Glass Bottle	N/2273/PB15	176
	500 mL	Coated Glass Bottle	N/2273/PB08	176
Perchloric acid 67-71%	1 L	Coated Glass Bottle	P/1292/PB15	186
	500 mL	Coated Glass Bottle	P/1292/PB08	186
Sulfuric acid 94-98%	1 L	Coated Glass Bottle	S/9232/PB15	275
	500 mL	Coated Glass Bottle	S/9232/PB08	275

PRIMAR PLUS ®grade for Trace Metal analysis NEW SPEC.

PrimarPlus at 1-10 ppb level detection, tested up to 40 parameters
For AAS equipment

designation	packsize	package type	product code	page
Acetic acid glacial	1 L	Coated Glass Bottle	A/0411/PB15	2
	2.5 L	Coated Glass Bottle	A/0411/PB17	2
	250 mL	Coated Glass Bottle	A/0411/PB07	2
	500 mL	Coated Glass Bottle	A/0411/PB08	2
Hydrochloric acid 35% d=1.18	1 L	Coated Glass Bottle	H/1196/PB15	118
	2.5 L	Coated Glass Bottle	H/1196/PB17	118
	250 mL	Coated Glass Bottle	H/1196/PB07	118
	500 mL	Coated Glass Bottle	H/1196/PB08	118
Nitric acid 68% d =1.42	1 L	Coated Glass Bottle	N/2272/PB15	176
	2.5 L	Coated Glass Bottle	N/2272/PB17	176
	500 mL	Coated Glass Bottle	N/2272/PB08	176

PRIMAR PLUS ®grade for Trace Metal analysis NEW SPEC.

designation	packsize	package type	product code	page
Sulfuric acid 94-98% d=1.83	1 L	Coated Glass Bottle	S/9231/PB15	275
	2.5 L	Coated Glass Bottle	S/9231/PB17	275
	250 mL	Coated Glass Bottle	S/9231/PB07	275
	500 mL	Coated Glass Bottle	S/9231/PB08	275

NIST Certified Standard from SPEX

A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS

Discover them on page 258

Acids, Bases and Water for Trace Metal analysis

The right grade for the right detection level. Choose between Optima®, Trace Metal® & Primar Plus® grade.

Read more page 9

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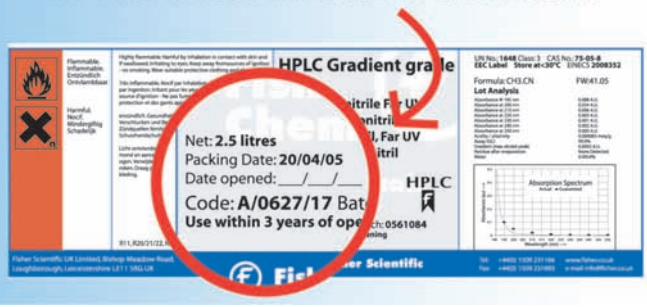
Use best before information on the label



Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia

Read more on page 191

Save money! Order 4 bottles in a box

Acrylamide
extra pure, unstabilized SLR

Specified LR

packaging		product code
250 g	Plastic jar	A/0976/50

C_3H_5NO
CAS: 79-06-1
MW: 71.08
Boiling point: 125°C
Boiling pressure: 25 mmHg
Melting point: 82 to 86°C
Flash point: 138°C

ADR/RID: 6.1/III
UN: 2074
HS-Nr: 29241900
EINECS: 201-173-7
Risk: R45, R46, R20/21, R25, R36/38, R43, R48/23/24/25, R62
Safety: S53, S45

T

Assay (GC): >98.5%

Adipic acid
pure

packaging		product code
500 g	Plastic jar	A/1000/53

$C_6H_{10}O_4$
CAS: 124-04-9
MW: 146.15
Boiling point: 265°C
Boiling pressure: 100 mmHg

Melting point: 151 to 153°C
Flash point: 196°C
HS-Nr: 29171210
EINECS: 204-673-3
Risk: R36

Xi

Assay: >99%

Adipoyl chloride
pure

packaging		product code
5 mL	Glass bottle	A/1020/99

$C_6H_8Cl_2O_2$
CAS: 111-50-2
MW: 183.04
Density at 20°C: 1.25
Boiling point: 105 to 107°C
Boiling pressure: 2 mmHg
Flash point: 72°C

ADR/RID: 8/III
UN: 1760
HS-Nr: 38220000
EINECS: 203-876-4
Risk: R29, R34
Safety: S26, S36/37/39, S45

C

L-Alanine
pure

packaging		product code
100 g	Plastic jar	A/1162/48

$C_3H_7NO_2$
CAS: 56-41-7
MW: 89.09
Boiling pressure: 760 mmHg

Melting point: 314-316°C
HS-Nr: 29224990
EINECS: 200-273-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.1%	Iron (Fe)	<10 ppm
Residue after ignition	<0.1%	Lead (Pb)	<10 ppm
Specific rotation (α 20/D)	+14° to +16°		

DL-Alanine
pure

packaging		product code
100 g	Plastic jar	A/1160/48

$C_3H_7NO_2$
CAS: 302-72-7
MW: 89.09
Boiling pressure: 760 mmHg

Melting point: 272-275°C
HS-Nr: 29224990
EINECS: 206-126-4
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Albumin, egg
extra pure SLR

Specified LR

packaging		product code
250 g	Plastic jar	A/1280/50

CAS: 9006-50-2
HS-Nr: 38220000

Alizarin C.I. 58000
pure, indicator grade

packaging		product code
10 g	Glass packaging	A/1460/45

$C_{14}H_8O_4$
CAS: 72-48-0
MW: 240.22
Boiling point: 430°C
Boiling pressure: 760 mmHg

Melting point: 287 to 289°C
HS-Nr: 38220000
EINECS: 200-782-5
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

pH 11.0-13.0 pink to violet.

Alizarin fluorine blue
See 3-Aminomethylalizarin-N,N-diacetic acid, page 17

Alizarin red S, C.I.58005
pure

packaging		product code
25 g	Glass packaging	A/1520/46

$C_{14}H_7NaO_7S$
CAS: 130-22-3
MW: 342.26

HS-Nr: 38220000
EINECS: 204-981-8
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Alkyd resin
pure, solution 70 % wt

packaging		product code
1 L	Glass bottle	A/1552/15

Density at 20°C: 0.96
Flash point: 41°C
ADR/RID: 3/III
UN: 1866

HS-Nr: 38220000
Risk: R10, R51/53, R65
Safety: S37, S43B, S61, S62

N

Guaranteed analysis
IR Analysis ..... Conform

Allylthiourea
pure, Determination of biological oxygen demand in water

packaging		product code
50 g	Plastic jar	A/1566/47

$C_4H_8N_2S$
CAS: 109-57-9
MW: 116.19
Density at 20°C: 1.11
Boiling pressure: 760 mmHg
Melting point: 70 to 78°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29309080
EINECS: 203-683-5
Risk: R25
Safety: S24/25, S45

T

Almond oil
extra pure SLR

Specified LR

packaging		product code
100 mL	Glass bottle	A/1565/05

HS-Nr: 38220000

Alumina

See Aluminium oxide, basic Brockmann type II, page 14

Aluminium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8000/05
500 mL	Plastic bottle	J/8000/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8206/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8205/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLAL22Y
250 mL	Plastic bottle	SPPLAL22T
500 mL	Plastic bottle	SPPLAL22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLAL12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLAL23Y
500 mL	Plastic bottle	SPPLAL23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLAL13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Aluminium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLAL22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Aluminium wire — Certified AR
for analysis, (0.76 mm diameter)

packaging		product code
100 g	Plastic jar	A/1810/48

Al
CAS: 7429-90-5
MW: 26.97
Density at 20°C: 2.7
Boiling point: 2327°C
Boiling pressure: 760 mmHg

Melting point: 660°C
ADR/RID: 4.3/II
HS-Nr: 38220000
EINECS: 231-072-3
Safety: S24/25

Assay: >99.9%

Guaranteed analysis

Copper (Cu)	<50 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<40 ppm	Total silicon (Si)	<50 ppm
Manganese (Mn)	<20 ppm	Acids insoluble	<0.005%

Lot analysis on the label.

Aluminium foil — SLR
extra pure, approx. 0.1 mm thick

packaging		product code
250 g	Leaf	A/1570/50
500 g	Leaf	A/1570/53

Al
CAS: 7429-90-5
MW: 26.97
Density at 20°C: 2.7
Boiling point: 2327°C
Boiling pressure: 760 mmHg

Melting point: 660°C
ADR/RID: 4.3/II
HS-Nr: 38220000
EINECS: 231-072-3
Safety: S24/25

Aluminium thin sheet — SLR
extra pure, approx. 0.5 mm thick

packaging		product code
250 g	Leaf	A/1690/50

Al
CAS: 7429-90-5
MW: 26.97
Density at 20°C: 2.7
Boiling point: 2327°C
Boiling pressure: 760 mmHg

Melting point: 660°C
ADR/RID: 4.3/II
HS-Nr: 76061191
EINECS: 231-072-3
Safety: S24/25

Aluminium powder — SLR
extra-pure, powder fine

packaging		product code
500 g	Glass packaging	A/1605/53

Al
CAS: 7429-90-5
MW: 26.98
Boiling point: 2327°C
Boiling pressure: 760 mmHg
Melting point: 660°C

ADR/RID: 4.3/II
UN: 1396
HS-Nr: 38220000
EINECS: 231-072-3
Risk: R15, R17
Safety: S7/8, S43A

F

Aluminium powder — SLR
extra-pure, coarse (grease free)

packaging		product code
500 g	Glass packaging	A/1610/53

Al
CAS: 7429-90-5
MW: 26.98
Boiling point: 2327°C
Boiling pressure: 760 mmHg
Melting point: 660°C

ADR/RID: 4.3/II
UN: 1396
HS-Nr: 38220000
EINECS: 231-072-3
Risk: R15, R17
Safety: S7/8, S43A

F

Guaranteed analysis

Melting Point tested ..... 78-81°C

Aluminium ammonium sulfate dodecahydrate — Certified AR
for analysis

packaging		product code
500 g	Plastic jar	A/1880/53

$NH_4Al(SO_4)_2.12H_2O$
CAS: 7784-26-1
MW: 453.33
Density at 20°C: 1.64
Boiling point: 200°C

Boiling pressure: 760 mmHg
Melting point: 93.5°C
HS-Nr: 38220000
EINECS: 232-055-3
Safety: S24/25

Assay: 99 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	pH > 3	Molybdenum (Mo)	<0.5 ppm
Arsenic (As)	<0.5 ppm	Nickel (Ni)	<0.5 ppm
Barium (Ba)	<0.5 ppm	Nitrate (NO_3)	<0.001%
Cadmium (Cd)	<0.5 ppm	Potassium (K)	<200 ppm
Calcium (Ca)	<20 ppm	Silver (Ag)	<0.5 ppm
Chromium (Cr)	<0.5 ppm	Sodium (Na)	<50 ppm
Cobalt (Co)	<0.5 ppm	Strontium (Sr)	<0.5 ppm
Copper (Cu)	<5 ppm	Titanium (Ti)	<0.5 ppm
Iron (Fe)	<5 ppm	Total chloride (Cl)	<0.002%
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Lithium (Li)	<0.5 ppm	Vanadium (V)	<0.5 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Manganese (Mn)	<0.5 ppm		

Lot analysis on the label.

Aluminium ammonium sulfate dodecahydrate — SLR
extra pure

packaging		product code
1 kg	Plastic Jar	A/1840/60

$NH_4Al(SO_4)_2.12H_2O$
CAS: 7784-26-1
MW: 453.33
Density at 20°C: 1.64
Boiling point: 200°C

Boiling pressure: 760 mmHg
Melting point: 93.5°C
HS-Nr: 38220000
EINECS: 232-055-3
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<2000 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<100 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<20 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<50 ppm		

Aluminium chloride anhydrous
pure

packaging		product code
500 g	Glass packaging	A/2000/53

$AlCl_3$
CAS: 7446-70-0
MW: 133.35
Density at 20°C: 2.44
Melting point: 194°C
ADR/RID: 8/II

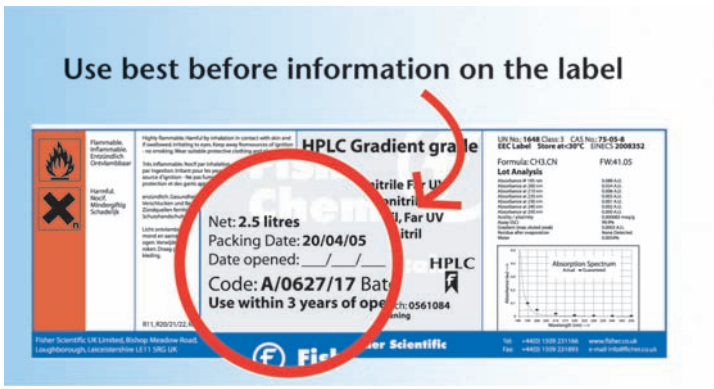
UN: 1726
HS-Nr: 28273200
EINECS: 231-208-1
Risk: R34
Safety: S28A, S45, S7/8

C

Assay: >98%

Guaranteed analysis

Iron (Fe)	<500 ppm	Sulfate (SO_4)	<0.01%



Aluminium chloride hexahydrate — SLR, Eur.Ph., BP, USP
extra pure

packaging		product code
500 g	Plastic jar	A/1960/53

$AlCl_3.6H_2O$
CAS: 7784-13-6
MW: 241.44
Density at 20°C: 2.39
ADR/RID: 8/II

UN: 1726
HS-Nr: 28273200
EINECS: 231-208-1
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Magnesium (Mg)	<100 ppm
Copper (Cu)	<50 ppm	Potassium (K)	<100 ppm
Iron (Fe)	<50 ppm	Sodium (Na)	<100 ppm
Lead (Pb)	<50 ppm	Zinc (Zn)	<100 ppm

Aluminium hydroxide dried — SLR
extra pure

packaging		product code
1 kg	Plastic jar	A/2080/60

$Al(OH)_3$
CAS: 21645-51-2
MW: 78

HS-Nr: 28183000
EINECS: 244-492-7
Safety: S24/25

Guaranteed analysis

Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.01%
Sodium (Na)	<3000 ppm		

Aluminium nitrate nonahydrate — Certified AR
for analysis

packaging		product code
500 g	Plastic jar	A/2202/53
1 kg	Plastic jar	A/2202/60

$Al(NO_3)_3.9H_2O$
CAS: 7784-27-2
MW: 375.13
Melting point: 73°C
ADR/RID: 5.1/III

UN: 1438
HS-Nr: 28342980
EINECS: 236-751-8
Risk: R8, R22, R36
Safety: S17, S26

O Xn

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	pH > 2	Potassium (K)	<10 ppm
Ammonia (NH_3)	<0.02 %	Sodium (Na)	<50 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Arsenic (As)	<1 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Aluminium nitrate nonahydrate — SLR
extra pure

packaging		product code
500 g	Plastic jar	A/2200/53
1 kg	Plastic jar	A/2200/60
5 kg	Plastic jar	A/2200/65

$Al(NO_3)_3.9H_2O$
CAS: 7784-27-2
MW: 375.13
Melting point: 73°C
ADR/RID: 5.1/III

UN: 1438
HS-Nr: 28342980
EINECS: 236-751-8
Risk: R8, R22, R36
Safety: S17, S26

O Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

Aluminium oxide, acid Brockmann type I
For chromatography, "Camag" 100-250 mesh

packaging		product code
500 g	Plastic jar	A/2370/53

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Acid, pH (4.0- 5.0)

Aluminium oxide, basic Brockmann type I
For chromatography, "Camag" 100-250 mesh

packaging		product code
500 g	Plastic jar	A/2372/53

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Alkaline, pH (9.0- 10.0)

Aluminium oxide, neutral Brockmann type I
For chromatography, "Camag" 100-250 mesh

packaging		product code
500 g	Plastic jar	A/2374/53

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Neutral, pH (6.5-7.5)

Aluminium oxide, basic Brockmann type II
For chromatography, "Camag" 100-250 mesh

packaging		product code
500 g	Plastic jar	A/2380/53

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Alkaline, pH (9-10)

Aluminium oxide — Certified AR
for analysis, calcined

packaging		product code
1 kg	Plastic jar	A/2360/60

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Guaranteed analysis

Loss on ignition	<0.5%	Sulfate (SO_4)	<0.005%
Iron (Fe)	<50 ppm	Total chloride (Cl)	<0.005%

Lot analysis on the label.

Aluminium oxide
pure, Desiccating agent

packaging		product code
500 g	Plastic jar	A/2320/53

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Particle size 3-6 mm.

Aluminium oxide calcined
extra pure SLR

Specified

packaging		product code
1 kg	Plastic jar	A/2280/60

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C

Melting point: 2050°C
HS-Nr: 28182000
EINECS: 215-691-6
Safety: S24/25

Aluminium potassium sulfate dodecahydrate
extra pure SLR

Specified

packaging		product code
1 kg	Plastic jar	A/2400/60
3 kg	Plastic jar	A/2400/63

$AlK(SO_4)_2.12H_2O$
CAS: 7784-24-9
MW: 474.38
Melting point: 92°C

HS-Nr: 28333000
Risk: R22, R36/38
Safety: S26, S37/39

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<20 ppm	Total nitrogen (N)	<1000 ppm
Iron (Fe)	<50 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Sodium (Na)	<100 ppm		

Aluminium silicate (hydrated)
See Kaolin light, page 136

Aluminium sulfate hexadecahydrate NEW SPEC.
for analysis Certified AR

Certified

packaging		product code
500 g	Plastic jar	A/2600/53
5 kg	Plastic drum	A/2600/65

$Al_2(SO_4)_3.16H_2O$
CAS: 16828-11-8
MW: 630.39

HS-Nr: 28332200
EINECS: 233-135-0
Risk: R11

Assay: 98 to 102%

Guaranteed analysis

pH (aqueous solution 5%)	pH > 2.2	Potassium (K)	<20 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Arsenic (As)	<5 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Aluminium sulfate hexadecahydrate NEW SPEC.
extra pure SLR

Specified

packaging		product code
1 kg	Plastic jar	A/2560/60
5 kg	Plastic drum	A/2560/65

$Al_2(SO_4)_3.16H_2O$
CAS: 16828-11-8
MW: 630.39

HS-Nr: 28332200
EINECS: 233-135-0
Risk: R11

Assay: >94%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<100 ppm	Total nitrogen (N)	<1000 ppm
Lead (Pb)	<100 ppm	Total phosphorus (P)	<500 ppm
Magnesium (Mg)	<100 ppm	Total silicon (Si)	<200 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<100 ppm

Aluminium sulfate hexadecahydrate
Technical

packaging		product code
2 kg	Plastic jar	A/2520/61

$Al_2(SO_4)_3.16H_2O$
CAS: 16828-11-8
MW: 630.39

HS-Nr: 28332200
EINECS: 233-135-0
Risk: R11

Amberjet® 1200H, Cation exchange resin
for Ion chromatography, Gel type (Hydrogen form , strongly acidic)

packaging		product code
500 g	Plastic jar	IE/1011/53

HS-Nr: 39140000
Risk: R22

Styrene-DVB Matrix structure.
A uniform strongly acidic cation exchanger designed for use in general demineralisation systems.

Amberlite® IR-120, Cation exchange resin
for Ion chromatography, Gel type (Hydrogen form , strongly acidic)

packaging		product code
100 g	Plastic jar	IE/1015/48
500 g	Plastic jar	IE/1015/53

HS-Nr: 38220000
Risk: R22

Styrene-DVB Matrix structure.
Premium quality conventional strongly acidic cation exchange resin with 8% DVB by weight, amber in colour and contains a high perfect bead content. The quality of this resin is such that it can be used in standard operations as well as where there is a need for a premium grade gel cation exchange resin.

Amberlite® IR-120, Cation exchange resin
for Ion chromatography, Gel type (Sodium form , strongly acidic)

packaging		product code
500 g	Plastic jar	IE/1020/53

HS-Nr: 38220000
Risk: R22

Styrene-DVB Matrix structure.
Premium quality conventional strongly acidic cation exchange resin with 8% DVB by weight, amber in colour and contains a high perfect bead content. The quality of this resin is such that it can be used in standard operations as well as where there is a need for a premium grade gel cation exchange resin.

Amberlite® 200, Cation exchange resin
for Ion chromatography, Macroreticular type (Sodium form, strongly acidic)

packaging		product code
500 g	Plastic jar	IE/1040/53

HS-Nr: 38220000
Safety: S24/25

Styrene-DVB matrix structure.
Excellent physical stability and resistance to oxidation. Contains approximately 20%DVD by weight, and can be expected to provide at least three times greater resistance to oxidation than conventional gel type cation exchange resin.

Amberlite® IRC-50, Cation exchange resin
for Ion chromatography, Macroreticular type (Hydrogen form, weakly acidic)

packaging		product code
100 g	Plastic jar	IE/1045/48

HS-Nr: 38220000
Safety: S24/25

Guaranteed analysis
Iron (Fe) ..... <50 ppm Lead (Pb) ..... <25 ppm

Methacrylic acid- DVB Matrix structure.
Has a pK value of 6.1 and will selectively adsorb organic bases such as basic antibiotics, alkaloids, peptides, amino acids and metals present in an alkaline solution.

Amberlite® IRA-402, Anion exchange resin
for Ion chromatography, Gel type (Chloride form, strongly basic)

packaging		product code
500 g	Plastic jar	IE/1050/53

HS-Nr: 38220000
Risk: R22

Styrene-DVB Matrix structure.
Combined with a strong acid cation exchanger it reduces both strong and weak acid concentrations to extremely low levels.Its main use is water demineralisation.

Amberlite® MB-1 (Mixed resin)
for Ion chromatography

packaging		product code
500 g	Plastic jar	IE/1505/53

HS-Nr: 38220000
Safety: S24/25

Can be used to remove trace ionic impurities from acrylamide before polymerisation.

Amberlite® MB-6113 (Mixed resin)
for Ion chromatography

packaging		product code
500 g	Plastic Jar	IE/1502/53

HS-Nr: 38220000

Amberlyst® 15, Amberlyst exchange resin
for Ion chromatography, Macroreticular type (cation, strongly acidic), dry

packaging		product code
500 g	Plastic jar	IE/2500/53

HS-Nr: 38220000
Risk: R22

Amberlyst 15 Matrix structure

Amidosulfonic acid *See Sulfamic acid, page 273*

4-Aminophenazone — Certified AR
for analysis

packaging		product code
25 g	Plastic jar	A/3042/46

$C_{11}H_{13}N_3O$
CAS: 83-07-8
MW: 203.25
Density at 20°C: 0.8
Melting point: 105.5 to 110°C

HS-Nr: 29331190
EINECS: 201-452-3
Risk: R22, R36/37/38
Safety: S26, S36/37/39

Xn

Assay: >99%

Guaranteed analysis
Loss on drying ..... <0.5% IR Analysis ..... Conform
Residue after ignition ..... <0.1%

Lot analysis on the label.

4-Aminophenazone — SLR
extra pure

packaging		product code
25 g	Plastic jar	A/3040/46

$C_{11}H_{13}N_3O$
CAS: 83-07-8
MW: 203.25
Density at 20°C: 0.8
Melting point: 105.5 to 110°C

HS-Nr: 29331190
EINECS: 201-452-3
Risk: R22, R36/37/38
Safety: S26, S36/37/39

Xn

Assay: >98%

Aminobenzene *See Aniline, page 31*

4-Aminobenzenesulfonamide
See Sulfanilamide, page 273

4-Aminobenzenesulfonic acid
See Sulfanilic acid, page 273

4-Aminobenzoic acid — SLR
extra pure

packaging		product code
100 g	Plastic jar	A/2840/48

$C_7H_7NO_2$
CAS: 150-13-0
MW: 137.14
Melting point: 186 to 189°C

HS-Nr: 38220000
EINECS: 205-753-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

3-Amino-7-dimethylamino-2-methylphenazine hydrochloride
See Neutral red C.I 50040, page 171

4-Amino-2.3-dimethyl-1-phenyl-3-pyrazolin-5-one
See 4-Aminophenazone, page 16

2-Aminoethanesulfonic acid *See Taurine, page 280*

2-Aminoethanol *See Ethanolamine, page 98*

3-Aminoethylbenzene
See 2-Phenylethylamine, page 195

2-Amino-2-(hydroxymethyl)-1.3-propanediol
See Tris(hydroxymethyl) methylamine, 'Tris buffer', page 297

L-2-Amino-3-(4-imidazolyl)propionic acid
See L-Histidine, page 116

3-Aminomethylalizarin-N,N-diacetic acid
pure, indicator grade

packaging		product code
1 g	Glass packaging	A/2930/43

$C_{19}H_{15}NO_8.2H_2O$
CAS: 3952-78-1
MW: 421.35
Melting point: 190 °C
HS-Nr: 29225000
EINECS: 223-544-2
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Conforming to the IR spectrum of reference.

(2S,3S)-2-Amino-3-methylpentanoic acid
See L-iso-Leucine, page 146

2-Amino-2-methyl-propan-1-ol
SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	A/2960/08

$C_4H_{11}NO$
CAS: 124-68-5
MW: 89.14
Density at 20°C: 0.93
Boiling point: 165°C
Boiling pressure: 760 mmHg
Melting point: 31 to 32°C
Flash point: 67°C
ADR/RID: /III
HS-Nr: 29221980
EINECS: 204-709-8
Risk: R36/38, R52/53
Safety: S61
Xi

Assay (GC): >93%

Guaranteed analysis
Residue after ignition ..... <0.005%

1-Amino-2-naphthol-4-sulfonic acid
SLR
extra pure

Specified LR

packaging		product code
25 g	Plastic jar	A/3002/46

$C_{10}H_9NO_4S$
CAS: 116-63-2
MW: 239.25
Boiling pressure: 760 mmHg
Melting point: 295 °C
HS-Nr: 38220000
EINECS: 204-147-3
Risk: R36/37/38
Safety: S24/25
Xi

Guaranteed analysis
IR Analysis ..... Conform

3-Aminophthalhydrazide (Luminol)
SLR
extra pure

Specified LR

packaging		product code
5 g	Glass packaging	A/3150/44

$C_8H_7N_3O_2$
CAS: 521-31-3
MW: 177.16
Melting point: 319 to 320°C
HS-Nr: 29280000
EINECS: 208-309-4
Risk: R22, R36/37/38
Safety: S26, S37/39
Xn

Guaranteed analysis
IR Analysis ..... Conform

L-2-Aminosuccinamic acid
See L-Asparagine, page 34

L-Aminosuccinic acid
See L-Aspartic acid, page 35

Ammonia solution 20%
NEW SPEC.
OPTIMA
for ultra trace analysis

Optima

packaging		product code
250 mL	HDPE bottle	A/3365/07
500 mL	HDPE bottle	A/3365/08
1 L	HDPE bottle	A/3365/15

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.91
ADR/RID: 8/III
UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61
C N

Assay (NH_3): 20%

Guaranteed analysis

Aluminium (Al)	<20 ppt	Molybdenum (Mo)	<10 ppt
Antimony (Sb)	<10 ppt	Neodymium (Nd)	<1 ppt
Arsenic (As)	<10 ppt	Nickel (Ni)	<10 ppt
Barium (Ba)	<10 ppt	Niobium (Nb)	<10 ppt
Beryllium (Be)	<10 ppt	Potassium (K)	<20 ppt
Bismuth (Bi)	<10 ppt	Praseodymium (Pr)	<10 ppt
Cadmium (Cd)	<10 ppt	Rhodium (Rh)	<10 ppt
Calcium (Ca)	<20 ppt	Rubidium (Rb)	<10 ppt
Cerium (Ce)	<10 ppt	Samarium (Sm)	<10 ppt
Chromium (Cr)	<10 ppt	Scandium (Sc)	<10 ppt
Cobalt (Co)	<10 ppt	Silver (Ag)	<10 ppt
Copper (Cu)	<20 ppt	Sodium (Na)	<20 ppt
Dysprosium (Dy)	<10 ppt	Strontium (Sr)	<10 ppt
Erbium (Er)	<10 ppt	Tellurium (Te)	<10 ppt
Europium (Eu)	<10 ppt	Terbium (Tb)	<10 ppt
Gadolinium (Gd)	<10 ppt	Thallium (Tl)	<10 ppt
Gallium (Ga)	<10 ppt	Thorium (Th)	<10 ppt
Germanium (Ge)	<10 ppt	Thulium (Tm)	<10 ppt
Gold (Au)	<10 ppt	Tin (Sn)	<10 ppt
Holmium (Ho)	<10 ppt	Titanium (Ti)	<10 ppt
Indium (In)	<10 ppt	Tungsten (W)	<10 ppt
Iron (Fe)	<20 ppt	Uranium (U)	<10 ppt
Lanthanum (La)	<10 ppt	Vanadium (V)	<10 ppt
Lead (Pb)	<10 ppt	Ytterbium (Yb)	<10 ppt
Lithium (Li)	<10 ppt	Yttrium (Y)	<10 ppt
Lutetium (Lu)	<10 ppt	Zinc (Zn)	<10 ppt
Magnesium (Mg)	<20 ppt	Zirconium (Zr)	<10 ppt
Manganese (Mn)	<10 ppt		

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

Ammonia solution 20% NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
500 mL	HDPE bottle	A/3362/08

NH_4OH
CAS: 1336-21-6
MW: 35.05
Density at 20°C: 0.92
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: 20 to 22%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.2 ppb
Aluminium (Al)	<0.5 ppb	Niobium (Nb)	<0.1 ppb
Antimony (Sb)	<0.1 ppb	Palladium (Pd)	<1 ppb
Arsenic (As)	<0.1 ppb	Platinum (Pt)	<1 ppb
Barium (Ba)	<0.1 ppb	Potassium (K)	<0.2 ppb
Beryllium (Be)	<0.1 ppb	Praséodymium (Pr)	<0.1 ppb
Bismuth (Bi)	<0.1 ppb	Rhenium (Re)	<1 ppb
Cadmium (Cd)	<0.1 ppb	Rhodium (Rh)	<0.1 ppb
Calcium (Ca)	<1 ppb	Rubidium (Rb)	<0.1 ppb
Cerium (Ce)	<0.1 ppb	Ruthenium (Ru)	<1 ppb
Cesium (Cs)	<0.1 ppb	Samarium (Sm)	<0.1 ppb
Chromium (Cr)	<0.1 ppb	Scandium (Sc)	<0.1 ppb
Cobalt (Co)	<0.1 ppb	Selenium (Se)	<0.1 ppb
Copper (Cu)	<0.5 ppb	Silver (Ag)	<0.1 ppb
Dysprosium (Dy)	<0.1 ppb	Sodium (Na)	<1 ppb
Erbium (Er)	<0.1 ppb	Strontium (Sr)	<0.1 ppb
Europium (Eu)	<0.1 ppb	Sulfate (SO_4)	<0.1 ppm
Gadolinium (Gd)	<0.1 ppb	Tellurium (Te)	<0.1 ppb
Gallium (Ga)	<0.1 ppb	Terbium (Tb)	<0.1 ppb
Germanium (Ge)	<0.1 ppb	Thallium (Tl)	<0.1 ppb
Gold (Au)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Hafnium (Hf)	<1 ppb	Thulium (Tm)	<0.1 ppb
Holmium (Ho)	<0.1 ppb	Tin (Sn)	<0.1 ppb
Indium (In)	<0.1 ppb	Titanium (Ti)	<0.1 ppb
Iron (Fe)	<0.5 ppb	Total chloride (Cl)	<0.5 ppm
Lanthanum (La)	<0.1 ppb	Total phosphorus (P)	<0.5 ppm
Lead (Pb)	<0.1 ppb	Tungsten (W)	<0.1 ppb
Lithium (Li)	<0.1 ppb	Uranium (U)	<0.1 ppb
Lutetium (Lu)	<0.1 ppb	Vanadium (V)	<0.1 ppb
Magnesium (Mg)	<0.2 ppb	Ytterbium (Yb)	<0.1 ppb
Manganese (Mn)	<0.2 ppb	Yttrium (Y)	<0.1 ppb
Mercury (Hg)	<1 ppb	Zinc (Zn)	<0.5 ppb
Molybdenum (Mo)	<0.1 ppb	Zirconium (Zr)	<0.1 ppb
Neodymium (Nd)	<0.1 ppb		

Ammonia solution 20% d=0.92 — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	A/3367/15
2.5 L	Glass bottle	A/3367/17

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.917 to 0.923
ADR/RID: 8/III

UN: 2672
HS-Nr: 38220000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Assay: 20 to 22%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<1 ppm
Substances reducing $KMnO_4$	<0.001%	Sodium (Na)	<2 ppm
Calcium (Ca)	<1 ppm	Total chloride (Cl)	<0.00005 %
Carbonate (Na_2CO_3)	<0.002 %	Total phosphorus (P)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<0.2 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.2 ppm
Magnesium (Mg)	<0.1 ppm	Pyridine and homologues (C_6H_5N)	<2 ppm

Lot analysis on the label.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Ammonia Solution 20% d=0.92 — SLR
extra pure

Specified LR

packaging		product code
1 L	Glass bottle	A/3366/15
5 L	Plastic bottle	A/3366/21

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.91 to 0.93
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Assay: 20 to 22%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<10 ppm
Carbonate (Na_2CO_3)	<0.01%	Sodium (Na)	<20 ppm
Copper (Cu)	<1 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<1 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<1 ppm	Zinc (Zn)	<2 ppm

Ammonia solution 25%, d=0.91 — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Coated Glass Bottle	A/3360/PB15
2.5 L	Coated Glass Bottle	A/3360/PB17

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Assay: 20 to 30%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<1 ppm
Substances reducing $KMnO_4$	<0.001%	Sodium (Na)	<5 ppm
Calcium (Ca)	<1 ppm	Total chloride (Cl)	<0.00005 %
Carbonate (Na_2CO_3)	<0.002 %	Total phosphorus (P)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<0.2 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.2 ppm
Magnesium (Mg)	<0.1 ppm	Pyridine and homologues (C_6H_5N)	<2 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
Ammonia is equivalent to a strength of 13.4M (13.4N).

Ammonia solution 25% d=0.91 — SLR
extra pure

Specified LR

packaging		product code
2.5 L	Coated Glass Bottle	A/3320/PB17

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Assay: 20 to 30%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<20 ppm
Carbonate (Na_2CO_3)	<0.01%	Total chloride (Cl)	<0.001%
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<2 ppm		

Ammonia is equivalent to a strength of 13.4M (13.4N).

Ammonia solution 35% d=0.88 — Certified
for HPLC

packaging		product code
100 mL	Coated Glass Bottle	A/3295/PB05

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Assay: 32 to 36%

Guaranteed analysis

Iron (Fe)	<0.2 ppm	Lead (Pb)	<0.05 ppm

Ammonia is equivalent to a strength of 18.1M (18.1N).
Lot analysis on the label.
Filtered to 0.2 µm.

Ammonia solution 35% d=0.88 — Primar
for trace metal analysis

packaging		product code
500 mL	Coated Glass Bottle	A/3290/PB08
1 L	Coated Glass Bottle	A/3290/PB15

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Guaranteed analysis

Substances		Manganese (Mn)	<0.005 ppm
reducing dichromate	<0.0002%	Mercury (Hg)	<0.01 ppm
Aluminium (Al)	<0.05 ppm	Molybdenum (Mo)	<0.005 ppm
Arsenic (As)	<0.005 ppm	Nickel (Ni)	<0.005 ppm
Barium (Ba)	<0.01 ppm	Potassium (K)	<0.05 ppm
Cadmium (Cd)	<0.001 ppm	Silver (Ag)	<0.05 ppm
Calcium (Ca)	<0.2 ppm	Strontium (Sr)	<0.005 ppm
Carbonate (Na_2CO_3)	<0.001%	Tin (Sn)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Titanium (Ti)	<0.005 ppm
Cobalt (Co)	<0.005 ppm	Total chloride (Cl)	<0.00001%
Copper (Cu)	<0.005 ppm	Total phosphorus (P)	<0.05 ppm
Iron (Fe)	<0.05 ppm	Total sulphur (S)	<0.1 ppm
Lead (Pb)	<0.002 ppm	Vanadium (V)	<0.005 ppm
Lithium (Li)	<0.005 ppm	Zinc (Zn)	<0.01 ppm
Magnesium (Mg)	<0.05 ppm	Other IMP.	<1 ppm

Ammonia is equivalent to a strength of 18.1M (18.1N).

Ammonia solution 35% d=0.88
for AAS

packaging		product code
2.5 L	Coated Glass Bottle	A/3285/PB17

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.87 to 0.89
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Guaranteed analysis

Cadmium (Cd)	<0.02 ppm	Magnesium (Mg)	<0.02 ppm
Calcium (Ca)	<0.5 ppm	Manganese (Mn)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Nickel (Ni)	<0.01 ppm
Copper (Cu)	<0.05 ppm	Potassium (K)	<0.2 ppm
Iron (Fe)	<0.2 ppm	Sodium (Na)	<0.5 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.1 ppm

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Ammonia solution 35% d=0.88
for electronic use (MOS)

packaging		product code
2.5 L	Coated Glass Bottle	A/3222/PB17
5 L	Plastic bottle	A/3222/21

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88 to 0.89
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Assay: 32 to 36%

Guaranteed analysis

Colour	<10 APHA	Magnesium (Mg)	<0.1 ppm
Substances		Manganese (Mn)	<0.01 ppm
reducing $KMnO_4$	<0.001%	Molybdenum (Mo)	<0.01 ppm
Aluminium (Al)	<0.1 ppm	Nickel (Ni)	<0.02 ppm
Barium (Ba)	<0.01 ppm	Potassium (K)	<1 ppm
Cadmium (Cd)	<0.01 ppm	Sodium (Na)	<5 ppm
Calcium (Ca)	<1 ppm	Strontium (Sr)	<0.01 ppm
Carbonate (Na_2CO_3)	<0.002%	Titanium (Ti)	<0.01 ppm
Chromium (Cr)	<0.02 ppm	Total chloride (Cl)	<0.00005%
Cobalt (Co)	<0.01 ppm	Total phosphorus (P)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<0.2 ppm	Vanadium (V)	<0.01 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.2 ppm
Lithium (Li)	<0.01 ppm	Pyridine and homologues (C_6H_5N)	<2 ppm

Ammonia solution 0.25M — Certified
for HPLC

packaging		product code
500 mL	Coated Glass Bottle	J/0100/PB08

HS-Nr: 28141000

Guaranteed analysis

Molarity	0.24 to 0.26 M

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

Drift in the baseline	<40 mA.U.	Gradient (max eluted peak)	<0.005 A.U.

Ammonia solution 35%, d=0.88 — Certified AR
for analysis

packaging		product code
1 L	Coated Glass Bottle	A/3280/PB15
2.5 L	Coated Glass Bottle	A/3280/PB17
5 L	Plastic bottle	A/3280/21
25 L	Metal drum	A/3280/25

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88 to 0.89
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

C N

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<1 ppm
Substances		Sodium (Na)	<5 ppm
reducing $KMnO_4$	<0.001%	Total chloride (Cl)	<0.00005 %
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<0.5 ppm
Carbonate (Na_2CO_3)	<0.002 %	Total silicon (Si)	<1 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.2 ppm
Lead (Pb)	<0.05 ppm	Pyridine and homologues (C_6H_5N)	<2 ppm
Magnesium (Mg)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
Ammonia is equivalent to a strength of 18.1M (18.1N).
see page 279 for suitable Tap & accessories.

Ammonia solution 35% d=0.88 — SLR
extra pure

packaging		product code
1 L	Coated Glass Bottle	A/3240/PB15
2.5 L	Coated Glass Bottle	A/3240/PB17

$NH_3.H_2O$
CAS: 1336-21-6
MW: 35.04
Density at 20°C: 0.88 to 0.89
ADR/RID: 8/III

UN: 2672
HS-Nr: 28142000
EINECS: 215-647-6
Risk: R34, R50
Safety: S26, S36/37/39, S45, S61

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<20 ppm
Carbonate (Na_2CO_3)	<0.01%	Total chloride (Cl)	<0.001%
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<2 ppm		

Ammonia is equivalent to a strength of 18.1M (18.1N).

Ammonia-Nitrogen standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASNH3N92Y

CAS: 12125-02-9
Density at 20°C: 1

Manufactured to a tolerance of ±0.3%.

Ammonium standard
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4542/05

HS-Nr: 38220000

Guaranteed analysis
Value between ..... 0.95 to 1.05

Manufactured to a tolerance of ± 1%.

Ammonium acetate — Certified
for HPLC

packaging		product code
250 g	Plastic Jar	A/3446/50

$C_2H_7NO_2$
CAS: 631-61-8
MW: 77.08
Density at 20°C: 1.07
Melting point: 110 to 112°C

Flash point: 136°C
HS-Nr: 29152900
EINECS: 211-162-9
Safety: S24/25

Assay: >99%

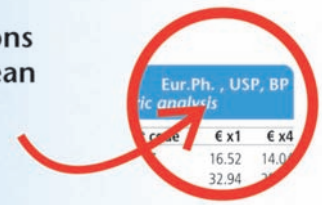
Guaranteed analysis

pH (aqueous solution 5%)	6.5 to 7.5	Lead (Pb)	<1 ppm
Iron (Fe)	<1 ppm	Total chloride (Cl)	<0.0005%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.02 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Ammonium acetate — Certified
HPLC for electrochemical detection

packaging		product code
250 g	Plastic jar	A/3450/50

$C_2H_7NO_2$
CAS: 631-61-8
MW: 77.08
Density at 20°C: 1.07
Melting point: 110 to 112°C

Flash point: 136°C
HS-Nr: 29152900
EINECS: 211-162-9
Safety: S24/25

Assay: >97%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<1 ppm
pH (aqueous solution 5%)	6.5 to 7.5	Total chloride (Cl)	<0.0005%
Iron (Fe)	<1 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.02 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Ammonium acetate
For soil analysis

packaging		product code
500 g	Plastic Jar	A/3445/53
1 kg	Plastic Jar	A/3445/60
5 kg	Plastic Keg	A/3445/65

$C_2H_7NO_2$
CAS: 631-61-8
MW: 77.08
Density at 20°C: 1.07
Melting point: 110 to 112°C

Flash point: 136°C
HS-Nr: 29152900
EINECS: 211-162-9
Safety: S24/25

Assay: >97%

Guaranteed analysis

pH (aqueous solution 5%)	6.5 to 7.5	Magnesium (Mg)	<5 ppm
Residue after ignition	<0.01%	Nitrate (NO_3)	<0.001%
Aluminium (Al)	<5 ppm	Phosphate (PO_4)	<1 ppm
Calcium (Ca)	<10 ppm	Potassium (K)	<2 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.0005%
Iron (Fe)	<1 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<1 ppm		

Ammonium acetate — Certified AR
for analysis

packaging		product code
250 g	Plastic Jar	A/3440/50
500 g	Plastic Jar	A/3440/53
1 kg	Plastic Jar	A/3440/60
5 kg	Plastic Keg	A/3440/65

$C_2H_7NO_2$
CAS: 631-61-8
MW: 77.08
Density at 20°C: 1.07
Melting point: 110 to 112°C

Flash point: 136°C
HS-Nr: 29152900
EINECS: 211-162-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	6.5 to 7.5	Potassium (K)	<10 ppm
Calcium (Ca)	<2 ppm	Sodium (Na)	<5 ppm
Copper (Cu)	<1 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<1 ppm	Total phosphorus (P)	<2 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<5 ppm
Magnesium (Mg)	<1 ppm	Total sulphur (S)	<10 ppm
Nitrate (NO_3)	<0.001 %	Zinc (Zn)	<1 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Ammonium acetate
extra pure, crystals — SLR

Specified LR

packaging		product code
500 g	Plastic Jar	A/3400/53
1 kg	Plastic Jar	A/3400/60
5 kg	Plastic Keg	A/3400/65

$C_2H_7NO_2$
CAS: 631-61-8
MW: 77.08
Density at 20°C: 1.07
Melting point: 110 to 112°C
Flash point: 136°C
HS-Nr: 29152900
EINECS: 211-162-9
Safety: S24/25

Assay: >97%

Guaranteed analysis

pH (aqueous solution 5%)	6.5 to 7.5	Sodium (Na)	<20 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<50 ppm		

Ammonium acetate solution 0.25M
HPLC for gradient analysis — Certified

HPLC

packaging		product code
500 mL	Coated Glass Bottle	J/0200/PB08

HS-Nr: 29152900

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Drift in the baseline <40 mA.U. Gradient (max eluted peak). <0.005 A.U.

Manufactured to a tolerance of ±0.02M
Conditions:
Column: C18 Reverse Phase
Flow Rate: 3ml/min
Wavelenght: 254nm
Solvent A: Water + 10%Buffer
Solvent B: Acetonitrile + 10% Buffer
Gradient: 10 min. At 5% solvent B followed by a linear gradient to 95% solvent B over 15min.

Ammonium bromide
for analysis — Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	A/3560/53

NH_4Br
CAS: 12124-97-9
MW: 97.95
Density at 20°C: 2.42
Boiling point: 235°C
Boiling pressure: 760 mmHg
Melting point: 452°C
HS-Nr: 28275900
EINECS: 235-183-8
Risk: R36
Safety: S24/25
Xi

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.1%	Magnesium (Mg)	<5 ppm
pH (aqueous solution 5%)	4.8 to 6	Potassium (K)	<50 ppm
Bromate (BrO_3)	<0.001 %	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.2 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<10 ppm
Iodide	<0.005 %	Total silicon (Si)	<10 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Ammonium bromide
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/3520/53

NH_4Br
CAS: 12124-97-9
MW: 97.95
Density at 20°C: 2.42
Boiling point: 235°C
Boiling pressure: 760 mmHg
Melting point: 452°C
HS-Nr: 28275900
EINECS: 235-183-8
Risk: R36
Safety: S24/25
Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.5%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<50 ppm

Ammonium carbonate
for HPLC — Certified

HPLC

packaging		product code
250 g	Plastic jar	A/3686/50

NH_4HCO_3+
$NH_2.COO.NH_4$
CAS: 506-87-6
HS-Nr: 28361000
EINECS: 233-786-0
Safety: S24/25

Assay: >31%

Guaranteed analysis

Iron (Fe)	<1 ppm	Total chloride (Cl)	<0.0001%
Lead (Pb)	<1 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm <0.02 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Ammonium carbonate
for analysis, powder — Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	A/3680/53
1 kg	Plastic jar	A/3680/60

NH_4HCO_3
+$NH_2.COO.NH_4$
CAS: 506-87-6
HS-Nr: 28361000
EINECS: 233-786-0
Safety: S24/25

Assay: >31%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Sodium (Na)	<5 ppm
Copper (Cu)	<0.5 ppm	Total chloride (Cl)	<0.00005 %
Iron (Fe)	<10 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<10 ppm
Potassium (K)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Ammonium carbonate — SLR
extra pure, powder

Specified LR

packaging		product code
1 kg	Plastic jar	A/3640/60
5 kg	Plastic drum	A/3640/65

NH_4HCO_3+ $NH_2.COO.NH_4$
CAS: 506-87-6
HS-Nr: 28361000
EINECS: 233-786-0
Safety: S24/25

Assay: >30%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<20 ppm	Zinc (Zn)	<50 ppm

Ammonium cerium(IV) nitrate — Certified AR
for analysis

AR

packaging		product code
100 g	Plastic jar	A/3730/48
250 g	Plastic jar	A/3730/50

$(NH_4)_2Ce(NO_3)_6$
CAS: 16774-21-3
MW: 548.23
Density at 20°C: 2.2
Melting point: 107 to 108°C
ADR/RID: 5.1/II
UN: 3087
HS-Nr: 28461000
EINECS: 240-827-6
Risk: R8, R22, R36/37/38, R41
Safety: S17, S26, S36/37/39
O Xn

Assay: >99%

Guaranteed analysis

Loss on drying	<3%	Potassium (K)	<50 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Cobalt (Co)	<1 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Titanium (Ti)	<1 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.001%
Lead (Pb)	<10 ppm	Total phosphorus (P)	<50 ppm
Lithium (Li)	<1 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<500 ppm
Manganese (Mn)	<1 ppm	Vanadium (V)	<1 ppm
Molybdenum (Mo)	<1 ppm	Zinc (Zn)	<20 ppm
Nickel (Ni)	<0.005%	Acids insoluble	<0.005%

Lot analysis on the label.

Ammonium cerium(IV) nitrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	A/3720/48
250 g	Plastic jar	A/3720/50

$(NH_4)_2Ce(NO_3)_6$
CAS: 16774-21-3
MW: 548.23
Density at 20°C: 2.2
Melting point: 107 to 108°C
ADR/RID: 5.1/II
UN: 3087
HS-Nr: 28461000
EINECS: 240-827-6
Risk: R8, R22, R36/37/38, R41
Safety: S17, S26, S36/37/39
O Xn

Assay: >98%

Guaranteed analysis

Loss on drying	<5%	Sodium (Na)	<500 ppm
Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<100 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<100 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<200 ppm

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Ammonium cerium(IV) sulfate — Certified AR
for analysis, low in rare earths

AR

packaging		product code
100 g	Plastic jar	A/3771/48

$(NH_4)_4Ce(SO_4)_4.2H_2O$
CAS: 10378-47-9
MW: 632.56
Melting point: 130°C
HS-Nr: 28461000
EINECS: 231-567-4
Safety: S24/25

Assay: >99%

Guaranteed analysis

Cadmium (Cd)	<1 ppm	Potassium (K)	<50 ppm
Chromium (Cr)	<1 ppm	Silver (Ag)	<1 ppm
Cobalt (Co)	<1 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Titanium (Ti)	<1 ppm
Iron (Fe)	<50 ppm	Total chloride (Cl)	<0.001%
Lead (Pb)	<20 ppm	Total phosphorus (P)	<50 ppm
Lithium (Li)	<1 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<50 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<20 ppm
Molybdenum (Mo)	<1 ppm	Other rare earths	<2%
Nickel (Ni)	<0.005%		

Lot analysis on the label.

Ammonium cerium(IV) sulfate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	A/3760/48

$(NH_4)_4Ce(SO_4)_4.2H_2O$
CAS: 10378-47-9
MW: 632.56
Melting point: 130°C
HS-Nr: 28461000
EINECS: 231-567-4
Safety: S24/25

Assay: 90 to 105%

Guaranteed analysis

Copper (Cu)	<500 ppm	Sodium (Na)	<500 ppm
Iron (Fe)	<500 ppm	Total chloride (Cl)	<0.05%
Lead (Pb)	<500 ppm	Total phosphorus (P)	<500 ppm
Magnesium (Mg)	<500 ppm	Total silicon (Si)	<500 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<500 ppm

Ammonium chloride — Certified AR, Ph.Eur., BP
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	A/3920/53
1 kg	Plastic jar	A/3920/60
2 kg	Plastic jar	A/3920/61
5 kg	Plastic drum	A/3920/65
25 kg	Fibre Keg	A/3920/70

NH_4Cl
CAS: 12125-02-9
MW: 53.49
Density at 20°C: 1.52
Melting point: 340°C
HS-Nr: 28271000
EINECS: 235-186-4
Risk: R22, R36
Safety: S22
Xn

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	4.5 to 5.5	Potassium (K)	<50 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<1 ppm	Total phosphorus (P)	<5 ppm
Iodide	<0.001 %	Total silicon (Si)	<2 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<10 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<1 ppm	Pyridine and homologues (C_6H_5N)	<10 ppm
Nitrate (NO_3)	<0.0005 %		

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Ammonium chloride
extra pure — SLR

Specified LR

packaging		product code
1 kg	Plastic jar	A/3880/60
2 kg	Plastic jar	A/3880/61
5 kg	Plastic drum	A/3880/65

NH_4Cl
CAS: 12125-02-9
MW: 53.49
Density at 20°C: 1.52
Melting point: 340°C

HS-Nr: 28271000
EINECS: 235-186-4
Risk: R22, R36
Safety: S22

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

Ammonium chloride
Technical, powder

packaging		product code
2 kg	Plastic jar	A/3800/61

NH_4Cl
CAS: 12125-02-9
MW: 53.49
Density at 20°C: 1.52
Melting point: 340°C

HS-Nr: 28271000
EINECS: 235-186-4
Risk: R22, R36
Safety: S22

Xn

tri-Ammonium citrate
for analysis — Certified AR

AR

packaging		product code
250 g	Plastic Jar	A/4082/50
500 g	Plastic Jar	A/4082/53
25 kg	Fibre Keg	A/4082/70

$(NH_4)_3C_6H_5O_7$
CAS: 3458-72-8
MW: 243.22

HS-Nr: 29181500
EINECS: 222-394-5

Assay: 99 to 101%

Guaranteed analysis

Carbonisable substance (standard Ph.Eur USP)	Conform	Manganese (Mn)	<1 ppm
pH (aqueous solution 5%)	6 to 7	Molybdenum (Mo)	<1 ppm
Reducing substance	Conform	Nickel (Ni)	<1 ppm
Aluminium (Al)	<1 ppm	Oxalate (C_2O_4)	<0.01%
Arsenic (As)	<2 ppm	Potassium (K)	<20 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<50 ppm
Calcium (Ca)	<20 ppm	Strontium (Sr)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

NIST Certified
Standard from SPEX
A full range of Mono
& Multi-elemental standard
and Calibration solution
for ICP & ICP-MS
Discover them on page 258

tri-Ammonium citrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic Jar	A/4080/53
1 kg	Plastic Jar	A/4080/60

$(NH_4)_3C_6H_5O_7$
CAS: 3458-72-8
MW: 243.22

HS-Nr: 29181500
EINECS: 222-394-5

Assay: >98%

Guaranteed analysis

pH (aqueous solution 5%)	6 to 7	Sodium (Na)	<500 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<100 ppm		

Ammonium copper(II) chloride dihydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/4240/53

$(NH_4)_2CuCl_4.2H_2O$
CAS: 15610-76-1
MW: 277.47
HS-Nr: 28429080

EINECS: 239-690-5
Risk: R21/22
Safety: S20, S37, S44

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<500 ppm
Iron (Fe)	<100 ppm	Sodium (Na)	<500 ppm
Lead (Pb)	<500 ppm	Zinc (Zn)	<500 ppm
Magnesium (Mg)	<500 ppm		

Ammonium dichromate
for analysis — Certified AR

AR

packaging		product code
250 g	Plastic jar	A/4440/50

$(NH_4)_2Cr_2O_7$
CAS: 7789-09-5
MW: 252.06
Melting point: 170 °C
ADR/RID: 5.1/II
UN: 1439

HS-Nr: 28415000
EINECS: 232-143-1
Risk: R45, R46, R60, R61, R2, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

E T+ N

Assay: >99.5%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Potassium (K)	<100 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<2 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<50 ppm
Calcium (Ca)	<10 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<10 ppm	Vanadium (V)	<1 ppm
Molybdenum (Mo)	<1 ppm	Zinc (Zn)	<10 ppm
Nickel (Ni)	<1 ppm		

Save money!
Order 4 bottles in a box

Ammonium dichromate — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	A/4400/50
500 g	Plastic jar	A/4400/53
1 kg	Plastic jar	A/4400/60

$(NH_4)_2Cr_2O_7$
CAS: 7789-09-5
MW: 252.06
Melting point: 170 °C
ADR/RID: 5.1/II
UN: 1439

HS-Nr: 28415000
EINECS: 232-143-1
Risk: R45, R46, R60, R61, R2, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

E T+ N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.1%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<1000 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<2000 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<50 ppm

Ammonium dihydrogen orthophosphate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	A/4560/53
1 kg	Plastic jar	A/4560/60

$(NH_4)H_2PO_4$
CAS: 7722-76-1
MW: 115.03
Density at 20°C: 1.8

Melting point: 190°C
HS-Nr: 31054000
EINECS: 231-764-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	4 to 4.5	Potassium (K)	<20 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm
Nitrate (NO_3)	<0.001 %		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Ammonium dihydrogen orthophosphate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	A/4520/53

$(NH_4)H_2PO_4$
CAS: 7722-76-1
MW: 115.03
Density at 20°C: 1.8

Melting point: 190°C
HS-Nr: 31054000
EINECS: 231-764-5
Safety: S24/25

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Ammonium fluoride — Certified AR
for analysis

AR F

packaging		product code
500 g	Plastic jar	A/4960/53

NH_4F
CAS: 12125-01-8
MW: 37.04
ADR/RID: 6.1/III
UN: 2505

HS-Nr: 28261910
EINECS: 235-185-9
Risk: R23/24/25
Safety: S1/2, S26, S45

T

Assay: >96%

Guaranteed analysis

pH (solution 0.5%)	6 to 7	Molybdenum (Mo)	<1 ppm
Aluminium (Al)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Potassium (K)	<20 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<10 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.0005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<1000 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<2 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<2 ppm

Lot analysis on the label.

Ammonium fluoride — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	A/4920/53

NH_4F
CAS: 12125-01-8
MW: 37.04
ADR/RID: 6.1/III
UN: 2505

HS-Nr: 28261910
EINECS: 235-185-9
Risk: R23/24/25
Safety: S1/2, S26, S45

T

Assay: >95%

Guaranteed analysis

pH (solution 0.5%)	6 to 7	Sodium (Na)	<100 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<2000 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<100 ppm		

Ammonium formate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	A/5080/53

$HCOONH_4$
CAS: 540-69-2
MW: 63.06
Boiling pressure: 760 mmHg
Melting point: 115 to 120°C

HS-Nr: 29151200
EINECS: 208-753-9
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	6 to 7	Sodium (Na)	<5 ppm
Calcium (Ca)	<5 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<2 ppm	Zinc (Zn)	<2 ppm
Potassium (K)	<10 ppm		

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Ammonium formate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/5040/53

$HCOONH_4$
CAS: 540-69-2
MW: 63.06
Boiling pressure: 760 mmHg
Melting point: 115 to 120°C

HS-Nr: 29151200
EINECS: 208-753-9
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

pH (aqueous solution 5%)	6 to 7	Sodium (Na)	<50 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<50 ppm		

Ammonium hydrogen carbonate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	A/5160/50
1 kg	Plastic jar	A/5160/60
25 kg	Fibre Keg	A/5160/70

NH_4HCO_3
CAS: 1066-33-7
MW: 79.06

HS-Nr: 28361000
EINECS: 213-911-5

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<5 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<1 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<10 ppm
Potassium (K)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Ammonium hydrogen carbonate
extra pure — SLR

Specified LR

packaging		product code
1 kg	Plastic jar	A/5120/60
5 kg	Plastic drum	A/5120/65

NH_4HCO_3
CAS: 1066-33-7
MW: 79.06

HS-Nr: 28361000
EINECS: 213-911-5

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

di-Ammonium hydrogen citrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic Jar	A/5200/53

$C_6H_{14}N_2O_7$
CAS: 3012-65-5
MW: 226.19

Density at 20°C: 1.5
HS-Nr: 29181500
EINECS: 221-146-3

Assay: >98%

Guaranteed analysis

Lead (Pb)	<50 ppm	Total chloride (Cl)	<0.005%
Sulfate (SO_4)	<0.005%		

Ammonium hydrogen difluoride
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/5280/53
2.5 kg	Plastic jar	A/5280/62
25 kg	Fibre Keg	A/5280/70

NH_4HF_3
CAS: 1341-49-7
MW: 57.05
Boiling point: 230°C
Boiling pressure: 760 mmHg
Melting point: 125°C

ADR/RID: 8(6.1)/II
UN: 2923
HS-Nr: 29181500
EINECS: 215-676-4
Risk: R25, R34
Safety: S22, S26, S37, S45

T C

Assay: >97%

Guaranteed analysis

Residue after ignition	<0.02%	Sulfate (SO_4)	<0.05%
Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.002%
Lead (Pb)	<100 ppm		

Ammonium hydrogen difluoride
Technical

packaging		product code
3 kg	Plastic jar	A/5240/63

NH_4HF_2
CAS: 1341-49-7
MW: 57.05
Boiling point: 230°C
Boiling pressure: 760 mmHg
Melting point: 125°C

ADR/RID: 8(6.1)/II
UN: 2923
HS-Nr: 29181500
EINECS: 215-676-4
Risk: R25, R34
Safety: S22, S26, S37, S45

T C

di-Ammonium hydrogen orthophosphate
for analysis — Certified AR

Certified AR

packaging		product code
500 g	Plastic Jar	A/5360/53
1 kg	Plastic Jar	A/5360/60

$(NH_4)_2HPO_4$
CAS: 7783-28-0
MW: 132.06
Density at 20°C: 1.61

HS-Nr: 31053000
EINECS: 231-987-8
Safety: S24/25

Assay: >98%

Guaranteed analysis

pH (aqueous solution 5%)	7.8 to 8.2	Potassium (K)	<10 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Nitrate (NO_3)	<0.001 %		

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

di-Ammonium hydrogen orthophosphate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic Jar	A/5320/53
1 kg	Plastic Jar	A/5320/60

$(NH_4)_2HPO_4$
CAS: 7783-28-0
MW: 132.06
Density at 20°C: 1.61

HS-Nr: 38220000
EINECS: 231-987-8
Safety: S24/25

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<50 ppm		

Ammonium hydrogen sulfate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	A/5400/53

NH_4SO_4
CAS: 7803-63-6
MW: 115.11
ADR/RID: 8/II
UN: 2506

HS-Nr: 28332990
EINECS: 232-265-5
Risk: R34
Safety: S26, S28

C

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Magnesium (Mg)	<100 ppm
Copper (Cu)	<50 ppm	Potassium (K)	<300 ppm
Iron (Fe)	<50 ppm	Sodium (Na)	<100 ppm
Lead (Pb)	<50 ppm	Zinc (Zn)	<50 ppm

Ammonium Iron(II) sulfate hexahydrate — Certified AR
for analysis

Certified AR

packaging		product code
250 g	Plastic jar	A/4880/50
500 g	Plastic jar	A/4880/53
1 kg	Plastic jar	A/4880/60
3 kg	Plastic jar	A/4880/63

$(NH_4)_2Fe(SO_4)_2.6H_2O$
CAS: 7783-85-9
MW: 392.14
Melting point: 100 °C

HS-Nr: 28333000
EINECS: 233-151-8
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	3.5 to 5	Potassium (K)	<50 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.001 %
Iron (III)	<0.03 %	Total phosphorus (P)	<30 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Arsenic (As)	<5 ppm	Nickel (Ni)	<0.001 %
Barium (Ba)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<0.001 %	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<0.02 %		

Lot analysis on the label.

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Ammonium iron(II) sulfate hexahydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	A/4840/53
1 kg	Plastic jar	A/4840/60
3 kg	Plastic jar	A/4840/63
5 kg	Plastic jar	A/4840/65
25 kg	Plastic drum	A/4840/70

$(NH_4)_2Fe(SO_4)_2.6H_2O$
CAS: 7783-85-9
MW: 392.14
Melting point: 100 °C

HS-Nr: 28333000
EINECS: 233-151-8
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (III)	<0.05%	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<200 ppm
Potassium (K)	<200 ppm		

Ammonium iron(III) sulfate dodecahydrate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	A/4760/53
1 kg	Plastic jar	A/4760/60

$NH_4Fe(SO_4)_2.12H_2O$
CAS: 7783-83-7
MW: 482.19
Density at 20°C: 1.71
Boiling point: 230°C

Boiling pressure: 760 mmHg
Melting point: 39 to 41°C
HS-Nr: 28333000
EINECS: 233-382-4
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	pH < 3	Potassium (K)	<20 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.0005 %
Iron (II)	<0.001 %	Total phosphorus (P)	<20 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Arsenic (As)	<5 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<0.001 %		

Lot analysis on the label.

Ammonium iron(III) sulfate dodecahydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	A/4720/53
1 kg	Plastic jar	A/4720/60
5 kg	Plastic jar	A/4720/65

$NH_4Fe(SO_4)_2.12H_2O$
CAS: 7783-83-7
MW: 482.19
Density at 20°C: 1.71
Boiling point: 230°C

Boiling pressure: 760 mmHg
Melting point: 39 to 41°C
HS-Nr: 28333000
EINECS: 233-382-4
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.002%
Iron (II)	<0.005%	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<100 ppm		

Ammonium iron (II) sulfate solution 0.1M (0.1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/1101/15
2.5 L	Plastic bottle	J/1101/PB17

Density at 20°C: 1.04
HS-Nr: 38220000
Safety: S24/25

Manufactured to a tolerance of ± 0.5%.
See the full range of Standard Volumetric solution page 266.

Ammonium iron(II) sulfate solution 0.025M
Standard solution ready to use for volumetric analysis

packaging		product code
2.5 L	Glass bottle	J/1100/17

Density at 20°C: 1.04
HS-Nr: 28333000
Safety: S24/25

Guaranteed analysis

Value between ..... 0.995 to 1.005

Manufactured to a tolerance of ± 0.5%.
See the full range of Standard Volumetric solution page 266.

Ammonium metavanadate SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	A/5680/48
250 g	Plastic jar	A/5680/50
25 kg	Plastic screw top Keg	A/5680/70

NH_4VO_3
CAS: 7803-55-6
MW: 116.98
Melting point: 200 °C
ADR/RID: 6.1/II

UN: 2859
HS-Nr: 28419030
EINECS: 232-261-3
Risk: R20, R25, R36/37/38
Safety: S22, S26, S37/39, S45

T

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<10 ppm

Ammonium molybdate tetrahydrate Certified AR
for analysis

AR

packaging		product code
100 g	Plastic jar	A/5760/48
250 g	Plastic jar	A/5760/50
500 g	Plastic jar	A/5760/53
1 kg	Plastic jar	A/5760/60
25 kg	Plastic drum	A/5760/70

$(NH_4)_6Mo_7O_{24}.4H_20$
CAS: 12054-85-2
MW: 123.86
Density at 20°C: 2.49
Melting point: 190°C

HS-Nr: 28417000
EINECS: 234-722-4
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: 99 to 101%

Guaranteed analysis

Aluminium (Al)	<1 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Potassium (K)	<20 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<1000 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.0005%
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<5 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<5 ppm	Arsenate, phosphate and silicate	<0.001%
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Ammonium molybdate tetrahydrate SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	A/5720/48
250 g	Plastic jar	A/5720/50
500 g	Plastic jar	A/5720/53

$(NH_4)_6Mo_7O_{24}.4H_20$
CAS: 12054-85-2
MW: 123.86
Density at 20°C: 2.49
Melting point: 190°C

HS-Nr: 28417000
EINECS: 234-722-4
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<5000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<100 ppm		

Ammonium nickel(II) sulfate hexahydrate SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	A/5800/53

$(NH_4)_2Ni(SO_4)_2.6H_2O$
CAS: 15699-18-0
MW: 394.97
HS-Nr: 28429080

EINECS: 239-793-5
Risk: R22, R40, R42/43
Safety: S22, S36/37

Xn

Ammonium nitrate Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	A/5920/53
1 kg	Plastic jar	A/5920/60
2.5 kg	Plastic jar	A/5920/62

NH_4NO_3
CAS: 6484-52-2
MW: 80.04
Density at 20°C: 1.72
Melting point: 169°C
ADR/RID: 5.1/III

UN: 1942
HS-Nr: 31023090
EINECS: 229-347-8
Risk: R8, R9, R36/37/38
Safety: S17, S26, S37/39

O Xi

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	4.5 to 6	Potassium (K)	<10 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<5 ppm
Copper (Cu)	<1 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<1 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<5 ppm
Magnesium (Mg)	<1 ppm	Total sulphur (S)	<10 ppm
Nitrite (NO_2)	<0.0005 %	Zinc (Zn)	<1 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Ammonium nitrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/5880/53
1 kg	Plastic jar	A/5880/60
5 kg	Plastic drum	A/5880/65

NH_4NO_3
CAS: 6484-52-2
MW: 80.04
Density at 20°C: 1.72
Melting point: 169°C
ADR/RID: 5.1/III

UN: 1942
HS-Nr: 31023090
EINECS: 229-347-8
Risk: R8, R9, R36/37/38
Safety: S17, S26, S37/39

O, Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<20 ppm

Ammonium oxalate monohydrate
for analysis — Certified AR

Certified AR

packaging		product code
100 g	Plastic jar	A/6040/48
500 g	Plastic jar	A/6040/53
1 kg	Plastic jar	A/6040/60

$(NH_4)_2C_2O_4.H_2O$
CAS: 6009-70-7
MW: 142.11
Melting point: 70 °C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29171100
Risk: R21/22
Safety: S24/25

Xn

Assay: 99 to 101%

Guaranteed analysis

pH (solution 2.5%)	6.3 to 6.7	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Ammonium oxalate monohydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/6000/53

$(NH_4)_2C_2O_4.H_2O$
CAS: 6009-70-7
MW: 142.11
Melting point: 70 °C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29171100
Risk: R21/22
Safety: S24/25

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

Ammonium persulfate
for analysis — Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	A/6160/53
1 kg	Plastic jar	A/6160/60

$(NH_4)_2S_2O_8$
CAS: 7727-54-0
MW: 228.19
Density at 20°C: 1.98
Melting point: 120 °C
ADR/RID: 5.1/III

UN: 1444
HS-Nr: 38220000
EINECS: 231-786-5
Risk: R8, R22, R36/37/38, R42/43
Safety: S22, S24, S26, S37

O, Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<5 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<5 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<5 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<20 ppm		

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<5 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Ammonium persulfate
extra pure — SLR

Specified LR

packaging		product code
1 kg	Plastic jar	A/6120/60
3 kg	Plastic jar	A/6120/63

$(NH_4)_2S_2O_9$
CAS: 7727-54-0
MW: 228.19
Density at 20°C: 1.98
Melting point: 120 °C
ADR/RID: 5.1/III

UN: 1444
HS-Nr: 28334000
EINECS: 231-786-5
Risk: R8, R22, R36/37/38, R42/43
Safety: S22, S24, S26, S37

O, Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

Ammonium polysulfide 8% solution NEW SPEC.
for analysis — Certified AR

AR

packaging		product code
500 mL	Coated Glass Bottle	A/6560/PB08
2.5 L	Coated Glass Bottle	A/6560/PB17

$(NH_4)_2Sx$
CAS: 12259-92-6
ADR/RID: 8(6.1)/II
UN: 2818

HS-Nr: 28309085
EINECS: 235-512-5
Risk: R31, R34, R50
Safety: S26, S45, S61

C, N

Assay: >6%

Guaranteed analysis

Residue after ignition	<0.01%	Carbonate (Na_2CO_3)	<0.005%

Lot analysis on the label.

Ammonium purpurate
pure, Metal indicator

packaging		product code
5 g	Glass Jar	A/6200/44
25 g	Glass Jar	A/6200/46

$C_8H_8N_6O_6$
CAS: 3051-09-0
MW: 284.19
Boiling pressure: 760 mmHg
Melting point: >300°C
HS-Nr: 29252090
EINECS: 221-266-6
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Ammonium pyrrolidine dithiocarbamate
for AAS

packaging		product code
25 g	Plastic jar	A/6220/46

$(C_4H_8N)CSSNH_4$
CAS: 5108-96-3
MW: 164.29
Melting point: 150 to 155°C
HS-Nr: 29302000
EINECS: 225-834-4
Risk: R22, R36/37/38
Safety: S26, S37/39
Xn

Guaranteed analysis

Residue after ignition	<0.05%	Lead (Pb)	<0.5 ppm
Cobalt (Co)	<0.2 ppm	Nickel (Ni)	<0.2 ppm
Copper (Cu)	<0.2 ppm	Zinc (Zn)	<0.5 ppm
Iron (Fe)	<0.5 ppm		

For the analysis by atomic absorption (AAS).
Contains ammonium carbonate to delay decomposition.

Ammonium sodium hydrogen orthophosphate tetrahydrate SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	A/6280/53
5 kg	Plastic screw top Keg	A/6280/65

$Na(NH_4)HPO_4.4H_2O$
CAS: 13011-54-6
MW: 209.07
HS-Nr: 28429080
EINECS: 235-860-8

Assay: >95%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Magnesium (Mg)	<100 ppm
Copper (Cu)	<50 ppm	Potassium (K)	<100 ppm
Iron (Fe)	<50 ppm	Zinc (Zn)	<50 ppm
Lead (Pb)	<50 ppm		

Ammonium sulfamate
pure

packaging		product code
250 g	Plastic jar	A/6400/50

$NH_4OSO_2NH_2$
CAS: 7773-06-0
MW: 114.12
Boiling pressure: 760 mmHg
Melting point: 132 to 135°C
HS-Nr: 28429080
EINECS: 231-871-7
Risk: R22
Safety: S22, S24/25
Xn

Assay: >99.0%

Ammonium sulfate Certified AR
for analysis

Certified

packaging		product code
500 g	Plastic jar	A/6480/53
1 kg	Plastic jar	A/6480/60
2.5 kg	Plastic jar	A/6480/62
5 kg	Plastic drum	A/6480/65
25 kg	Fibre Keg	A/6480/70

$(NH_4)_2SO_4$
CAS: 7783-20-2
MW: 132.14
Density at 20°C: 1.76
Melting point: 280°C
HS-Nr: 31022100
EINECS: 231-984-1
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.1%	Nitrate (NO_3)	<0.001 %
pH (aqueous solution 5%)	5 to 6	Potassium (K)	<20 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<1 ppm	Total chloride (Cl)	<0.0003 %
Iron (Fe)	<1 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<2 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Ammonium sulfate SLR
extra pure

Specified

packaging		product code
1 kg	Plastic jar	A/6440/60
2.5 kg	Plastic jar	A/6440/62
5 kg	Plastic drum	A/6440/65

$(NH_4)_2SO_4$
CAS: 7783-20-2
MW: 132.14
Density at 20°C: 1.76
Melting point: 280°C
HS-Nr: 28332990
EINECS: 231-984-1
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 6	Potassium (K)	<200 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<100 ppm
Nitrate (NO_3)	<0.01%		

Ammonium (+) tartrate
See (+)-Tartaric acid diammonium salt, page 280

Ammonium thiocyanate Certified AR
for analysis

Certified

packaging		product code
250 g	Plastic jar	A/6680/50
500 g	Plastic jar	A/6680/53
1 kg	Plastic jar	A/6680/60

NH_4SCN
CAS: 1762-95-4
MW: 76.12
Density at 20°C: 1.3
Melting point: 149°C
Flash point: 190°C
HS-Nr: 28429080
EINECS: 217-175-6
Risk: R20/21/22, R32
Safety: S36/37, S50A
Xn

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	4.8 to 5.8	Potassium (K)	<10 ppm
Substance consuming iodine	<0.02%	Sodium (Na)	<10 ppm
Calcium (Ca)	<20 ppm	Sulfate (SO_4)	<0.03 %
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.005 %
Iron (Fe)	<1 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<1 ppm
Chromium (Cr)	<1 ppm	Sulfide (S)	<0.001 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Ammonium thiocyanate SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	A/6640/53
1 kg	Plastic jar	A/6640/60
2.5 kg	Plastic jar	A/6640/62
5 kg	Plastic drum	A/6640/65

NH_4SCN
CAS: 1762-95-4
MW: 76.12
Density at 20°C: 1.3
Melting point: 149°C

Flash point: 190°C
HS-Nr: 38220000
EINECS: 217-175-6
Risk: R20/21/22, R32
Safety: S36/37, S50A

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<50 ppm		

Ammonium thiocyanate solution 0.1M (0.1N) NEW SPEC.
Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/1500/PB15
2.5 L	Plastic bottle	J/1500/PB17

HS-Nr: 38220000
Risk: R21/22, R32
Safety: S2, S13

Xn

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Ammonium thiocyanate solution 0.1M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/1500C/05
6	ampoule	J/1500C/90

HS-Nr: 28323000
Risk: R21/22, R32
Safety: S2, S13

Xn

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Ammonium thiosulfate SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	A/6720/53
25 kg	Fibre Keg	A/6720/70

$(NH_4)_2S_2O_3$
CAS: 7783-18-8
MW: 148.2

HS-Nr: 38220000
EINECS: 231-982-0

n-Amyl acetate SLR
extra pure, mix of 3 and 2-Methylbutyl acetate

Specified

packaging		product code
500 mL	Glass bottle	A/6800/08

$CH_3COO(CH_2)_4CH_3$
CAS: 628-63-7
MW: 130.19
Density at 20°C: 0.87
Boiling point: 149°C
Boiling pressure: 760 mmHg
Melting point: -70.8°C

Flash point: 25°C
ADR/RID: 3/III
UN: 1104
HS-Nr: 29153930
EINECS: 211-047-3
Risk: R10, R66
Safety: S23, S25

Assay (GC): >99%

iso-Amyl acetate Certified AR
for analysis, Mix of 2- &3- Methylbutyl acetate

AR

packaging		product code
500 mL	Glass bottle	A/6920/08
2.5 L	Glass bottle	A/6920/17

$CH_3COOCH_2CH_2CH(CH_3)_2$
CAS: 123-92-2
MW: 130.19
Density at 20°C: 0.87
Boiling point: 142°C
Boiling pressure: 756 mmHg
Melting point: -78°C

Flash point: 25°C
ADR/RID: 3/III
UN: 1104
HS-Nr: 29153930
EINECS: 204-662-3
Risk: R10, R66
Safety: S23, S25

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.002 meq/g	Magnesium (Mg)	<0.5 ppm
Colour	<10 APHA	Manganese (Mn)	<0.02 ppm
Residue after evaporation	<20 ppm	Molybdenum (Mo)	<0.02 ppm
Water	<0.1%	Nickel (Ni)	<0.02 ppm
Aluminium (Al)	<0.1 ppm	Potassium (K)	<1 ppm
Barium (Ba)	<0.2 ppm	Sodium (Na)	<0.5 ppm
Cadmium (Cd)	<0.05 ppm	Strontium (Sr)	<0.1 ppm
Calcium (Ca)	<1 ppm	Titanium (Ti)	<0.01 ppm
Chromium (Cr)	<0.05 ppm	Total phosphorus (P)	<0.5 ppm
Cobalt (Co)	<0.02 ppm	Total silicon (Si)	<0.02 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<0.2 ppm	Vanadium (V)	<0.01 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<1 ppm
Lithium (Li)	<0.02 ppm		

Lot analysis on the label.

iso-Amyl acetate SLR
extra pure, Mix of 2- &3- Methylbutyl acetate

Specified

packaging		product code
500 mL	Glass bottle	A/6880/08
2.5 L	Glass bottle	A/6880/17

$CH_3COOCH_2CH_2CH(CH_3)_3$
CAS: 123-92-2
MW: 130.19
Density at 20°C: 0.87
Boiling point: 142°C
Boiling pressure: 756 mmHg
Melting point: -78°C

Flash point: 25°C
ADR/RID: 3/III
UN: 1104
HS-Nr: 29153930
EINECS: 204-662-3
Risk: R10, R66
Safety: S23, S25

Assay (GC): >98%

Guaranteed analysis

Acidity	<0.01 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<200 ppm	Potassium (K)	<0.5 ppm
Water	<0.5%	Sodium (Na)	<2 ppm
Calcium (Ca)	<5 ppm	Total sulphur (S)	<2 ppm
Copper (Cu)	<1 ppm	Zinc (Zn)	<0.5 ppm
Iron (Fe)	<2 ppm		

n-Amyl alcohol
See Pentan-1-ol, page 185

sec-Amyl alcohol
See Pentan-2-ol, page 185

iso-Amyl alcohol SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	A/6960/08
2.5 L	Coated Glass Bottle	A/6960/PB17

$(CH_3)_2CHCH_2CH_2OH$
CAS: 123-51-3
MW: 88.15
Density at 20°C: 0.8
Boiling point: 130°C
Boiling pressure: 760 mmHg
Melting point: -117°C

Flash point: 43°C
ADR/RID: 3/III
UN: 1105
HS-Nr: 29051900
EINECS: 204-633-5
Risk: R10, R20/22
Safety: S16

Xn

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.01 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<0.2 ppm
Residue after evaporation	<100 ppm	Potassium (K)	<0.5 ppm
Water	<0.5%	Sodium (Na)	<10 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<5 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<0.5 ppm

iso-Amyl alcohol
extra pure, for determination of fat in milk

SLR

Specified LR

packaging		product code
500 mL	Glass bottle	A/7000/08
2.5 L	Coated Glass Bottle	A/7000/PB17

$(CH_3)_2CHCH_2CH_2OH$
CAS: 123-51-3
MW: 88.15
Density at 20°C: 0.8
Boiling point: 130°C
Boiling pressure: 760 mmHg
Melting point: -117°C

Flash point: 43°C
ADR/RID: 3/III
UN: 1105
HS-Nr: 29051900
EINECS: 204-633-5
Risk: R10, R20/22
Safety: S16

Xn

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.01 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<0.2 ppm
Residue after evaporation	<100 ppm	Potassium (K)	<0.5 ppm
Water	<0.5%	Sodium (Na)	<10 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<5 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<0.5 ppm

Aniline
for analysis

Certified AR

AR

packaging		product code
500 mL	Coated Glass Bottle	A/7280/PB08
2.5 L	Coated Glass Bottle	A/7280/PB17

C_6H_7N
CAS: 62-53-3
MW: 93.13
Density at 20°C: 1.02
Boiling point: 181 to 185°C
Boiling pressure: 760 mmHg
Melting point: -6.2°C
Flash point: 76°C

ADR/RID: 6.1/II
UN: 1547
HS-Nr: 29214100
EINECS: 200-539-3
Risk: R23/24/25, R40, R41, R43, R48/23/24/25, R50, R68
Safety: S26, S27, S36/37/39, S45, S46, S61, S63

T
N

Assay (GC): >99.8%

Guaranteed analysis

Residue after evaporation	<100 ppm	Manganese (Mn)	<0.1 ppm
Water	<0.1%	Molybdenum (Mo)	<0.1 ppm
Aluminium (Al)	<0.5 ppm	Nickel (Ni)	<0.1 ppm
Barium (Ba)	<0.1 ppm	Potassium (K)	<0.5 ppm
Cadmium (Cd)	<0.1 ppm	Sodium (Na)	<5 ppm
Calcium (Ca)	<1 ppm	Strontium (Sr)	<0.1 ppm
Chromium (Cr)	<0.2 ppm	Titanium (Ti)	<0.1 ppm
Cobalt (Co)	<0.1 ppm	Total phosphorus (P)	<1 ppm
Copper (Cu)	<0.5 ppm	Total silicon (Si)	<0.2 ppm
Iron (Fe)	<0.5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<0.1 ppm	Vanadium (V)	<0.1 ppm
Lithium (Li)	<0.1 ppm	Zinc (Zn)	<1 ppm
Magnesium (Mg)	<0.5 ppm	Nitrobenzene ($C_6H_5NO_2$)	<0.001%

Aniline
extra pure

SLR

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	A/7240/PB08
2.5 L	Coated Glass Bottle	A/7240/PB17

C_6H_7N
CAS: 62-53-3
MW: 93.13
Density at 20°C: 1.02
Boiling point: 181 to 185°C
Boiling pressure: 760 mmHg
Melting point: -6.2°C
Flash point: 76°C

ADR/RID: 6.1/II
UN: 1547
HS-Nr: 29214100
EINECS: 200-539-3
Risk: R23/24/25, R40, R41, R43, R48/23/24/25, R50, R68
Safety: S26, S27, S36/37/39, S45, S46, S61, S63

T
N

Assay (GC): >99%

Guaranteed analysis

Residue after evaporation	<500 ppm	Magnesium (Mg)	<2 ppm
Water	<0.5%	Potassium (K)	<2 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<5 ppm

Aniline blue C.I. 42755
pure, water soluble

packaging		product code
25 g	Glass packaging	A/7300/46

$C_{32}H_{25}N_3Na_2O_9S_3$
CAS: 28631-66-5
MW: 737.71
HS-Nr: 32041900

EINECS: 249-113-9
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

Aniline hydrochloride
extra pure

SLR

Specified LR

packaging		product code
100 g	Glass packaging	A/7360/48
500 g	Glass packaging	A/7360/53

$C_6H_7N.HCl$
CAS: 142-04-1
MW: 129.59
Boiling point: 245°C
Boiling pressure: 760 mmHg
Melting point: 196 to 199°C
Flash point: 193°C
ADR/RID: 6.1/III

UN: 1548
HS-Nr: 29214100
EINECS: 205-519-8
Risk: R23/24/25, R40, R41, R43, R48/23/24/25, R50, R68
Safety: S26, S27, S36/37/39, S45, S61, S63

T
N

Assay: >99%

Guaranteed analysis

Residue after ignition ..... <0.05%

8-Anilinonaphthalene-1-sulfonic acid ammonium salt
pure

packaging		product code
250 g	Plastic jar	A/7486/50

$C_6H_5NHC_{10}H_6SO_3NH_4$
CAS: 28836-03-5
MW: 316.38

HS-Nr: 29214980
EINECS: 249-265-6
Risk: R36/38

Xi

Guaranteed analysis

IR Analysis ..... Conform

Anion Eluent Concentrate
for Ion pair chromatography

HPLC

packaging		product code
100 mL	Plastic bottle	J/4534/05

HS-Nr: 38220000

0.0028M sodium bicarbonate / 0.0022M sodium carbonate solution.
100mL makes 5 L of above solution.

Anion standard mixed concentrate
for Ion pair chromatography (for column check)

packaging		product code
100 mL	Plastic bottle	J/4552/05

HS-Nr: 38220000

Manufactured to a tolerance of ± 1%.
100mL, to make 1000mL consisting of: 3ppm F^-, 6ppm Cl^-, 25ppm Br^-, 30ppm NO_3^-, 60ppm PO_4^{3-}, 30ppm SO_4^{2-}

p-Anisaldehyde SLR
extra pure

packaging		product code
100 mL	Coated Glass Bottle	A/7490/PB05

$C_8H_8O_2$
CAS: 123-11-5
MW: 136.15
Density at 20°C: 1.12
Boiling point: 248 to 249°C
Boiling pressure: 760 mmHg
Melting point: -1°C
Flash point: 116°C
HS-Nr: 29124900
EINECS: 204-602-6
Risk: R22

Assay (GC): >98%

Guaranteed analysis
Acidity ..... <0.03 meq/g

Anisole
pure

packaging		product code
500 mL	Coated Glass Bottle	A/7600/PB08

C_7H_8O
CAS: 100-66-3
MW: 108.14
Density at 20°C: 0.99
Boiling point: 154°C
Boiling pressure: 760 mmHg
Melting point: -37°C
Flash point: 43°C
ADR/RID: 3/III
UN: 2222
HS-Nr: 29093090
EINECS: 202-876-1
Risk: R10, R20, R38
Safety: S16, S26, S37/39

Guaranteed analysis
IR Analysis ..... Conform

Anthracene, blue fluorescence SLR
extra pure

packaging		product code
100 g	Plastic Jar	A/7638/48

$C_{14}H_{10}$
CAS: 120-12-7
MW: 178.23
Boiling point: 340°C
Boiling pressure: 760 mmHg
Melting point: 215 to 218°C
Flash point: 121°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 29029010
EINECS: 204-371-1
Safety: S24/25

Guaranteed analysis
Loss on drying 100°C ..... <1% Melting Point tested ..... 214 to 216°C

Anthrone SLR
extra pure

packaging		product code
25 g	Plastic jar	A/7760/46

$C_{14}H_{10}O$
CAS: 90-44-8
MW: 194.23
Boiling point: 721°C
Boiling pressure: 760 mmHg
Melting point: 152 to 157°C
HS-Nr: 29143000
EINECS: 201-994-0
Safety: S24/25

Guaranteed analysis
Melting Point tested ..... 152 to 158°C Sensitivity to sucrose ..... Conform
Residue after ignition ..... <0.2%

Anti-bumping granules SLR
extra pure, fused alumina

packaging		product code
250 g	Plastic Jar	A/7770/50
500 g	Plastic Jar	A/7770/53
1 kg	Plastic Jar	A/7770/60

Al_2O_3
CAS: 1344-28-1
MW: 101.96
Density at 20°C: 3.97
Boiling point: 2980°C
Melting point: 2050°C
HS-Nr: 28182000
Safety: S24/25

Antimony standard metal solution 1000 ppm
for AAS, solution HCl 1M

packaging		product code
100 mL	Plastic bottle	J/8002/05
500 mL	Plastic bottle	J/8002/08

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony standard metal solution 1000 ppm
for ICP, solution HCl 1M

packaging		product code
500 mL	Plastic bottle	J/8215/08

HS-Nr: 81101000

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony standard metal solution 10 000 ppm
for ICP, solution HCl 1M

packaging		product code
100 mL	Plastic bottle	J/8210/05

HS-Nr: 81101000
Risk: R20/22, R51/53
Safety: S61

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony standard metal solution 1000 ppm
for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLSB72Y
250 mL	Plastic bottle	SPPLSB72T
500 mL	Plastic bottle	SPPLSB72X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony standard metal solution 1000 ppm
for ICP-MS solution in H_2O/0.6% Tartaric Acid/HNO_3 trace, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLSB72Y

Density at 20°C: 1
Risk: R36/37/38
Safety: S26, S37/39

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony standard metal solution 10 000 ppm
for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSB73Y
500 mL	Plastic bottle	SPPLSB73X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony standard metal solution 10 000 ppm
for ICP solution in HCL 20%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLSB53X

C

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Antimony metal min.99+ %
pure

packaging		product code
500 g	Plastic jar	A/7840/53

Sb
CAS: 7440-36-0
MW: 121.75
Density at 20°C: 6.68
Boiling point: 1635°C
Boiling pressure: 760 mmHg
Melting point: 630°C

ADR/RID: 6.1/III
UN: 2871
HS-Nr: 81101000
EINECS: 231-146-5
Risk: R20/22, R51/53
Safety: S61

Xn N

Assay: >99%

Antimony trichloride
for analysis

Certified AR

AR

packaging		product code
250 g	Plastic jar	A/8202/50

$SbCl_4$
CAS: 10025-91-9
MW: 228.11
Boiling point: 223°C
Boiling pressure: 760 mmHg
Melting point: 73°C

ADR/RID: 8/II
UN: 1733
HS-Nr: 28273985
EINECS: 233-047-2
Risk: R34, R51/53
Safety: S26, S45, S61

C N

Assay: >99%

Guaranteed analysis

Insoluble (chloroform)	<0.01%	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<0.002%	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Potassium (K)	<50 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<2 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<100 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<50 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Antimony trichloride
extra pure

SLR

Specified LR

packaging		product code
250 g	Plastic jar	A/8200/50

$SbCl_3$
CAS: 10025-91-9
MW: 228.11
Boiling point: 223°C
Boiling pressure: 760 mmHg
Melting point: 73°C

ADR/RID: 8/II
UN: 1733
HS-Nr: 28273985
EINECS: 233-047-2
Risk: R34, R51/53
Safety: S26, S45, S61

C N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<50 ppm	Sodium (Na)	<500 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<200 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<200 ppm

Antimony trioxide
extra pure

SLR

Specified LR

packaging		product code
500 g	Plastic jar	A/8240/53

Sb_2O_3
CAS: 1309-64-4
MW: 291.42
Boiling point: 1456°C
Boiling pressure: 760 mmHg

Melting point: 656°C
HS-Nr: 28258000
EINECS: 215-175-0
Risk: R40
Safety: S22, S36/37

Xn

Assay: >99%

L(+)Arabinose
extra pure

SLR

Specified LR

packaging		product code
25 g	Plastic jar	A/8280/46

$C_5H_{10}O_5$
CAS: 5328-37-0
MW: 150.13

Melting point: 155°C
HS-Nr: 29400000
EINECS: 226-214-6

Guaranteed analysis

IR Analysis ..... Conform

L-Arginine
extra pure

SLR

Specified LR

packaging		product code
25 g	Plastic jar	A/8300/46

$C_6H_{14}N_4O_2$
CAS: 74-79-3
MW: 174.2
Melting point: 223-224°C

HS-Nr: 29252090
EINECS: 200-811-1
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.3%	Ammonium (NH_4)	<0.02%
Residue after ignition	<0.1%	Iron (Fe)	<50 ppm
Specific rotation (α 20/D)	+26.5° to +27.5°	Lead (Pb)	<20 ppm

Arsenic standard metal solution 1000 ppm
for AAS, solution HCl 1M

packaging		product code
100 mL	Plastic bottle	J/8003/05
500 mL	Plastic bottle	J/8003/08

ADR/RID: 6.1/III
UN: 1556
HS-Nr: 28129000

Risk: R20/22, R50/53
Safety: S20/21, S28, S45, S60, S61

N Xn

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Arsenic standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLAS22Y
250 mL	Plastic bottle	SPPLAS22T
500 mL	Plastic bottle	SPPLAS22X

Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Arsenic standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLAS12X

Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Arsenic standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLAS23Y
500 mL	Plastic bottle	SPPLAS23X

Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Arsenic standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLAS22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Arsenic trioxide
extra pure — SLR

packaging		product code
500 g	Plastic jar	A/8440/53

As_2O_3
CAS: 1327-53-3
MW: 197.84
Melting point: 312.3°C
ADR/RID: 6.1/II

UN: 1561
HS-Nr: 28112990
EINECS: 215-481-4
Risk: R45, R28, R34, R50/53
Safety: S53, S45, S60, S61

T+ N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<200 ppm

L-Ascorbic acid
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	A/8882/48
500 g	Plastic jar	A/8882/53

$C_6H_8O_6$
CAS: 50-81-7
MW: 176.12
Melting point: 190-192°C

HS-Nr: 29362700
EINECS: 200-066-2
Safety: S24/25

Assay: >99.7%

Guaranteed analysis

Specific rotation (α 20/D)	+20.5° to +21.5°	Potassium (K)	<5 ppm
		Sodium (Na)	<5 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.005 %
Copper (Cu)	<2 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<2 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

L-Asparagine
pure

packaging		product code
100 g	Plastic jar	A/8920/48

$C_4H_8N_2O_3.H_2O$
CAS: 5794-13-8
MW: 150.14
Melting point: 233 to 235°C

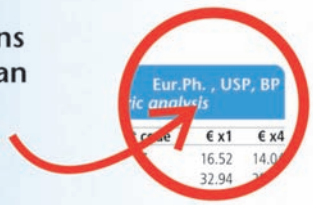
HS-Nr: 29241900
EINECS: 200-735-9
Safety: S24/25

Assay: >98.5%

Guaranteed analysis

Loss on drying 100°C	10 to 12.5%	Iron (Fe)	<10 ppm
Specific rotation (α 20/D)	+33.7° to +36°	Lead (Pb)	<10 ppm

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



L-Aspartic acid
pure

packaging		product code
500 g	Plastic jar	A/8961/53

$C_4H_7NO_4$
CAS: 56-84-8
MW: 133.11
Melting point: >230 °C
HS-Nr: 29224990
EINECS: 200-291-6
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying ..... <0.5%
Residue after ignition ..... <0.1%
Specific rotation (α 20/D) ... +24° to +26°
Iron (Fe) ..... <10 ppm
Lead (Pb) ..... <10 ppm

Azomethine H
pure, For colorimetric determination of boron

packaging		product code
10 g	Plastic jar	A/9080/45

$C_{17}H_{12}NO_8S_2Na$
CAS: 5941-07-1
MW: 445.39
HS-Nr: 29252090
EINECS: 227-698-1

Guaranteed analysis

IR Analysis ..... Conform

Barbituric acid
extra pure
SLR

Specified LR

packaging		product code
100 g	Plastic jar	B/0120/48

$C_4H_4N_2O_3$
CAS: 67-52-7
MW: 128.09
Melting point: 248 to 255°C
HS-Nr: 29335200
EINECS: 200-658-0
Safety: S24/25

Assay: >99%

Barium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8004/05
500 mL	Plastic bottle	J/8004/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342910
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8221/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8220/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342910
Risk: R22, R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLBA22Y
250 mL	Plastic bottle	SPPLBA22T
500 mL	Plastic bottle	SPPLBA22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLBA12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLBA23Y
500 mL	Plastic bottle	SPPLBA23X

Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLBA22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Barium
pure, metal in liquid paraffin

packaging		product code
25 g	box	B/0150/46

Ba
CAS: 7440-39-3
MW: 137.34
Boiling point: 1640°C
Melting point: 725°C
ADR/RID: 4.3/II

UN: 1400
HS-Nr: 28051910
EINECS: 231-149-1
Risk: R11, R14/15, R36/37/38
Safety: S8, S16, S26, S37/39, S43

F Xi

Barium carbonate
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	B/0400/48
500 g	Plastic jar	B/0400/53

$BaCO_3$
CAS: 513-77-9
MW: 197.35
Density at 20°C: 4.43
Boiling point: 1450°C
Melting point: 811°C

ADR/RID: 6.1/III
UN: 1564
HS-Nr: 28366000
EINECS: 208-167-3
Risk: R22
Safety: S24/25

Xn

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<1 ppm	Nickel (Ni)	<1 ppm
Arsenic (As)	<2 ppm	Potassium (K)	<50 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Calcium (Ca)	<200 ppm	Sodium (Na)	<100 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.1%
Cobalt (Co)	<1 ppm	Tin (Sn)	<2 ppm
Copper (Cu)	<10 ppm	Titanium (Ti)	<1 ppm
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.002%
Lead (Pb)	<10 ppm	Total phosphorus (P)	<10 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<20 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<10 ppm
Molybdenum (Mo)	<1 ppm		

Lot analysis on the label.

Barium carbonate
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/0350/53

$BaCO_3$
CAS: 513-77-9
MW: 197.35
Density at 20°C: 4.43
Boiling point: 1450°C
Melting point: 811°C

ADR/RID: 6.1/III
UN: 1564
HS-Nr: 28366000
EINECS: 208-167-3
Risk: R22
Safety: S24/25

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

Barium chloride dihydrate
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	B/0550/53
1 kg	Plastic jar	B/0550/60
25 kg	Plastic screw top Keg	B/0550/70

$BaCl_2.2H_2O$
CAS: 10361-37-2
MW: 244.28
Melting point: 963°C
ADR/RID: 6.1/III

UN: 1564
HS-Nr: 28333000
EINECS: 233-788-1
Risk: R20, R25
Safety: S45

T

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Sodium (Na)	<50 ppm
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<1 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<20 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<0.01 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Barium chloride dihydrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/0500/53
1 kg	Plastic jar	B/0500/60
5 kg	Plastic jar	B/0500/65
25 kg	Plastic screw top Keg	B/0500/70

$BaCl_2.2H_2O$
CAS: 10361-37-2
MW: 244.28
Density at 20°C: 3.85
Melting point: 963°C
ADR/RID: 6.1/III

UN: 1564
HS-Nr: 28273980
EINECS: 233-788-1
Risk: R20, R25
Safety: S45

T

Assay: 99 to 101%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<100 ppm		

Barium chloride solution 1M (2N)
pure, ready to use

packaging		product code
1 L	Coated Glass Bottle	J/1700/PB15

Density at 20°C: 1.1754 to 1.1781
ADR/RID: 6.1/III
UN: 3287

HS-Nr: 28273980
Risk: R20/22
Safety: S28

Xn

Manufactured to a tolerance of ± 0.5%.

Barium diphenylamine-4-sulfonate
pure, Redox indicator

packaging		product code
5 g	Plastic jar	B/0620/44

$C_{24}H_{20}BaN_2O_6S_2$
CAS: 6211-24-1
MW: 633.89
Melting point: 300°C
ADR/RID: 6.1/II

UN: 1564
HS-Nr: 29214400
EINECS: 228-278-0
Risk: R20/22
Safety: S28

Xn

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Barium hydroxide octahydrate
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	B/0700/53
1 kg	Plastic jar	B/0700/60

$Ba(OH)_2.8H_2O$
CAS: 12230-71-6
MW: 315.48
Density at 20°C: 2.18
Melting point: 78°C
ADR/RID: 8(6.1)/III

UN: 2923
HS-Nr: 28164000
EINECS: 241-234-5
Risk: R20/22, R34
Safety: S26, S36/37/39, S45

C

Assay: 98 to 102%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Carbonate (Na_2CO_3)	<2 %	Total chloride (Cl)	<0.001 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<500 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<50 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<0.5 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Barium hydroxide octahydrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/0650/53
1 kg	Plastic jar	B/0650/60

$Ba(OH)_2.8H_2O$
CAS: 12230-71-6
MW: 315.48
Density at 20°C: 2.18
Melting point: 78°C
ADR/RID: 8(6.1)/III

UN: 2923
HS-Nr: 28164000
EINECS: 241-234-5
Risk: R20/22, R34
Safety: S26, S36/37/39, S45

C

Assay: 97 to 103%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<500 ppm
Carbonate (Na_2CO_3)	<2%	Sodium (Na)	<1000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Barium nitrate
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	B/0850/50
500 g	Plastic jar	B/0850/53
1 kg	Plastic jar	B/0850/60
25 kg	Fibre Keg	B/0850/70

$Ba(NO_3)_2$
CAS: 10022-31-8
MW: 261.35
Density at 20°C: 3.23
Melting point: 592°C
ADR/RID: 5.1(6.1)/II

UN: 1446
HS-Nr: 28342920
EINECS: 233-020-5
Risk: R8, R20/22
Safety: S17, S28A

O
Xn

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Potassium (K)	<50 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.05 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Barium nitrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/0800/53
25 kg	Plastic screw top Keg	B/0800/70

$Ba(NO_3)_2$
CAS: 10022-31-8
MW: 261.35
Density at 20°C: 3.23
Melting point: 592°C
ADR/RID: 5.1(6.1)/II

UN: 1446
HS-Nr: 28342920
EINECS: 233-020-5
Risk: R8, R20/22
Safety: S17, S28A

O
Xn

Assay: >95%

Barium peroxide
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/1080/53

BaO_2
CAS: 1304-29-6
MW: 169.36
Melting point: 450°C
ADR/RID: 5.1(6.1)/II

UN: 1449
HS-Nr: 28164000
EINECS: 215-128-4
Risk: R8, R20/22
Safety: S13, S27

O
Xn

Assay: >85%

Guaranteed analysis

Calcium (Ca)	<10 000 ppm	Total chloride (Cl)	<0.04%
Iron (Fe)	<200 ppm	Acids insoluble	<3%

Barium sulfate precipitated
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/1120/53

$BaSO_4$
CAS: 7727-43-7
MW: 233.4
Density at 20°C: 4.5

Melting point: 1580 °C
HS-Nr: 28332700
EINECS: 231-784-4
Safety: S24/25

Benedict's reagent quantitative
pure

packaging		product code
1 L	Glass bottle	J/2150/15

HS-Nr: 38220000

50 mL of solution is equivalent to 0.1 g glucose.
Blue to white colour change.

Benedict's reagent qualitative
pure

packaging		product code
1 L	Glass bottle	J/2100/15
2.5 L	Glass bottle	J/2100/17

HS-Nr: 38220000

Bentonite
extra pure SLR

packaging		product code
1 kg	Plastic jar	B/1300/60

CAS: 1302-78-9
HS-Nr: 25081000
EINECS: 215-108-5
Risk: R8, R20/22

Benzaldehyde
extra pure SLR

packaging		product code
500 mL	Coated Glass Bottle	B/1400/PB08

C_7H_6O
CAS: 100-52-7
MW: 106.13
Density at 20°C: 1.05
Boiling point: 179°C
Boiling pressure: 760 mmHg
Melting point: -26°C

Flash point: 64°C
ADR/RID: 9/III
UN: 1990
HS-Nr: 29122100
EINECS: 202-860-4
Risk: R22
Safety: S24

Xn

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.1 meq/g	Lead (Pb)	<5 ppm
Colour	<50 APHA	Magnesium (Mg)	<5 ppm
Sulfated ash	<0.05%	Potassium (K)	<100 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<100 ppm
Chloride ionized	<0.05%	Total phosphorus (P)	<5 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<5 ppm

Benzamide
extra pure SLR

packaging		product code
100 g	Plastic jar	B/1460/48

C_7H_7NO
CAS: 55-21-0
MW: 121.14
Boiling point: 228°C
Boiling pressure: 760 mmHg

Melting point: 125 to 129°C
Flash point: 180°C
HS-Nr: 29242995
EINECS: 200-227-7
Risk: R22

Xn

Assay: >98%

1.2-Benzenediol
See Catechol, page 60

1.3-Benzenediol
See Resorcinol, page 222

Benzenesulfonyl chloride
extra pure SLR

packaging		product code
250 mL	Coated Glass Bottle	B/1800/PB07

$C_6H_5ClO_2S$
CAS: 98-09-9
MW: 176.63
Density at 20°C: 1.33 to 1.43
Boiling point: 251 to 252°C
Boiling pressure: 760 mmHg
Melting point: 14.5°C

Flash point: 128°C
ADR/RID: 8/III
UN: 2225
HS-Nr: 29049010
EINECS: 202-636-6
Risk: R22, R29, R34
Safety: S26, S36/37/39, S45

C

Benzoic acid
for analysis Certified AR

packaging		product code
100 g	Plastic jar	B/1950/48
500 g	Plastic jar	B/1950/53
1 kg	Plastic jar	B/1950/60

$C_7H_6O_2$
CAS: 65-85-0
MW: 122.12
Boiling point: 249°C
Boiling pressure: 760 mmHg
Melting point: 121 to 123°C

Flash point: 121°C
HS-Nr: 29163100
EINECS: 200-618-2
Risk: R22, R36/37/38, R42/43
Safety: S22, S24, S26, S37/39, S45

Xn

Assay: >99.9%

Guaranteed analysis

Substances reducing $KMnO_4$	<0.01%	Lithium (Li)	<1 ppm
Aluminium (Al)	<1 ppm	Magnesium (Mg)	<2 ppm
Arsenic (As)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<5 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<5 ppm
Chlorine (Cl) compounds	<0.005%	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Total chloride (Cl)	<0.0005%
Cobalt (Co)	<1 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Vanadium (V)	<1 ppm
		Zinc (Zn)	<2 ppm

Lot analysis on the label.

Benzoic acid
extra pure SLR

packaging		product code
500 g	Plastic jar	B/1900/53
1 kg	Plastic jar	B/1900/60
25 kg	Fibre Keg	B/1900/70

$C_7H_6O_2$
CAS: 65-85-0
MW: 122.12
Boiling point: 249°C
Boiling pressure: 760 mmHg
Melting point: 121 to 123°C

Flash point: 121°C
HS-Nr: 29163100
EINECS: 200-618-2
Risk: R22, R36/37/38, R42/43
Safety: S22, S24, S26, S37/39, S45

Xn

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<20 ppm	Zinc (Zn)	<10 ppm

Benzoin
extra pure SLR

packaging		product code
250 g	Plastic jar	B/2050/50

$C_{14}H_{12}O_2$
CAS: 119-53-9
MW: 212.25
Boiling point: 194°C
Boiling pressure: 12 mmHg

Melting point: 133 to 137°C
HS-Nr: 29144900
EINECS: 204-331-3
Safety: S24/25

Guaranteed analysis

Melting Point tested	131 to 134°C	Residue after ignition	<0.2%

Save money!
Order 4 bottles in a box

p-Benzoquinone
extra pure — SLR

Specified LR

packaging		product code
100 g	Glass packaging	B/2150/48

$C_6H_4O_2$
CAS: 106-51-4
MW: 108.1
Density at 20°C: 1.31
Melting point: 112 to 116°C
ADR/RID: 6.1/II

UN: 2587
HS-Nr: 29146900
EINECS: 203-405-2
Risk: R23/25, R36/37/38, R50
Safety: S26, S28A, S45, S61

T N

Assay: >98%

Guaranteed analysis

Residue after ignition ..... <0.5% Water ..... <1%

Benzoyl chloride
for analysis — Certified AR

AR

packaging		product code
500 mL	Coated Glass Bottle	B/2350/PB08

C

C_7H_5ClO
CAS: 98-88-4
MW: 140.57
Density at 20°C: 1.21
Boiling point: 198°C
Boiling pressure: 760 mmHg
Melting point: -1°C

Flash point: 93°C
ADR/RID: 8(6.1)/II
UN: 1736
HS-Nr: 29163290
EINECS: 202-710-8
Risk: R34
Safety: S26, S45

Assay: >99.5%

Guaranteed analysis

Colour	<20 APHA	Manganese (Mn)	<0.1 ppm
Residue after ignition	<0.02%	Molybdenum (Mo)	<0.1 ppm
Aluminium (Al)	<0.5 ppm	Nickel (Ni)	<0.1 ppm
Barium (Ba)	<0.2 ppm	Potassium (K)	<5 ppm
Cadmium (Cd)	<0.2 ppm	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Strontium (Sr)	<0.1 ppm
Chromium (Cr)	<0.1 ppm	Titanium (Ti)	<0.1 ppm
Cobalt (Co)	<0.2 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<0.1 ppm	Total silicon (Si)	<0.2 ppm
Iron (Fe)	<0.5 ppm	Total sulphur (S)	<10 ppm
Lead (Pb)	<0.1 ppm	Vanadium (V)	<0.1 ppm
Lithium (Li)	<0.1 ppm	Zinc (Zn)	<1 ppm
Magnesium (Mg)	<2 ppm		

Benzoyl chloride
extra pure — SLR

Specified LR

packaging		product code
250 mL	Coated Glass Bottle	B/2300/PB07
500 mL	Coated Glass Bottle	B/2300/PB08

C_6H_5COCl
CAS: 98-88-4
MW: 140.57
Density at 20°C: 1.21
Boiling point: 198°C
Boiling pressure: 760 mmHg
Melting point: -1°C

Flash point: 93°C
ADR/RID: 8(6.1)/II
UN: 1736
HS-Nr: 29163290
EINECS: 202-710-8
Risk: R34
Safety: S26, S45

C

Assay: >98%

Guaranteed analysis

Colour	<30 APHA	Magnesium (Mg)	<10 ppm
Residue after ignition	<0.05%	Potassium (K)	<250 ppm
Calcium (Ca)	<250 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<1 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<5 ppm

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Benzyl alcohol
extra pure — SLR, Eur.Ph., BP, USP

Specified LR

packaging		product code
500 mL	Glass bottle	B/2550/08
2.5 L	Coated Glass Bottle	B/2550/PB17

$C_6H_5CH_2OH$
CAS: 100-51-6
MW: 108.14
Density at 20°C: 1.04
Boiling point: 205°C
Boiling pressure: 760 mmHg

Melting point: -15°C
Flash point: 93°C
HS-Nr: 29062100
EINECS: 202-859-9
Risk: R20/22
Safety: S26

Xn

Assay (GC): >98%

Guaranteed analysis

Residue after evaporation ..... <500 ppm Benzaldehyde ..... <0.1%
Chlorine (Cl) compounds ..... <0.05%

Benzyl chloroformate
pure

packaging		product code
100 mL	Coated Glass Bottle	B/2710/PB05

$C_7H_8ClO_2$
CAS: 501-53-1
MW: 170.6
Density at 20°C: 1.15 to 1.25
ADR/RID: 8/I

UN: 1739
HS-Nr: 29159000
EINECS: 207-925-0
Risk: R34, R37
Safety: S26, S45

C N

Beryllium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLBE22Y
250 mL	Plastic bottle	SPPLBE22T
500 mL	Plastic bottle	SPPLBE22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Beryllium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLBE23Y
500 mL	Plastic bottle	SPPLBE23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Beryllium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLBE22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Bicarbonate indicator solution
pure, Concentrated stock reagent

packaging		product code
250 mL	Glass bottle	J/2300/07
500 mL	Glass bottle	J/2300/08

HS-Nr: 38220000

Biphenyl
pure

packaging		product code
500 g	Plastic jar	B/2975/53

$C_{12}H_{10}$
CAS: 92-52-4
MW: 154.21
Boiling point: 255°C
Boiling pressure: 760 mmHg
Melting point: 68.5 to 71°C
Flash point: 113°C

ADR/RID: 9/III
UN: 3077
HS-Nr: 29029030
EINECS: 202-163-5
Risk: R36/37/38, R50/53
Safety: S23, S60, S61

Xi N

Guaranteed analysis
IR Analysis ..... Conform

2.2'-Bipyridine
See 2.2'-Dipyridyl, page 94

Bis(2-hydroxyethyl)-imino-tris-(hydroxymethyl)-methane
SLR
extra pure

packaging		product code
100 g	Plastic jar	B/3010/48

$C_8H_{19}NO_5$
CAS: 6976-37-0
MW: 209.24
Melting point: 103 to 104°C

HS-Nr: 29252900
EINECS: 230-237-7
Risk: R21/22, R36/37/38
Safety: S22, S26, S36/37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

1.4-Bis(2-methylstyryl)benzene
pure, BIS(MSB)

packaging		product code
1 kg	Plastic jar	D/4055/60

$C_{24}H_{22}$
CAS: 13280-61-0
MW: 310.44
Melting point: 179 to 181°C

HS-Nr: 29029090
EINECS: 236-285-5
Safety: S24/25

Bismuth standard metal solution 1000 ppm
for ICP solution in HNO_3 10%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLBI42Y
500 mL	Plastic bottle	SPPLBI42X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Bismuth standard metal solution 10 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLBI21AY

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Bismuth nitrate pentahydrate
Certified AR
for analysis

packaging		product code
100 g	Plastic jar	B/3200/48

$Bi(NO_3)_3.5H_2O$
CAS: 10035-06-0
MW: 485.07
Boiling point: 80°C
Boiling pressure: 760 mmHg
Melting point: 30°C

ADR/RID: 5.1/II
UN: 1477
HS-Nr: 28342980
EINECS: 233-791-8
Risk: R8, R36/37/38
Safety: S17, S26, S37/39

O Xi

Assay: 98 to 102%

Guaranteed analysis

Aluminium (Al)	<0.001%	Molybdenum (Mo)	<0.001%
Ammonia (NH_3)	<0.005%	Nickel (Ni)	<0.001%
Barium (Ba)	<0.001%	Potassium (K)	<20 ppm
Cadmium (Cd)	<0.001%	Silver (Ag)	<0.001%
Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Chromium (Cr)	<0.001%	Strontium (Sr)	<0.001%
Cobalt (Co)	<0.001%	Titanium (Ti)	<0.001%
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<0.001%	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<10 ppm	Vanadium (V)	<0.001%
Manganese (Mn)	<0.001%	Zinc (Zn)	<10 ppm

Lot analysis on the label.

3.3'-Bisthymolsulfonephthalein, sodium salt
See Thymolsulfonephthaleindi-(methyl-iminodiacetic acid) sodium salt, page 287

Bispyrazolone (3.3'-dimethyl-1.1'diphenyl(4.4'-bi-2-pyrazoline)-5.5'-dione)
pure

packaging		product code
5 g	Plastic Jar	B/3620/44

$C_{20}H_{18}N_4O_2$
CAS: 7477-67-0
MW: 346.39
Melting point: 355°C

HS-Nr: 38220000
EINECS: 231-282-5
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Borax
See di-Sodium tetraborate decahydrate, page 254

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono & Multi-elemental standard solution to discover on page 256

Boric acid
for electronic use (MOS)

packaging		product code
500 g	Plastic jar	B/3820/53

H_3BO_3
CAS: 10043-35-3
MW: 61.83
Melting point: 169 °C
HS-Nr: 28100000
EINECS: 233-139-2
Risk: R60
Safety: S53, S45

Assay: >99.5%

Guaranteed analysis

Water-insoluble	<0.005%	Phosphate (PO_4)	<10 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<2 ppm	Sulfate (SO_4)	<0.00015%
Iron (Fe)	<2 ppm	Total chloride (Cl)	<0.00004%
Lead (Pb)	<2 ppm		

Boric acid
extra pure, powder
SLR, Eur. Ph.

Specified LR

packaging		product code
500 g	Plastic jar	B/3760/53
1 kg	Plastic jar	B/3760/60
5 kg	Plastic drum	B/3760/65
25 kg	Fibre Keg	B/3760/70

H_3BO_3
CAS: 10043-35-3
MW: 61.83
Melting point: 169 °C
HS-Nr: 28100000
EINECS: 233-139-2
Risk: R60
Safety: S53, S45

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

Boric acid
for analysis
Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	B/3800/53
1 kg	Plastic jar	B/3800/60
2.5 kg	Plastic jar	B/3800/62
25 kg	Fibre Keg	B/3800/70

H_3BO_3
CAS: 10043-35-3
MW: 61.83
Melting point: 169 °C
HS-Nr: 28100000
EINECS: 233-139-2
Risk: R60
Safety: S53, S45

Assay: >99.8%

Guaranteed analysis

Water-insoluble	<0.005%	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.0002 %
Iron (Fe)	<2 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<2 ppm	Total sulphur (S)	<10 ppm
Non-estérifiables	<0.05 %	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Boric acid
extra pure, granular
SLR, Eur.Ph

Specified LR

packaging		product code
500 g	Plastic jar	B/3750/53
1 kg	Plastic jar	B/3750/60
5 kg	Plastic drum	B/3750/65

H_3BO_3
CAS: 10043-35-3
MW: 61.83
Melting point: 169 °C
HS-Nr: 28100000
EINECS: 233-139-2
Risk: R60
Safety: S53, S45

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

Boron standard metal solution 1000 ppm
for AAS, solution aqueous

packaging		product code
100 mL	Plastic bottle	J/8006/05
500 mL	Plastic bottle	J/8006/08

Density at 20°C: 1
HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Boron standard metal solution 1000 ppm
for ICP, solution aqueous

packaging		product code
500 mL	Plastic bottle	J/8231/08

Density at 20°C: 1
HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Boron standard metal solution 10 000 ppm
for ICP, solution NH3 1%

packaging		product code
100 mL	Plastic bottle	J/8230/05

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Boron standard metal solution 1000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLB92Y
250 mL	Plastic bottle	SPPLB92T
500 mL	Plastic bottle	SPPLB92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Boron standard metal solution 10 000 ppm
for ICP solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLB93Y
500 mL	Plastic bottle	SPPLB93X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Boric oxide
extra pure — SLR

packaging		product code
500 g	Plastic jar	B/3850/53

B_2O_3
CAS: 1303-86-2
MW: 69.62
Density at 20°C: 2.46
Boiling point: 1860°C
Boiling pressure: 760 mmHg
Melting point: 450°C

ADR/RID: 8/III
UN: 3260
HS-Nr: 28100000
EINECS: 215-125-8
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Bromate standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASBRO392Y

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Bromide standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4544/05

HS-Nr: 38220000

Guaranteed analysis
Value between ..... 0.995 to 1.005

Manufactured to a tolerance of ± 1%.

Bromine
for trace metal analysis — Primar

packaging		product code
100 mL	Coated Glass Bottle	B/4055/PB05

Br_2
CAS: 7726-95-6
MW: 159.82
Density at 20°C: 3.11
Boiling point: 58.7°C
Boiling pressure: 760 mmHg
Melting point: -7.2°C

ADR/RID: 8(6.1)/I
UN: 1744
HS-Nr: 28013090
EINECS: 231-778-1
Risk: R26, R35, R50
Safety: S7/9, S26, S45, S61

T+ C N

Assay: >99.5%

Guaranteed analysis

Aluminium (Al)	<0.02 ppm	Iron (Fe)	<0.05 ppm
Arsenic (As)	<1 ppm	Lead (Pb)	<0.01 ppm
Barium (Ba)	<0.005 ppm	Lithium (Li)	<0.005 ppm
Cadmium (Cd)	<0.005 ppm	Magnesium (Mg)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Manganese (Mn)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Molybdenum (Mo)	<0.005 ppm
Cobalt (Co)	<0.005 ppm	Nickel (Ni)	<0.005 ppm
Copper (Cu)	<0.005 ppm	Potassium (K)	<0.1 ppm
Iodine (I)	<0.5 ppm		
Silver (Ag)	<0.005 ppm	Total phosphorus (P)	<0.05 ppm
Sodium (Na)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Strontium (Sr)	<0.005 ppm	Total sulphur (S)	<0.5 ppm
Titanium (Ti)	<0.005 ppm	Vanadium (V)	<0.005 ppm
Total chloride (Cl)	<0.05%	Zinc (Zn)	<0.02 ppm

Bromine
extra pure — SLR

packaging		product code
100 mL	Coated Glass Bottle	B/4000/PB05
500 mL	Coated Glass Bottle	B/4000/PB08

Br_2
CAS: 7726-95-6
MW: 159.82
Density at 20°C: 3.11
Boiling point: 58.7°C
Boiling pressure: 760 mmHg
Melting point: -7.2°C

ADR/RID: 8(6.1)/I
UN: 1744
HS-Nr: 28013090
EINECS: 231-778-1
Risk: R26, R35, R50
Safety: S7/9, S26, S45, S61

T+ C N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<5 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.5%
Iron (Fe)	<2 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<5 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<5 ppm	Zinc (Zn)	<2 ppm

Bromobenzene
pure

packaging		product code
250 mL	Glass bottle	B/4300/07

C_6H_5Br
CAS: 108-86-1
MW: 157.02
Density at 20°C: 1.49 to 1.5
Boiling point: 156°C
Boiling pressure: 760 mmHg
Melting point: -31°C

Flash point: 51°C
ADR/RID: 3/III
UN: 2514
HS-Nr: 38220000
EINECS: 203-623-8
Risk: R10, R38, R51/53
Safety: S61

Xi N

Assay (GC): >99%

1-Bromobutane
pure

packaging		product code
100 mL	Coated Glass Bottle	B/4310/PB05

C_4H_9Br
CAS: 109-65-9
MW: 137.03
Density at 20°C: 1.27
Boiling point: 100 to 104°C
Boiling pressure: 760 mmHg
Melting point: -112°C

Flash point: 23°C
ADR/RID: 3/II
UN: 1126
HS-Nr: 29033919
EINECS: 203-691-9
Risk: R10, R36/37/38
Safety: S16, S26, S37/39

Xi

Assay (GC): >98%

Bromocresol green
pure, indicator grade

packaging		product code
1 g	Glass packaging	B/4320/43
5 g	Glass packaging	B/4320/44
25 g	Glass packaging	B/4320/46

$C_{21}H_{14}Br_4O_5S$
CAS: 76-60-8
MW: 698.01
Boiling pressure: 760 mmHg

Melting point: 225 °C
HS-Nr: 29349090
EINECS: 200-972-8
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Bromocresol green
pure, solution 0.04%, indicator grade

packaging		product code
500 mL	Glass bottle	B/4320L/08

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000
Risk: R10
Safety: S16, S24/25
F

Bromocresol purple
pure, solid, indicator grade

packaging		product code
5 g	Glass packaging	B/4330/44
25 g	Glass packaging	B/4330/46

$C_{21}H_{16}Br_2O_5S$
CAS: 115-40-2
MW: 540.21
Melting point: 245 °C
HS-Nr: 29349090
EINECS: 204-087-8
Risk: R36/37/38
Safety: S26, S37/39
Xi

Guaranteed analysis
IR Analysis ..... Conform

Bromocresol purple
pure, solution 0.04%, indicator grade

packaging		product code
500 mL	Glass bottle	B/4330L/08

ADR/RID: 3/III
UN: 1170
HS-Nr: 38220000
Risk: R10
Safety: S16, S24/25
F

Bromoethane
pure

packaging		product code
250 mL	Coated Glass Bottle	B/4350/PB07
500 mL	Coated Glass Bottle	B/4350/PB08

C_2H_5Br
CAS: 74-96-4
MW: 108.97
Density at 20°C: 1.46
Boiling point: 37 to 40°C
Boiling pressure: 760 mmHg
Melting point: -119°C
Flash point: -23°C
ADR/RID: 6.1/II
UN: 1891
HS-Nr: 29033039
EINECS: 200-825-8
Risk: R11, R20/22, R40
Safety: S36/37
F Xn

Assay (GC): >98%

Bromoform
pure

packaging		product code
100 mL	Coated Glass Bottle	B/4400/PB05

$CHBr_3$
CAS: 75-25-2
MW: 252.75
Density at 20°C: 2.58 to 2.68
Boiling point: 150 to 151°C
Boiling pressure: 760 mmHg
Melting point: 8°C
ADR/RID: 6.1/III
UN: 2515
HS-Nr: 29033039
EINECS: 200-854-6
Risk: R22, R23, R36/38, R51/53
Safety: S28A, S45, S61
T N

Guaranteed analysis
Ethanol ..... 3 to 5%

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A convenient and complete range for a cleaner and safer world!

2-Bromo-2-methylpropane
pure

packaging		product code
100 mL	Coated Glass Bottle	B/4540/PB05

C_4H_9Br
CAS: 507-19-7
MW: 137.03
Density at 20°C: 1.18
Boiling point: 72 to 74°C
Boiling pressure: 760 mmHg
Melting point: -20°C
Flash point: 18°C
ADR/RID: 3/II
UN: 2342
HS-Nr: 29033039
EINECS: 208-065-9
Risk: R11, R36/37/38
Safety: S16, S26, S37/39
F Xi

Assay (GC): >97%

1-Bromonaphthalene
extra pure SLR

Specified LR

packaging		product code
100 mL	Coated Glass Bottle	B/4550/PB05

$C_{10}H_7Br$
CAS: 90-11-9
MW: 207.08
Density at 20°C: 1.48 to 1.5
Boiling point: 279 to 281°C
Boiling pressure: 760 mmHg
Melting point: -1°C
Flash point: >110°C
HS-Nr: 29036900
EINECS: 201-965-2
Risk: R22
Xn

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.657 to 1.66

Bromophenol blue
pure, indicator grade

packaging		product code
5 g	Glass packaging	B/4630/44
25 g	Glass packaging	B/4630/46

$C_{19}H_{10}Br_4O_5S$
CAS: 115-39-9
MW: 669.96
Boiling pressure: 760 mmHg
Melting point: 273°C
HS-Nr: 29349090
EINECS: 204-086-2
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Bromophenol blue
pure, solution 0.2% in Methylated spirits

packaging		product code
500 mL	Glass bottle	B/4631L/08

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000
Risk: R11, R22
Safety: S7, S16
F

Bromophenol blue
pure, solution 0.04%, indicator grade

packaging		product code
100 mL	Glass bottle	B/4630L/05
500 mL	Glass bottle	B/4630L/08

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000
F

Bromophenol red
pure, indicator grade

packaging		product code
1 g	Glass Jar	B/4660/43

$C_{19}H_{12}Br_2O_5S$
CAS: 2800-80-8
MW: 512.19
HS-Nr: 29349090
EINECS: 220-538-1
Safety: S24/25

Bromothymol blue
pure, indicator grade

packaging		product code
5 g	Glass Jar	**B/4690/44**

$C_{27}H_{28}Br_2O_5S$
CAS: 76-59-5
MW: 624.38
Melting point: 204 °C

HS-Nr: 38220000
EINECS: 200-971-2
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Bromothymol blue
pure, solution 0.04%, indicator grade

packaging		product code
500 mL	Glass bottle	**B/4690L/08**

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

EINECS: 200-971-2
Risk: R10
Safety: S16, S24/25

F

Bromure standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	**SPASBR92Y**
500 mL	Plastic bottle	**SPASBR92X**

Manufactured to a tolerance of ± 0.3%.

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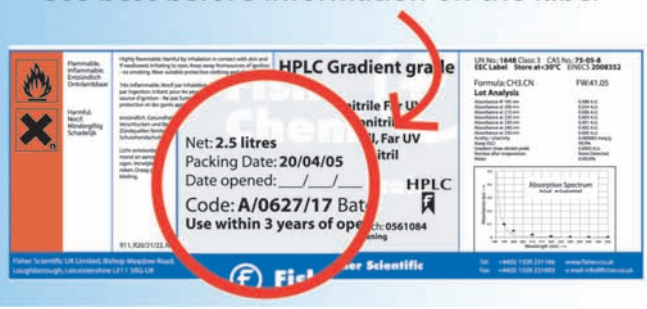
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Use best before information on the label



NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS

Discover them on page 258

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level. Choose between Optima®, Trace Metal® & Primar Plus® grade.

Read more page 9

NIST Buffer Standard solution ready to use for pH measurement NEW SPEC.

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
pH 2.00 to 7.00 buffer solution are stabilized with 10 ppm of Mercury (II) chloride

designation	packsize	package type	product code	page
Buffer solution pH 2.00 (glycine)	1 L	Plastic bottle	J/2800/15	47
	2.5 L	Plastic bottle	J/2800/17	47
	500 mL	Plastic bottle	J/2800/08	47
Buffer solution pH 3.00 (phthalate)	1 L	Plastic bottle	J/2810/15	47
	2.5 L	Plastic bottle	J/2810/17	47
	500 mL	Plastic bottle	J/2810/08	47
Buffer solution pH 4.00 (phthalate)	1 L	Plastic bottle	J/2820/15	47
	2.5 L	Plastic bottle	J/2820/17	47
	5 L	Plastic bottle	J/2820/21	47
	10 L	Cubitainer	J/2820/24	47
	500 mL	Plastic bottle	J/2820/08	47
Buffer solution pH 4.00 BS formulated	1 L	Plastic bottle	J/2821/15	
Buffer solution pH 5.00 (phthalate)	1 L	Plastic bottle	J/2830/15	47
	2.5 L	Plastic bottle	J/2830/17	47
	500 mL	Plastic bottle	J/2830/08	47
Buffer solution pH 6.00 (phosphate)	1 L	Plastic bottle	J/2840/15	47
	2.5 L	Plastic bottle	J/2840/17	47
	500 mL	Plastic bottle	J/2840/08	47
Buffer solution pH 6.87 BS formulated	1 L	Plastic bottle	J/2845/15	47
Buffer solution pH 7.00 (phosphate)	1 L	Plastic bottle	J/2850/15	47
	2.5 L	Plastic bottle	J/2850/17	47
	5 L	Plastic bottle	J/2850/21	47
	10 L	Cubitainer	J/2850/24	47
	500 mL	Plastic bottle	J/2850/08	47
Buffer solution pH 8.00 (borate)	1 L	Plastic bottle	J/2860/15	48
	2.5 L	Plastic bottle	J/2860/17	48
	10 L	Bag in Box	J/2860/24	48
	500 mL	Plastic bottle	J/2860/08	48
Buffer solution pH 9.00 (borate)	2.5 L	Plastic bottle	J/2865/17	48
Buffer solution pH 9.2 (borate)	1 L	Plastic bottle	J/2870/15	48
	2.5 L	Plastic bottle	J/2870/17	48
	5 L	Plastic bottle	J/2870/21	48
	10 L	Cubitainer	J/2870/24	48
	500 mL	Plastic bottle	J/2870/08	48
Buffer solution pH 9.23 (borate)	1 L	Plastic bottle	J/2875/15	48
Buffer solution pH 10.00 (borate)	1 L	Plastic bottle	J/2880/15	48
	2.5 L	Plastic bottle	J/2880/17	48
	5 L	Plastic bottle	J/2880/21	48
	500 mL	Plastic bottle	J/2880/08	48

NIST Buffer colour coded standard solution ready to use for pH measurement NEW SPEC.

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
pH 4.00 & 7.00 buffer solution are stabilized with 10 ppm of Mercury (II) chloride

designation	packsize	package type	product code	page
Buffer colour coded solution pH 4.00 (phthalate) Red	1 L	Plastic bottle	J/2825/15	47
	2.5 L	Plastic bottle	J/2825/17	47
	5 L	Plastic bottle	J/2825/21	47
	10 L	Bag in Box	J/2825/24	47
	500 mL	Plastic bottle	J/2825/08	47
Buffer colour coded solution pH 7.00 (phosphate) Yellow	1 L	Plastic bottle	J/2855/15	48
	2.5 L	Plastic bottle	J/2855/17	48
	5 L	Plastic bottle	J/2855/21	48
	10 L	Bag in Box	J/2855/24	48
	500 mL	Plastic bottle	J/2855/08	48
Buffer colour coded solution pH 10.00 (borate) Blue	1 L	Plastic bottle	J/2885/15	48
	2.5 L	Plastic bottle	J/2885/17	48
	5 L	Plastic bottle	J/2885/21	48
	10 L	Bag in Box	J/2885/24	48
	500 mL	Plastic bottle	J/2885/08	48

NIST Buffer concentrated solution for pH measurement NEW SPEC.

Each ampoule makes up 500ml of solution
pH 2.00 to 7.00 buffer solution are stabilized with 10 ppm of Mercury (II) chloride

designation	packsize	package type	product code	page
Buffer concentrated solution pH 2.00 (glycine)	1	ampoule	J/2800C/05	47
	6	ampoule	J/2800C/90	47
Buffer concentrated solution pH 4.00 (phthalate)	1	ampoule	J/2820C/05	47
	6	ampoule	J/2820C/90	47
Buffer concentrated solution pH 7.00 (phosphate)	1	ampoule	J/2850C/05	48
	6	ampoule	J/2850C/90	48
Buffer concentrated solution pH 8.00 (borate)	1	ampoule	J/2860C/05	48
	6	ampoule	J/2860C/90	48
Buffer concentrated solution pH 9.2 (borate)	1	ampoule	J/2870C/05	48
	6	ampoule	J/2870C/90	48
Buffer concentrated solution pH 10.00 (borate)	1	ampoule	J/2880C/05	49
	6	ampoule	J/2880C/90	49

NIST Buffer colour coded concentrated solution for pH measurement NEW SPEC.

Each ampoule makes up 500ml of solution
Stabilized with 10 ppm of Mercury (II) chloride (except J/2885C)

designation	packsize	package type	product code	page
Buffer colour coded concentrated solution pH 4.00 (phthalate) Red	1	ampoule	J/2825C/05	47
	6	ampoule	J/2825C/90	47
Buffer colour coded concentrated solution pH 7.00 (phosphate) Yellow	1	ampoule	J/2855C/05	48
	6	ampoule	J/2855C/90	48
Buffer colour coded concentrated solution pH 10.00 (borate) Blue	1	ampoule	J/2885C/05	49
	6	ampoule	J/2885C/90	49

Buffer Tablets for pH measurement NEW SPEC.

Each ampoule makes up 100mL of solution

designation	packsize	package type	product code	page
Buffer tablets, pH 4 (phthalate)	50 PC	Plastic Jar	B/4760/77	47
Buffer tablets, pH 7 (phosphate)	50 PC	Plastic Jar	B/4765/77	48
Buffer tablets, pH 9.2 (borate)	50 PC	Plastic Jar	B/4770/77	48

Buffer Capsules for pH measurement

Each Capsule makes up 100mL of solution

designation	packsize	package type	product code	page
Buffer capsules pH 4.00	50 PC	Box of 50 capsules	PHJ-830-010X	
Buffer capsules pH 7.00		Box of 50 capsules	PHJ-830-020L	
Buffer capsules pH 9.00		Box of 50 capsules	PHJ-830-030Y	
Buffer capsules pH 10.00		Box of 50 capsules	PHJ-830-050C	

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Buffer solution pH 2.00 (glycine) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2800/08
1 L	Plastic bottle	J/2800/15
2.5 L	Plastic bottle	J/2800/17

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer concentrated solution pH 2.00 (glycine) NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2800C/05
6	ampoule	J/2800C/90

HS-Nr: 38220000

Each ampoule makes up 500ml of solution.
Stabilised with 10 ppm of Mercury (II) chloride

Buffer solution pH 3.00 (phthalate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2810/08
1 L	Plastic bottle	J/2810/15
2.5 L	Plastic bottle	J/2810/17

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer solution pH 4.00 (phthalate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2820/08
1 L	Plastic bottle	J/2820/15
2.5 L	Plastic bottle	J/2820/17
5 L	Plastic bottle	J/2820/21
10 L	Cubitainer	J/2820/24

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer colour coded solution pH 4.00 (phthalate) Red NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2825/08
1 L	Plastic bottle	J/2825/15
2.5 L	Plastic bottle	J/2825/17
5 L	Plastic bottle	J/2825/21
10 L	Bag in Box	J/2825/24

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer concentrated solution pH 4.00 (phthalate) NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2820C/05
6	ampoule	J/2820C/90

HS-Nr: 38220000

Each ampoule makes up 500mL of solution.
Stabilised with 10 ppm of Mercury (II) Chloride.

Buffer colour coded concentrated solution pH 4.00 (phthalate) Red NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2825C/05
6	ampoule	J/2825C/90

HS-Nr: 38220000

Each ampoule makes up 500ml of solution.
Stabilised with 10 ppm of Mercury (II) chloride.

Buffer tablets, pH 4 (phthalate) NEW SPEC.
for pH measurement

packaging		product code
50 PC	Plastic Jar	B/4760/77

HS-Nr: 29173990

Each tablet makes up 100mL of solution.

Buffer solution pH 5.00 (phthalate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2830/08
1 L	Plastic bottle	J/2830/15
2.5 L	Plastic bottle	J/2830/17

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer solution pH 6.00 (phosphate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2840/08
1 L	Plastic bottle	J/2840/15
2.5 L	Plastic bottle	J/2840/17

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer solution pH 6.87 BS formulated NEW SPEC.
Standard solution ready to use for pH measurement

packaging		product code
1 L	Plastic bottle	J/2845/15

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer solution pH 7.00 (phosphate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2850/08
1 L	Plastic bottle	J/2850/15
2.5 L	Plastic bottle	J/2850/17
5 L	Plastic bottle	J/2850/21
10 L	Cubitainer	J/2850/24

HS-Nr: 29173980

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer colour coded solution pH 7.00 (phosphate) Yellow NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2855/08
1 L	Plastic bottle	J/2855/15
2.5 L	Plastic bottle	J/2855/17
5 L	Plastic bottle	J/2855/21
10 L	Bag in Box	J/2855/24

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C
Stabilised with 10 ppm of Mercury (II) chloride

Buffer concentrated solution pH 7.00 (phosphate) NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2850C/05
6	ampoule	J/2850C/90

HS-Nr: 38220000

Each ampoule makes up 500 mL of solution.
Stabilised with 10 ppm of Mercury (II) Chloride.

Buffer colour coded concentrated solution pH 7.00 (phosphate) Yellow NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2855C/05
6	ampoule	J/2855C/90

HS-Nr: 38220000

Each ampoule makes up 500ml of solution.
Stabilised with 10 ppm of Mercury (II) chloride.

Buffer tablets, pH 7 (phosphate) NEW SPEC.
for pH measurement

packaging		product code
50 PC	Plastic Jar	B/4765/77

HS-Nr: 29173990

Each tablet makes up 100mL of solution.

Buffer solution pH 8.00 (borate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2860/08
1 L	Plastic bottle	J/2860/15
2.5 L	Plastic bottle	J/2860/17
10 L	Bag in Box	J/2860/24

HS-Nr: 29173990

Manufactured to a tolerance of ± 0.02 pH Units at 20°C

Buffer concentrated solution pH 8.00 (borate) NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2860C/05
6	ampoule	J/2860C/90

HS-Nr: 38220000

Each ampoule makes up 500mL of solution.

Buffer solution pH 9.00 (borate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
2.5 L	Plastic bottle	J/2865/17

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C

Buffer solution pH 9.2 (borate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2870/08
1 L	Plastic bottle	J/2870/15
2.5 L	Plastic bottle	J/2870/17
5 L	Plastic bottle	J/2870/21
10 L	Cubitainer	J/2870/24

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C

Buffer concentrated solution pH 9.2 (borate) NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2870C/05
6	ampoule	J/2870C/90

HS-Nr: 38220000

Each ampoule makes up 500mL of solution.

Buffer tablets, pH 9.2 (borate) NEW SPEC.
for pH measurement

packaging		product code
50 PC	Plastic Jar	B/4770/77

HS-Nr: 29173990

Each tablet makes up 100mL of solution.

Buffer solution pH 9.23 (borate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
1 L	Plastic bottle	J/2875/15

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.02 pH Units at 20°C

Buffer solution pH 10.00 (borate) NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2880/08
1 L	Plastic bottle	J/2880/15
2.5 L	Plastic bottle	J/2880/17
5 L	Plastic bottle	J/2880/21

HS-Nr: 29173980

Manufactured to a tolerance of ± 0.02 pH Units at 20°C

Buffer colour coded solution pH 10.00 (borate) Blue NEW SPEC.
NIST Standard solution ready to use for pH measurement

packaging		product code
500 mL	Plastic bottle	J/2885/08
1 L	Plastic bottle	J/2885/15
2.5 L	Plastic bottle	J/2885/17
5 L	Plastic bottle	J/2885/21
10 L	Bag in Box	J/2885/24

HS-Nr: 29173990

Manufactured to a tolerance of ± 0.02 pH Units at 20°C

Buffer concentrated solution pH 10.00 (borate) NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2880C/05
6	ampoule	J/2880C/90

HS-Nr: 38220000

Each ampoule makes up 500 mL of solution.

Buffer colour coded concentrated solution pH 10.00 (borate) Blue NEW SPEC.
NIST Standard for pH measurement

Solutrate

packaging		product code
1	ampoule	J/2885C/05
6	ampoule	J/2885C/90

HS-Nr: 38220000

Each ampoule makes up 500 mL of solution.

Buffer solution ammonia-ammonium chloride
pure, For water hardness testing

packaging		product code
2.5 L	Plastic bottle	J/2500/17

ADR/RID: 8/III
UN: 2672
HS-Nr: 38220000
Risk: R34, R37
Safety: S7, S26
C

Guaranteed analysis

At pH 20°C ..... 10.5 to 11.5

1-Butane sulfonic acid sodium salt Certified
for HPLC

HPLC

packaging		product code
25 g	Plastic Jar	B/4791/46

$CH_3(CH_2)_3SO_3Na$
CAS: 2386-54-1
MW: 160.16
Melting point: >300°C
HS-Nr: 29041000
EINECS: 219-201-1
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >98%

Lot analysis on the label.
Filtered to 0.2 µm.

(±)-2-Butanol *See sec-Butanol, page 50*

Butan-1-ol
For chromatography, for the determination of 17-Ketosteroids

packaging		product code
500 mL	Coated Glass Bottle	B/4860/PB08

$C_4H_{10}O$
CAS: 71-36-3
MW: 74.12
Density at 20°C: 0.805 to 0.815
Boiling point: 117.6°C
Boiling pressure: 760 mmHg
Melting point: -89°C
Flash point: 35°C
ADR/RID: 3/III
UN: 1120
HS-Nr: 29051300
EINECS: 200-751-6
Risk: R10, R22, R37/38, R41, R67
Safety: S7/9, S13, S26, S37/39, S46
Xn

Assay (GC): >99%

Guaranteed analysis

2-Butanone ..... <0.005%

Butan-1-ol Certified AR
for analysis

Certified AR

packaging		product code
500 mL	Glass bottle	B/4850/08
1 L	Glass bottle	B/4850/15
2.5 L	Glass bottle	B/4850/17
2.5 L	Coated Glass Bottle	B/4850/PB17
25 L	Metal drum	B/4850/25

$C_4H_{10}O$
CAS: 71-36-3
MW: 74.12
Density at 20°C: 0.81
Boiling point: 117.6°C
Boiling pressure: 760 mmHg
Melting point: -89°C
Flash point: 35°C
ADR/RID: 3/III
UN: 1120
HS-Nr: 29051300
EINECS: 200-751-6
Risk: R10, R22, R37/38, R41, R67
Safety: S7/9, S13, S26, S37/39, S46
Xn

Assay (GC): >99.5%

Guaranteed analysis

Acidity	<0.0005 meq/g	Potassium (K)	<0.1 ppm
Colour	<10 APHA	Sodium (Na)	<1 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.2 ppm
Water	<0.1%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.2 ppm
Iron (Fe)	<0.1 ppm	2-Butanone	<0.1 %
Lead (Pb)	<0.05 ppm	Butan -2-ol	<0.05 %
Magnesium (Mg)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.2 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Butan-1-ol SLR
extra pure

Specified LR

packaging		product code
1 L	Glass bottle	B/4800/15
2.5 L	Glass bottle	B/4800/17
2.5 L	Coated Glass Bottle	B/4800/PB17
5 L	Metal can	B/4800/21
25 L	Metal drum	B/4800/25

$C_4H_{10}O$
CAS: 71-36-3
MW: 74.12
Density at 20°C: 0.81
Boiling point: 117.6°C
Boiling pressure: 760 mmHg
Melting point: -89°C
Flash point: 35°C
ADR/RID: 3/III
UN: 1120
HS-Nr: 29051300
EINECS: 200-751-6
Risk: R10, R22, R37/38, R41, R67
Safety: S7/9, S13, S26, S37/39, S46
Xn

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<5 ppm
Water	<0.5%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<5 ppm		

see page 279 for suitable Tap & accessories.

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

sec-Butanol (Butan-2-ol) — Certified AR
for analysis

packaging		product code
1 L	Glass bottle	B/5210/15
2.5 L	Coated Glass Bottle	B/5210/PB17

$C_4H_{10}O$
CAS: 78-92-2
MW: 74.12
Density at 20°C: 0.8
Boiling point: 99°C
Boiling pressure: 760 mmHg
Melting point: -115°C
Flash point: 24°C

ADR/RID: 3/III
UN: 1120
HS-Nr: 29051300
EINECS: 201-156-4
Risk: R10, R36/37, R67
Safety: S7/9, S13, S24/25, S26, S46

Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Sodium (Na)	<0.5 ppm
Colour	<10 APHA	Total phosphorus (P)	<0.1 ppm
Residue after evaporation	<20 ppm	Total silicon (Si)	<0.02 ppm
Water	<0.2%	Total sulphur (S)	<1 ppm
Calcium (Ca)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Copper (Cu)	<0.02 ppm	2-Methylpropan--2-ol	<0.05 %
Iron (Fe)	<0.1 ppm	Butan--2-one	<0.05 %
Lead (Pb)	<0.05 ppm	Di-n-butyl ether	<0.05 %
Magnesium (Mg)	<0.05 ppm	Propan--2-ol	<0.1 %
Potassium (K)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.05 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

sec-Butanol (Butan-2-ol) — SLR
extra pure

packaging		product code
1 L	Glass bottle	B/5200/15
2.5 L	Coated Glass Bottle	B/5200/PB17
25 L	Metal drum	B/5200/25

$C_4H_{10}O$
CAS: 78-92-2
MW: 74.12
Density at 20°C: 0.8
Boiling point: 99°C
Boiling pressure: 760 mmHg
Melting point: -115°C
Flash point: 24°C

ADR/RID: 3/III
UN: 1120
HS-Nr: 29051300
EINECS: 201-156-4
Risk: R10, R36/37, R67
Safety: S7/9, S13, S24/25, S26, S46

Xi

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<5 ppm
Water	<0.5%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<1 ppm		

see page 279 for suitable Tap & accessories.

iso-Butanol — Certified AR
for analysis

packaging		product code
500 mL	Glass bottle	B/5150/08
2.5 L	Coated Glass Bottle	B/5150/PB17
25 L	Metal drum	B/5150/25

$C_4H_{10}O$
CAS: 78-83-1
MW: 74.12
Density at 20°C: 0.8
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -108°C
Flash point: 28°C

ADR/RID: 3/III
UN: 1212
HS-Nr: 29051490
EINECS: 201-148-0
Risk: R10, R37/38, R41, R67
Safety: S7/9, S13, S26, S37/39, S46

Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Sodium (Na)	<1 ppm
Colour	<10 APHA	Total phosphorus (P)	<0.1 ppm
Residue after evaporation	<20 ppm	Total silicon (Si)	<0.02 ppm
Water	<0.2%	Total sulphur (S)	<1 ppm
Calcium (Ca)	<0.5 ppm	Zinc (Zn)	<0.2 ppm
Copper (Cu)	<0.1 ppm	2-Methylpropan--2-ol	<0.5 %
Iron (Fe)	<0.2 ppm	Butan -1-ol	<0.5 %
Lead (Pb)	<0.2 ppm	Butan -2-ol	<0.5 %
Magnesium (Mg)	<0.1 ppm	Butan--2-one	<0.1 %
Potassium (K)	<0.1 ppm	Butyraldehyde	<0.2 %

Typical analysis

Aluminium (Al)	<0.05 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

iso-Butanol — SLR
extra pure

packaging		product code
2.5 L	Coated Glass Bottle	B/5100/PB17
25 L	Metal drum	B/5100/25

$C_4H_{10}O$
CAS: 78-83-1
MW: 74.12
Density at 20°C: 0.8
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -108°C

Flash point: 28°C
ADR/RID: 3/III
HS-Nr: 29051490
Risk: R10, R37/38, R41, R67
Safety: S7/9, S13, S26, S37/39, S46

Xi

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.05 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<5 ppm
Water	<0.5%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<1 ppm		

see page 279 for suitable Tap & accessories.

tert-Butanol — Certified AR
for analysis

packaging		product code
500 mL	Plastic bottle	B/5251/08
2.5 L	Plastic bottle	B/5251/17

$C_4H_{10}O$
CAS: 75-65-0
MW: 74.12
Density at 20°C: 0.78
Boiling point: 83°C
Boiling pressure: 760 mmHg
Melting point: 25 to 25.5°C

Flash point: 11°C
ADR/RID: 3/II
UN: 1120
HS-Nr: 29051300
EINECS: 200-889-7
Risk: R11, R20, R36
Safety: S9, S16, S26, S36/37/39

F Xn

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Potassium (K)	<0.1 ppm
Colour	<10 APHA	Sodium (Na)	<2 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.1 ppm
Water	<0.1%	Total silicon (Si)	<0.2 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<1 ppm
Copper (Cu)	<0.2 ppm	Zinc (Zn)	<0.2 ppm
Iron (Fe)	<0.2 ppm	Butan -2-ol	<0.2 %
Lead (Pb)	<0.1 ppm	Butan--2-one	<0.01 %
Magnesium (Mg)	<0.1 ppm	Butyraldehyde	<0.01 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.

tert-Butanol
extra pure SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	B/5250/08
2.5 L	Plastic bottle	B/5250/17
25 L	Metal drum	B/5250/25

$C_4H_{10}O$
CAS: 75-65-0
MW: 74.12
Density at 20°C: 0.78
Boiling point: 83°C
Boiling pressure: 760 mmHg
Melting point: 25 to 25.5°C

Flash point: 11°C
ADR/RID: 3/II
UN: 1120
HS-Nr: 29051300
EINECS: 200-889-7
Risk: R11, R20, R36
Safety: S9, S16, S26, S36/37/39

F Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<10 ppm
Water	<0.3%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<1 ppm		

see page 279 for suitable Tap & accessories.

2-n-Butoxyethanol
extra pure SLR

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	B/4900/PB08
2.5 L	Coated Glass Bottle	B/4900/PB17
25 L	Metal drum	B/4900/25

$C_6H_{14}O_2$
CAS: 111-76-2
MW: 118.18
Density at 20°C: 0.899 to 0.903
Boiling point: 171°C
Boiling pressure: 760 mmHg
Melting point: -70°C

Flash point: >61°C
ADR/RID: 6.1/III
UN: 2810
HS-Nr: 29094300
EINECS: 203-905-0
Risk: R20/21/22, R36/38
Safety: S36/37, S46

Xn

Assay (GC): >98%

see page 279 for suitable Tap & accessories.

iso-Butyl acetate
extra pure SLR

Specified LR

packaging		product code
2.5 L	Glass bottle	B/5000/17
5 L	Metal can	B/5000/21

$C_6H_{12}O_2$
CAS: 110-19-0
MW: 116.16
Density at 20°C: 0.87
Boiling point: 116 to 117.5°C
Boiling pressure: 760 mmHg
Melting point: -99°C

Flash point: 18°C
ADR/RID: 3/II
UN: 1213
HS-Nr: 29153980
EINECS: 203-745-1
Risk: R11, R66
Safety: S16, S23, S25, S29, S33

F

Assay (GC): >98%

n-Butyl acetate
for electronic use (MOS)

packaging		product code
2.5 L	Glass bottle	B/4960/17
5 L	Aluminium can	B/4960/21

$C_6H_{12}O_2$
CAS: 123-86-4
MW: 116.16
Density at 20°C: 0.88
Boiling point: 127°C
Boiling pressure: 760 mmHg
Melting point: -77.9°C

Flash point: 22°C
ADR/RID: 3/III
UN: 1123
HS-Nr: 29153980
EINECS: 204-658-1
Risk: R10, R66, R67
Safety: S25

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Manganese (Mn)	<0.01 ppm
Colour	<10 APHA	Molybdenum (Mo)	<0.01 ppm
Residue after evaporation	<10 ppm	Nickel (Ni)	<0.01 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Potassium (K)	<0.2 ppm
Water	<0.1%	Sodium (Na)	<0.2 ppm
Aluminium (Al)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Total phosphorus (P)	<0.2 ppm
Calcium (Ca)	<0.2 ppm	Total silicon (Si)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Total sulphur (S)	<0.5 ppm
Cobalt (Co)	<0.02 ppm	Vanadium (V)	<0.01 ppm
Copper (Cu)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.1 ppm	Butan -1-ol	<0.5%
Lead (Pb)	<0.05 ppm	Butyl propanoate	<0.1%
Lithium (Li)	<0.01 ppm	Di-n-butyl ether	<0.2%
Magnesium (Mg)	<0.02 ppm	iso-Butyl acetate	<0.5%
		n-Butyl formate	<0.1%

n-Butyl acetate
for analysis Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	B/4951/15
2.5 L	Glass bottle	B/4951/17
10 L	Metal drum	B/4951/24
200 L	Metal drum	B/4951/27

$C_6H_{12}O_2$
CAS: 123-86-4
MW: 116.16
Density at 20°C: 0.88
Boiling point: 127°C
Boiling pressure: 760 mmHg
Melting point: -77.9°C

Flash point: 22°C
ADR/RID: 3/III
UN: 1123
HS-Nr: 29153300
EINECS: 204-658-1
Risk: R10, R66, R67
Safety: S25

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Potassium (K)	<0.2 ppm
Colour	<10 APHA	Sodium (Na)	<0.2 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.2 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Total silicon (Si)	<0.02 ppm
Water	<0.1%	Total sulphur (S)	<0.5 ppm
Calcium (Ca)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Copper (Cu)	<0.2 ppm	Butan -1-ol	<0.5 %
Iron (Fe)	<0.1 ppm	Butyl propanoate	<0.1 %
Lead (Pb)	<0.05 ppm	Di-n-butyl ether	<0.2 %
Magnesium (Mg)	<0.02 ppm	Iso-butyl acetate	<0.5 %
		N-Butyl formate	<0.1 %

Typical analysis

Aluminium (Al)	<0.02 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

n-Butyl acetate SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	B/4950/08
2.5 L	Glass bottle	B/4950/17
5 L	Metal can	B/4950/21
25 L	Metal drum	B/4950/25
200 L	Metal drum	B/4950/27

$C_6H_{12}O_2$
CAS: 123-86-4
MW: 116.16
Density at 20°C: 0.88
Boiling point: 127°C
Boiling pressure: 760 mmHg
Melting point: -77.9°C
Flash point: 22°C
ADR/RID: 3/III
UN: 1123
HS-Nr: 29153300
EINECS: 204-658-1
Risk: R10, R66, R67
Safety: S25

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Lead (Pb)	<2 ppm
Colour	<20 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<50 ppm	Potassium (K)	<2 ppm
Substances darkened by (H_2SO_4)	<50 APHA	Sodium (Na)	<5 ppm
Water	<0.5%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

sec-Butyl alcohol
See sec-Butanol, page 50

tert-Butyl alcohol
See tert-Butanol, page 50

n-Butylamine SLR
extra pure

Specified LR

packaging		product code
250 mL	Coated Glass Bottle	B/5260/PB07

$C_4H_{11}N$
CAS: 109-73-9
MW: 73.14
Density at 20°C: 0.74
Boiling point: 78°C
Boiling pressure: 760 mmHg
Melting point: -49°C
Flash point: -7°C
ADR/RID: 3(8)/II
UN: 1125
HS-Nr: 29211990
EINECS: 203-699-2
Risk: R11, R20/21/22, R35
Safety: S3, S16, S26, S29, S36/37/39, S45

F C

Assay (GC): >98%

Butylated hydroxytoluene
See 2.6-Di-tert-butyl-p-cresol, page 81

tert-Butyl bromide
See 2-Bromo-2-methylpropane, page 43

n-Butyl bromide
See 1-Bromobutane, page 42

n-Butyl chloride
See 1-Chlorobutane, page 65

sec-Butyl chloride
See 2-Chlorobutane, page 65

Butyl digol SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	B/5300/08
2.5 L	Glass bottle	B/5300/17

$C_8H_{18}O_3$
CAS: 112-34-5
MW: 162.23
Density at 20°C: 0.949 to 0.959
Boiling point: 231°C
Boiling pressure: 760 mmHg
Melting point: -68°C
Flash point: 100°C
HS-Nr: 29094300
EINECS: 203-961-6
Risk: R36
Safety: S24, S26

Xi

Assay (GC): >98%

di-Butyl ether
See D-n-butyl ether, page 81

Butyl iodide
See 1-Iodobutane, page 130

tert-Butyl methyl ether Certified
for HPLC

HPLC

packaging		product code
2.5 L	Glass bottle	M/4496/17
25 L	Stainless steel drum	M/4496/25SS

$C_5H_{12}O$
CAS: 1634-04-4
MW: 88.15
Density at 20°C: 0.74
Boiling point: 54 to 56°C
Boiling pressure: 760 mmHg
Melting point: -110°C
Flash point: -28°C
ADR/RID: 3/II
UN: 2398
HS-Nr: 29091990
EINECS: 216-653-1
Risk: R11, R38
Safety: S9, S16, S24

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

220 nm	<0.25 A.U.	250 nm	<0.05 A.U.
230 nm	<0.15 A.U.	260 nm	<0.02 A.U.
240 nm	<0.1 A.U.	270 nm	<0.01 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

tert-Butyl methyl ether SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	M/4494/08
2.5 L	Glass bottle	M/4494/17
2.5 L	Coated Glass Bottle	M/4494/PB17
5 L	Metal can	M/4494/21
25 L	Metal drum	M/4494/25
25 L	Metal drum	M/4494/DH25
200 L	Metal drum	M/4494/27

$C_5H_{12}O$
CAS: 1634-04-4
MW: 88.15
Density at 20°C: 0.74
Boiling point: 54 to 56°C
Boiling pressure: 760 mmHg
Melting point: -110°C
Flash point: -28°C
ADR/RID: 3/II
UN: 2398
HS-Nr: 29091990
EINECS: 216-653-1
Risk: R11, R38
Safety: S9, S16, S24

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Residue after evaporation	<20 ppm	Water	<0.05%

see page 279 for suitable Tap & accessories.

n-Butyric acid
extra pure SLR

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	B/5500/PB08

$C_4H_8O_2$
CAS: 107-92-6
MW: 88.11
Density at 20°C: 0.956 to 0.958
Boiling point: 162 to 165°C
Boiling pressure: 760 mmHg
Melting point: -7 to 5°C

Flash point: 69°C
ADR/RID: 8/III
UN: 2820
HS-Nr: 29156010
EINECS: 203-532-3
Risk: R34
Safety: S26, S36, S45

C

Assay: >99.0%

iso-Butyric acid
pure

packaging		product code
500 mL	Coated Glass Bottle	B/5550/PB08

$C_4H_8O_2$
CAS: 79-31-2
MW: 88.11
Density at 20°C: 0.95
Boiling point: 153 to 154°C
Boiling pressure: 760 mmHg
Melting point: -47°C

Flash point: 55°C
ADR/RID: 3(8)/III
UN: 2529
HS-Nr: 29156010
EINECS: 201-195-7
Risk: R21/22

Xn

Assay: >99%

Cadmium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8005/05
500 mL	Plastic bottle	J/8005/08

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000

Risk: R21/22, R34
Safety: S23, S26, S36, S45

C Xn

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8236/08

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000

Risk: R21/22, R34
Safety: S23, S26, S36, S45

C Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8235/05

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000

Risk: R21/22, R34, R52/53
Safety: S23, S26, S36, S45

C Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCD22Y
250 mL	Plastic bottle	SPPLCD22T
500 mL	Plastic bottle	SPPLCD22X

Risk: R36/38
Safety: S26, S36/37

Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCD12X

Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCD23Y
500 mL	Plastic bottle	SPPLCD23X

Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLCD22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cadmium
extra pure, metal granulated SLR

Specified LR

packaging		product code
100 g	Plastic jar	C/0080/48

Cd
CAS: 7440-43-9
MW: 112.4
Density at 20°C: 8.64
Boiling point: 765°C

Melting point: 321°C
ADR/RID: 6.1(6.1)/I
UN: 2930
HS-Nr: 38220000
EINECS: 231-152-8

T F

Guaranteed analysis

Arsenic (As)	<2 ppm	Lead (Pb)	<200 ppm
Copper (Cu)	<30 ppm	Zinc (Zn)	<100 ppm
Iron (Fe)	<30 ppm		

Cadmium chloride hydrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	C/0280/48

$CdCl_2$+aq.
CAS: 7790-78-5
MW: 183.32
Density at 20°C: 4.05
Boiling point: 967°C
Melting point: 568°C
ADR/RID: 6.1/I

UN: 2570
HS-Nr: 28273985
EINECS: 233-296-7
Risk: R45, R46, R60, R61, R25, R26, R48/23/25, R50/53
Safety: S53, S45, S60, S61

T+ N

Assay: >79%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<100 ppm	Sodium (Na)	<500 ppm
Iron (Fe)	<100 ppm	Total sulphur (S)	<500 ppm
Lead (Pb)	<100 ppm	Zinc (Zn)	<500 ppm

Cadmium iodide — SLR
extra pure

Specified LR

packaging		product code
100 g	Glass packaging	C/0360/48

CdI_2
CAS: 7790-80-9
MW: 366.21
Boiling point: 787°C
Boiling pressure: 760 mmHg
Melting point: 388°C

ADR/RID: 6.1/III
UN: 2570
HS-Nr: 28276000
EINECS: 232-223-6
Risk: R23/25, R33, R50/53, R68
Safety: S22, S45, S60, S61

T N

Assay: >98%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Magnesium (Mg)	<100 ppm
Calcium (Ca)	<200 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<100 ppm	Sodium (Na)	<100 ppm
Iron (Fe)	<100 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<100 ppm	Zinc (Zn)	<100 ppm

Cadmium nitrate tetrahydrate — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/0420/50

$Cd(NO_3)_2.4H_2O$
CAS: 10022-68-1
MW: 308.48
Boiling point: 132°C
Boiling pressure: 760 mmHg
Melting point: 59°C

ADR/RID: 5.1/II
UN: 1477
HS-Nr: 28342910
Risk: R8, R20/21/22, R40, R50/53
Safety: S17, S36/37, S45, S60, S61

O Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<100 ppm	Sodium (Na)	<100 ppm
Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.01%
Lead (Pb)	<100 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Cadmium sulfate octahydrate — Certified AR
for analysis

AR

packaging		product code
100 g	Plastic jar	C/0520/48

$3CdSO_4.8H_2O$
CAS: 7790-84-3
MW: 769.52
Melting point: 41°C
ADR/RID: 6.1/III
UN: 2570

HS-Nr: 28332920
EINECS: 233-331-4
Risk: R45, R46, R60, R61, R25, R26, R48/23/25, R50/53
Safety: S53, S45, S60, S61

T+ N

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	3 to 6	Manganese (Mn)	<0.5 ppm
Aluminium (Al)	<1 ppm	Potassium (K)	<2 ppm
Arsenic (As)	<2 ppm	Sodium (Na)	<10 ppm
Barium (Ba)	<0.5 ppm	Tin (Sn)	<1 ppm
Calcium (Ca)	<20 ppm	Titanium (Ti)	<0.5 ppm
Chromium (Cr)	<0.5 ppm	Total chloride (Cl)	<0.001%
Cobalt (Co)	<0.5 ppm	Total nitrogen (N)	<50 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<20 ppm	Vanadium (V)	<0.5 ppm
Lithium (Li)	<0.5 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<5 ppm		

Lot analysis on the label.

Cadmium sulfate octahydrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	C/0480/48
500 g	Plastic jar	C/0480/53

$3CdSO_4.8H_2O$
CAS: 7790-84-3
MW: 769.52
Melting point: 41°C
ADR/RID: 6.1/III
UN: 2570

HS-Nr: 28332920
EINECS: 233-331-4
Risk: R45, R46, R60, R61, R25, R26, R48/23/25, R50/53
Safety: S53, S45, S60, S61

T+ N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<100 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<50 ppm		

Caffeine — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	C/0800/48

$C_8H_{10}N_4O_2$
CAS: 58-08-2
MW: 194.19
Density at 20°C: 1.23
Melting point: 234 to 239°C
ADR/RID: 6.1/III

UN: 1544
HS-Nr: 29393000
EINECS: 200-362-1
Risk: R20/22
Safety: S26, S37/39

Xn

Guaranteed analysis

Melting Point tested	235 to 237°C	Residue after ignition	<0.1%

Calcium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8010/05
500 mL	Plastic bottle	J/8010/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8241/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8240/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCA22Y
250 mL	Plastic bottle	SPPLCA22T

Risk: R36/38
Safety: S26

Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCA12X

Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCA23Y
250 mL	Plastic bottle	SPPLCA23T
500 mL	Plastic bottle	SPPLCA23X

Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCA13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLCA22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Calcium
extra pure, metal granulated

SLR

Specified LR

packaging		product code
100 g	Plastic jar	C/0840/48

Ca
CAS: 7440-70-2
MW: 40.07
Boiling point: 1484°C
Boiling pressure: 760 mmHg
Melting point: 845°C

ADR/RID: 4.3/II
UN: 1401
HS-Nr: 28052100
EINECS: 231-179-5
Risk: R15
Safety: S8, S24/25, S43C

F

Calcium hardness indicator tablets
pure

packaging		product code
100	Tablets	C/0880/79

HS-Nr: 28052100

Murexide indicator for calcium hardness titrations

Calcium acetate
extra pure, dried

SLR

Specified LR

packaging		product code
250 g	Plastic jar	C/0920/50
500 g	Plastic jar	C/0920/53

$(CH_3COO)_2Ca.xH_2O$
CAS: 62-54-4
MW: 158.16

HS-Nr: 29152900
EINECS: 200-540-9

Assay: >95%

Guaranteed analysis

Loss on drying 200°C	5 to 7%	Sulfate (SO_4)	<0.2%
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<10 ppm		

Calcium bromide dihydrate
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	C/0960/50

$CaBr_2.2H_2O$
CAS: 22208-73-7
MW: 235.93
HS-Nr: 28275900

EINECS: 232-164-6
Risk: R36
Safety: S26

Xi

Calcium carbide
Technical

packaging		product code
500 g	Metal packaging	C/1000/53

Approx.CaC_2
CAS: 75-20-1
ADR/RID: 4.3/II
UN: 1402

HS-Nr: 28491000
EINECS: 200-848-3
Risk: R15
Safety: S8, S43

F

Calcium carbonate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	C/1120/50
500 g	Plastic jar	C/1120/53
1 kg	Plastic jar	C/1120/60
25 kg	Fibre Keg	C/1120/70

$CaCO_3$
CAS: 471-34-1
MW: 100.09
Melting point: 825 °C

HS-Nr: 28365000
EINECS: 207-439-9
Risk: R36/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.01 %
Iron (Fe)	<10 ppm	Total nitrogen (N)	<100 ppm
Lead (Pb)	<5 ppm	Total phosphorus (P)	<50 ppm
Magnesium (Mg)	<200 ppm	Total silicon (Si)	<20 ppm
Potassium (K)	<100 ppm	Total sulphur (S)	<100 ppm
Sodium (Na)	<200 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<0.001 %	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<0.005 %	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.05 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Calcium carbonate
extra pure — SLR, Eur.Ph., BP

Specified LR

packaging		product code
1 kg	Plastic jar	C/1040/60
3 kg	Plastic jar	C/1040/63
5 kg	Plastic drum	C/1040/65
25 kg	Plastic drum	C/1040/70

$CaCO_3$
CAS: 471-34-1
MW: 100.09
Melting point: 825 °C

HS-Nr: 28365000
EINECS: 207-439-9
Risk: R36/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<200 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<1000 ppm
Magnesium (Mg)	<2000 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<2000 ppm		

Calcium chloride
extra pure, fused, granular — SLR

Specified LR

packaging		product code
500 g	Plastic jar	C/1400/53
2.5 kg	Plastic jar	C/1400/62

$CaCl_2$
CAS: 10043-52-4
MW: 110.98
Boiling point: >1600°C
Boiling pressure: 760 mmHg

Melting point: 782°C
HS-Nr: 28272000
EINECS: 233-140-8
Risk: R36
Safety: S22, S24

Xi

Particle size 1.0-2.0 mm.

Calcium chloride
Technical, fused, porous lump

packaging		product code
1 kg	Plastic jar	C/1320/60
3 kg	Plastic jar	C/1320/63
25 kg	Fibre Keg	C/1320/70

$CaCl_2$
CAS: 10043-52-4
MW: 110.98
Boiling point: >1600°C
Boiling pressure: 760 mmHg

Melting point: 782°C
HS-Nr: 28272000
EINECS: 233-140-8
Risk: R36
Safety: S22, S24

Xi

Calcium chloride dihydrate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	C/1500/50
500 g	Plastic jar	C/1500/53
1 kg	Plastic jar	C/1500/60
5 kg	Plastic drum	C/1500/65
25 kg	Fibre Keg	C/1500/70

$CaCl_2.2H_2O$
CAS: 10035-04-8
MW: 147.02
Density at 20°C: 0.83
Melting point: 175°C

HS-Nr: 28272000
EINECS: 233-140-8
Risk: R36
Safety: S22, S24

Xi

Assay: 99 to 102%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Sodium (Na)	<100 ppm
Copper (Cu)	<2 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<2 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.02 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Fisher Chemical products takes care of the environment!

Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Calcium chloride hexahydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	C/1240/53
1 kg	Plastic jar	C/1240/60
5 kg	Plastic jar	C/1240/65

$CaCl_2.6H_2O$
CAS: 7774-34-7
MW: 219.08
HS-Nr: 28272000

EINECS: 233-140-8
Risk: R36
Safety: S22, S24

Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	4.5 to 6.5	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<100 ppm		

Calcium formate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	C/1600/53

$(HCOO)_2Ca$
CAS: 544-17-2
MW: 130.12
Melting point: >300°C

HS-Nr: 29151200
EINECS: 208-863-7
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Chloride (Cl)	<0.005%	Iron (Fe)	<50 ppm
Copper (Cu)	<50 ppm	Lead (Pb)	<50 ppm

Calcium gluconate — SLR, Eur.Ph., USP
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	C/1610/53

$C_{12}H_{22}CaO_{14}.H_2O$
CAS: 299-28-5
MW: 448.35

HS-Nr: 29181600
EINECS: 206-075-8
Safety: S24/25

Assay: 99 to 104%

Guaranteed analysis

Arsenic (As)	<2 ppm	Sulfate (SO_4)	<0.15%
Lead (Pb)	<5 ppm	Total chloride (Cl)	<0.08%

Calcium hydroxide — Certified AR
for analysis

Certified AR

packaging		product code
250 g	Plastic jar	C/1642/50
500 g	Plastic jar	C/1642/53
1 kg	Plastic drum	C/1642/60

$Ca(OH)_2$
CAS: 1305-62-0
MW: 74.09
Density at 20°C: 2.24
Boiling point: 2850°C
Melting point: 580 °C

ADR/RID: 8/III
UN: 3262
HS-Nr: 28259010
EINECS: 215-137-3
Risk: R41
Safety: S26, S39

Xi

Assay: >97%

Guaranteed analysis

Copper (Cu)	<10 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<1000 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<500 ppm	Acids insoluble	<0.02%
Total chloride (Cl)	<0.1%		

Typical analysis

Aluminium (Al)	<0.001%	Manganese (Mn)	<5 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<0.002%	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.02%
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Calcium hydroxide — SLR
extra pure

Specified LR

packaging		product code
1 kg	Plastic jar	C/1640/60
5 kg	Plastic drum	C/1640/65

$Ca(OH)_2$
CAS: 1305-62-0
MW: 74.09
Density at 20°C: 2.24
Boiling point: 2850°C
Melting point: 580 °C

ADR/RID: 8/III
UN: 3262
HS-Nr: 28259080
EINECS: 215-137-3
Risk: R41
Safety: S26, S39

Xi

Assay: >95%

Guaranteed analysis

Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.1%
Iron (Fe)	<500 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<100 ppm	Total silicon (Si)	<5000 ppm
Magnesium (Mg)	<5000 ppm	Total sulphur (S)	<1000 ppm
Potassium (K)	<2000 ppm	Zinc (Zn)	<1000 ppm
Sodium (Na)	<500 ppm		

Calcium hypochlorite
Technical

packaging		product code
1 kg	Plastic jar	C/1720/60

$Ca(OCl)_2$
CAS: 7778-54-3
MW: 142.98
Melting point: 100°C
ADR/RID: 5.1/II

UN: 1748
HS-Nr: 38220000
EINECS: 231-908-7
Risk: R8, R22, R31, R34, R50
Safety: S26, S36/37/39, S45, S61

O C N

Calcium lactate pentahydrate — SLR, Eur.Ph., USP, BP
extra pure

Specified LR

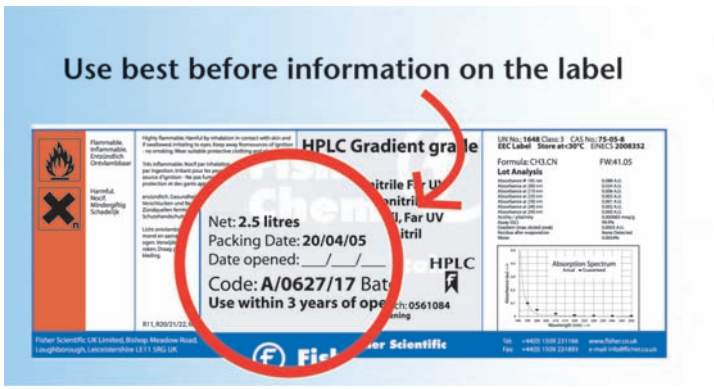
packaging		product code
500 g	Plastic jar	C/1820/53

$C_6H_{10}CaO_6.5H_2O$
CAS: 814-80-2
HS-Nr: 29181100
EINECS: 212-406-7

Assay: 97 to 103%

Guaranteed analysis

Arsenic (As)	<2 ppm	Sulfate (SO_4)	<0.25%
Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.07%
Lead (Pb)	<10 ppm		



Calcium nitrate tetrahydrate — Certified AR
for analysis

packaging		product code
500 g	Plastic jar	C/1882/53
1 kg	Plastic jar	C/1882/60

$Ca(NO_3)_2.4H_2O$
CAS: 13477-34-4
MW: 236.15
Density at 20°C: 1.86
Boiling point: 132°C
Boiling pressure: 760 mmHg
Melting point: 45°C

ADR/RID: 5.1/III
UN: 1454
HS-Nr: 28342980
EINECS: 233-332-1
Risk: R8, R36
Safety: S17, S26, S39

O Xi

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<0.002 %	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<0.01 %
Chromium (Cr)	<1 ppm	Tin (Sn)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Calcium nitrate tetrahydrate — SLR
extra pure

packaging		product code
500 g	Plastic jar	C/1880/53
1 kg	Plastic jar	C/1880/60
3 kg	Plastic jar	C/1880/63

$Ca(NO_3)_2.4H_2O$
CAS: 13477-34-4
MW: 236.15
Density at 20°C: 1.86
Boiling point: 132°C
Boiling pressure: 760 mmHg
Melting point: 45°C

ADR/RID: 5.1/III
UN: 1454
HS-Nr: 28342980
EINECS: 233-332-1
Risk: R8, R36
Safety: S17, S26, S39

O Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	4 to 7	Sodium (Na)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<500 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<50 ppm

tri-Calcium di-orthophosphate
pure, precipitated

packaging		product code
500 g	Plastic Jar	C/1960/53

$Ca_3(PO)_2$
CAS: 7758-87-4
MW: 310.17
Melting point: 1670°C

HS-Nr: 38220000
EINECS: 231-840-8
Safety: S24/25

Calcium oxide — SLR
extra pure, lump

packaging		product code
1 kg	Plastic jar	C/2100/60

CaO
CAS: 1305-78-8
MW: 56.08
Density at 20°C: 3.3
Boiling point: 2850°C
Boiling pressure: 760 mmHg
Melting point: 2570°C

ADR/RID: 8/III
UN: 1910
HS-Nr: 28259010
EINECS: 215-138-9
Risk: R34
Safety: S25, S26, S36/37/39, S45

C

Calcium oxide — SLR
extra pure, powder

packaging		product code
1 kg	Plastic jar	C/2120/60

CaO
CAS: 1305-78-8
MW: 56.08
Density at 20°C: 3.3
Boiling point: 2850°C
Boiling pressure: 760 mmHg
Melting point: 2570°C

ADR/RID: 8/III
UN: 1910
HS-Nr: 28259010
EINECS: 215-138-9
Risk: R34
Safety: S25, S26, S36/37/39, S45

C

Calcium oxide
pure, powder low in chloride and sulfide

packaging		product code
250 g	Plastic jar	C/2160/50

CaO
CAS: 1305-78-8
MW: 56.08
Density at 20°C: 3.3
Boiling point: 2850°C
Boiling pressure: 760 mmHg
Melting point: 2570°C

ADR/RID: 8/III
UN: 1910
HS-Nr: 28259010
EINECS: 215-138-9
Risk: R34
Safety: S25, S26, S36/37/39, S45

C

Guaranteed analysis

Sulfide (S)	<0.005%	Total chloride (Cl)	<0.005%

Calcium stearate
Technical

packaging		product code
500 g	Plastic jar	C/2240/53

$(C_{17}H_{35}.COO)_2Ca$
CAS: 1592-23-0
HS-Nr: 29157030
EINECS: 216-472-8

Guaranteed analysis

IR Analysis ..... Conform

Calcium sulfate anhydrous — SLR
extra pure, powder

packaging		product code
500 g	Plastic jar	C/2440/53
1 kg	Plastic jar	C/2440/60

$CaSO_4$
CAS: 7778-18-9
MW: 136.15
Melting point: 1450 °C

HS-Nr: 28332990
EINECS: 231-900-3
Safety: S24/25

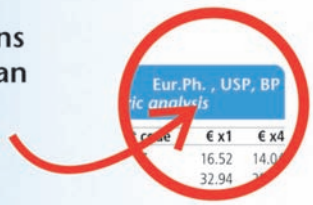
Calcium sulfate anhydrous
pure, granular, Desiccating agent

packaging		product code
500 g	Plastic jar	C/2400/53

$CaSO_4$
CAS: 7778-18-9
MW: 136.15
Melting point: 1450 °C

HS-Nr: 28332990
EINECS: 231-900-3
Safety: S24/25

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Calcium sulfate dihydrate
for analysis — Certified AR

packaging		product code
500 g	Plastic Jar	C/2360/53

$CaSO_4.2H_2O$
CAS: 10101-41-4
MW: 172.17
HS-Nr: 28332990
EINECS: 231-900-3
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

Acidity	<0.002 meq/g	Sodium (Na)	<500 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.005 %
Iron (Fe)	<10 ppm	Total nitrogen (N)	<10 ppm
Lead (Pb)	<10 ppm	Total phosphorus (P)	<50 ppm
Magnesium (Mg)	<100 ppm	Total silicon (Si)	<50 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<0.005 %	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<0.005 %	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<0.02 %
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Calcium sulfate dihydrate
extra pure, precipitated — SLR

packaging		product code
500 g	Plastic Jar	C/2320/53

$CaSO_4.2H_2O$
CAS: 10101-41-4
MW: 172.17
HS-Nr: 28332990
EINECS: 231-900-3
Safety: S24/25

Assay: >98%

Guaranteed analysis

Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<500 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<500 ppm		

Calcium sulfate hemihydrate
Technical

packaging		product code
3 kg	Plastic Jar	C/2280/63

$CaO_4S.CaSO_4.1/2H_2O$
CAS: 7778-18-9
MW: 145.15
Melting point: 1450 °C
HS-Nr: 28332990
EINECS: 231-900-3
Safety: S24/25

Calcium tetrahydrogen di-orthophosphate monohydrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	C/2520/53

$CaH_4O_8P_2.Ca(H_2PO_4)_2.H_2O$
CAS: 7758-23-8
MW: 252.07
HS-Nr: 38220000
EINECS: 231-837-1
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >97%

Guaranteed analysis

Arsenic (As)	<2 ppm	Sulfate (SO_4)	<0.05%
Iron (Fe)	<150 ppm	Total chloride (Cl)	<0.005%

Calmagite *See code H/2350, page 125*

D-Camphor
extra pure — SLR

packaging		product code
250 g	Plastic jar	C/2555/50

$C_{10}H_{16}O$
CAS: 464-49-3
MW: 152.24
Boiling point: 204°C
Boiling pressure: 760 mmHg
Melting point: 176 to 180°C
Flash point: 64°C
ADR/RID: 4.1/III
UN: 2717
HS-Nr: 29147000
EINECS: 207-355-2
Risk: R11, R36/37/38
Safety: S16, S26, S37/39
F Xi

Guaranteed analysis

IR Analysis ..... Conform

DL-Camphor
extra pure, origin synthetic — SLR

packaging		product code
250 g	Glass packaging	C/2560/50

$C_{10}H_{16}O$
CAS: 21368-68-3
MW: 152.24
ADR/RID: 4.1/III
UN: 2717
HS-Nr: 29147000
EINECS: 244-350-4
Risk: R22
Xn

Guaranteed analysis

IR Analysis ..... Conform

Canada balsam
pure, dried in Xylene

packaging		product code
100 mL	Glass bottle	J/2980/05

ADR/RID: 3/III
UN: 1993
HS-Nr: 38220000

Canada balsam
For microscopy, filtered

packaging		product code
100 g	Glass bottle	C/2640/48

HS-Nr: 13019000

Guaranteed analysis

IR Analysis ..... Conform

Caproic acid *See n-Hexanoic acid, page 115*

Capryl alcohol *See Octan-1-ol, page 179*

Caprylic acid *See n-Octanoic acid, page 179*

Carbon standard solution 1000 ppm
for ICP solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLC92Y
500 mL	Plastic bottle	SPPLC92X

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Carbon disulfide
for analysis — Certified AR

packaging		product code
500 mL	Coated Glass Bottle	C/2920/PB08
2.5 L	Coated Glass Bottle	C/2920/PB17

CS_2
CAS: 75-15-0
MW: 76.14
Density at 20°C: 1.26
Boiling point: 46°C
Melting point: -111°C
Flash point: -30°C

ADR/RID: 3(6.1)/I
UN: 1131
HS-Nr: 28131000
EINECS: 200-843-6
Risk: R11, R36/38, R48/23, R62, R63
Safety: S16, S33, S36/37, S45

F T

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.02 ppm
Colour	<10 APHA	Potassium (K)	<0.05 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.1 ppm
Water	<0.05%	Total phosphorus (P)	<0.1 ppm
Calcium (Ca)	<0.2 ppm	Total silicon (Si)	<0.01 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.05 ppm	Benzene	<0.01 %
Lead (Pb)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.05 ppm	Molybdenum (Mo)	<0.01 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm
Manganese (Mn)	<0.01 ppm		

Carborundum
extra pure, powder, fine about 180 grit — SLR

packaging		product code
500 g	Plastic jar	C/3092/53

CAS: 409-21-2
HS-Nr: 28492000
EINECS: 206-991-8
Risk: R36/38

Carborundum
extra pure, fine powder, extra fine about 300 grit — SLR

packaging		product code
500 g	Plastic jar	C/3093/53

CAS: 409-21-2
HS-Nr: 28492000
EINECS: 206-991-8
Risk: R36/38

Carborundum
extra pure, powder, coarse, about 24 grit — SLR

packaging		product code
500 g	Plastic jar	C/3090/53

CAS: 409-21-2
HS-Nr: 28492000
EINECS: 206-991-8
Risk: R36/38

Carborundum
pure

packaging		product code
500 g	Plastic jar	C/3091/53

CAS: 409-21-2
HS-Nr: 28492000
EINECS: 206-991-8
Risk: R36/38

Carboxymethyl cellulose
extra pure, low viscosity — SLR

packaging		product code
500 g	Plastic jar	C/3100/53

CAS: 9004-32-4
Melting point: >300°C
HS-Nr: 39123100

Guaranteed analysis

At pH 20°C ..... 6 to 8 Lead (Pb) ..... <10 ppm
Viscosity ..... 29 to 70 cP

Carmine
pure

packaging		product code
5 g	Glass packaging	C/3160/44

CAS: 1390-65-4
HS-Nr: 32030090
EINECS: 215-724-4
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Casein
extra pure, light white soluble — SLR

packaging		product code
500 g	Plastic jar	C/3240/53

CAS: 9000-71-9
Melting point: 280 °C
HS-Nr: 35011090
EINECS: 232-555-1
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Castor oil
pure

packaging		product code
2.5 L	Glass bottle	C/3280/17

CAS: 8001-79-4
Density at 20°C: 0.96
Boiling point: 229°C
Boiling pressure: 760 mmHg
Melting point: -10°C
Flash point: 229°C
HS-Nr: 15153090
EINECS: 232-293-8
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Catechol
extra pure — SLR

packaging		product code
100 g	Plastic Jar	C/3320/48
500 g	Plastic Jar	C/3320/53

$C_6H_6O_2$
CAS: 120-80-9
MW: 110.11
Boiling point: 245°C
Boiling pressure: 760 mmHg
Melting point: 103 to 106°C
Flash point: 131°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29072990
EINECS: 204-427-5
Risk: R21/22, R36/38
Safety: S22, S26, S37

Xn

Assay (GC): >99%

Catecholsulfonphthalein
pure, Metal indicator

packaging		product code
5 g	Glass Jar	C/3360/44

$C_{19}H_{14}O_7S$
CAS: 115-41-3
MW: 386.36
Boiling pressure: 760 mmHg
HS-Nr: 32041200
EINECS: 204-088-3
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Cation standard mixed concentrate
for Ion pair chromatography (for check column)

packaging		product code
100 mL	Plastic bottle	J/4554/05

HS-Nr: 38220000

Manufactured to a tolerance of ± 1%.
100mL, to make 1000mL consisting of: 3ppm Li^+, 5ppm Na^+, 5ppm NH_4^+, 10ppm K^+

Cedarwood oil
For microscopy, thickened

packaging		product code
100 mL	Glass bottle	C/3440/05

CAS: 8000-27-9
Density at 20°C: 0.95
Flash point: 110°C
HS-Nr: 38059000
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Cedarwood oil
For microscopy, natural

packaging		product code
500 mL	Glass bottle	C/3400/08

CAS: 8000-27-9
Density at 20°C: 0.95
Flash point: 110°C
HS-Nr: 38059000
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Cellosolve®
See 2-Ethoxyethanol, page 98

Cellosolve® acetate
See 2-Ethoxyethyl acetate, page 98

Cerium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCE22Y
500 mL	Plastic bottle	SPPLCE22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cerium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCE23Y
500 mL	Plastic bottle	SPPLCE23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cerium(III) nitrate SLR
extra pure, low in other rare earths

Specified LR

packaging		product code
100 g	Plastic jar	C/3780/48

$Ce(NO_3)_3.6H_2O$
CAS: 10294-41-4
MW: 434.23
ADR/RID: 5.1/II
UN: 1477
HS-Nr: 28461000
EINECS: 233-297-2
Risk: R8, R36
Safety: S17, S26, S39
O Xi

Assay: >99%

Guaranteed analysis
Sulfate (SO_4) ..... <0.05%
Total chloride (Cl) ..... <0.02%
Other rare earths ..... <1%

Cerium(IV) oxide SLR
extra pure, low in other rare earths

Specified LR

packaging		product code
100 g	Plastic jar	C/3680/48

CeO_2
CAS: 1306-38-3
MW: 172.12
Density at 20°C: 7.13
Melting point: 2600°C
HS-Nr: 28461000
EINECS: 215-150-4
Safety: S24/25

Cerium(IV) sulfate tetrahydrate SLR
extra pure, low in other rare earths

Specified LR

packaging		product code
100 g	Plastic jar	C/3720/48

$Ce(SO_4)_2.4H_2O$
CAS: 10294-42-5
MW: 404.29
ADR/RID: 5.1(8)/II
UN: 3085
HS-Nr: 28461000
EINECS: 237-029-5
Risk: R8, R35
Safety: S17, S26, S36/37/39, S45
O C

Assay: 98 to 102%

Guaranteed analysis
Total chloride (Cl) ..... <0.01%
Other rare earths ..... <1%

Cerium(IV) sulfate solution 0.1, (0.1N) NEW SPEC. Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/3000/15
2.5 L	Glass bottle	J/3000/17

Density at 20°C: 1.06
ADR/RID: 8/II
UN: 2796
HS-Nr: 28461000

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Cesium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLCS22Y
500 mL	Plastic bottle	SPPLCS22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cesium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLCS23Y
500 mL	Plastic bottle	SPPLCS23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cesium chloride — Certified AR
for analysis

packaging		product code
25 g	Plastic jar	C/0680/46
100 g	Plastic jar	C/0680/48
250 g	Plastic jar	C/0680/50
1 kg	Plastic jar	C/0680/60

$CsCl_2$
CAS: 7647-17-8
MW: 168.36
Density at 20°C: 3.98
Boiling point: 1290°C
Boiling pressure: 760 mmHg

Melting point: 646°C
HS-Nr: 28273985
EINECS: 231-600-2
Risk: R68
Safety: S36/37

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Sodium (Na)	<100 ppm
Calcium (Ca)	<10 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm
Potassium (K)	<20 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<0.002 %	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm		

Lot analysis on the label.

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Cesium chloride — SLR
extra pure

packaging		product code
25 g	Plastic Jar	C/0640/46
100 g	Plastic Jar	C/0640/48

$CsCl_2$
CAS: 7647-17-8
MW: 168.36
Density at 20°C: 3.98
Boiling point: 1290°C
Boiling pressure: 760 mmHg

Melting point: 646°C
HS-Nr: 28273985
EINECS: 231-600-2
Risk: R68
Safety: S36/37

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Potassium (K)	<100 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

Cetyl trimethylammonium bromide — Certified
for Ion pair chromatography

packaging		product code
25 g	Plastic Jar	C/3961/46

$C_{19}H_{42}BrN$
CAS: 57-09-0
MW: 364.46
Melting point: 250 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 29239000
EINECS: 200-311-3
Risk: R22, R36/37/38, R50
Safety: S26, S37/39, S61

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.25 M) .... <0.05 A.U.

Cetyl trimethylammonium bromide — Certified AR
for analysis

packaging		product code
100 g	Plastic Jar	C/3962/48
500 g	Plastic Jar	C/3962/53

$C_{19}H_{42}BrN$
CAS: 57-09-0
MW: 364.46
Melting point: 250 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 29239000
EINECS: 200-311-3
Risk: R22, R36/37/38, R50
Safety: S26, S37/39, S61

Assay: >99%

Guaranteed analysis

Loss on drying	<1%	Magnesium (Mg)	<5 ppm
Aluminium (Al)	<1 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Potassium (K)	<10 ppm
Cadmium (Cd)	<2 ppm	Sodium (Na)	<20 ppm
Calcium (Ca)	<20 ppm	Titanium (Ti)	<2 ppm
Chromium (Cr)	<2 ppm	Total phosphorus (P)	<10 ppm
Cobalt (Co)	<2 ppm	Total silicon (Si)	<20 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<200 ppm
Iron (Fe)	<5 ppm	Vanadium (V)	<2 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<5 ppm
Lithium (Li)	<2 ppm		

Lot analysis on the label.

Cetyl trimethylammonium bromide
pure

packaging		product code
500 g	Plastic Jar	C/3960/53
25 kg	Fibre Keg	C/3960/70

$C_{19}H_{42}BrN$
CAS: 57-09-0
MW: 364.46
Melting point: 250 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 29239000
EINECS: 200-311-3
Risk: R22, R36/37/38, R50
Safety: S26, S37/39, S61

Charcoal
extra pure, lump, wood — SLR

packaging		product code
1 kg	Plastic jar	C/4020/60

CAS: 16291-96-6
ADR/RID: 4.2/III
UN: 1361
HS-Nr: 38021000
EINECS: 231-153-3

Charcoal
pure, powder wood

packaging		product code
1 kg	Plastic jar	C/4010/60

CAS: 16291-96-6
ADR/RID: 4.2/III
UN: 1361
HS-Nr: 38021000
EINECS: 231-153-3

Charcoal
pure, animal, granular for filters

packaging		product code
1 kg	Plastic jar	C/4000/60

CAS: 16291-96-6
HS-Nr: 38021000
EINECS: 231-153-3

Charcoal
pure, powder, animal

packaging		product code
1 kg	Plastic jar	C/3990/60

CAS: 16291-96-6
HS-Nr: 38021000
EINECS: 231-153-3

Charcoal
pure, decolourising powder, activated

packaging		product code
1 kg	Plastic jar	C/4040/60
5 kg	Plastic drum	C/4040/65

CAS: 16291-96-6
ADR/RID: 4.2/III
UN: 1362
HS-Nr: 38021000
EINECS: 231-153-3

Charcoal
pure, activated for gas adsorption, 10-18 mesh, granular

packaging		product code
500 g	Plastic jar	C/4120/53
1 kg	Plastic jar	C/4120/60

CAS: 16291-96-6
ADR/RID: 4.2/III
UN: 1361
HS-Nr: 38021000
EINECS: 231-153-3

Charcoal
pure, activated, acid washed

packaging		product code
250 g	Plastic jar	C/4080/50

CAS: 16291-96-6
HS-Nr: 38021000
EINECS: 231-153-3

Chemical binder spillage treatment
pure

packaging		product code
500 g	Plastic jar	S/7435/53

HS-Nr: 38220000

Chemical Oxygen Demand *See Ficodox, page 103*

Chlorate standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASCLO392Y
500 mL	Plastic bottle	SPASCLO392X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Chloral hydrate
extra pure — SLR, Eur.Ph., BP

packaging		product code
500 g	Plastic jar	C/4280/53
10 kg	Plastic screw top Keg	C/4280/68

$C_2H_3Cl_3O_2$
CAS: 302-17-0
MW: 165.41
Density at 20°C: 1.91
Boiling point: 97°C
Boiling pressure: 760 mmHg
Melting point: 57°C
ADR/RID: 6.1/II
UN: 2811
HS-Nr: 29121990
EINECS: 206-117-5
Risk: R25, R36/38
Safety: S25, S45

T

Assay: >99%

Guaranteed analysis
Residue after ignition ..... <0.1% Total chloride (Cl) ..... <0.01%

Chloramine-T Sodium salt
extra pure — SLR, Eur.Ph., BP

packaging		product code
250 g	Plastic jar	C/4320/50
500 g	Plastic jar	C/4320/53

$C_7H_7ClNNaO_2S.3H_2O$
CAS: 7080-50-4
MW: 281.69
Melting point: 170-177°C
Flash point: 92°C
ADR/RID: 8/III
UN: 3263
HS-Nr: 29350000
EINECS: 204-854-7
Risk: R22, R31, R34, R42
Safety: S7, S22, S26, S36/37/39, S45

C

Assay: >98%

Guaranteed analysis
Sodium chloride ..... <1.5%

Chloramphenicol
extra pure — SLR

packaging		product code
50 g	Plastic jar	C/4322/47

$C_{11}H_{12}Cl_2N_2O_5$
CAS: 56-75-7
MW: 323.14
Melting point: 149 to 153°C
HS-Nr: 29414000
EINECS: 200-287-4
Risk: R45
Safety: S53, S45

T

Assay: >99%

Chloride standard 100 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASCL91Y
500 mL	Plastic bottle	SPASCL91X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Chloride standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4546/05

Density at 20°C: 1
HS-Nr: 38220000

Guaranteed analysis

Value between ..... 0.99 to 1.01

Manufactured to a tolerance of ± 1%.

Chloride standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASCL92Y
500 mL	Plastic bottle	SPASCL92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Chloride Colour Reagent
pure

packaging		product code
4.5 L	Plastic bottle	C/4345/20

Density at 20°C: 0.992 to 1.002
ADR/RID: 3(6.1)/II
UN: 2929
HS-Nr: 38220000
Risk: R10, R24/25
Safety: S2, S13, S28A

F Xn

Made up to 1L with Analytical Reagent water.

Chlorite standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASCLO292Y
500 mL	Plastic bottle	SPASCLO292X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Chloroacetic acid
for analysis — Certified AR

packaging		product code
500 g	Glass packaging	C/4400/53

$ClCH_2COOH$
CAS: 79-11-8
MW: 94.5
Density at 20°C: 1.58
Boiling point: 189°C
Boiling pressure: 760 mmHg
Melting point: 61 to 63°C
Flash point: 126°C
ADR/RID: 6.1(8)/II
UN: 1751
HS-Nr: 29154000
EINECS: 201-178-4
Risk: R25, R34, R50
Safety: S23, S37, S45, S61

T N

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Potassium (K)	<10 ppm
Chromium (Cr)	<1 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<5 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<50 ppm
Nickel (Ni)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Chloroacetic acid
extra pure — SLR

packaging		product code
250 g	Glass packaging	C/4360/50
500 g	Glass packaging	C/4360/53

$ClCH_2COOH$
CAS: 79-11-8
MW: 94.5
Density at 20°C: 1.58
Boiling point: 189°C
Boiling pressure: 760 mmHg
Melting point: 61 to 63°C
Flash point: 126°C
ADR/RID: 6.1(8)/II
UN: 1751
HS-Nr: 29154000
EINECS: 201-178-4
Risk: R25, R34, R50
Safety: S23, S37, S45, S61

T N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<50 ppm		

4-Chloroaniline
extra pure — SLR

packaging		product code
100 g	Plastic jar	C/4600/48

C_6H_6ClN
CAS: 106-47-8
MW: 127.57
Boiling point: 232°C
Boiling pressure: 760 mmHg
Melting point: 68 to 72°C
Flash point: >188°C
ADR/RID: 6.1/II
UN: 2018
HS-Nr: 29214210
EINECS: 203-401-0
Risk: R45, R23/24/25, R43, R50/53
Safety: S53, S45, S60, S61

T N

Assay (GC): >99%

Chloroauric (III) acid
extra pure — SLR

packaging		product code
1 g	Glass Tube	C/4640/43

$HAuCl_4.xH_2O$
CAS: 27988-77-8
MW: 339.78
ADR/RID: 8/II
UN: 3260
HS-Nr: 28433000
EINECS: 240-948-4
Risk: R22, R34
Safety: S26, S36/37/39, S45

C

Assay: >49%

The price charged for this item is subject to alteration and will be that ruling at time of despatch.

4-Chlorobenzenamine *See 4-Chloroaniline, page 64*

Save money!
Order 4 bottles in a box

Chlorobenzene
for analysis — Certified AR

packaging		product code
1 L	Glass bottle	C/4681/15
2.5 L	Glass bottle	C/4681/17
2.5 L	Coated Glass Bottle	C/4681/PB17

C_6H_5Cl
CAS: 108-90-7
MW: 112.56
Density at 20°C: 1.11
Boiling point: 131°C
Boiling pressure: 760 mmHg
Melting point: -45°C

Flash point: 29°C
ADR/RID: 3/III
UN: 1134
HS-Nr: 29036100
EINECS: 203-628-5
Risk: R10, R20, R51/53
Safety: S24/25, S61

Xn N

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Potassium (K)	<0.02 ppm
Colour	<10 APHA	Sodium (Na)	<0.5 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.5 ppm
Water	<0.05%	Total silicon (Si)	<0.02 ppm
Calcium (Ca)	<0.2 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.2 ppm	Benzene	<0.02 %
Lead (Pb)	<0.05 ppm	O-Dichlorobenzene	<0.01 %
Magnesium (Mg)	<0.2 ppm	P-Dichlorobenzene	<0.02 %

Typical analysis

Aluminium (Al)	<0.02 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.

Chlorobenzene
extra pure — SLR

packaging		product code
2.5 L	Glass bottle	C/4680/17
2.5 L	Coated Glass Bottle	C/4680/PB17
25 L	Metal drum	C/4680/25

C_6H_5Cl
CAS: 108-90-7
MW: 112.56
Density at 20°C: 1.11
Boiling point: 131°C
Boiling pressure: 760 mmHg
Melting point: -45°C

Flash point: 29°C
ADR/RID: 3/III
UN: 1134
HS-Nr: 29036100
EINECS: 203-628-5
Risk: R10, R20, R51/53
Safety: S24/25, S61

Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<100 ppm	Sodium (Na)	<5 ppm
Water	<0.5%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

1-Chlorobutane
for HPLC

packaging		product code
2.5 L	Glass bottle	C/4756/17

C_4H_9Cl
CAS: 109-69-3
MW: 92.57
Density at 20°C: 0.88
Boiling point: 77 to 78°C
Boiling pressure: 760 mmHg
Melting point: -123°C

Flash point: -12°C
ADR/RID: 3/II
UN: 1127
HS-Nr: 29031980
EINECS: 203-696-6
Risk: R11
Safety: S9, S16, S29

F

Assay (GC): >99.7%

Guaranteed analysis

Acidity / Alkalinity	<0.0003 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

230 nm	<0.2 A.U.	260 nm	<0.005 A.U.
240 nm	<0.05 A.U.	270 nm	<0.005 A.U.
250 nm	<0.01 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

1-Chlorobutane
extra pure — SLR

packaging		product code
100 mL	Glass bottle	C/4750/05

C_4H_9Cl
CAS: 109-69-3
MW: 92.57
Density at 20°C: 0.88
Boiling point: 77 to 78°C
Boiling pressure: 760 mmHg
Melting point: -123°C

Flash point: -12°C
ADR/RID: 3/II
UN: 1127
HS-Nr: 29031980
EINECS: 203-696-6
Risk: R11
Safety: S9, S16, S29

F

Assay: >98%

Guaranteed analysis

Residue after evaporation ..... <50 ppm

2-Chlorobutane
extra pure — SLR

packaging		product code
100 mL	Glass bottle	C/4759/05

C_4H_9Cl
CAS: 78-86-4
MW: 92.57
Density at 20°C: 0.87
Boiling point: 68 to 70°C
Boiling pressure: 760 mmHg
Melting point: -140°C

Flash point: -15°C
ADR/RID: 3/II
UN: 1127
HS-Nr: 29031980
EINECS: 201-151-7
Risk: R11
Safety: S9, S16, S29

F

Assay (GC): >95%

4-Chloro-m-cresol
pure

packaging		product code
500 g	Glass packaging	C/4760/53

C_7H_7ClO
CAS: 59-50-7
MW: 142.59
Boiling point: 235°C
Boiling pressure: 760 mmHg
Melting point: 63 to 65°C
Flash point: 118°C

ADR/RID: 6.1/II
UN: 3437
HS-Nr: 29081090
EINECS: 200-431-6
Risk: R21/22, R41, R43, R50
Safety: S26, S36/37/39, S61

Xn N

Assay: >98%

2-Chloroethanol
pure

packaging		product code
500 mL	Coated Glass Bottle	C/4880/PB08

C_2H_5ClO
CAS: 107-07-3
MW: 80.52
Density at 20°C: 1.2
Boiling point: 129°C
Boiling pressure: 760 mmHg
Melting point: -63°C

Flash point: 55°C
ADR/RID: 3(6.1)/I
UN: 1135
HS-Nr: 29055010
EINECS: 203-459-7
Risk: R26/27/28, R51/53
Safety: S7/9, S28A, S45, S61

T+ N

Assay (GC): >99%

Chloroform stabilized with amylene
for HPLC
Certified

packaging		product code
1 L	Glass bottle	C/4966/15
2.5 L	Glass bottle	C/4966/17
2.5 L	Coated Glass Bottle	C/4966/PB17
200 L	Stainless steel drum	C/4966/27SS

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 29031300
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Guaranteed analysis
Acidity / Alkalinity ..... <0.0002 meq/g
Water ..... <0.05%
Residue after evaporation ..... <5 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
250 nm ..... <0.5 A.U.
270 nm ..... <0.01 A.U.
260 nm ..... <0.075 A.U.
280 nm ..... <0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Chloroform stabilized with amylene
for Gel Permeation Chromatography (GPC)
Certified

packaging		product code
2.5 L	Coated Glass Bottle	C/4970/PB17

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 29031300
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Guaranteed analysis
Colour ..... <5 APHA
Water ..... <0.02%
Residue after evaporation ..... <5 ppm

Chloroform stabilized with amylene
for trace metal analysis
Primar

packaging		product code
2.5 L	Glass bottle	C/4961/17

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 38220000
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Manganese (Mn)	<0.005 ppm
Colour	<5 APHA	Molybdenum (Mo)	<0.005 ppm
Residue after evaporation	<2 ppm	Nickel (Ni)	<0.005 ppm
Substances darkened by (H_2SO_4)	<5 APHA	Potassium (K)	<0.05 ppm
Water	<0.01%	Silver (Ag)	<0.005 ppm
Aluminium (Al)	<0.02 ppm	Sodium (Na)	<0.2 ppm
Barium (Ba)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Cadmium (Cd)	<0.005 ppm	Titanium (Ti)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Total phosphorus (P)	<0.02 ppm
Chlorine	<100 ppm	Total silicon (Si)	<0.02 ppm
Chromium (Cr)	<0.005 ppm	Total sulphur (S)	<0.1 ppm
Cobalt (Co)	<0.005 ppm	Vanadium (V)	<0.005 ppm
Copper (Cu)	<0.01 ppm	Zinc (Zn)	<0.01 ppm
Iron (Fe)	<0.05 ppm	Carbon tetrachloride	<0.002%
Lead (Pb)	<0.005 ppm	Dichloromethane	<0.002%
Lithium (Li)	<0.005 ppm	Tetrachloroéthylene	<0.002%
Magnesium (Mg)	<0.02 ppm	Trichloroéthylene	<0.002%

Chloroform stabilized with amylene
for residue and pesticide analysis
Distol

packaging		product code
1 L	Glass bottle	C/4963/15
2.5 L	Glass bottle	C/4963/17

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 29031300
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis
GC (ECD) Analysis ..... Conform
GC (FID) Analysis ..... Conform
GC (NPD) analysis ..... Conform
Residue after evaporation ..... <2 ppm
Water ..... <0.05%

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile:
(1) 50°C for 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Chloroform stabilized with amylene
extra dry, for synthesis

packaging		product code
1 L	Glass bottle	C/4962/15
2.5 L	Glass bottle	C/4962/17

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 29031300
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis
Residue after evaporation ..... <2 ppm
Water ..... <0.01%

Chloroform stabilized with amylene
for analysis
Certified AR

packaging		product code
1 L	Glass bottle	C/4960/15
1 L	Coated Glass Bottle	C/4960/PB15
2.5 L	Glass bottle	C/4960/17
2.5 L	Coated Glass Bottle	C/4960/PB17
25 L	Metal drum	C/4960/25
200 L	Metal drum	C/4960/27

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 29031300
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Water	<0.02%
Colour	<5 APHA	Calcium (Ca)	<0.1 ppm
Residue after evaporation	<5 ppm	Chlorine	<5 ppm
Substances darkened by (H_2SO_4)	<5 APHA	Copper (Cu)	<0.02 ppm
Use with dithizone	Conform	Iron (Fe)	<0.1 ppm
		Lead (Pb)	<0.02 ppm

Magnesium (Mg)	<0.05 ppm	Total sulphur (S)	<0.5 ppm
Potassium (K)	<0.1 ppm	Zinc (Zn)	<0.05 ppm
Sodium (Na)	<0.2 ppm	Carbon tetrachloride	<0.005 %
Total phosphorus (P)	<0.1 ppm	Dichloromethane	<0.005 %
Total silicon (Si)	<0.05 ppm	Tetrachloroéthylene	<0.005 %

Typical analysis

Aluminium (Al)	<0.05 ppm	Molybdenum (Mo)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Selenium (Se)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Manganese (Mn)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Suitable for use with dithizone.
Lot analysis on the label.
Stabilised with 100 ppm amylène.
see page 279 for suitable Tap & accessories.

Chloroform
extra pure SLR

Specified

packaging		product code
500 mL	Glass bottle	C/4920/08
1 L	Glass bottle	C/4920/15
2.5 L	Glass bottle	C/4920/17
2.5 L	Coated Glass Bottle	C/4920/PB17
5 L	Metal can	C/4920/21
25 L	Metal drum	C/4920/25
200 L	Metal drum	C/4920/27

$CHCl_3$
CAS: 67-66-3
MW: 119.38
Density at 20°C: 1.48
Boiling point: 61°C
Boiling pressure: 760 mmHg
Melting point: -63°C

ADR/RID: 6.1/III
UN: 1888
HS-Nr: 29031300
EINECS: 200-663-8
Risk: R22, R38, R40, R48/20/22
Safety: S36/37

Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Lead (Pb)	<5 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<20 ppm	Potassium (K)	<2 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Sodium (Na)	<5 ppm
Water	<0.1%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

6-Chloro-3-hydroxytoluene
See 4-Chloro-m-cresol, page 65

2-Chloro-2-methyl propane
extra pure SLR

Specified

packaging		product code
500 mL	Glass bottle	C/4990/08

C_4H_9Cl
CAS: 507-20-0
MW: 92.57
Density at 20°C: 0.85
Boiling point: 51 to 52°C
Boiling pressure: 760 mmHg
Melting point: -25°C

Flash point: -18°C
ADR/RID: 3/II
UN: 1127
HS-Nr: 29031980
EINECS: 208-066-4
Risk: R11
Safety: S9, S16, S33

F

Guaranteed analysis
IR Analysis ..... Conform

2-Chlorophenol
extra pure SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	C/5040/PB08

C_6H_5ClO
CAS: 95-57-8
MW: 128.56
Density at 20°C: 1.26
Boiling point: 173 to 175°C
Boiling pressure: 760 mmHg
Melting point: 8°C

Flash point: 85°C
ADR/RID: 6.1/III
UN: 2021
HS-Nr: 29081000
EINECS: 202-433-2
Risk: R20/21/22, R51/53
Safety: S28A, S61

Xn N

Guaranteed analysis
IR Analysis ..... Conform

N-Chloro-p-toluenesulfonamide sodium salt
See Chloramine-T, Sodium salt, page 63

Chlorotrimethylsilane
for gas chromatography

packaging		product code
250 g	Glass bottle	T/3520/50

C_3H_9ClSi
CAS: 75-77-4
MW: 108.65
Density at 20°C: 0.85 to 0.86
Boiling point: 57°C
Boiling pressure: 760 mmHg
Melting point: -58°C

Flash point: -18°C
ADR/RID: 3(8)/II
UN: 1298
HS-Nr: 29310000
EINECS: 200-900-5
Risk: R11, R14, R21, R34
Safety: S16, S26, S36/37/39, S45

F C

Assay (GC): >98%

Cholesterol
extra pure SLR

Specified

packaging		product code
100 g	Plastic jar	C/5360/48

$C_{27}H_{46}O$
CAS: 57-88-5
MW: 386.67
Density at 20°C: 1.06
Boiling point: 360°C
Boiling pressure: 760 mmHg

Melting point: 147 to 150°C
Flash point: 250°C
HS-Nr: 38220000
EINECS: 200-353-2
Safety: S22, S24/25

Guaranteed analysis

Residue after ignition	<0.1%	-38.5°	
Specific rotation (α 20/D)	-+40.5° to	Water	<0.5%

Chromic Acid
pure, Mix detergent

packaging		product code
1 L	Coated Glass Bottle	J/3500/PC15

ADR/RID: 8/II
UN: 1830
HS-Nr: 38220000

Risk: R8, R35, R43
Safety: S26, S30, S36/37/39, S45

C

Chromium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8015/05
500 mL	Plastic bottle	J/8015/08

ADR/RID: 8(6.1)/III
UN: 2922
HS-Nr: 28342980

Risk: R49, R34, R43
Safety: S23, S26, S36, S45

C T

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8246/08

ADR/RID: 8(6.1)/III
UN: 2922
HS-Nr: 38220000

Risk: R49, R34, R43
Safety: S23, S26, S36, S45

C T

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8245/05

ADR/RID: 8(6.1)/III
UN: 2922
HS-Nr: 28342980

Risk: R49, R34, R43
Safety: S23, S26, S36, S45

C T

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCR22Y
250 mL	Plastic bottle	SPPLCR22T
500 mL	Plastic bottle	SPPLCR22X

Density at 20°C: 1.02
Risk: R36/38
Safety: S26

Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCR12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Chromium standard metal solution 1000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCR92X

Density at 20°C: 1
Risk: R20/21/22
Safety: S36/37

Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCR23Y
500 mL	Plastic bottle	SPPLCR23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCR13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 10 000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCR93X

Density at 20°C: 1
Risk: R20/21/22
Safety: S36/37

Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLCR22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Chromium(III) chloride hexahydrate SLR
extra pure

Specified

packaging		product code
100 g	Glass packaging	C/5480/48
500 g	Glass packaging	C/5480/53

$CrCl_3.6H_2O$
CAS: 10060-12-5
MW: 266.45
Density at 20°C: 1.76
Melting point: 83°C

HS-Nr: 28273985
EINECS: 233-038-3
Risk: R22, R36/37/38
Safety: S24/25

Xn

Assay: >95%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<200 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<200 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<200 ppm		

Chromium(III) nitrate monohydrate SLR
extra pure

Specified

packaging		product code
500 g	Glass packaging	C/5560/53

$Cr(NO_3)_3.9H_2O$
CAS: 7789-02-8
MW: 400.15
Boiling pressure: 760 mmHg
Melting point: 60°C
ADR/RID: 5.1/III

UN: 2720
HS-Nr: 28342980
EINECS: 236-921-1
Risk: R8, R22
Safety: S17

O Xn

Assay: >95%

Guaranteed analysis

Iron (Fe)	<500 ppm	Total chloride (Cl)	<0.003%
Sulfate (SO_4)	<0.01%		

Chromium(III) oxide, green SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	C/5680/53

Cr_2O_3
CAS: 1308-38-9
MW: 151.99
Density at 20°C: 5.21
Boiling point: 4000°C

Boiling pressure: 760 mmHg
Melting point: 2435°C
HS-Nr: 38220000
EINECS: 215-160-9
Safety: S24/25

Chromium(VI) oxide SLR
extra pure

Specified

packaging		product code
250 g	Plastic jar	C/5880/50
500 g	Plastic jar	C/5880/53

CrO_3
CAS: 1333-82-0
MW: 99.99
Density at 20°C: 2.7
Melting point: 196°C
ADR/RID: 6.1(8)/II
UN: 1463

HS-Nr: 28191000
EINECS: 215-607-8
Risk: R45, R46, R9, R24/25, R26, R35, R42/43, R48/23, R50/53, R62
Safety: S53, S45, S60, S61

O T+ N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<2000 ppm
Copper (Cu)	<200 ppm	Total chloride (Cl)	<0.14%
Iron (Fe)	<200 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<100 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<140 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<140 ppm

Chromium(VI) oxide
Technical

packaging		product code
500 g	Glass packaging	C/5840/53
2.5 kg	Plastic jar	C/5840/62

CrO_3
CAS: 1333-82-0
MW: 99.99
Density at 20°C: 2.7
Melting point: 196°C
ADR/RID: 6.1(8)/II
UN: 1463

HS-Nr: 28191000
EINECS: 215-607-8
Risk: R45, R46, R9, R24/25, R26, R35, R42/43, R48/23, R50/53, R62
Safety: S53, S45, S60, S61

O T+ N

Assay: >95%

Chromium(III) potassium sulfate dodecahydrate SLR
extra pure

Specified

packaging		product code
500 g	Plastic Jar	C/5720/53

$KCr(SO_4)_2.12H_2O$
CAS: 7788-99-0
MW: 499.39
Density at 20°C: 1.83

Melting point: 89°C
HS-Nr: 28333000
Risk: R36/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<1000 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<200 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<200 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<100 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm

Chromotropic acid sodium salt dihydrate SLR
extra pure, for formaldehyde determination

Specified

packaging		product code
25 g	Plastic jar	C/6002/46

$C_{10}H_6O_8S_2Na_2.2H_2O$
CAS: 5808-22-0
MW: 400.28
HS-Nr: 29089910

EINECS: 204-972-9
Risk: R49, R8, R25, R35, R43, R50/53

Guaranteed analysis

IR Analysis	Conform

Cinnamaldehyde SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	C/6098/08

C_9H_8O
CAS: 104-55-2
MW: 132.16

HS-Nr: 29122900
EINECS: 203-213-9
Risk: R36/37/38

Xi

Assay: >98%

Citric acid, anhydrous SLR, Eur.Ph., BP,USP
extra pure

Specified

packaging		product code
500 g	Plastic jar	C/6240/53

$C_6H_8O_7$
CAS: 77-92-9
MW: 192.13
Melting point: 153 to 154.5°C
Flash point: 100°C

HS-Nr: 29181400
EINECS: 201-069-1
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Citric acid monohydrate — Certified
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
500 g	Plastic jar	C/6230/53

Xi

$C_6H_8O_7.H_2O$
CAS: 5949-29-1
MW: 210.14
Density at 20°C: 1.54
Melting point: 135 to 152°C

Flash point: 173.9°C
HS-Nr: 29181400
Risk: R36/37/38, R41
Safety: S26, S37/39

Assay: >99.8%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<1 ppm
Iron (Fe)	<1 ppm	Total chloride (Cl)	<0.0005%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

254 nm	<0.5 A.U.	270 nm	<0.1 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Citric acid monohydrate — SLR
extra pure, granular

Specified LR

packaging		product code
500 g	Plastic jar	C/6160/53
1 kg	Plastic jar	C/6160/60
2.5 kg	Plastic jar	C/6160/62
5 kg	Plastic drum	C/6160/65
25 kg	Fibre Keg	C/6160/70

Xi

$C_6H_8O_7.H_2O$
CAS: 5949-29-1
MW: 210.14
Density at 20°C: 1.54
Melting point: 135 to 152°C

Flash point: 173.9°C
HS-Nr: 29181400
Risk: R36/37/38, R41
Safety: S26, S37/39

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<10 ppm

Cleve's acid *See 1-Naphthylamine-7-sulfonic acid, page 171*

Citric acid monohydrate
For foodstuffs analysis, low in lead

packaging		product code
500 g	Plastic jar	C/6180/53

Xi

$C_6H_8O_7.H_2O$
CAS: 5949-29-1
MW: 210.14
Density at 20°C: 1.54
Melting point: 135 to 152°C

Flash point: 173.9°C
HS-Nr: 29181400
Risk: R36/37/38, R41
Safety: S26, S37/39

Assay: >99.8%

Guaranteed analysis

Lead (Pb) ..... <0.5 ppm

Clove oil — SLR
extra-pure

packaging		product code
100 mL	Glass bottle	C/6280/05

CAS: 8000-34-8
HS-Nr: 38220000
Risk: R36/38

Guaranteed analysis

Density 20°C	1.041-1.054	Refractive index	1.528-1.537

Citric acid monohydrate — Certified AR ,Eur.Ph.,USP
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	C/6200/53
1 kg	Plastic jar	C/6200/60
2.5 kg	Plastic jar	C/6200/62
5 kg	Plastic drum	C/6200/65
25 kg	Fibre Keg	C/6200/70

Xi

$C_6H_8O_7.H_2O$
CAS: 5949-29-1
MW: 210.14
Density at 20°C: 1.54
Melting point: 135 to 152°C

Flash point: 173.9°C
HS-Nr: 29181400
Risk: R36/37/38, R41
Safety: S26, S37/39

Assay: >99.8%

Guaranteed analysis

Carbonisable substance (standard Ph.Eur USP)	Conform	Potassium (K)	<10 ppm
		Sodium (Na)	<10 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<0.5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<1 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<1 ppm
Oxalate (C_2O_4)	<0.005 %		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Cobalt standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8020/05
500 mL	Plastic bottle	J/8020/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342910

Risk: R34
Safety: S23, S26, S36, S45

Xn C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8251/08

ADR/RID: 8/
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

Xn C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8250/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342910
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCO22Y
250 mL	Plastic bottle	SPPLCO22T
500 mL	Plastic bottle	SPPLCO22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCO12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCO23Y
500 mL	Plastic bottle	SPPLCO23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLCO22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Cobalt
extra pure, metal powder — SLR

Specified LR

packaging		product code
100 g	Plastic jar	C/6360/48

Co
CAS: 7440-48-4
MW: 58.93
ADR/RID: 4.1/III
UN: 3089
HS-Nr: 81051010
EINECS: 231-158-0
Risk: R42/43
Safety: S22, S24, S37
Xn

Cobalt(II) acetate tetrahydrate
pure

packaging		product code
250 g	Plastic jar	C/6400/50

$C_4H_6CoO_4.4H_2O$
CAS: 6147-53-1
MW: 249.08
Melting point: 140°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 29152900
Risk: R22, R40, R42/43, R50/53
Safety: S22, S24, S29, S36/37, S45, S61
Xn
N

Cobalt(II) chloride anhydrous
extra pure — SLR

Specified LR

packaging		product code
100 g	Plastic jar	C/6600/48

$CoCl_2$
CAS: 7646-79-9
MW: 129.84
Density at 20°C: 3.35
Boiling point: 1049°C
Boiling pressure: 760 mmHg
Melting point: 735°C
ADR/RID: 6.1/II
UN: 2923
HS-Nr: 28273930
EINECS: 231-589-4
Risk: R49, R22, R42/43, R50/53
Safety: S53, S22, S45, S60, S61
T
N

Cobalt(II) chloride hexahydrate
for analysis — Certified AR

AR

packaging		product code
100 g	Plastic jar	C/6560/48
500 g	Plastic jar	C/6560/53
1 kg	Plastic jar	C/6560/60

$CoCl_2.6H_2O$
CAS: 7791-13-1
MW: 237.93
Melting point: 86°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 28273930
Risk: R49, R22, R42/43, R50/53
Safety: S53, S22, S45, S60, S61
T
N

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	4 to 6	Nickel (Ni)	<0.01%
Aluminium (Al)	<2 ppm	Potassium (K)	<20 ppm
Barium (Ba)	<2 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<100 ppm
Calcium (Ca)	<20 ppm	Strontium (Sr)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<5 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<20 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<20 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<0.001%	Zinc (Zn)	<20 ppm
Molybdenum (Mo)	<1 ppm		

Lot analysis on the label.

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Cobalt(II) chloride hexahydrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	C/6520/48
500 g	Plastic jar	C/6520/53
1 kg	Plastic jar	C/6520/60

$CoCl_2.6H_2O$
CAS: 7791-13-1
MW: 237.93
Melting point: 86°C
ADR/RID: 9/III

UN: 3077
HS-Nr: 38220000
Risk: R49, R22, R42/43, R50/53
Safety: S53, S22, S45, S60, S61

T N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<500 ppm		

Cobalt(II) nitrate hexahydrate — Certified AR
for analysis

AR

packaging		product code
100 g	Plastic jar	C/6680/48
250 g	Plastic jar	C/6680/50

$Co(NO_3)_2.6H_2O$
CAS: 10026-22-9
MW: 291.03
Density at 20°C: 1.88
Melting point: 55°C
ADR/RID: 5.1/II

UN: 1477
HS-Nr: 28342910
Risk: R8, R22, R36/37/38, R40, R42/43
Safety: S17, S22, S26, S36/37/39, S45

O Xn

Assay: 99 to 101%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Nickel (Ni)	<0.01%
Ammonium (NH_4)	<0.05%	Potassium (K)	<20 ppm
Barium (Ba)	<2 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<500 ppm
Calcium (Ca)	<20 ppm	Strontium (Sr)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<20 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<100 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<0.002%	Zinc (Zn)	<20 ppm

Lot analysis on the label.

Cobalt(II) nitrate hexahydrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	C/6640/48
500 g	Plastic jar	C/6640/53

$Co(NO_3)_2.6H_2O$
CAS: 10026-22-9
MW: 291.03
Density at 20°C: 1.88
Melting point: 55°C
ADR/RID: 5.1/II

UN: 1477
HS-Nr: 28342910
Risk: R8, R22, R36/37/38, R40, R42/43
Safety: S17, S22, S26, S36/37/39, S45

O Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<100 ppm

Cobalt(II) sulfate — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/6840/50
500 g	Plastic jar	C/6840/53

$CoSO_4.7H_2O$
CAS: 10026-24-1
MW: 281.09
Density at 20°C: 2.03
Melting point: 98°C

ADR/RID: 6.1/II
UN: 3288
HS-Nr: 28332930
Risk: R49, R22, R42/43, R50/53
Safety: S53, S22, S45, S60, S61

T N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<500 ppm		

2.4,6-Collidine
pure

packaging		product code
100 mL	Coated Glass Bottle	C/6940/PB05

$C_8H_{11}N$
CAS: 108-75-8
MW: 121.18
Density at 20°C: 0.91
Boiling point: 171 to 172°C
Boiling pressure: 760 mmHg
Melting point: -43°C

Flash point: 57°C
ADR/RID: 3(6.1)/III
UN: 1992
HS-Nr: 29333990
EINECS: 203-613-3
Risk: R22

Xn

Assay (GC): >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.4 to 1.6

Collodion
pure

packaging		product code
500 mL	Glass bottle	C/7000/08

Density at 20°C: 0.75 to 0.85
ADR/RID: 3/II
UN: 2059

HS-Nr: 39122011
Risk: R12, R18, R19
Safety: S9, S16, S29, S33

F+

Congo red C.I. 22120
pure, pH and adsorption indicator

packaging		product code
25 g	Glass packaging	C/7020/46

$C_{32}H_{22}N_6Na_2O_6S_2$
CAS: 573-58-0
MW: 696.65
Boiling pressure: 760 mmHg
Melting point: >360°C

HS-Nr: 38220000
EINECS: 209-358-4
Risk: R45, R63
Safety: S53, S45

T

Copper standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8256/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8025/05
500 mL	Plastic bottle	J/8025/08
1 L	Plastic bottle	J/8025/15

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8255/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCU22Y
250 mL	Plastic bottle	SPPLCU22T
500 mL	Plastic bottle	SPPLCU22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCU12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLCU23Y
500 mL	Plastic bottle	SPPLCU23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLCU13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLCU22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Copper
extra pure, metal powder SLR

Specified LR

packaging		product code
500 g	Glass packaging	C/7120/53

Cu
CAS: 7440-50-8
MW: 63.54
Density at 20°C: 8.92
Boiling point: 2595°C
Boiling pressure: 760 mmHg
Melting point: 1083°C
HS-Nr: 74061000
EINECS: 231-159-6
Safety: S24/25

Copper
extra pure, metal granular SLR

Specified LR

packaging		product code
250 g	Plastic jar	C/7170/50

Cu
CAS: 7440-50-8
MW: 63.54
Density at 20°C: 8.92
Boiling point: 2595°C
Boiling pressure: 760 mmHg
Melting point: 1083°C
HS-Nr: 74061000
EINECS: 231-159-6
Safety: S24/25

Copper
extra pure, metal turning SLR

Specified LR

packaging		product code
500 g	Plastic jar	C/7160/53
1 kg	Plastic jar	C/7160/60

Cu
CAS: 7440-50-8
MW: 63.54
Density at 20°C: 8.92
Boiling point: 2595°C
Boiling pressure: 760 mmHg
Melting point: 1083°C
HS-Nr: 74061000
EINECS: 231-159-6
Safety: S24/25

Copper
Technical, metal foil (about 0.1 mm)

packaging		product code
250 g	Cardboard tube	C/7050/50
500 g	Cardboard tube	C/7050/53

Cu
CAS: 7440-50-8
MW: 63.54
Density at 20°C: 8.92
Boiling point: 2595°C

Boiling pressure: 760 mmHg
Melting point: 1083°C
HS-Nr: 38220000
EINECS: 231-159-6
Safety: S24/25

Copper
pure, metal wire about 0.91 mm(20 swg)

packaging		product code
500 g	Box	C/7210/53

Cu
CAS: 7440-50-8
MW: 63.54
Density at 20°C: 8.92
Boiling point: 2595°C

Boiling pressure: 760 mmHg
Melting point: 1083°C
HS-Nr: 74061000
EINECS: 231-159-6
Safety: S24/25

Copper(II) acetate monohydrate — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic Jar	C/7760/50
500 g	Plastic Jar	C/7760/53

$C_4H_6CuO_4,H_2O$
CAS: 142-71-2
MW: 199.65
Melting point: 115°C

HS-Nr: 29152900
EINECS: 205-553-3
Risk: R22

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<100 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<200 ppm		

Copper(II) bromide — SLR
extra pure

Specified LR

packaging		product code
250 g	Glass packaging	C/7840/50

$CuBr_2$
CAS: 7789-45-9
MW: 233.36
Density at 20°C: 4.77
Boiling point: 900°C
Boiling pressure: 760 mmHg

Melting point: 498°C
HS-Nr: 28275900
EINECS: 232-167-2
Risk: R36/37/38
Safety: S24/25

Xi

Copper(II) carbonate basic — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/7880/50
500 g	Plastic jar	C/7880/53
25 kg	Fibre Keg	C/7880/70

$CuCO_3.Cu(OH)_2$
CAS: 12069-69-1
MW: 221.1
Density at 20°C: 4

Melting point: 200 °C
HS-Nr: 28369911
EINECS: 235-113-6
Risk: R22

Xn

Assay: 54 to 56%

Guaranteed analysis

Iron (Fe)	<2000 ppm	Sulfate (SO_4)	<0.2%

Copper(II) chloride dihydrate — Certified AR
for analysis

Certified AR

packaging		product code
100 g	Plastic jar	C/7960/48
1 kg	Plastic jar	C/7960/60

$CuCl_2.2H_2O$
CAS: 10125-13-0
MW: 170.48
Density at 20°C: 2.54
Boiling pressure: 760 mmHg
Melting point: 100 °C

ADR/RID: 8/III
UN: 2802
HS-Nr: 28273985
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	3 to 4	Sodium (Na)	<20 ppm
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<20 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<5 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Lithium (Li)	<2 ppm
Arsenic (As)	<2 ppm	Manganese (Mn)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<2 ppm	Titanium (Ti)	<2 ppm
Chromium (Cr)	<2 ppm	Vanadium (V)	<2 ppm
Cobalt (Co)	<2 ppm		

Lot analysis on the label.

Copper(II) chloride dihydrate — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/7920/50
500 g	Plastic jar	C/7920/53
5 kg	Plastic drum	C/7920/65

$CuCl_2.2H_2O$
CAS: 10125-13-0
MW: 170.48
Density at 20°C: 2.54
Boiling pressure: 760 mmHg
Melting point: 100 °C

ADR/RID: 8/III
UN: 2802
HS-Nr: 28273985
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<100 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<100 ppm

Copper(I) cyanide
pure

packaging		product code
500 g	Plastic jar	C/8760/53

CuCN
CAS: 544-92-3
MW: 89.56
Density at 20°C: 2.92
Melting point: 474°C
ADR/RID: 6.1/II

UN: 1587
HS-Nr: 28371900
EINECS: 208-883-6
Risk: R26/27/28, R32, R50/53
Safety: S7, S28A, S29, S45, S60, S61

T+ N

Copper(I) iodide — SLR
extra pure

Specified LR

packaging		product code
100 g	Glass packaging	C/8800/48

CuI
CAS: 7681-65-4
MW: 190.44
Density at 20°C: 5.62
Boiling point: 1290°C
Boiling pressure: 760 mmHg

Melting point: 605°C
HS-Nr: 28276000
EINECS: 231-674-6
Risk: R36/37/38
Safety: S24/25

Xi

Copper(II) nitrate trihydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Glass packaging	C/8080/53

$Cu(NO_3)_2.3H_2O$
CAS: 10031-43-3
MW: 241.6
Boiling pressure: 760 mmHg
Melting point: 114°C
ADR/RID: 5.1/II

UN: 1477
HS-Nr: 28342930
EINECS: 221-838-5
Risk: R22, R36/38
Safety: S26, S37/39

Xn

Assay: >95%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<100 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<200 ppm		

Copper(I) oxide — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/8840/50

Cu_2O
CAS: 1317-39-1
MW: 143.08
Boiling point: 1800°C
Boiling pressure: 760 mmHg
Melting point: 1232°C

ADR/RID: 9/III
UN: 3077
HS-Nr: 28255000
EINECS: 215-270-7
Risk: R22, R50/53
Safety: S22, S60, S61

Xn N

Copper(II) oxide
Technical, powder

packaging		product code
500 g	Glass packaging	C/8200/53

CuO
CAS: 1317-38-0
MW: 79.54
Melting point: 1326°C

HS-Nr: 28255000
EINECS: 215-269-1
Risk: R22

Xn

Assay: >98%

Copper(II) oxide
pure, wire form

packaging		product code
100 g	Plastic jar	C/8320/48
500 g	Plastic jar	C/8320/53

CuO
CAS: 1317-38-0
MW: 79.54
Melting point: 1326°C

HS-Nr: 28255000
EINECS: 215-269-1
Risk: R22

Xn

Copper(II) sulfate anhydrous — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/8600/50
1 kg	Plastic jar	C/8600/60

$CuSO_4$
CAS: 7758-98-7
MW: 159.61
Melting point: 200 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 28332500
EINECS: 231-847-6
Risk: R22, R36/38, R50/53
Safety: S22, S60, S61

Xn N

Assay: >98%

Guaranteed analysis

Iron (Fe)	<1000 ppm	Total chloride (Cl)	<0.01%
Lead (Pb)	<100 ppm		

Copper(II) sulfate pentahydrate — Certified AR
for analysis

Certified AR

packaging		product code
250 g	Plastic jar	C/8560/50
500 g	Plastic jar	C/8560/53
1 kg	Plastic jar	C/8560/60
3 kg	Plastic jar	C/8560/63
5 kg	Plastic jar	C/8560/65
25 kg	Plastic screw top Keg	C/8560/70

$CuSO_4.5H_2O$
CAS: 7758-99-8
MW: 249.68
Melting point: 110 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 28332500
Risk: R22, R36/38, R50/53
Safety: S22, S60, S61

Xn N

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	3.5 to 4	Sodium (Na)	<20 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<20 ppm	Total nitrogen (N)	<20 ppm
Lead (Pb)	<50 ppm	Total phosphorus (P)	<20 ppm
Magnesium (Mg)	<5 ppm	Total silicon (Si)	<20 ppm
Potassium (K)	<5 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Lithium (Li)	<2 ppm
Arsenic (As)	<2 ppm	Manganese (Mn)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<2 ppm	Titanium (Ti)	<2 ppm
Chromium (Cr)	<2 ppm	Vanadium (V)	<2 ppm
Cobalt (Co)	<2 ppm		

Lot analysis on the label.

Copper(II) sulfate pentahydrate — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	C/8520/50
500 g	Plastic jar	C/8520/53
1 kg	Plastic jar	C/8520/60
3 kg	Plastic jar	C/8520/63
5 kg	Plastic jar	C/8520/65

$CuSO_4.5H_2O$
CAS: 7758-99-8
MW: 249.68
Melting point: 110 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 28332500
Risk: R22, R36/38, R50/53
Safety: S22, S60, S61

Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<200 ppm	Total phosphorus (P)	<100 ppm
Magnesium (Mg)	<50 ppm	Total silicon (Si)	<100 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<100 ppm

Copper(II) sulfate pentahydrate
Technical

packaging		product code
1 kg	Plastic jar	C/8480/60
3 kg	Plastic jar	C/8480/63
5 kg	Plastic jar	C/8480/65

$CuSO_4.5H_2O$
CAS: 7758-99-8
MW: 249.68
Melting point: 110 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 28332500
Risk: R22, R36/38, R50/53
Safety: S22, S60, S61

Xn N

Creatinine
pure

packaging		product code
25 g	Plastic jar	C/7240/46

$C_4H_7N_3O$
CAS: 60-27-5
MW: 113.12
Melting point: 255 °C

Flash point: +290°C
HS-Nr: 29332990
EINECS: 200-466-7
Safety: S24/25

Assay: >98%

o-Cresol
pure

packaging		product code
500 mL	Coated Glass Bottle	C/7320/PB08

C_7H_8O
CAS: 95-48-7
MW: 108.14
Density at 20°C: 1.04
Boiling point: 191°C
Boiling pressure: 760 mmHg
Melting point: 30 to 32°C

Flash point: 81°C
ADR/RID: 6.1(8)/II
UN: 3455
HS-Nr: 29071200
EINECS: 202-423-8
Risk: R24/25, R34
Safety: S36/37/39, S45

T

Guaranteed analysis
Other impurities ..... <2%

m-Cresol
pure

packaging		product code
500 mL	Coated Glass Bottle	C/7360/PB08
2.5 L	Coated Glass Bottle	C/7360/PB17

C_7H_8O
CAS: 108-39-4
MW: 108.14
Density at 20°C: 1.033 to 1.035
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: 8 to 10°C

Flash point: 86°C
ADR/RID: 6.1(8)/II
UN: 2076
HS-Nr: 29071200
EINECS: 203-577-9
Risk: R24/25, R34
Safety: S36/37/39, S45

T

Assay (GC): >98%

Guaranteed analysis
Other isomers ..... <2%

p-Cresol
extra pure SLR

Specified LR

packaging		product code
500 g	Coated Glass Bottle	C/7400/53

C_7H_8O
CAS: 106-44-5
MW: 108.14
Density at 20°C: 1.03
Boiling point: 202°C
Boiling pressure: 760 mmHg
Melting point: 32 to 34°C

Flash point: 89°C
ADR/RID: 6.1(8)/II
UN: 3455
HS-Nr: 29071200
EINECS: 203-398-6
Risk: R24/25, R34
Safety: S36/37/39, S45

T

Assay (GC): >98%

Guaranteed analysis
Other isomers ..... <2%

Cresol purple
pure, solution 0.04 %, pH indicator

packaging		product code
100 mL	Glass bottle	C/7450L/05

CAS: 2303-01-7
HS-Nr: 29349099
EINECS: 218-960-6
Risk: R24/25, R34

Cresol red
pure, solid, indicator grade

packaging		product code
5 g	Glass packaging	C/7460/44

$C_{21}H_{18}O_5S$
CAS: 1733-12-6
MW: 382.42
Melting point: 290 °C

HS-Nr: 29071200
EINECS: 217-064-2
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Cresol red
pure, solution 0.02 % pH indicator

packaging		product code
500 mL	Glass bottle	C/7460L/08

Density at 20°C: 0.95
Flash point: 32°C
ADR/RID: 3/III
UN: 1170

HS-Nr: 38220000
Risk: R10
Safety: S16, S24/25

o-Cresolphthaleindi-(methyliminodi-acetic acid)
pure, metal indicator

packaging		product code
5 g	Glass packaging	C/7440/44

$C_{32}H_{32}N_2O_{12}$
CAS: 2411-89-4
MW: 636.61
Melting point: 181 °C

HS-Nr: 38220000
EINECS: 219-318-8
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

o-Cresolsulfonphthaleindi-(methyl-iminodiacetic acid) sodium salt
pure, Special reagent for metals (Xylenol orange)

packaging		product code
1 g	Glass packaging	C/7480/43
5 g	Glass packaging	C/7480/44

$C_{31}H_{31}N_2NaO_{13}S$
CAS: 1611-35-4
MW: 694.65

Melting point: 222°C
HS-Nr: 29349090
EINECS: 216-553-8

Guaranteed analysis
IR Analysis ..... Conform

18-Crown-6-ether (1.4,7.10.13.16-hexaoxacyclooctadecane) SLR
extra pure

Specified LR

packaging		product code
10 g	Glass bottle	C/7551/45

$C_{12}H_{24}O_6$
CAS: 17455-13-9
MW: 264.32
Melting point: 36 to 40°C
Flash point: >110°C

HS-Nr: 29329030
EINECS: 241-473-5
Risk: R20/22, R36
Safety: S26, S39

Xn

Guaranteed analysis
IR Analysis ..... Conform

Curcumin
pure, crystalline

packaging		product code
1 g	Glass tube	C/8850/43

$C_{21}H_{20}O_6$
CAS: 458-37-7
MW: 368.39
Melting point: 183°C

HS-Nr: 29145000
EINECS: 207-280-5
Safety: S24/25

2.5-Cyclohexadiene-1.4-dione

See p-Benzoquinone, page 39

Cyclohexane *for HPLC* — Certified

HPLC

packaging		product code
1 L	Glass bottle	**C/8936/15**
2.5 L	Glass bottle	**C/8936/17**
2.5 L	Coated Glass Bottle	**C/8936/PB17**
200 L	Metal drum	**C/8936/27**
200 L	Stainless steel drum	**C/8936/27SS**

C_6H_{12}
CAS: 110-82-7
MW: 84.16
Density at 20°C: 0.77
Boiling point: 81°C
Boiling pressure: 760 mmHg
Melting point: 6.5°C
Flash point: -18°C

ADR/RID: 3/II
UN: 1145
HS-Nr: 29021100
EINECS: 203-806-2
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S25, S33, S60, S61, S62

F Xn N

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.3 A.U.	230 nm	<0.02 A.U.
210 nm	<0.2 A.U.	240 nm	<0.005 A.U.
220 nm	<0.1 A.U.	250 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Cyclohexane *for residue and pesticide analysis* — Distol

Distol

packaging		product code
1 L	Glass bottle	**C/8933/15**
2.5 L	Glass bottle	**C/8933/17**

C_6H_{12}
CAS: 110-82-7
MW: 84.16
Density at 20°C: 0.77
Boiling point: 81°C
Boiling pressure: 760 mmHg
Melting point: 6.5°C
Flash point: -18°C

ADR/RID: 3/II
UN: 1145
HS-Nr: 29021100
EINECS: 203-806-2
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S25, S33, S60, S61, S62

F Xn N

Assay (GC): >99.8%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.02%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile: (1) 50°C, 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Cyclohexane *for analysis* — Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	**C/8921/15**
2.5 L	Glass bottle	**C/8921/17**
2.5 L	Coated Glass Bottle	**C/8921/PB17**
5 L	Metal can	**C/8921/21**
25 L	Metal drum	**C/8921/25**
200 L	Metal drum	**C/8921/27**

C_6H_{12}
CAS: 110-82-7
MW: 84.16
Density at 20°C: 0.77
Boiling point: 81°C
Boiling pressure: 760 mmHg
Melting point: 6.5°C
Flash point: -18°C

ADR/RID: 3/II
UN: 1145
HS-Nr: 29021100
EINECS: 203-806-2
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S25, S33, S60, S61, S62

F Xn N

Assay (GC): >99.8%

Guaranteed analysis

Colour	<10 APHA	Magnesium (Mg)	<0.1 ppm
Residue after evaporation	<10 ppm	Potassium (K)	<0.2 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Sodium (Na)	<1 ppm
		Total phosphorus (P)	<0.1 ppm
Water	<0.01%	Total silicon (Si)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Zinc (Zn)	<0.2 ppm
Copper (Cu)	<0.02 ppm	Benzene	<0.005 %
Iron (Fe)	<0.2 ppm	Cyclohexene	<0.005 %
Lead (Pb)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Cyclohexane *extra pure* — SLR

Specified LR

packaging		product code
2.5 L	Glass bottle	**C/8920/17**
2.5 L	Coated Glass Bottle	**C/8920/PB17**
5 L	Metal can	**C/8920/21**
25 L	Metal drum	**C/8920/25**

C_6H_{12}
CAS: 110-82-7
MW: 84.16
Density at 20°C: 0.77
Boiling point: 81°C
Boiling pressure: 760 mmHg
Melting point: 6.5°C
Flash point: -18°C

ADR/RID: 3/II
UN: 1145
HS-Nr: 29021100
EINECS: 203-806-2
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S25, S33, S60, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Colour	<20 APHA	Magnesium (Mg)	<1 ppm
Residue after evaporation	<50 ppm	Potassium (K)	<2 ppm
Water	<0.05%	Sodium (Na)	<5 ppm
Calcium (Ca)	<2 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<5 ppm		

see page 279 for suitable Tap & accessories.

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Read more on page 266

Cyclohexanol
pure

packaging		product code
500 mL	Coated Glass Bottle	C/9000/PB08
2.5 L	Coated Glass Bottle	C/9000/PB17

$C_6H_{12}O$
CAS: 108-93-0
MW: 100.16
Density at 20°C: 0.96
Boiling point: 161°C
Boiling pressure: 760 mmHg
Melting point: 23°C
Flash point: 67°C
HS-Nr: 29061200
EINECS: 203-630-6
Risk: R20/22, R37/38
Safety: S24/25

Xn

Assay (GC): >98%

Guaranteed analysis
Residue after evaporation ..... <0.01%

Cyclohexanone
for analysis — Certified AR

packaging		product code
500 mL	Coated Glass Bottle	C/9050/PB08
2.5 L	Coated Glass Bottle	C/9050/PB17

$C_6H_{10}O$
CAS: 108-94-1
MW: 98.15
Density at 20°C: 0.95
Boiling point: 155°C
Boiling pressure: 760 mmHg
Melting point: -47°C
Flash point: 46°C
ADR/RID: 3/III
UN: 1915
HS-Nr: 29142200
EINECS: 203-631-1
Risk: R10, R20
Safety: S25

Xn

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.003 meq/g	Lead (Pb)	<0.1 ppm
Colour	<10 APHA	Total phosphorus (P)	<2 ppm
Residue after evaporation	<0.02%	Total sulphur (S)	<5 ppm
Water	<0.2%	Cyclohexane	<0.01%
Copper (Cu)	<0.05 ppm	Cyclohexanol	<0.2%
Iron (Fe)	<0.5 ppm		

Lot analysis on the label.

Cyclohexanone
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	C/9040/PB08
2.5 L	Coated Glass Bottle	C/9040/PB17
5 L	Metal can	C/9040/21
25 L	Metal drum	C/9040/25

$C_6H_{10}O$
CAS: 108-94-1
MW: 98.15
Density at 20°C: 0.95
Boiling point: 155°C
Boiling pressure: 760 mmHg
Melting point: -47°C
Flash point: 46°C
ADR/RID: 3/III
UN: 1915
HS-Nr: 29142200
EINECS: 203-631-1
Risk: R10, R20
Safety: S25

Xn

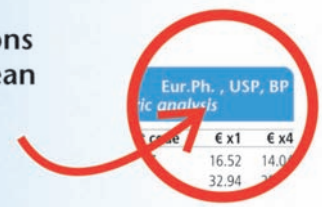
Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.03 meq/g	Magnesium (Mg)	<1 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<0.05%	Sodium (Na)	<50 ppm
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<1 ppm

see page 279 for suitable Tap & accessories.

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Cyclohexene
extra pure — SLR

packaging		product code
500 mL	Glass bottle	C/9080/08
2.5 L	Glass bottle	C/9080/17

C_6H_{10}
CAS: 110-83-8
MW: 82.15
Density at 20°C: 0.81
Boiling point: 83°C
Boiling pressure: 760 mmHg
Melting point: -104°C
Flash point: -20°C
ADR/RID: 3/II
UN: 2256
HS-Nr: 29021980
EINECS: 203-807-8
Risk: R11, R21/22, R65
Safety: S16, S36/37

F Xn

Assay (GC): >99%

L-Cysteine
pure

packaging		product code
25 g	Plastic jar	C/9150/46

$C_3H_7NO_2S$
CAS: 52-90-4
MW: 121.16
Melting point: 220 °C
HS-Nr: 29309010
EINECS: 200-158-2
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >98%

Guaranteed analysis

Residue after ignition	<0.1%	Iron (Fe)	<10 ppm
Specific rotation (α 20/D)	+6.5° to +8°	Lead (Pb)	<10 ppm

L-Cysteine hydrochloride monohydrate
pure

packaging		product code
100 g	Plastic jar	C/9152/48

$C_3H_7NO_2S.HCl.H_2O$
CAS: 52-89-1
MW: 175.63
HS-Nr: 29309010
EINECS: 200-157-7
Safety: S24/25

Assay: >98.5%

Guaranteed analysis

Residue after ignition	<0.1%	Iron (Fe)	<30 ppm
Specific rotation (α 20/D)	+5.5° to +7°	Lead (Pb)	<10 ppm
Ammonium (NH_4)	<0.03%	Sulfate (SO_4)	<0.02%
Arsenic (As)	<1 ppm		

L-Cystine
pure

packaging		product code
25 g	Plastic jar	C/9160/46

$C_6H_{12}N_2O_4S_2$
CAS: 56-89-3
MW: 240.29
Melting point: 260-261°C
HS-Nr: 29309010
EINECS: 200-296-3
Safety: S24/25

Assay: >99%

Guaranteed analysis

Residue after ignition	<0.5%	Iron (Fe)	<20 ppm
Specific rotation (α 20/D)	<-210°	Lead (Pb)	<10 ppm
Water	<0.001%		

Dansyl chloride
extra pure — SLR

packaging		product code
5 g	Plastic jar	D/0008/44

$C_{12}H_{12}ClNO_2S$
CAS: 605-65-2
MW: 269.75
Boiling pressure: 760 mmHg
Melting point: 71 to 74°C
ADR/RID: 8/II
UN: 3261
HS-Nr: 38220000
EINECS: 210-092-6
Risk: R36/37/38
Safety: S24/25

Xi

Assay: >99%

Decahydronaphthalene
Technical

packaging		product code
2.5 L	Glass bottle	D/0050/17

$C_{10}H_{18}$
CAS: 91-17-8
MW: 138.25
Density at 20°C: 0.89
Boiling point: 187°C
Boiling pressure: 760 mmHg
Melting point: -31°C

Flash point: 57°C
ADR/RID: 3/III
UN: 1147
HS-Nr: 29021980
EINECS: 202-046-9
Risk: R36/37/38
Safety: S23, S24/25

Xi

Assay (GC): >98%

n-Decane
Technical

packaging		product code
100 mL	Glass bottle	D/0020/05
500 mL	Glass bottle	D/0020/08

$C_{10}H_{22}$
CAS: 124-18-5
MW: 142.29
Density at 20°C: 0.728 to 0.73
Boiling point: 174°C
Boiling pressure: 760 mmHg
Melting point: -30°C

Flash point: 46°C
ADR/RID: 3/III
UN: 2247
HS-Nr: 29011000
EINECS: 204-686-4
Risk: R10, R65, R66
Safety: S16, S23, S62

Xn

Assay (GC): >98%

1-Decanesulfonic acid sodium salt
for Ion pair chromatography with electrochemical detection

Certified

HPLC electrochemical

packaging		product code
5 g	Glass packaging	D/0035/44

$C_{10}H_{21}NaO_3S$
CAS: 13419-61-9
MW: 244.31
Melting point: >300°C

HS-Nr: 29041000
EINECS: 236-525-9
Safety: S24/25

Assay: >98%

Guaranteed analysis
Electrochemical test ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.05 A.U.

Lot analysis on the label.
EC Specification:
Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-Oxidative
Electrode graphite

1-Decanesulfonic acid sodium salt
for Ion pair chromatography

Certified

HPLC

packaging		product code
25 g	Glass packaging	D/0030/46

$C_{10}H_{21}NaO_3S$
CAS: 13419-61-9
MW: 244.31
Melting point: >300°C

HS-Nr: 29041000
EINECS: 236-525-9
Safety: S24/25

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.05 A.U.

Lot analysis on the label.

Dekalin
pure

packaging		product code
2.5 L	Glass bottle	D/0052/17

$C_{10}H_{18}$
CAS: 91-17-8
MW: 138.25
Density at 20°C: 0.89
Boiling point: 187°C
Boiling pressure: 760 mmHg
Melting point: -31°C

Flash point: 57°C
ADR/RID: 3/III
UN: 1147
HS-Nr: 29021980
EINECS: 202-046-9
Risk: R36/37/38
Safety: S23, S24/25

Xi

Assay (GC): >98%

Devarda's alloy
pure, Silylation reagent

packaging		product code
250 g	Plastic jar	D/0100/50

CAS: 8049-11-4
HS-Nr: 74032900
Risk: R10, R36/37/38

Dextran 150
pure, M.W. 100.000-200.000

packaging		product code
100 g	Plastic jar	D/0122/48

CAS: 9004-54-0
HS-Nr: 39139000
EINECS: 232-677-5
Safety: S24/25

Dextran 70
pure, M.W. 60.000-80.000

packaging		product code
100 g	Plastic jar	D/0124/48

CAS: 9004-54-0
HS-Nr: 39139000
EINECS: 232-677-5
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Dextrin
Technical

packaging		product code
100 g	Plastic jar	D/0130/48

CAS: 9004-53-9
HS-Nr: 35051010
EINECS: 232-675-4
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Conforming to the IR spectrum of reference.

Dextrose
See D(+)-Glucose anhydrous, page 108

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Diacetone alcohol
extra pure SLR

Specified

packaging		product code
500 mL	Glass bottle	D/0150/08

$C_6H_{12}O_2$
CAS: 123-42-2
MW: 116.16
Density at 20°C: 0.936 to 0.942
Boiling point: 166°C
Boiling pressure: 760 mmHg
Melting point: -42.8°C

Flash point: 58°C
ADR/RID: 3/III
UN: 1148
HS-Nr: 29144100
EINECS: 204-626-7
Risk: R36
Safety: S24/25

Xi

Guaranteed analysis
Residue after evaporation ..... <200 ppm Water ..... <0.2%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... <1.425

Diacetyl
extra pure SLR

Specified

packaging		product code
100 mL	Glass bottle	D/0250/05

$C_4H_6O_2$
CAS: 431-03-8
MW: 86.09
Density at 20°C: 0.99
Boiling point: 88°C
Boiling pressure: 760 mmHg
Melting point: -4 to 2°C

Flash point: 7°C
ADR/RID: 3/II
UN: 2346
HS-Nr: 29141900
EINECS: 207-069-8
Risk: R11, R20/21/22, R36/38
Safety: S16, S26, S36/37/39

F Xn

Assay (GC): >98%

N,N'-Diallyltartardiamide
pure

packaging		product code
25 g	Glass bottle	D/0310/46

$C_3H_7NSO_2.HCl.H_2O$
CAS: 28843-34-7
MW: 228.25

HS-Nr: 29241900
Risk: R11

Guaranteed analysis
IR Analysis ..... Conform

1.2-Diaminoethane anhydrous
extra pure SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	D/0370/PB08
2.5 L	Coated Glass Bottle	D/0370/PB17

$C_2H_8N_2$
CAS: 107-15-3
MW: 60.1
Density at 20°C: <0.897
Boiling point: 117 to 118°C
Boiling pressure: 760 mmHg
Melting point: 11°C

Flash point: 34°C
ADR/RID: 3(8)/II
UN: 1604
HS-Nr: 29212100
EINECS: 203-468-6
Risk: R10, R21/22, R34, R42/43
Safety: S23, S26, S36/37/39, S45

C

Assay: >98%

1.2-Di(2-aminoethoxy)ethane-N,N,N,N-tetraacetic acid
pure

packaging		product code
25 g	Plastic Jar	D/0755/46

$C_{14}H_{24}N_2O_{10}$
CAS: 67-42-5
MW: 380.35
Melting point: 240 to 245°C

HS-Nr: 29224980
EINECS: 200-651-2
Safety: S24/25

Assay: >98%

1.6-Diaminohexane
extra pure SLR

Specified

packaging		product code
25 g	Glass packaging	D/0760/46

$C_6H_{16}N_2$
CAS: 124-09-4
MW: 116.21
Boiling point: 204 to 205°C
Boiling pressure: 760 mmHg
Melting point: 38 to 41°C
Flash point: 81°C

ADR/RID: 8/III
UN: 2280
HS-Nr: 29212200
EINECS: 204-679-6
Risk: R21/22, R34, R37
Safety: S22, S26, S36/37/39, S45

C

Assay: 99 to 101%

1.6-Diaminohexane
pure, solution 5% in water

packaging		product code
250 mL	Coated Glass Bottle	D/0765/PB07

Density at 20°C: 0.9944 to 0.9951
ADR/RID: 8/III
UN: 3267
HS-Nr: 29212200

C

L(+)-2.6-Diaminohexanoic acid hydrochloride
See L-Lysine monohydrochloride, page 150

3.7-Diamino-5-phenylphenazinium chloride
See Phenosafranine C.I. 50200, page 196

Diastase
pure, from malt, mixed alpha and beta amylase

packaging		product code
100 g	Plastic jar	D/0800/48

CAS: 9000-92-4
HS-Nr: 35079000
EINECS: 232-567-7

Risk: R42
Safety: S22, S24, S36/37

Xn

Guaranteed analysis
Activity ..... <4 EU/mg Sugar reducer ..... Conform

1.2-Dibromoethane
extra pure SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	D/1250/PB08

$C_2H_4Br_2$
CAS: 106-93-4
MW: 187.88
Density at 20°C: 2.17
Boiling point: 131 to 132°C
Boiling pressure: 760 mmHg
Melting point: 9 to 10°C
Flash point: >104°C

ADR/RID: 6.1/I
UN: 1605
HS-Nr: 29033100
EINECS: 203-444-5
Risk: R45, R23/24/25, R36/37/38, R51/53
Safety: S53, S45, S61

T N

Assay (GC): >98%

Guaranteed analysis
Residue after evaporation ..... <200 ppm

5',5''-Dibromophenolsulfonphthalein
See Bromophenol red, page 43

3',3''-Dibromothymolsulfonephthalein
See Bromothymol blue, page 44

Di-n-butylamine
for HPLC — Certified

HPLC

packaging		product code
250 mL	Coated Glass Bottle	D/1338/PB07

$C_8H_{19}N$
CAS: 111-92-2
MW: 129.25
Density at 20°C: 0.76
Boiling point: 159°C
Boiling pressure: 760 mmHg
Melting point: -62°C
Flash point: 39°C

ADR/RID: 3(8)/II
UN: 2248
HS-Nr: 29211990
EINECS: 203-921-8
Risk: R10, R20/21/22, R34
Safety: S23, S26, S28A, S36/37/39, S45

C

Assay (GC): >99%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.02 M) .... <0.01 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Di-n-butylamine
pure

packaging		product code
500 mL	Coated Glass Bottle	D/1340/PB08

$C_8H_{19}N$
CAS: 111-92-2
MW: 129.25
Density at 20°C: 0.76
Boiling point: 159°C
Boiling pressure: 760 mmHg
Melting point: -62°C
Flash point: 39°C

ADR/RID: 3(8)/II
UN: 2248
HS-Nr: 29211990
EINECS: 203-921-8
Risk: R10, R20/21/22, R34
Safety: S23, S26, S28A, S36/37/39, S45

C

Assay (GC): >98%

Di-n-butylamine phosphate
for HPLC, solution 1.0 M — Certified

HPLC

packaging		product code
100 mL	Glass bottle	D/1341/05

$(CH_3(CH_2)_3)_2NH.H_3PO_4$
HS-Nr: 29071990

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.05 A.U.

Filtered to 0.2 µm.

2.6-Di-tert-butyl-p-cresol
pure

packaging		product code
500 g	Plastic Jar	D/1345/53

$C_{15}H_{24}O$
CAS: 128-37-0
MW: 220.36
Boiling point: 265°C
Boiling pressure: 760 mmHg
Melting point: 69 to 71°C

Flash point: 127°C
HS-Nr: 29071990
EINECS: 204-881-4
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

Save money!
Order 4 bottles in a box

Di-n-butyl ether
pure

packaging		product code
2.5 L	Glass bottle	D/1350/17
200 L	Metal drum	D/1350/27

$C_8H_{18}O$
CAS: 142-96-1
MW: 130.23
Density at 20°C: 0.77
Boiling point: 141°C
Boiling pressure: 760 mmHg
Melting point: -95°C

Flash point: 25°C
ADR/RID: 3/III
UN: 1149
HS-Nr: 29091990
EINECS: 205-575-3
Risk: R10, R36/37/38, R52/53
Safety: S61

Xi

Assay (GC): >99%

see page 279 for suitable Tap & accessories.

Di-n-butyl phthalate
extra pure — SLR

Specified LR

packaging		product code
500 mL	Glass bottle	D/1500/08
2.5 L	Glass bottle	D/1500/17
200 L	Metal drum	D/1500/27

$C_{16}H_{22}O_4$
CAS: 84-74-2
MW: 278.35
Density at 20°C: 1.04
Boiling point: 340°C
Boiling pressure: 760 mmHg
Melting point: -35°C

Flash point: 188°C
ADR/RID: 9/III
UN: 3082
HS-Nr: 29173410
EINECS: 201-557-4
Risk: R61, R50, R62
Safety: S53, S45, S61

T N

Assay (GC): >99%

Guaranteed analysis
Acidity ..... <0.003 meq/g Residue after ignition ..... <0.01%

see page 279 for suitable Tap & accessories.

Dichloroacetic acid
extra pure — SLR

Specified LR

packaging		product code
100 mL	Coated Glass Bottle	D/1550/PB05
1 L	Coated Glass Bottle	D/1550/PB15

$C_2H_2Cl_2O_2$
CAS: 79-43-6
MW: 128.94
Density at 20°C: 1.56
Boiling point: 194°C
Boiling pressure: 760 mmHg
Freezing point: 11 to 13°C
Melting point: 911°C

Flash point: >112°C
ADR/RID: 8/II
UN: 1764
HS-Nr: 29154000
EINECS: 201-207-0
Risk: R35, R50
Safety: S26, S45, S61

C N

Assay: >99%

Guaranteed analysis
Sulfate (SO_4) ..... <0.001%

Suitable for DNA synthesis.

Acids, Bases and Water
for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®,
Trace Metal® & Primar Plus® grade.
Read more page 9

1.2-Dichlorobenzene
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	D/1610/08

$C_6H_4Cl_2$
CAS: 95-50-1
MW: 147.01
Density at 20°C: 1.3
Boiling point: 179 to 180°C
Boiling pressure: 760 mmHg
Melting point: -15°C

Flash point: 67°C
ADR/RID: 6.1/III
UN: 1591
HS-Nr: 29036100
EINECS: 202-425-9
Risk: R22, R36/37/38, R50/53
Safety: S23, S60, S61

Xn N

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Manganese (Mn)	<0.02 ppm
Colour	<10 APHA	Molybdenum (Mo)	<0.02 ppm
Residue after evaporation	<20 ppm	Nickel (Ni)	<0.02 ppm
Water	<0.02%	Potassium (K)	<0.2 ppm
Aluminium (Al)	<0.1 ppm	Sodium (Na)	<1 ppm
Barium (Ba)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Titanium (Ti)	<0.02 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<0.2 ppm
Chromium (Cr)	<0.02 ppm	Total silicon (Si)	<0.2 ppm
Cobalt (Co)	<0.05 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Vanadium (V)	<0.02 ppm
Iron (Fe)	<0.5 ppm	Zinc (Zn)	<0.5 ppm
Lead (Pb)	<0.05 ppm	1.3-Dichlorobenzene	<0.1%
Lithium (Li)	<0.02 ppm	1.4-Dichlorobenzene	<0.1%
Magnesium (Mg)	<0.2 ppm		

Lot analysis on the label.

1.2-Dichlorobenzene
extra pure — SLR

packaging		product code
1 L	Glass bottle	D/1600/15
2.5 L	Glass bottle	D/1600/17
2.5 L	Coated Glass Bottle	D/1600/PB17

$C_6H_4Cl_2$
CAS: 95-50-1
MW: 147.01
Density at 20°C: 1.3
Boiling point: 179 to 180°C
Boiling pressure: 760 mmHg
Melting point: -15°C

Flash point: 67°C
ADR/RID: 6.1/III
UN: 1591
HS-Nr: 29036100
EINECS: 202-425-9
Risk: R22, R36/37/38, R50/53
Safety: S23, S60, S61

Xn N

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<1 ppm
Colour	<20 APHA	Potassium (K)	<1 ppm
Residue after evaporation	<200 ppm	Sodium (Na)	<5 ppm
Water	<0.1%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<1 ppm	Other isomers	<2%

1.2-Dichloroethane
for HPLC — Certified

packaging		product code
1 L	Glass bottle	D/1756/15
2.5 L	Glass bottle	D/1756/17
2.5 L	Coated Glass Bottle	D/1756/PB17

$C_2H_4Cl_2$
CAS: 107-06-2
MW: 98.96
Density at 20°C: 1.25
Boiling point: 81 to 85°C
Boiling pressure: 760 mmHg
Melting point: -35°C

Flash point: 13°C
ADR/RID: 3(6.1)/II
UN: 1184
HS-Nr: 29031500
EINECS: 203-458-1
Risk: R45, R11, R22, R36/37/38
Safety: S53, S45

F T

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0015 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

240 nm	<0.15 A.U.	260 nm	<0.005 A.U.
250 nm	<0.05 A.U.	270 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

1.2-Dichloroethane
for analysis — Certified AR

packaging		product code
1 L	Glass bottle	D/1751/15
2.5 L	Glass bottle	D/1751/17
200 L	Metal drum	D/1751/27

$C_2H_4Cl_2$
CAS: 107-06-2
MW: 98.96
Density at 20°C: 1.25
Boiling point: 81 to 85°C
Boiling pressure: 760 mmHg
Melting point: -35°C

Flash point: 13°C
ADR/RID: 3(6.1)/II
UN: 1184
HS-Nr: 29031500
EINECS: 203-458-1
Risk: R45, R11, R22, R36/37/38
Safety: S53, S45

F T

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<1 ppm
Colour	<10 APHA	Lead (Pb)	<0.02 ppm
Residue after evaporation	<20 ppm	Magnesium (Mg)	<0.1 ppm
Substances reducing $KMnO_4$	<0.001%	Potassium (K)	<0.2 ppm
		Sodium (Na)	<0.5 ppm
Water	<0.03%	Total phosphorus (P)	<0.2 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Chlorine	<1 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Zinc (Zn)	<0.2 ppm

Typical analysis

Aluminium (Al)	<0.02 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

1.2-Dichloroethane
extra pure — SLR

packaging		product code
500 mL	Glass bottle	D/1750/08
2.5 L	Glass bottle	D/1750/17
5 L	Metal can	D/1750/21
25 L	Metal drum	D/1750/25

$C_2H_4Cl_2$
CAS: 107-06-2
MW: 98.96
Density at 20°C: 1.25
Boiling point: 81 to 85°C
Boiling pressure: 760 mmHg
Melting point: -35°C

Flash point: 13°C
ADR/RID: 3(6.1)/II
UN: 1184
HS-Nr: 29329090
EINECS: 203-458-1
Risk: R45, R11, R22, R36/37/38
Safety: S53, S45

F T

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<2 ppm
Colour	<20 APHA	Lead (Pb)	<1 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<0.5 ppm
Substances reducing $KMnO_4$	<0.01%	Potassium (K)	<1 ppm
		Sodium (Na)	<2 ppm
Water	<0.1%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<2 ppm	Total silicon (Si)	<0.2 ppm
Chlorine	<10 ppm	Total sulphur (S)	<2 ppm
Copper (Cu)	<1 ppm	Zinc (Zn)	<1 ppm

see page 279 for suitable Tap & accessories.

Dichloro (R) fluorescein
Technical

packaging		product code
5 g	Glass packaging	D/1820/44

$C_{20}H_{10}Cl_2O_5$
CAS: 76-54-0
MW: 401.2
Density at 20°C: 0.79
Melting point: 280 °C

HS-Nr: 29329090
EINECS: 200-968-6
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis	Conform

Dichloromethane unstabilized — Certified
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	D/1857/15
2.5 L	Glass bottle	D/1857/17
2.5 L	Coated Glass Bottle	D/1857/PB17

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm	Chlorine	<5 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

240 nm	<0.2 A.U.	270 nm	<0.005 A.U.
250 nm	<0.02 A.U.	280 nm	<0.005 A.U.
260 nm	<0.005 A.U.		

Lot analysis on the label.
Filtered to 0.2 µm.

Dichloromethane stabilized with amylene — Certified
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	D/1856/15
2.5 L	Glass bottle	D/1856/17
2.5 L	Coated Glass Bottle	D/1856/PB17
5 L	Aluminium drum	D/1856/21
25 L	Stainless steel drum	D/1856/25SS
200 L	Stainless steel drum	D/1856/27SS

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm	Chlorine	<5 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

240 nm	<0.2 A.U.	270 nm	<0.005 A.U.
250 nm	<0.02 A.U.	280 nm	<0.005 A.U.
260 nm	<0.005 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Dichloromethane stabilized with methanol — Certified
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	D/1859/15
2.5 L	Glass bottle	D/1859/17

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm	Chlorine	<5 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

240 nm	<0.2 A.U.	270 nm	<0.005 A.U.
250 nm	<0.02 A.U.	280 nm	<0.005 A.U.
260 nm	<0.005 A.U.		

Lot analysis on the label.
Filtered to 0.2 µm.

Dichloromethane stabilized with amylene — Certified
for Gel Permeation Chromatography (GPC)

GPC

packaging		product code
2.5 L	Coated Glass Bottle	D/1861/PB17

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Guaranteed analysis

Colour	<5 APHA	Water	<0.02%
Residue after evaporation	<2 ppm		

Dichloromethane stabilized with amylene — Primar
for trace metal analysis

Primar

packaging		product code
2.5 L	Glass bottle	D/1855/17

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.9%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Lithium (Li)	<0.005 ppm
Chloroform	<0.002%	Magnesium (Mg)	<0.02 ppm
Colour	<5 APHA	Manganese (Mn)	<0.005 ppm
Residue after evaporation	<2 ppm	Molybdenum (Mo)	<0.005 ppm
Substances darkened by (H_2SO_4)	<5 APHA	Nickel (Ni)	<0.005 ppm
Water	<0.01%	Potassium (K)	<0.05 ppm
Aluminium (Al)	<0.02 ppm	Silver (Ag)	<0.005 ppm
Barium (Ba)	<0.005 ppm	Sodium (Na)	<0.2 ppm
Cadmium (Cd)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Titanium (Ti)	<0.005 ppm
Chlorine	<100 ppm	Total phosphorus (P)	<0.02 ppm
Chromium (Cr)	<0.005 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.005 ppm	Total sulphur (S)	<0.1 ppm
Copper (Cu)	<0.01 ppm	Vanadium (V)	<0.005 ppm
Iron (Fe)	<0.05 ppm	Zinc (Zn)	<0.01 ppm
Lead (Pb)	<0.005 ppm	1.1-Dichloroethane	<0.002%
		Carbon tetrachloride	<0.002%

NIST Certified
Standard from SPEX
A full range of Mono
& Multi-elemental standard
and Calibration solution
for ICP & ICP-MS
Discover them on page 258

Dichloromethane stabilized with amylene — Distol
for residue and pesticide analysis

Distol

packaging		product code
1 L	Glass bottle	D/1853/15
2.5 L	Glass bottle	D/1853/17

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.02%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile:
(1) 50°C for 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Dichloromethane stabilized with amylene
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Glass bottle	D/1854/PB15

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Dichloromethane stabilized with amylene — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	D/1852/15
1 L	Coated Glass Bottle	D/1852/PB15
2.5 L	Glass bottle	D/1852/17
2.5 L	Coated Glass Bottle	D/1852/PB17
5 L	Metal can	D/1852/21
10 L	Metal drum	D/1852/24
25 L	Metal drum	D/1852/25
200 L	Metal drum	D/1852/27

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<0.05 ppm
Chloroform	<0.01%	Magnesium (Mg)	<0.05 ppm
Colour	<5 APHA	Potassium (K)	<0.5 ppm
Residue after evaporation	<10 ppm	Sodium (Na)	<0.5 ppm
Substances darkened by (H_2SO_4)	<5 APHA	Total phosphorus (P)	<0.2 ppm
Water	<0.02%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<0.5 ppm
Chlorine	<0.3 ppm	Zinc (Zn)	<0.1 ppm
Copper (Cu)	<0.02 ppm	1.1-Dichloroethane	<0.005 %
Iron (Fe)	<0.1 ppm	Carbon tetrachloride	<0.01 %

Typical analysis

Aluminium (Al)	<0.2 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Dichloromethane — SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	D/1850/08
1 L	Glass bottle	D/1850/15
2.5 L	Glass bottle	D/1850/17
2.5 L	Coated Glass Bottle	D/1850/PB17
5 L	Metal can	D/1850/21
25 L	Metal drum	D/1850/25
25 L	Stainless steel drum	D/1850/25SS
25 L	Metal drum	D/1850/DH25
200 L	Metal drum	D/1850/27
200 L	Stainless steel drum	D/1850/27SS

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
Density at 20°C: 1.33
Boiling point: 39 to 40°C
Boiling pressure: 760 mmHg
Melting point: -97°C

ADR/RID: 6.1/III
UN: 1593
HS-Nr: 29031200
EINECS: 200-838-9
Risk: R40
Safety: S23, S24/25, S36/37

Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Lead (Pb)	<1 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.2 ppm
Residue after evaporation	<500 ppm	Potassium (K)	<2 ppm
Substances darkened by (H_2SO_4)	<25 APHA	Sodium (Na)	<2 ppm
Water	<0.05%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<2 ppm	Total silicon (Si)	<0.2 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<0.5 ppm

see page 279 for suitable Tap & accessories.

Diethanolamine — SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	D/2050/08
2.5 L	Glass bottle	D/2050/17

$C_4H_{11}NO_2$
CAS: 111-42-2
MW: 105.14
Density at 20°C: 1.1
Boiling point: 268°C
Boiling pressure: 760 mmHg

Melting point: 27 to 30°C
Flash point: 179°C
HS-Nr: 29221200
EINECS: 203-868-0
Risk: R22, R38, R41, R48/22
Safety: S26, S36/37/39, S46

Xn

Assay (GC): >99%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<20 ppm
Water	<0.5%	Sodium (Na)	<50 ppm
Calcium (Ca)	<20 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<5 ppm		

Diethylamine
for analysis
Certified AR

packaging		product code
500 mL	Glass bottle	D/2110/08
2.5 L	Glass bottle	D/2110/17

$C_4H_{11}N$
CAS: 109-89-7
MW: 73.14
Density at 20°C: 0.71
Boiling point: 55°C
Boiling pressure: 760 mmHg
Melting point: -50°C
Flash point: -23°C

ADR/RID: 3(8)/II
UN: 1154
HS-Nr: 29211950
EINECS: 203-716-3
Risk: R11, R20/21/22, R35
Safety: S3, S16, S26, S29, S36/37/39, S45

F C

Assay (GC): >99.5%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.2 ppm
Residue after evaporation	<100 ppm	Sodium (Na)	<1 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<0.2 ppm
Copper (Cu)	<0.05 ppm	Total silicon (Si)	<0.05 ppm
Iron (Fe)	<0.5 ppm	Total sulphur (S)	<0.5 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.5 ppm
Magnesium (Mg)	<0.5 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.05 ppm
Barium (Ba)	<0.05 ppm	Molybdenum (Mo)	<0.05 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.05 ppm

Lot analysis on the label.

Diethylamine
extra pure
SLR

packaging		product code
500 mL	Glass bottle	D/2100/08
2.5 L	Glass bottle	D/2100/17

$C_4H_{11}N$
CAS: 109-89-7
MW: 73.14
Density at 20°C: 0.71
Boiling point: 55°C
Boiling pressure: 760 mmHg
Melting point: -50°C
Flash point: -23°C

ADR/RID: 3(8)/II
UN: 1154
HS-Nr: 29211950
EINECS: 203-716-3
Risk: R11, R20/21/22, R35
Safety: S3, S16, S26, S29, S36/37/39, S45

F C

Assay (GC): >99%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<5 ppm
Residue after evaporation	<500 ppm	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<2 ppm		

Diethylammonium diethyldithiocarbamate
pure

packaging		product code
100 g	Plastic jar	D/2250/48

$C_5H_{11}NS_2.C_4H_{11}N$
CAS: 1518-58-7
MW: 222.42
Melting point: 81 to 85°C

HS-Nr: 29302000
EINECS: 216-175-3
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Guaranteed analysis

IR Analysis ..... Conform

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Diethylene glycol
for analysis
Certified AR

packaging		product code
500 mL	Glass bottle	D/2951/08
2.5 L	Glass bottle	D/2951/17

$C_4H_{10}O_3$
CAS: 111-46-6
MW: 106.12
Density at 20°C: 1.11
Boiling point: 245°C
Boiling pressure: 760 mmHg

Melting point: -10°C
Flash point: 143°C
HS-Nr: 29094100
EINECS: 203-872-2
Risk: R22
Safety: S46

Xn

Assay (GC): >99.5%

Guaranteed analysis

Colour	<10 APHA	Magnesium (Mg)	<1 ppm
Residue after ignition	<0.01%	Manganese (Mn)	<0.05 ppm
Water	<0.2%	Molybdenum (Mo)	<0.05 ppm
Aluminium (Al)	<0.1 ppm	Nickel (Ni)	<0.05 ppm
Barium (Ba)	<0.1 ppm	Potassium (K)	<1 ppm
Cadmium (Cd)	<0.05 ppm	Sodium (Na)	<5 ppm
Calcium (Ca)	<2 ppm	Strontium (Sr)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Total phosphorus (P)	<0.5 ppm
Copper (Cu)	<0.5 ppm	Total silicon (Si)	<0.1 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<0.5 ppm	Vanadium (V)	<0.05 ppm
Lithium (Li)	<0.05 ppm	Zinc (Zn)	<0.5 ppm

Lot analysis on the label.

Diethylene glycol
extra pure
SLR

packaging		product code
500 mL	Glass bottle	D/2950/08
2.5 L	Glass bottle	D/2950/17

$C_4H_{10}O_3$
CAS: 111-46-6
MW: 106.12
Density at 20°C: 1.11
Boiling point: 245°C
Boiling pressure: 760 mmHg

Melting point: -10°C
Flash point: 143°C
HS-Nr: 29094100
EINECS: 203-872-2
Risk: R22
Safety: S46

Xn

Assay (GC): >99%

Guaranteed analysis

Colour	<30 APHA	Magnesium (Mg)	<5 ppm
Residue after ignition	<0.05%	Potassium (K)	<5 ppm
Water	<0.5%	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<5 ppm

Diethylene glycol monoethyl ether
pure

packaging		product code
2.5 L	Glass bottle	E/1300/17

$C_6H_{14}O_3$
CAS: 111-90-0
MW: 134.18
Density at 20°C: <0.99
Boiling point: 197°C
Boiling pressure: 760 mmHg

Melting point: -80°C
Flash point: 94°C
HS-Nr: 29094400
EINECS: 203-919-7
Risk: R20, R36
Safety: S26, S39

Xn

Guaranteed analysis

Water ..... <0.05%

Diethylenetriaminepenta-acetic acid sodium salt
pure, solution about 40% w/w

packaging		product code
500 mL	Glass bottle	D/2350/08

Density at 20°C: 1.25 to 1.35
HS-Nr: 38220000
Risk: R36/38
Safety: S26

Xi

Diethyl ether stabilized with ethanol — Certified
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	D/2506/15
2.5 L	Glass bottle	D/2506/17
2.5 L	Coated Glass Bottle	D/2506/PB17

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.02%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.3 A.U.	250 nm	<0.05 A.U.
220 nm	<0.2 A.U.	260 nm	<0.025 A.U.
230 nm	<0.125 A.U.	270 nm	<0.01 A.U.
240 nm	<0.075 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

Diethyl ether — Primar
for trace metal analysis, stabilized with copper gauze

Primar

packaging		product code
2.5 L	Glass bottle	D/2455/17

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99.9%

Guaranteed analysis

Acetone	<0.002%	Magnesium (Mg)	<0.02 ppm
Acidity / Alkalinity	<0.0002 meq/g	Manganese (Mn)	<0.005 ppm
Colour	<5 APHA	Molybdenum (Mo)	<0.005 ppm
Residue after evaporation	<2 ppm	Nickel (Ni)	<0.005 ppm
Substances darkened by (H_2SO_4)	<5 APHA	Potassium (K)	<0.05 ppm
Water	<0.01%	Silver (Ag)	<0.005 ppm
Aluminium (Al)	<0.02 ppm	Sodium (Na)	<0.2 ppm
Barium (Ba)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Cadmium (Cd)	<0.005 ppm	Titanium (Ti)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Total phosphorus (P)	<0.02 ppm
Chromium (Cr)	<0.005 ppm	Total silicon (Si)	<0.02 ppm
Cobalt (Co)	<0.005 ppm	Total sulphur (S)	<0.1 ppm
Copper (Cu)	<0.01 ppm	Vanadium (V)	<0.005 ppm
Iron (Fe)	<0.05 ppm	Zinc (Zn)	<0.01 ppm
Lead (Pb)	<0.005 ppm	Ethanol	<0.002%
Lithium (Li)	<0.005 ppm	Ether peroxide	<1 ppm
		Methanol	<0.005%

Diethyl ether — Distol
for residue and pesticide analysis, stabilized with copper gauze

Distol

packaging		product code
2.5 L	Glass bottle	D/2503/17

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99.5%

Guaranteed analysis

Water	<0.25 %	Analysis GC (NPD)	Conform
Analysis GC (ECD)	Conform	Residue after evaporation	>2 ppm
Analysis GC (FID)	Conform		

Diethyl ether stabilized with ethanol
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Glass bottle	D/2502/15
2.5 L	Glass bottle	D/2502/17

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99.5%

Guaranteed analysis

Residue after evaporation	<2 ppm	Peroxide	<0.00005%
Water	<0.01%		

Diethyl ether stabilized with BHT — Certified AR, Eur.Ph.
for analysis

Certified AR

packaging		product code
500 mL	Coated Glass Bottle	D/2450/PB08
1 L	Glass bottle	D/2450/15
1 L	Coated Glass Bottle	D/2450/PB15
2.5 L	Glass bottle	D/2450/17
2.5 L	Coated Glass Bottle	D/2450/PB17
5 L	Metal can	D/2450/21
25 L	Metal drum	D/2450/25
25 L	Metal drum	D/2450/DH25
200 L	Metal drum	D/2450/27

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99.5%

Guaranteed analysis

Acetone	<0.002%	Lead (Pb)	<0.05 ppm
Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<0.05 ppm
Colour	<5 APHA	Potassium (K)	<0.5 ppm
Residue after evaporation	<10 ppm	Sodium (Na)	<0.5 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Total phosphorus (P)	<0.1 ppm
Substances reducing $KMnO_4$	<0.001%	Total silicon (Si)	<0.05 ppm
Water	<0.05%	Total sulphur (S)	<0.2 ppm
Calcium (Ca)	<0.2 ppm	Zinc (Zn)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Ethanol	<0.01 %
Iron (Fe)	<0.1 ppm	Ether peroxide	<1 ppm
		Methanol	<0.01 %

Typical analysis

Aluminium (Al)	<0.05 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Diethyl ether stabilized with BHT SLR
extra pure

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	D/2400/PB08
2.5 L	Glass bottle	D/2400/17
2.5 L	Coated Glass Bottle	D/2400/PB17
5 L	Metal can	D/2400/21
25 L	Metal drum	D/2400/25
25 L	Metal drum	D/2400/DH25
200 L	Metal drum	D/2400/27

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Lead (Pb)	<1 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<20 ppm	Potassium (K)	<2 ppm
Substances reducing $KMnO_4$	<0.005%	Sodium (Na)	<5 ppm
Water	<0.2%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<1 ppm
		Ether peroxide	<10 ppm

see page 279 for suitable Tap & accessories.

Diethyl ether stabilized with pyrogallol
pure, for synthesis

packaging		product code
1 L	Glass bottle	D/2500/15
2.5 L	Glass bottle	D/2500/17

$C_4H_{10}O$
CAS: 60-29-7
MW: 74.12
Density at 20°C: 0.71
Boiling point: 34.6°C
Boiling pressure: 760 mmHg
Melting point: -116°C

Flash point: -45°C
ADR/RID: 3/I
UN: 1155
HS-Nr: 29091100
EINECS: 200-467-2
Risk: R12, R19, R22, R66, R67
Safety: S9, S16, S29, S33

F+ Xn

Assay (GC): >99.5%

Guaranteed analysis

Residue after evaporation	<20 ppm	Peroxide	<0.00005%
Water	<0.02%		

1.2-Dihydroxyanthraquinone
See Alizarin C.I. 58000, page 11

(3.4-Dihydroxy-2-anthraquinonyl)methylimino-diacetic acid dihydrate
See 3-Aminomethylalizarin-N,N-diacetic acid, page 17

1.3-Dihydroxybenzene
See Resorcinol, page 222

1.2-Dihydroxybenzene-3.5-disulfonic acid, disodium salt
pure, Metal indicator (Tiron) for Iron and Titanium.

packaging		product code
25 g	Plastic Jar	D/3000/46

$(OH)_2C_6H_2(SO_3Na)_2.H_2O$
CAS: 149-45-1
MW: 332.22
Melting point: >300°C

HS-Nr: 29089910
EINECS: 205-741-5
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

1.8-Dihydroxynaphthalene-3.6-disulfonic acid, disodium salt dihydrate
See Chromotropic acid sodium salt dihydrate, page 69

di-(2-Hydroxyphenylimino)ethane
pure, for calcium determination

packaging		product code
10 g	Plastic Jar	D/3100/45

$C_{14}H_{12}N_2O_2$
CAS: 1149-16-2
MW: 240.26
Boiling pressure: 760 mmHg

Melting point: 201 to 205°C
HS-Nr: 29252090
EINECS: 214-560-0
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

L(+)-Dihydroxysuccinic acid
See (+)-Tartaric acid, page 280

Di-iodomethane SLR
extra pure

Specified LR

packaging		product code
25 mL	Glass bottle	D/3200/04

CH_2I_2
CAS: 75-11-6
MW: 267.84
Density at 20°C: 3.315 to 3.325
Boiling point: 181°C
Boiling pressure: 760 mmHg
Melting point: 6°C

Flash point: >110°C
ADR/RID: 6.1/III
UN: 2810
HS-Nr: 29033090
EINECS: 200-841-5
Risk: R36/37/38
Safety: S26, S37/39

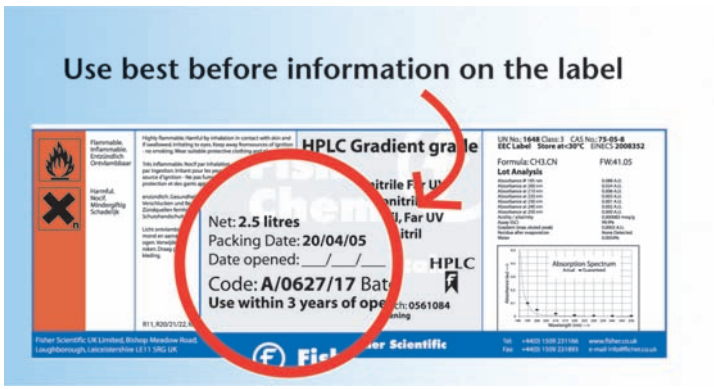
Xi

Di-iso-octyl phthalate
pure

packaging		product code
2.5 L	Glass bottle	D/4470/17

$C_6H_4(COO.C_8H_{17})_2$
CAS: 27554-26-3
MW: 390.57
Density at 20°C: 0.97 to 0.99

HS-Nr: 38220000
EINECS: 248-523-5
Risk: R2, R24/25



Di-iso-propyl ether stabilized with BHT — Certified AR
for analysis

packaging		product code
1 L	Glass bottle	D/5002/15
2.5 L	Glass bottle	D/5002/17
5 L	Metal can	D/5002/21
25 L	Metal drum	D/5002/25

$C_6H_{14}O$
CAS: 108-20-3
MW: 102.18
Density at 20°C: 0.72
Boiling point: 68°C
Boiling pressure: 760 mmHg
Melting point: -85.5°C

Flash point: -29°C
ADR/RID: 3/II
UN: 1159
HS-Nr: 29091990
EINECS: 203-560-6
Risk: R11, R19, R66, R67
Safety: S9, S16, S29, S33

F

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Magnesium (Mg)	<0.2 ppm
Colour	<10 APHA	Manganese (Mn)	<0.05 ppm
Residue after evaporation	<20 ppm	Molybdenum (Mo)	<0.02 ppm
Water	<0.1%	Nickel (Ni)	<0.05 ppm
Aluminium (Al)	<0.2 ppm	Potassium (K)	<0.5 ppm
Barium (Ba)	<0.05 ppm	Sodium (Na)	<1 ppm
Cadmium (Cd)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Titanium (Ti)	<0.02 ppm
Chromium (Cr)	<0.05 ppm	Total phosphorus (P)	<0.05 ppm
Cobalt (Co)	<0.02 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<0.2 ppm
Iron (Fe)	<0.1 ppm	Vanadium (V)	<0.02 ppm
Lead (Pb)	<0.02 ppm	Zinc (Zn)	<0.2 ppm
Lithium (Li)	<0.02 ppm	Peroxide	<0.001%

see page 279 for suitable Tap & accessories.

Di-iso-propyl ether stabilized with BHT — SLR
extra pure

packaging		product code
1 L	Glass bottle	D/5000/15
2.5 L	Glass bottle	D/5000/17
2.5 L	Coated Glass Bottle	D/5000/PB17
5 L	Metal can	D/5000/21
194 L	Metal drum	D/5000/99

$C_6H_{14}O$
CAS: 108-20-3
MW: 102.18
Density at 20°C: 0.72
Boiling point: 68°C
Boiling pressure: 760 mmHg
Melting point: -85.5°C

Flash point: -29°C
ADR/RID: 3/II
UN: 1159
HS-Nr: 29091990
EINECS: 203-560-6
Risk: R11, R19, R66, R67
Safety: S9, S16, S29, S33

F

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<5 ppm
Residue after evaporation	<100 ppm	Sodium (Na)	<10 ppm
Water	<0.2%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<1 ppm		

Di-iso-propylnaphthalene — SLR
extra pure, mixed isomers

packaging		product code
2.5 L	Glass bottle	D/5010/17

$C_{16}H_{20}$
CAS: 38640-62-9
MW: 212.33
Density at 20°C: <0.96

HS-Nr: 29029090
EINECS: 254-052-6
Risk: R11, R19

Dimedone
pure

packaging		product code
25 g	Plastic Jar	D/3220/46

$C_8H_{12}O_2$
CAS: 126-81-8
MW: 140.18
Boiling pressure: 760 mmHg

Melting point: 147 to 150°C
HS-Nr: 29142900
EINECS: 204-804-4
Safety: S24/25

1.2-Dimethoxyethane — SLR
extra pure

packaging		product code
500 mL	Coated Glass Bottle	D/3280/PB08

$C_4H_{10}O_2$
CAS: 110-71-4
MW: 90.12
Density at 20°C: 0.867 to 0.871
Boiling point: 84 to 86°C
Boiling pressure: 760 mmHg
Melting point: -69°C

Flash point: 6°C
ADR/RID: 3/II
UN: 2252
HS-Nr: 29091990
EINECS: 203-794-9
Risk: R60, R61, R11, R19, R20
Safety: S53, S45

F T

Assay (GC): >99%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.379 to 1.383

Dimethoxymethane
pure

packaging		product code
500 mL	Glass bottle	D/3400/08

$C_3H_8O_2$
CAS: 109-87-5
MW: 76.09
Density at 20°C: 0.86
Boiling point: 41 to 42°C
Boiling pressure: 760 mmHg
Melting point: -105°C

Flash point: -18°C
ADR/RID: 3/II
UN: 1234
HS-Nr: 29110000
EINECS: 203-714-2
Risk: R11, R36/37/38
Safety: S16, S26, S37/39

F Xi

N,N-Dimethylacetamide — Certified AR
for analysis

packaging		product code
500 mL	Glass bottle	D/3411/08
2.5 L	Glass bottle	D/3411/17
2.5 L	Coated Glass Bottle	D/3411/PB17

C_4H_9NO
CAS: 127-19-5
MW: 87.12
Density at 20°C: 0.94
Boiling point: 164 to 166°C
Boiling pressure: 760 mmHg
Melting point: -20°C

Flash point: 70°C
ADR/RID: 6.1/III
UN: 2810
HS-Nr: 29241900
EINECS: 204-826-4
Risk: R61, R20/21
Safety: S53, S45

T

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.02 meq/g	Magnesium (Mg)	<0.5 ppm
Colour	<10 APHA	Manganese (Mn)	<0.05 ppm
Residue after evaporation	<100 ppm	Molybdenum (Mo)	<0.05 ppm
Water	<0.1%	Nickel (Ni)	<0.05 ppm
Aluminium (Al)	<0.1 ppm	Potassium (K)	<1 ppm
Barium (Ba)	<0.1 ppm	Sodium (Na)	<5 ppm
Cadmium (Cd)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Calcium (Ca)	<2 ppm	Titanium (Ti)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Total phosphorus (P)	<2 ppm
Cobalt (Co)	<0.05 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<2 ppm	Vanadium (V)	<0.05 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<0.5 ppm
Lithium (Li)	<0.05 ppm		

Lot analysis on the label.

N,N-Dimethylacetamide SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	D/3410/08
2.5 L	Glass bottle	D/3410/17

C_4H_9NO
CAS: 127-19-5
MW: 87.12
Density at 20°C: 0.94
Boiling point: 164 to 166°C
Boiling pressure: 760 mmHg
Melting point: -20°C

Flash point: 70°C
ADR/RID: 6.1/III
UN: 2810
HS-Nr: 29241900
EINECS: 204-826-4
Risk: R61, R20/21
Safety: S53, S45

T

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.05 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<5 ppm
Residue after evaporation	<500 ppm	Sodium (Na)	<20 ppm
Water	<0.5%	Total phosphorus (P)	<10 ppm
Calcium (Ca)	<10 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<10 ppm	Zinc (Zn)	<5 ppm
Lead (Pb)	<5 ppm		

Dimethylamine
pure, solution 40% w/v

packaging		product code
500 mL	Glass bottle	D/3450/08

C_2H_7N
CAS: 124-40-3
MW: 45.09
Density at 20°C: 0.88 to 0.9
Boiling point: 54°C
Boiling pressure: 760 mmHg
Melting point: -37°C
Flash point: -18°C

ADR/RID: 3(8)/II
UN: 1160
HS-Nr: 29211110
EINECS: 204-697-4
Risk: R12, R20/22, R34
Safety: S3, S16, S26, S29, S36/37/39, S45

F+ C

4-Dimethylaminobenzaldehyde Certified AR
for analysis

Certified AR

packaging		product code
25 g	Plastic jar	D/3600/46
100 g	Plastic jar	D/3600/48

$C_9H_{11}NO$
CAS: 100-10-7
MW: 149.19
Boiling point: 176 to 177°C
Boiling pressure: 17 mmHg
Melting point: 70 to 75°C

Flash point: 164°C
HS-Nr: 29223900
EINECS: 202-819-0
Risk: R22, R52/53
Safety: S61

Xn

Assay: >99%

Guaranteed analysis

Insoluble matter (in alcohol)	<0.01%	Total chloride (Cl)	<0.005 %
Calcium (Ca)	<20 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<10 ppm	Acids insoluble	<0.01 %
Potassium (K)	<50 ppm	Bases type Indole	Conform
Sodium (Na)	<100 ppm		

Lot analysis on the label.

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

4-Dimethylaminobenzaldehyde SLR
extra pure, Ehrlich's reagent

Specified LR

packaging		product code
25 g	Plastic jar	D/3550/46
100 g	Plastic jar	D/3550/48

$C_9H_{11}NO$
CAS: 100-10-7
MW: 149.19
Boiling point: 176 to 177°C
Boiling pressure: 17 mmHg
Melting point: 70 to 75°C

Flash point: 164°C
HS-Nr: 29223900
EINECS: 202-819-0
Risk: R22, R52/53
Safety: S61

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<50 ppm

4-Dimethylaminobenzylidenerhodanine SLR
extra pure

Specified LR

packaging		product code
5 g	Glass packaging	D/3650/44

$C_{12}H_{12}N_2OS_2$
CAS: 536-17-4
MW: 264.37
Melting point: 285-288°C

HS-Nr: 29341000
EINECS: 208-625-2
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

4-benzenesulfonic acid, sodium salt
See Methyl orange, page 166

2-benzoic acid
See Methyl red, page 167

N,N-Dimethylaniline Certified AR
for analysis

AR

packaging		product code
100 mL	Coated Glass Bottle	D/3802/PB05
500 mL	Coated Glass Bottle	D/3802/PB08

$C_8H_{11}N$
CAS: 121-69-7
MW: 121.18
Density at 20°C: 0.95
Boiling point: 193 to 194°C
Boiling pressure: 760 mmHg
Melting point: 1.5 to 2.5°C

Flash point: 63°C
ADR/RID: 6.1/II
UN: 2253
HS-Nr: 29214290
EINECS: 204-493-5
Risk: R23/24/25, R40, R51/53
Safety: S28A, S36/37, S45, S61

T N

Assay (GC): >99%

Guaranteed analysis

Insoluble Substances (HCl)	<0.005%	Manganese (Mn)	<0.05 ppm
Residue after evaporation	<100 ppm	Molybdenum (Mo)	<0.05 ppm
Aluminium (Al)	<0.1 ppm	Nickel (Ni)	<0.05 ppm
Barium (Ba)	<0.1 ppm	Potassium (K)	<1 ppm
Cadmium (Cd)	<0.05 ppm	Sodium (Na)	<5 ppm
Calcium (Ca)	<2 ppm	Strontium (Sr)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<0.05 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<1 ppm	Vanadium (V)	<0.05 ppm
Lithium (Li)	<0.05 ppm	Zinc (Zn)	<0.5 ppm
Magnesium (Mg)	<0.5 ppm	Aniline	<0.1%

1.4-Dimethylbenzene
See p-Xylene, page 304

1.2-Dimethylbenzene
See o-Xylene, page 304

1.3-Dimethylbenzene
See m-Xylene, page 304

5.5-Dimethyl-1.3-cyclohexanedione
See Dimedone, page 88

Dimethyldichlorosilane
pure

packaging		product code
100 mL	Coated Glass Bottle	D/3820/PB05
250 mL	Coated Glass Bottle	D/3820/PB07

$C_2H_6Cl_2Si$
CAS: 75-78-5
MW: 129.06
Density at 20°C: 1.06 to 1.08
Boiling point: 70°C
Boiling pressure: 760 mmHg
Melting point: -76°C

Flash point: -9°C
ADR/RID: 3(8)/II
UN: 1162
HS-Nr: 29310000
EINECS: 200-901-0
Risk: R11, R36/37/38

F Xi

Dimethyl digol
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	D/3830/PB08

$C_6H_{14}O_3$
CAS: 111-96-6
MW: 134.18
Density at 20°C: 0.942 to 0.944
Boiling point: 162°C
Boiling pressure: 760 mmHg
Melting point: -64°C

Flash point: 57°C
ADR/RID: 3/III
UN: 3271
HS-Nr: 29094400
EINECS: 203-924-4
Risk: R60, R61, R10, R19
Safety: S53, S45

T

Assay (GC): >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.407 to 1.4085

Dimethylformamide
for HPLC — Certified

packaging		product code
1 L	Glass bottle	D/3846/15
2.5 L	Glass bottle	D/3846/17
2.5 L	Coated Glass Bottle	D/3846/PB17
200 L	Stainless steel drum	D/3846/27SS

C_3H_7NO
CAS: 68-12-2
MW: 73.09
Density at 20°C: 0.95
Boiling point: 153°C
Boiling pressure: 760 mmHg
Melting point: -61°C

Flash point: 58°C
ADR/RID: 3/III
UN: 2265
HS-Nr: 29241900
EINECS: 200-679-5
Risk: R61, R20/21, R36
Safety: S53, S45

T

Guaranteed analysis
Acidity / Alkalinity ..... <0.001 meq/g
Water ..... <0.05%
Residue after evaporation ..... <10 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

300 nm	<0.05 A.U.	350 nm	<0.005 A.U.
320 nm	<0.02 A.U.	270 nm	<0.5 A.U.
340 nm	<0.015 A.U.	280 nm	<0.15 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Dimethylformamide
for Gel Permeation Chromatography (GPC) — Certified

packaging		product code
2.5 L	Coated Glass Bottle	D/3847/PB17

C_3H_7NO
CAS: 68-12-2
MW: 73.09
Density at 20°C: 0.95
Boiling point: 153°C
Boiling pressure: 760 mmHg
Melting point: -61°C

Flash point: 58°C
ADR/RID: 3/III
UN: 2265
HS-Nr: 29241900
EINECS: 200-679-5
Risk: R61, R20/21, R36
Safety: S53, S45

T

Guaranteed analysis
Colour ..... <10 APHA
Water ..... <0.05%
Residue after evaporation ..... <10 ppm

Dimethylformamide
extra dry, for synthesis

packaging		product code
1 L	Glass bottle	D/3842/15
2.5 L	Glass bottle	D/3842/17
2.5 L	Coated Glass Bottle	D/3842/PB17

C_3H_7NO
CAS: 68-12-2
MW: 73.09
Density at 20°C: 0.95
Boiling point: 153°C
Boiling pressure: 760 mmHg
Melting point: -61°C

Flash point: 58°C
ADR/RID: 3/III
UN: 2265
HS-Nr: 29241900
EINECS: 200-679-5
Risk: R61, R20/21, R36
Safety: S53, S45

T

Assay (GC): >99.5%

Guaranteed analysis
Residue after evaporation ..... <20 ppm
Water ..... <0.02%

Dimethylformamide
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	D/3841/08
1 L	Glass bottle	D/3841/15
2.5 L	Glass bottle	D/3841/17
2.5 L	Coated Glass Bottle	D/3841/PB17
10 L	Plastic drum	D/3841/24
25 L	Metal drum	D/3841/25
25 L	Metal drum	D/3841/DH25

C_3H_7NO
CAS: 68-12-2
MW: 73.09
Density at 20°C: 0.95
Boiling point: 153°C
Boiling pressure: 760 mmHg
Melting point: -61°C

Flash point: 58°C
ADR/RID: 3/III
UN: 2265
HS-Nr: 29241900
EINECS: 200-679-5
Risk: R61, R20/21, R36
Safety: S53, S45

T

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<0.5 ppm
Colour	<10 APHA	Potassium (K)	<0.5 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<2 ppm
Water	<0.05%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<1 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.5 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<1 ppm	Zinc (Zn)	<0.5 ppm
Lead (Pb)	<0.5 ppm		

Typical analysis

Aluminium (Al)	<0.2 ppm	Manganese (Mn)	<0.05 ppm
Barium (Ba)	<0.1 ppm	Molybdenum (Mo)	<0.05 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Lithium (Li)	<0.05 ppm	Vanadium (V)	<0.05 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Dimethylformamide
extra pure — SLR

Specified LR

packaging		product code
500 mL	Glass bottle	D/3840/08
1 L	Glass bottle	D/3840/15
2.5 L	Glass bottle	D/3840/17
2.5 L	Plastic bottle	D/3840/PB17
5 L	Plastic bottle	D/3840/21
25 L	Metal drum	D/3840/25
200 L	Metal drum	D/3840/27

C_3H_7NO
CAS: 68-12-2
MW: 73.09
Density at 20°C: 0.95
Boiling point: 153°C
Boiling pressure: 760 mmHg
Melting point: -61°C

Flash point: 58°C
ADR/RID: 3/III
UN: 2265
HS-Nr: 29241900
EINECS: 200-679-5
Risk: R61, R20/21, R36
Safety: S53, S45

T

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<5 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<50 ppm
Water	<0.2%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

Dimethylglyoxime
for analysis — Certified AR

AR

packaging		product code
100 g	Plastic jar	D/3900/48

$C_4H_8N_2O_2$
CAS: 95-45-4
MW: 116.12
Melting point: 239-241°C

HS-Nr: 29280000
EINECS: 202-420-1
Risk: R22

Xn

Assay: >98%

Guaranteed analysis

Insoluble in alcohol	<0.01%	Magnesium (Mg)	<5 ppm
Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<20 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<2 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm	Zinc (Zn)	<5 ppm

Lot analysis on the label.

Dimethylglyoxime
pure

packaging		product code
100 g	Plastic jar	D/3898/48

$C_4H_8N_2O_2$
CAS: 95-45-4
MW: 116.12
Melting point: 239-241°C

HS-Nr: 38220000
EINECS: 202-420-1
Risk: R22

Xn

Guaranteed analysis

IR Analysis ..... Conform

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono & Multi-elemental standard solution to discover on page 256

Dimethylglyoxime sodium salt
pure

packaging		product code
250 g	Plastic jar	D/3950/50

$C_4H_6N_2Na_2O_2.8H_2O$
CAS: 60908-54-5
MW: 304.22
HS-Nr: 29280000

EINECS: 262-523-2
Risk: R36/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

N,N-Dimethyl-p-phenylenediamine sulfate
extra pure — SLR

Specified LR

packaging		product code
25 g	Plastic jar	D/4016/46

$C_8H_{12}N_2.H_2SO_4$
CAS: 536-47-0
MW: 234.28
Boiling point: 495°C
Boiling pressure: 760 mmHg
Melting point: 234-236°C

ADR/RID: 6.1/II
UN: 3143
HS-Nr: 29215190
EINECS: 208-636-2
Risk: R23/24/25, R36/37/38
Safety: S26, S36/37/39, S45

T

Assay: >98%

Guaranteed analysis

Residue after ignition ..... <0.1%

Dimethyl phthalate
extra pure — SLR

Specified LR

packaging		product code
500 mL	Glass bottle	D/4050/08
2.5 L	Glass bottle	D/4050/17

$C_{10}H_{10}O_4$
CAS: 131-11-3
MW: 194.19
Density at 20°C: 1.19
Boiling point: 282°C

Boiling pressure: 760 mmHg
Flash point: 150°C
HS-Nr: 29173490
EINECS: 205-011-6
Safety: S24/25

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.001 meq/g	Water	<0.15%
Residue after ignition	<0.02%		

Dimethyl sulfoxide
for HPLC — Certified

HPLC

packaging		product code
250 mL	Coated Glass Bottle	D/4125/PB07
500 mL	Coated Glass Bottle	D/4125/PB08
2.5 L	Coated Glass Bottle	D/4125/PB17
190 L	Metal Drum	D/4125/99

$(CH_3)_2SO$
CAS: 67-68-5
MW: 78.13
Density at 20°C: 1.1
Boiling point: 189°C
Boiling pressure: 760 mmHg

Melting point: 18.4°C
Flash point: 87.8°C
HS-Nr: 29309085
EINECS: 200-664-3
Safety: S24/25

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0008 meq/g	Water	<0.05%
Residue after evaporation	<10 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

290 nm	<0.2 A.U.	360 nm	<0.01 A.U.
300 nm	<0.1 A.U.	270 nm	<0.5 A.U.
320 nm	<0.05 A.U.	280 nm	<0.3 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Dimethyl sulfoxide
for Gel Permeation Chromatography (GPC)

GPC

packaging		product code
2.5 L	Coated Glass Bottle	D/4127/PB17

$(CH_3)_2SO$
CAS: 67-68-5
MW: 78.13
Density at 20°C: 1.1
Boiling point: 189°C
Boiling pressure: 760 mmHg

Melting point: 18.4°C
Flash point: 87.8°C
HS-Nr: 29309085
EINECS: 200-664-3
Safety: S24/25

Guaranteed analysis

Colour	<10 APHA	Water	<0.05%
Residue after evaporation	<10 ppm		

Dimethyl sulfoxide
for analysis — Certified AR

Certified AR

packaging		product code
500 mL	Plastic bottle	D/4121/PB08
1 L	Plastic bottle	D/4121/PB15
2.5 L	Plastic bottle	D/4121/PB17
10 L	Plastic Keg	D/4121/24
25 L	Metal drum	D/4121/25
205 L	Metal Drum	D/4121/28

$(CH_3)_2SO$
CAS: 67-68-5
MW: 78.13
Density at 20°C: 1.1
Boiling point: 189°C
Boiling pressure: 760 mmHg

Melting point: 18.4°C
Flash point: 87.8°C
HS-Nr: 29309085
EINECS: 200-664-3
Safety: S24/25

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Lead (Pb)	<0.02 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Residue after evaporation	<50 ppm	Potassium (K)	<0.5 ppm
Water	<0.05%	Sodium (Na)	<2 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<0.1 ppm
Copper (Cu)	<0.05 ppm	Total silicon (Si)	<0.02 ppm
Iron (Fe)	<0.5 ppm	Zinc (Zn)	<0.2 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.1 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Dimethyl sulfoxide
extra pure — SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	D/4120/PB08
2.5 L	Plastic bottle	D/4120/PB17
5 L	Plastic bottle	D/4120/21
25 L	Metal drum	D/4120/25

$(CH_3)_2SO$
CAS: 67-68-5
MW: 78.13
Density at 20°C: 1.1
Boiling point: 189°C
Boiling pressure: 760 mmHg

Melting point: 18.4°C
Flash point: 87.8°C
HS-Nr: 29309085
EINECS: 200-664-3
Safety: S24/25

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<1 ppm
Residue after evaporation	<200 ppm	Potassium (K)	<2 ppm
Water	<0.2%	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<1 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<1 ppm

see page 279 for suitable Tap & accessories.

Dimidium bromide-disulfine
extra pure, indicator stock solution — SLR

Specified LR

packaging		product code
100 mL	Glass bottle	D/4140/05

HS-Nr: 38220000

Xn

Herring DE, Lab.

Dinonyl phthalate
for gas chromatography

packaging		product code
100 mL	Glass bottle	D/4472/05

$C_{26}H_{42}O_4$
CAS: 84-76-4
MW: 418.62
Density at 20°C: 0.97
Boiling point: 279 to 287°C

Boiling pressure: 760 mmHg
Flash point: 216°C
HS-Nr: 29173300
EINECS: 201-560-0
Safety: S24/25

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.482 to 1.484

Dioctyl sulfosuccinate sodium salt, Aerosol® OT-100
pure

packaging		product code
500 g	Plastic jar	A/1040/53

$C_{20}H_{37}O_7SNa$
CAS: 577-11-7
MW: 444.55
Melting point: 153 to 157°C

HS-Nr: 38220000
EINECS: 209-406-4
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

1.4-Dioxane stabilized with BHT
for HPLC — Certified

HPLC

packaging		product code
1 L	Coated Glass Bottle	D/4556/PB15
2.5 L	Coated Glass Bottle	D/4556/PB17

$C_4H_8O_2$
CAS: 123-91-1
MW: 88.11
Density at 20°C: 1.03
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 12°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1165
HS-Nr: 29329985
EINECS: 204-661-8
Risk: R11, R19, R36/37, R40, R66
Safety: S9, S16, S36/37, S46

F Xn

Assay (GC): >99.5%

Guaranteed analysis
Residue after evaporation ..... <2 ppm Water ..... <0.025%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

220 nm	<0.4 A.U.	250 nm	<0.075 A.U.
230 nm	<0.22 A.U.	260 nm	<0.05 A.U.
240 nm	<0.125 A.U.	270 nm	<0.03 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

1.4-Dioxane stabilized with BHT
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Coated Glass Bottle	D/4551/PB15
2.5 L	Coated Glass Bottle	D/4551/PB17

$C_4H_8O_2$
CAS: 123-91-1
MW: 88.11
Density at 20°C: 1.03
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 12°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1165
HS-Nr: 29329030
EINECS: 204-661-8
Risk: R11, R19, R36/37, R40, R66
Safety: S9, S16, S36/37, S46

F Xn

Assay (GC): >99.8%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

1.4-Dioxane stabilized with BHT
for analysis — Certified AR

packaging		product code
1 L	Glass bottle	D/4550/15
1 L	Coated Glass Bottle	D/4550/PB15
2.5 L	Coated Glass Bottle	D/4550/PB17
25 L	Metal drum	D/4550/25

$C_4H_8O_2$
CAS: 123-91-1
MW: 88.11
Density at 20°C: 1.03
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 12°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1165
HS-Nr: 29329030
EINECS: 204-661-8
Risk: R11, R19, R36/37, R40, R66
Safety: S9, S16, S36/37, S46

F Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Magnesium (Mg)	<0.05 ppm
Colour	<10 APHA	Potassium (K)	<0.1 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.5 ppm
Water	<0.05%	Total phosphorus (P)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.02 ppm	Total sulphur (S)	<0.2 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.2 ppm
Lead (Pb)	<0.05 ppm	Acetal	<0.005 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Selenium (Se)	<0.1 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Manganese (Mn)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Slow moving peroxide content depending on the length of storage
Lot analysis on the label.
see page 279 for suitable Tap & accessories.

1.4-Dioxane stabilized with BHT
extra pure — SLR

packaging		product code
500 mL	Glass bottle	D/4500/08
2.5 L	Coated Glass Bottle	D/4500/PB17
5 L	Metal can	D/4500/21
25 L	Metal drum	D/4500/25

$C_4H_8O_2$
CAS: 123-91-1
MW: 88.11
Density at 20°C: 1.03
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 12°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1165
HS-Nr: 29329030
EINECS: 204-661-8
Risk: R11, R19, R36/37, R40, R66
Safety: S9, S16, S36/37, S46

F Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<1 ppm
Colour	<20 APHA	Potassium (K)	<1 ppm
Residue after evaporation	<200 ppm	Sodium (Na)	<5 ppm
Water	<0.2%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<2 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<1 ppm		

see page 279 for suitable Tap & accessories.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Diphenylamine
for analysis — Certified AR

packaging		product code
100 g	Glass packaging	D/4700/48
250 g	Glass packaging	D/4700/50

$C_{12}H_{11}N$
CAS: 122-39-4
MW: 169.23
Boiling point: 302°C
Boiling pressure: 760 mmHg
Melting point: 52 to 54°C
Flash point: 152°C

ADR/RID: 6.1/II
UN: 2811
HS-Nr: 29214400
EINECS: 204-539-4
Risk: R23/24/25, R33, R50/53
Safety: S28A, S36/37, S45, S60, S61

T N

Assay (GC): >99%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Nitrate (NO_3)	No reaction
Barium (Ba)	<2 ppm	Nitrogenous and phosphorated	Conform
Cadmium (Cd)	<2 ppm	Potassium (K)	<20 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Vanadium (V)	<2 ppm
Lithium (Li)	<2 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<5 ppm	Aniline	<0.01%
Nickel (Ni)	<2 ppm		

Diphenylamine
pure, redox indicator

packaging		product code
100 g	Glass packaging	D/4600/48

$C_{12}H_{11}N$
CAS: 122-39-4
MW: 169.23
Boiling point: 302°C
Boiling pressure: 760 mmHg
Melting point: 52 to 54°C
Flash point: 152°C

ADR/RID: 6.1/II
UN: 2811
HS-Nr: 29214400
EINECS: 204-539-4
Risk: R23/24/25, R33, R50/53
Safety: S28A, S36/37, S45, S60, S61

T N

Guaranteed analysis

Melting Point tested	52 to 54°C

1.5-Diphenylcarbazide
extra pure — SLR

packaging		product code
25 g	Plastic jar	D/4750/46

$C_{13}H_{14}N_4O$
CAS: 140-22-7
MW: 242.28
Boiling pressure: 760 mmHg

Melting point: 173 to 176°C
HS-Nr: 29280000
EINECS: 205-403-7
Safety: S24/25

Guaranteed analysis

IR Analysis	Conform

Suitable for the determination of Chromium.

1.5-Diphenylcarbazone
extra pure — SLR

packaging		product code
10 g	Glass packaging	D/4850/45

$C_{13}H_{12}N_4O$
CAS: 538-62-5
MW: 240.27
Boiling pressure: 760 mmHg

Melting point: 153 to 157°C
HS-Nr: 29280000
EINECS: 208-698-0
Safety: S24/25

Guaranteed analysis

IR Analysis	Conform

Conforming to the IR spectrum of reference.
Reagent for the analysis of mercury.

2.5-Diphenyloxazole
pure, Scintillation counting

packaging		product code
100 g	Plastic jar	D/4865/48

$C_{15}H_{11}NO$
CAS: 92-71-7
MW: 221.26
Density at 20°C: 1.06
Boiling point: 360°C

Boiling pressure: 760 mmHg
Melting point: 70 to 72°C
HS-Nr: 29349090
EINECS: 202-181-3
Safety: S24/25

2.2′-Dipyridyl
for analysis — Certified AR

packaging		product code
5 g	Plastic jar	D/5051/44

$C_{10}H_8N_2$
CAS: 366-18-7
MW: 156.19
Boiling point: 272 to 273°C
Boiling pressure: 760 mmHg
Melting point: 69 to 72°C
Flash point: 121°C

ADR/RID: 6.1/II
UN: 2811
HS-Nr: 29333990
EINECS: 206-674-4
Risk: R20/21, R25, R36/37/38
Safety: S26, S36/37/39, S45

T

Assay: >99.5%

Guaranteed analysis
Melting Point tested ..... 70 to 72°C

Lot analysis on the label.

Disclosing tablets
pure

packaging		product code
1	Box 72 tablets	D/5100/99

HS-Nr: 38220000

Xn

Dithio-oxamide
pure

packaging		product code
25 g	Plastic jar	D/5150/46

$(CS.NH_2)_2$
CAS: 79-40-3
MW: 120.2

HS-Nr: 29309085
EINECS: 201-203-9
Risk: R22

Guaranteed analysis
IR Analysis ..... Conform

DMF *See Dimethylformamide, page 90*

DMSO *See Dimethyl sulfoxide, page 92*

n-Dodecane
extra pure — SLR

packaging		product code
100 mL	Glass bottle	D/5290/05
2.5 L	Glass bottle	D/5290/17

$C_{12}H_{26}$
CAS: 112-40-3
MW: 170.34
Density at 20°C: 0.75
Boiling point: 215 to 217°C
Boiling pressure: 760 mmHg

Melting point: -12°C
Flash point: 71°C
HS-Nr: 29011000
EINECS: 203-967-9
Risk: R65, R66
Safety: S36, S60, S62

Xn

Assay (GC): >99%

1-Dodecanesulfonic acid sodium salt
for Ion pair chromatography for electrochemical detection. — Certified

packaging		product code
5 g	Plastic jar	D/5297/44

$C_{12}H_{25}NaO_3S$
CAS: 2386-53-0
MW: 272.38
Melting point: >300°C

HS-Nr: 29041000
EINECS: 219-200-6
Safety: S24/25

Assay: >98%

Guaranteed analysis
Electrochemical test ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.05 A.U.

Lot analysis on the label.
EC Specification:
tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-Oxidative
Electrode graphite

1-Dodecanesulfonic acid sodium salt
for Ion pair chromatography — Certified

packaging		product code
5 g	Plastic jar	D/5296/44

$C_{12}H_{25}NaO_3S$
CAS: 2386-53-0
MW: 272.38
Melting point: >300°C

HS-Nr: 29041000
EINECS: 219-200-6
Safety: S24/25

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.05 A.U.

Lot analysis on the label.

Dodecanoic acid *See Lauric acid, page 143*

Dodecanoyl peroxide *See di-Lauroyl peroxide, page 143*

Dodecyl Sodium Sulfate
See Sodium dodecyl sulfate, page 240

Dodecyl trimethyl ammonium bromide
for Ion pair chromatography — Certified

packaging		product code
25 g	Plastic jar	D/5311/46

$C_{15}H_{34}BrN$
CAS: 1119-94-4
MW: 308.35
Melting point: 246 °C

HS-Nr: 29239000
EINECS: 214-290-3
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.05 A.U.

Lot analysis on the label.

DPX mounting medium
For microscopy

packaging		product code
100 mL	Glass bottle	D/5319/05

ADR/RID: 3/III
UN: 1307
HS-Nr: 38220000
Risk: R11, R36/37/38
Safety: S16, S33
F Xn

Dysprosium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLDY22Y
500 mL	Plastic bottle	SPPLDY22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

EDTA
See Ethylenediaminetetraacetic acid, page 100

EDTA, disodium salt
See Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N), page 101

EDTA, trisodium salt
See Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N), page 101

EGTA
See 1.2-Di(2-aminoethoxy)ethane-N,N,N,N-tetraacetic acid, page 80

Ehrlich's Reagent
See 4-Dimethylaminobenzaldehyde, page 89

1.2-Epoxypropane
extra pure SLR

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	E/0050/PB08
2.5 L	Coated Glass Bottle	E/0050/PB17

C_3H_6O
CAS: 75-56-9
MW: 58.08
Density at 20°C: 0.83
Boiling point: 34°C
Boiling pressure: 760 mmHg
Melting point: -112°C
Flash point: -37°C
ADR/RID: 3/I
UN: 1280
HS-Nr: 29102000
EINECS: 200-879-2
Risk: R45, R46, R12, R20/21/22, R36/37/38
Safety: S53, S45
F+ T

Assay (GC): >99%

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Erbium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLER22Y
500 mL	Plastic bottle	SPPLER22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Erbium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLER23Y
500 mL	Plastic bottle	SPPLER23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Eriochrome black T C.I. 14645
pure, Metal indicator

packaging		product code
25 g	Glass packaging	E/0100/46
100 g	Glass packaging	E/0100/48

$C_{20}H_{12}N_3NaO_7S$
CAS: 1787-61-7
MW: 461.38
HS-Nr: 32041200
EINECS: 217-250-3
Risk: R36
Safety: S26, S39
Xi

Guaranteed analysis
IR Analysis ..... Conform

Eriochrome blue-black R C.I. 15705
pure, Metal indicator

packaging		product code
25 g	Glass Jar	E/0200/46

CAS: 2538-85-4
HS-Nr: 32041200
EINECS: 219-810-2

Guaranteed analysis
IR Analysis ..... Conform

Eriochrome cyanine R C.I. 43820
pure, Metal indicator

packaging		product code
25 g	Glass Jar	E/0250/46

$C_{23}H_{15}Na_3O_9S$
CAS: 3564-18-9
MW: 536.39
HS-Nr: 38220000
EINECS: 222-641-7
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Eschka's mixture
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	E/0300/53

HS-Nr: 38220000

Guaranteed analysis

Insoluble Substances (HCl)	<0.005%	Total chloride (Cl)	<0.01%
Calcium (Ca)	<500 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<10 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<100 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<50 ppm		

Typical analysis

Magnesium oxide	65-67%	Sodium carbonate	33-35%

Ethanal *See Acetaldehyde, page 1*

Ethanediol
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	E/0352/08
2.5 L	Glass bottle	E/0352/17
2.5 L	Coated Glass Bottle	E/0352/PB17
25 L	Metal drum	E/0352/25
200 L	Metal drum	E/0352/27

$C_2H_6O_2$
CAS: 107-21-1
MW: 62.07
Density at 20°C: 1.11
Boiling point: 196 to 198°C
Boiling pressure: 760 mmHg

Melting point: -13°C
Flash point: 116°C
HS-Nr: 29053100
EINECS: 203-473-3
Risk: R22

Xn

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Lead (Pb)	<1 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.5 ppm
Residue after ignition	<0.003%	Potassium (K)	<0.5 ppm
Water	<0.1%	Sodium (Na)	<2 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<1 ppm
Chlorine	<0.2 ppm	Total silicon (Si)	<0.2 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<0.5 ppm

Typical analysis

Aluminium (Al)	<0.2 ppm	Manganese (Mn)	<0.05 ppm
Barium (Ba)	<0.1 ppm	Molybdenum (Mo)	<0.05 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.05 ppm

For the glycerol determination.
Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Ethanedionic acid *See Oxalic acid dihydrate, page 181*

Ethanol absolute
for HPLC — Certified

packaging		product code
1 L	Glass bottle	E/0665DF/15
2.5 L	Glass bottle	E/0665DF/17

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0.79
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.3%
Residue after evaporation	<10 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.6 A.U.	250 nm	<0.05 A.U.
220 nm	<0.3 A.U.	290 nm	<0.015 A.U.
230 nm	<0.125 A.U.	270 nm	<0.025 A.U.

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.
Lot analysis on the label.
Filtered to 0.2 µm.

Ethanol absolute
for analysis — Certified AR, Eur.Ph., BP, USP

packaging		product code
1 L	Glass bottle	E/0650DF/15
2.5 L	Glass bottle	E/0650DF/17
2.5 L	Plastic bottle	E/0650DF/C17
5 L	Metal can	E/0650DF/21
10 L	Plastic drum	E/0650DF/24
25 L	Metal drum	E/0650DF/25
205 L	Metal drum	E/0650DF/28

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0.79
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Assay (GC): >99.8%

Guaranteed analysis

Acetone	<0.001%	Lead (Pb)	<0.05 ppm
Acidity (acetic acid)	<0.002%	Magnesium (Mg)	<0.05 ppm
Acidity / Alkalinity	<0.0001 meq/g	Potassium (K)	<0.5 ppm
Colour	<10 APHA	Sodium (Na)	<2 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.5 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Total silicon (Si)	<0.05 ppm
Substances reducing $KMnO_4$	<0.0005%	Total sulphur (S)	<1 ppm
Water	<0.2%	Zinc (Zn)	<0.2 ppm
Calcium (Ca)	<0.5 ppm	Aldehydes	<0.002 %
Copper (Cu)	<0.05 ppm	Furfuraldéhyde	<0.001 %
Iron (Fe)	<0.2 ppm	Methanol	<0.002 %
		Other IMP.	<0.02
		Propan--2-ol	<0.003 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.
see page 279 for suitable Tap & accessories.

Ethanol absolute
extra pure — SLR

packaging		product code
1 L	Glass bottle	E/0600DF/15
2.5 L	Glass bottle	E/0600DF/17
2.5 L	Plastic bottle	E/0600DF/C17
5 L	Metal can	E/0600DF/21
25 L	Metal drum	E/0600DF/25
25 L	Plastic drum	E/0600DF/P25

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0.79
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Iron (Fe)	<2 ppm
Colour	<20 APHA	Lead (Pb)	<1 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<2 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Potassium (K)	<2 ppm
Substances reducing $KMnO_4$	<0.001%	Sodium (Na)	<10 ppm
Water	<0.5%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<5 ppm
		Zinc (Zn)	<2 ppm

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.
see page 279 for suitable Tap & accessories.

Ethanol *for analysis*

Certified AR, USP

Certified AR

packaging		product code
1 L	Glass bottle	**E/0550DF/15**
2.5 L	Glass bottle	**E/0550DF/17**
2.5 L	Plastic bottle	**E/0550DF/C17**
5 L	Metal can	**E/0550DF/21**
25 L	Metal drum	**E/0550DF/25**

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0 to 0.813
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Assay: >95%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Total sulphur (S)	<2 ppm
Colour	<10 APHA	Zinc (Zn)	<0.2 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Acetone	<0.002%
Calcium (Ca)	<1 ppm	Acidity / alkalinity	<0.0005 meq/g
Copper (Cu)	<0.05 ppm	Furfuraldéhyde	<0.001%
Iron (Fe)	<0.2 ppm	Methanol	<0.02%
Lead (Pb)	<0.05 ppm	Other impurities	<0.2 ppm
Magnesium (Mg)	<0.2 ppm	Propanol -2	<0.02 ppm
Potassium (K)	<0.1 ppm	Residue after evaporation	<10 ppm
Sodium (Na)	<2 ppm	Substances reducing permanganate	<0.0005%
Total phosphorus (P)	<0.2 ppm	Sulfuric Colors (H_2SO_4)	<10 APHA
Total silicon (Si)	<0.5 ppm	Propan -2-ol	<0.02%

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.
see page 279 for suitable Tap & accessories.

Ethanol 96% v/v *for analysis*

Certified AR, Eur.Ph., BP, USP

Certified AR

packaging		product code
2.5 L	Glass bottle	**E/0555DF/17**
2.5 L	Plastic bottle	**E/0555DF/C17**
5 L	Metal can	**E/0555DF/21**
25 L	Metal drum	**E/0555DF/25**

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0.808 to 0.813
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Assay: >96%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Zinc (Zn)	<0.2 ppm
Colour	<10 APHA	Acetone	<0.002%
Substances darkened by (H_2SO_4)	<10 APHA	Acidity / alkalinity	<0.0005 meq/g
Calcium (Ca)	<1 ppm	Furfuraldéhyde	<0.001%
Copper (Cu)	<0.05 ppm	Methanol	<0.02%
Iron (Fe)	<0.2 ppm	Other impurities	<0.02 %
Lead (Pb)	<0.05 ppm	Propanol -2	<0.02 %
Magnesium (Mg)	<0.2 ppm	Residue after evaporation	<10 ppm
Potassium (K)	<0.1 ppm	Substances reducing permanganate	<0.0005%
Sodium (Na)	<2 ppm	Sulfuric Colors (H_2SO_4)	<10 APHA
Total phosphorus (P)	<0.2 ppm	Total sulphur (S)	<2 ppm
Total silicon (Si)	<0.5 ppm	Propan -2-ol	<0.02%

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.
see page 279 for suitable Tap & accessories.

Ethanol 96% v/v *extra pure*

SLR

Specified LR

packaging		product code
2.5 L	Glass bottle	**E/0551DF/17**
2.5 L	Plastic bottle	**E/0551DF/C17**

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0.79
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<100 ppm	Potassium (K)	<2 ppm
Substances reducing $KMnO_4$	<0.001%	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<5 ppm
		Zinc (Zn)	<2 ppm

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.

Ethanol 95% v/v *extra pure*

SLR

Specified LR

packaging		product code
500 mL	Glass bottle	**E/0500DF/08**
1 L	Glass bottle	**E/0500DF/15**
2.5 L	Glass bottle	**E/0500DF/17**
2.5 L	Plastic bottle	**E/0500DF/C17**
5 L	Plastic bottle	**E/0500DF/P21**
10 L	Plastic drum	**E/0500DF/P24**

C_2H_5OH
CAS: 64-17-5
MW: 46.07
Density at 20°C: 0.79
Flash point: 12°C
ADR/RID: 3/II

UN: 1170
HS-Nr: 22071000
EINECS: 200-578-6
Risk: R11
Safety: S7, S16

F

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<100 ppm	Potassium (K)	<2 ppm
Substances reducing $KMnO_4$	<0.001%	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<5 ppm
		Zinc (Zn)	<2 ppm

The trade of absolute ethanol is subject to local regulation and additional excise duties apply.

Ethanolamine
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	E/0701/08
2.5 L	Glass bottle	E/0701/17

C_2H_7NO
CAS: 141-43-5
MW: 61.09
Density at 20°C: 1.01
Boiling point: 170°C
Boiling pressure: 760 mmHg
Melting point: 10.3°C

Flash point: 85°C
ADR/RID: 8/III
UN: 2491
HS-Nr: 29221100
EINECS: 205-483-3
Risk: R20/21/22, R34
Safety: S26, S36/37/39, S45

C

Assay (GC): >99.5%

Guaranteed analysis

Colour	<10 APHA	Molybdenum (Mo)	<0.05 ppm
Residue after ignition	<0.005%	Nickel (Ni)	<0.05 ppm
Aluminium (Al)	<0.2 ppm	Potassium (K)	<0.5 ppm
Barium (Ba)	<0.05 ppm	Selenium (Se)	<0.05 ppm
Cadmium (Cd)	<0.05 ppm	Sodium (Na)	<5 ppm
Calcium (Ca)	<2 ppm	Strontium (Sr)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Tin (Sn)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Copper (Cu)	<1 ppm	Total phosphorus (P)	<0.5 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<0.2 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<1 ppm
Lithium (Li)	<0.05 ppm	Vanadium (V)	<0.05 ppm
Magnesium (Mg)	<0.5 ppm	Zinc (Zn)	<1 ppm
Manganese (Mn)	<0.05 ppm		

Lot analysis on the label.

Ethanolamine
extra pure — SLR

packaging		product code
500 mL	Glass bottle	E/0700/08
2.5 L	Glass bottle	E/0700/17
2.5 L	Coated Glass Bottle	E/0700/PB17

C_2H_7NO
CAS: 141-43-5
MW: 61.09
Density at 20°C: 1.01
Boiling point: 170°C
Boiling pressure: 760 mmHg
Melting point: 10.3°C

Flash point: 85°C
ADR/RID: 8/III
UN: 2491
HS-Nr: 29221100
EINECS: 205-483-3
Risk: R20/21/22, R34
Safety: S26, S36/37/39, S45

C

Assay (GC): >99%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after ignition	<0.02%	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<1 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<2 ppm		

Ethenylbenzene
See Styrene stabilized with 10-15 ppm tert-butylcatechol, page 272

Ether petroleum
See Petroleum ether 30-40°C, page 188

2-Ethoxyethanol
extra pure — SLR

packaging		product code
1 L	Glass bottle	E/0750/15
2.5 L	Glass bottle	E/0750/17
25 L	Metal drum	E/0750/25

$C_4H_{10}O_2$
CAS: 110-80-5
MW: 90.12
Density at 20°C: 0.93
Boiling point: 135°C
Boiling pressure: 760 mmHg
Melting point: -100°C

Flash point: 44°C
ADR/RID: 3/III
UN: 1171
HS-Nr: 29094400
EINECS: 203-804-1
Risk: R60, R61, R10, R20/21/22
Safety: S53, S45

T

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<10 ppm
Water	<0.2%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

2-Ethoxyethyl acetate
pure

packaging		product code
2.5 L	Coated Glass Bottle	E/0800/PB17

$C_6H_{12}O_3$
CAS: 111-15-9
MW: 132.16
Density at 20°C: 0.97
Boiling point: 156°C
Boiling pressure: 760 mmHg
Melting point: -61°C

Flash point: 51°C
ADR/RID: 3/III
UN: 1172
HS-Nr: 29153980
EINECS: 203-839-2
Risk: R60, R61, R10, R20/21/22
Safety: S53, S45

T

Assay (GC): >98%

Ethyl acetate
for HPLC — Certified

packaging		product code
1 L	Glass bottle	E/0906/15
2.5 L	Glass bottle	E/0906/17
2.5 L	Coated Glass Bottle	E/0906/PB17
25 L	Stainless steel drum	E/0906/25SS
25 L	Metal drum	E/0906/DH25
200 L	Stainless steel drum	E/0906/27SS

$C_4H_8O_2$
CAS: 141-78-6
MW: 88.11
Density at 20°C: 0.9
Boiling point: 75 to 77.5°C
Boiling pressure: 760 mmHg
Melting point: -83.5°C

Flash point: -4°C
ADR/RID: 3/II
UN: 1173
HS-Nr: 29153100
EINECS: 205-500-4
Risk: R11, R36, R66, R67
Safety: S16, S26, S33

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0015 meq/g	Water	<0.03%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

260 nm	<0.12 A.U.	280 nm	<0.005 A.U.
270 nm	<0.025 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Ethyl acetate
for residue and pesticide analysis — Distol

packaging		product code
1 L	Glass bottle	E/0903/15
2.5 L	Glass bottle	E/0903/17

$C_4H_8O_2$
CAS: 141-78-6
MW: 88.11
Density at 20°C: 0.9
Boiling point: 75 to 77.5°C
Boiling pressure: 760 mmHg
Melting point: -83.5°C

Flash point: -4°C
ADR/RID: 3/II
UN: 1173
HS-Nr: 29153100
EINECS: 205-500-4
Risk: R11, R36, R66, R67
Safety: S16, S26, S33

F Xi

Assay (GC): >99.8%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.05%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile: (1) 50°C, 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Ethyl acetate
for analysis — Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	E/0900/15
2.5 L	Glass bottle	E/0900/17
2.5 L	Coated Glass Bottle	E/0900/PB17
2.5 L	Plastic bottle	E/0900/PC17
5 L	Metal can	E/0900/21
25 L	Metal drum	E/0900/25
25 L	Metal drum	E/0900/DH25
200 L	Metal drum	E/0900/27

$C_4H_8O_2$
CAS: 141-78-6
MW: 88.11
Density at 20°C: 0.9
Boiling point: 75 to 77.5°C
Boiling pressure: 760 mmHg
Melting point: -83.5°C

Flash point: -4°C
ADR/RID: 3/II
UN: 1173
HS-Nr: 29153100
EINECS: 205-500-4
Risk: R11, R36, R66, R67
Safety: S16, S26, S33

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Potassium (K)	<0.5 ppm
Colour	<5 APHA	Sodium (Na)	<0.5 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.1 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Total silicon (Si)	<0.05 ppm
		Total sulphur (S)	<0.2 ppm
Substances reducing $KMnO_4$	<0.0005%	Zinc (Zn)	<0.1 ppm
		Ethanol	<0.1 %
Water	<0.03%	Ethyl propanoate	<0.1 %
Copper (Cu)	<0.02 ppm	Iso-propyl acetate	<0.05 %
Iron (Fe)	<0.1 ppm	Methanol	<0.02 %
Lead (Pb)	<0.02 ppm	Methyl acetate	<0.02 %
Magnesium (Mg)	<0.05 ppm	N-acetate Propyle	<0.05 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Calcium (Ca)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Vanadium (V)	<0.01 ppm
Lithium (Li)	<0.01 ppm		

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Ethyl acetate
extra pure — SLR

Specified LR

packaging		product code
1 L	Glass bottle	E/0850/15
2.5 L	Glass bottle	E/0850/17
2.5 L	Coated Glass Bottle	E/0850/PB17
5 L	Metal can	E/0850/21
10 L	Metal drum	E/0850/24
25 L	Metal drum	E/0850/25
200 L	Metal drum	E/0850/27

$C_4H_8O_2$
CAS: 141-78-6
MW: 88.11
Density at 20°C: 0.9
Boiling point: 75 to 77.5°C
Boiling pressure: 760 mmHg
Melting point: -83.5°C

Flash point: -4°C
ADR/RID: 3/II
UN: 1173
HS-Nr: 29153100
EINECS: 205-500-4
Risk: R11, R36, R66, R67
Safety: S16, S26, S33

F Xi

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Iron (Fe)	<2 ppm
Colour	<10 APHA	Lead (Pb)	<1 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<1 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Potassium (K)	<1 ppm
		Sodium (Na)	<2 ppm
Substances reducing $KMnO_4$	<0.001%	Total phosphorus (P)	<1 ppm
		Total silicon (Si)	<1 ppm
Water	<0.05%	Total sulphur (S)	<1 ppm
Calcium (Ca)	<2 ppm	Zinc (Zn)	<1 ppm
Copper (Cu)	<1 ppm		

see page 279 for suitable Tap & accessories.

Ethyl acetoacetate
extra pure — SLR

Specified LR

packaging		product code
500 mL	Glass bottle	E/0950/08
2.5 L	Glass bottle	E/0950/17

$C_6H_{10}O_3$
CAS: 141-97-9
MW: 130.15
Density at 20°C: 1.03
Boiling point: 180°C
Boiling pressure: 760 mmHg

Melting point: -45°C
Flash point: 70°C
HS-Nr: 29183000
EINECS: 205-516-1
Safety: S24/25

Assay (GC): >99%

Ethylamine
pure, solution 70% w/w in water

packaging		product code
500 mL	Glass bottle	E/1000/08

C_2H_7N
CAS: 75-04-7
MW: 45.9
Density at 20°C: 0.79 to 0.81
Boiling pressure: 760 mmHg
Flash point: -17°C

ADR/RID: 3 (8)/II
UN: 2270
HS-Nr: 29211990
EINECS: 200-834-7
Risk: R12, R36/37
Safety: S16, S26, S29

F+ Xi

Ethyl benzoate
extra pure — SLR

Specified LR

packaging		product code
500 mL	Glass bottle	E/1100/08

$C_9H_{10}O_2$
CAS: 93-89-0
MW: 150.18
Density at 20°C: 1.05
Boiling point: 212°C
Boiling pressure: 760 mmHg

Melting point: -34°C
Flash point: 84°C
HS-Nr: 29163100
EINECS: 202-284-3
Safety: S24/25

Assay (GC): >99%

Ethyl bromide
See Bromoethane, page 43

Ethyl bromoacetate
pure

packaging		product code
100 mL	Coated Glass Bottle	E/1130/PB05

$C_4H_7BrO_2$
CAS: 105-36-2
MW: 167
Density at 20°C: 1.51
Boiling point: 159°C
Boiling pressure: 760 mmHg
Melting point: -38°C

Flash point: 47°C
ADR/RID: 3(6.1)/II
UN: 1603
HS-Nr: 29159090
Risk: R26/27/28
Safety: S7/9, S26, S45

T+

Assay: >95%

Ethyl digol
See Diethylene glycol monoethyl ether, page 85

Ethylenecarboxamide See Acrylamide, page 11

Ethylenediaminetetraacetic acid — Certified AR
for analysis, EDTA

Certified AR

packaging		product code
100 g	Plastic jar	D/0452/48
250 g	Plastic jar	D/0452/50

$C_{10}H_{16}N_2O_8$
CAS: 60-00-4
MW: 292.25
Melting point: 237-245°C
HS-Nr: 29224980
EINECS: 200-449-4
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >99%

Guaranteed analysis

Loss on drying	<0.1%	Sodium (Na)	<200 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.02 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<50 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Ethylenediaminetetraacetic acid — SLR
extra pure, EDTA

Specified LR

packaging		product code
250 g	Plastic jar	D/0450/50
500 g	Plastic jar	D/0450/53
10 kg	Plastic screw top Keg	D/0450/68

$C_{10}H_{16}N_2O_8$
CAS: 60-00-4
MW: 292.25
Melting point: 237-245°C
HS-Nr: 29224980
EINECS: 200-449-4
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.1%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<100 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<100 ppm

Ethylenediaminetetraacetic acid diammonium salt — SLR
extra pure

Specified LR

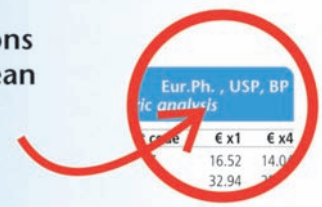
packaging		product code
100 g	Plastic jar	D/0500/48
25 kg	Plastic screw top Keg	D/0500/70

$(CH_2.N(CH_2.COOH).CH_2.COONH_4)_2$+aq.
CAS: 20824-56-0
HS-Nr: 29224980
EINECS: 244-063-4

Guaranteed analysis

IR Analysis ..... Conform

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Ethylenediaminetetraacetic acid disodium salt solution 0.2N — Certified
NEW SPEC.
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
2.5 L	Plastic bottle	J/3710/17

Xn

Melting point: 237 to 245°C
HS-Nr: 29224980
Risk: R22, R36/37/38
Safety: S26, S37/39

Guaranteed analysis

Electrochemical test ..... Conform Value between ..... 0.999 to 1.001

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Ethylenediaminetetraacetic acid disodium salt dihydrate — Certified AR, Eur.Ph., BP
for analysis

Certified AR

packaging		product code
100 g	Plastic jar	D/0700/48
250 g	Plastic jar	D/0700/50
500 g	Plastic jar	D/0700/53
1 kg	Plastic jar	D/0700/60
10 kg	Plastic screw top Keg	D/0700/68
25 kg	Fibre Keg	D/0700/70

$C_{10}H_{14}N_2Na_2O_8.2H_2O$
CAS: 6381-92-6
MW: 372.24
Melting point: 252 °C
HS-Nr: 29224995
EINECS: 205-358-3
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	4 to 5	Potassium (K)	<10 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005 %
Copper (Cu)	<2 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Ethylenediaminetetraacetic acid disodium salt dihydrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	D/0650/48
250 g	Plastic jar	D/0650/50
500 g	Plastic jar	D/0650/53
1 kg	Plastic jar	D/0650/60
5 kg	Plastic screw top Keg	D/0650/65
25 kg	Fibre Keg	D/0650/70

$C_{10}H_{14}N_2Na_2O_8.2H_2O$
CAS: 6381-92-6
MW: 372.24
Melting point: 252 °C
HS-Nr: 38220000
EINECS: 205-358-3
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<1000 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<50 ppm		

Ethylenediaminetetraacetic acid disodium salt solution 0.01M (0.02N) NEW SPEC.

NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/3720/PB15
2.5 L	Plastic bottle	J/3720/17

Melting point: 237 to 245°C
HS-Nr: 29224990
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Manufactured to a tolerance of ± 0.3%.
See the full range of Standard Volumetric solution page 266.

Ethylenediaminetetraacetic acid disodium salt solution 0.01M (0.02N) NEW SPEC.

NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/3720C/05
6	ampoule	J/3720C/90

Melting point: 237 to 245°C
HS-Nr: 38220000
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N) NEW SPEC. Eur.Ph. , BP

NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/3700/15
2.5 L	Plastic bottle	J/3700/17
10 L	Cubitainer	J/3700/24

Melting point: 237 to 245°C
HS-Nr: 38220000
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N) NEW SPEC.

NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/3700C/05
6	ampoule	J/3700C/90

Melting point: 237 to 245°C
HS-Nr: 38220000
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Each ampoule makes 500 mL of solution.
See the full range of Standard Volumetric solution page 266.

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Ethylenediaminetetraacetic acid dipotassium salt dihydrate SLR

extra pure

Specified

packaging		product code
500 g	Plastic jar	D/0600/53
25 kg	Plastic drum	D/0600/70

$C_{10}H_{14}K_2N_2O_8.2H_2O$
CAS: 25102-12-9
MW: 404.47
Melting point: 272 °C
HS-Nr: 29224980
EINECS: 217-895-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<1000 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<2000 ppm		

Ethylenediaminetetraacetic acid tetrasodium salt SLR

extra pure

Specified

packaging		product code
250 g	Plastic jar	D/0750/50

$C_{10}H_{12}N_2O_8.4Na,4H_2O$
CAS: 64-02-8
MW: 452.24
HS-Nr: 29224980
EINECS: 200-573-9
Risk: R36/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

pH (aqueous solution 5%)	10 to 11.5	Lead (Pb)	<20 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.1%

Ethylene dibromide

See 1.2-Dibromoethane, page 80

Ethylene dichloride

See 1.2-Dichloroethane, page 82

(Ethylenedinitrilo)tetraacetic acid, disodium salt

See Ethylenediaminetetraacetic acid disodium salt solution 0.01M (0.02N)

Ethanediol SLR

extra pure

Specified

packaging		product code
500 mL	Plastic bottle	E/0350/PB08
1 L	Glass bottle	E/0350/15
2.5 L	Glass bottle	E/0350/17
2.5 L	Plastic bottle	E/0350/PB17
25 L	Metal drum	E/0350/25

$C_2H_6O_2$
CAS: 107-21-1
MW: 62.07
Density at 20°C: 1.11
Boiling point: 196 to 198°C
Boiling pressure: 760 mmHg
Melting point: -13°C
Flash point: 116°C
HS-Nr: 29036100
EINECS: 203-473-3
Risk: R22

Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after ignition	<0.01%	Sodium (Na)	<10 ppm
Water	<0.5%	Total phosphorus (P)	<5 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<10 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<5 ppm		

see page 279 for suitable Tap & accessories.

Ethylene glycol ethyl ether
See 2-Ethoxyethanol, page 98

Ethylene glycol monobutyl ether
See 2-n-Butoxyethanol, page 51

Ethylene glycol monoethyl ether acetate
See 2-Ethoxyethyl acetate, page 98

Ethylene glycol monomethyl ether
See 2-Methoxyethanol, page 164

Ethyl iodide *See Iodoethane, page 130*

Ethyl lactate
extra pure — SLR

packaging		product code
2.5 L	Glass bottle	E/1400/17

$CH_3CH(OH).COO.C_2H_5$
CAS: 97-64-3
MW: 118.14
Density at 20°C: 1.03
Flash point: 46°C
ADR/RID: 3/III
UN: 1192
HS-Nr: 29181100
EINECS: 202-598-0
Risk: R10
Safety: S23C

Assay (GC): >98%

Guaranteed analysis

Residue after evaporation ..... <100 ppm

Ethyl methyl ketone
for analysis — Certified AR

packaging		product code
1 L	Glass bottle	E/1455/15
2.5 L	Glass bottle	E/1455/17
2.5 L	Coated Glass Bottle	E/1455/PB17
25 L	Metal drum	E/1455/25
200 L	Metal drum	E/1455/27

C_4H_8O
CAS: 78-93-3
MW: 72.11
Density at 20°C: 0.81
Boiling point: 80°C
Boiling pressure: 760 mmHg
Melting point: -87°C
Flash point: -7°C
ADR/RID: 3/II
UN: 1193
HS-Nr: 29141200
EINECS: 201-159-0
Risk: R11, R36, R66, R67
Safety: S9, S16

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acetone	<0.2%	Sodium (Na)	<0.5 ppm
Acidity / Alkalinity	<0.0005 meq/g	Total phosphorus (P)	<0.1 ppm
Colour	<10 APHA	Total silicon (Si)	<0.02 ppm
Residue after evaporation	<10 ppm	Total sulphur (S)	<0.2 ppm
Water	<0.1%	Zinc (Zn)	<0.1 ppm
Calcium (Ca)	<0.2 ppm	2-Methylpropan--2-ol	<0.1 %
Copper (Cu)	<0.02 ppm	Butan -2-ol	<0.02 %
Iron (Fe)	<0.1 ppm	Butyl acetate	<0.05 %
Lead (Pb)	<0.02 ppm	Di-n-butyl ether	<0.05 %
Magnesium (Mg)	<0.05 ppm	Ethyl acetate	<0.05 %
Potassium (K)	<0.5 ppm	Methanol	<0.05 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Ethyl methyl ketone
extra pure — SLR

packaging		product code
1 L	Glass bottle	E/1450/15
2.5 L	Glass bottle	E/1450/17
2.5 L	Coated Glass Bottle	E/1450/PB17
5 L	Metal can	E/1450/21
25 L	Metal drum	E/1450/25
200 L	Metal drum	E/1450/27

C_4H_8O
CAS: 78-93-3
MW: 72.11
Density at 20°C: 0.81
Boiling point: 80°C
Boiling pressure: 760 mmHg
Melting point: -87°C
Flash point: -7°C
ADR/RID: 3/II
UN: 1193
HS-Nr: 29141200
EINECS: 201-159-0
Risk: R11, R36, R66, R67
Safety: S9, S16

F Xi

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Magnesium (Mg)	<1 ppm
Colour	<20 APHA	Potassium (K)	<1 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<2 ppm
Water	<0.2%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<2 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<1 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

Ethyl oleate
pure, for saponification

packaging		product code
500 mL	Glass bottle	E/1460/08

$C_{20}H_{38}O_2$
CAS: 111-62-6
MW: 310.52
Density at 20°C: 0.86
Boiling point: 190 to 210°C
Boiling pressure: 7 mmHg
Flash point: 160°C
HS-Nr: 29161500
EINECS: 203-889-5
Safety: S24/25

Assay: 98 to 103%

Guaranteed analysis

Iodine index ..... 75 - 84

Euparal mountant
For microscopy

packaging		product code
100 mL	Glass bottle	E/1500/05

ADR/RID: 3/III
UN: 1993
HS-Nr: 33019090
Risk: R10
Safety: S23, S24/25

F

Europium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLEU22Y
500 mL	Plastic bottle	SPPLEU22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Fast Green FCF C.I. 42053
pure, indicator grade

packaging		product code
25 g	Glass packaging	F/P025/46

$C_{37}H_{34}N_2Na_2O_{10}S_3$
CAS: 2353-45-9
MW: 808.85
Melting point: 290 °C

HS-Nr: 32041900
EINECS: 219-091-5
Risk: R20/21/22, R40
Safety: S25, S37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

Fehling's solution No. 1
pure, to B.P. 1988

packaging		product code
1 L	Plastic bottle	J/3800/15
2.5 L	Plastic bottle	J/3800/17

HS-Nr: 38220000

C

Assay: 6.85 to 7.05%

Fehling's solution 1 and 2 are to be mixed in equal volumes before use.
1 mL is equivalent to 5 mg glucose.

Fehling's solution No. 2
pure, to B.P. 1988

packaging		product code
1 L	Plastic bottle	J/3900/15
2.5 L	Plastic bottle	J/3900/17

ADR/RID: 8/II
UN: 1719
HS-Nr: 38220000

Risk: R35
Safety: S26, S37/39, S45

C

Guaranteed analysis
Molarity ..... 3.75 to 3.95 M

Fehling's solution 1 and 2 are to be mixed in equal volumes before use.
1 mL is equivalent to 5 mg glucose.

Fehling's solution No. 1
pure, to Lane and Eynon modification

packaging		product code
1 L	Plastic bottle	J/3910/PB15
2.5 L	Glass bottle	J/3910/17

HS-Nr: 38220000

Assay: 6.85 to 7.1%

Fehling's solution 1 and 2 are to be mixed in equal volumes before use.

Fehling's solution No. 2
pure, to Lane and Eynon modification

packaging		product code
1 L	Plastic bottle	J/3920/PB15
2.5 L	Plastic bottle	J/3920/17

ADR/RID: 8/II
UN: 1719
HS-Nr: 38220000

Risk: R35
Safety: S26, S37/39, S45

C

Guaranteed analysis
Molarity ..... 2.4 to 2.6 M

Fehling's solution 1 and 2 are to be mixed in equal volumes before use.

Ficodox® mixed COD reagent
pure

packaging		product code
2.5 L	Coated Glass Bottle	J/4000/PB17

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010

Risk: R35
Safety: S26, S30, S45

C

Guaranteed analysis
Dichromate demand (ml FeSO) .... <2 mL

COD Test Reagents
Ficodox meets the DOE/NWC Standing Committee ot Analyst publication "Method for the Examination of Waters and Associated Materials"- Chemical Oxygen Demand (Dichromate value) of Polluted and Waste Waters- HMSO 1977.

Ficodox® Plus mixed COD reagent
pure

packaging		product code
1 L	Glass bottle	J/4010/15
2.5 L	Coated Glass Bottle	J/4010/PB17

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010

Risk: R35
Safety: S26, S30, S45

C

Guaranteed analysis
Dichromate demand (ml FeSO) .... <2 mL

COD Test reagents. Avoids the use of Mercury salt.
"Ficodox Plus "meets the DOE/NWC Standing Committee ot Analyst publication "Method for the Examination of Waters and Associated Materials"- Chemical Oxygen Demand (Dichromate value) of Polluted and Waste Waters 1986(Second Edition) available from HMSO for the estimation of COD without the use of mercury salts.

Florisil®
For chromatography, about 100-200 U.S. Mesh

packaging		product code
250 g	Plastic jar	F/1173/50

HS-Nr: 25120000

C

Florisil® is a registered trade name of Floridin company.

Florisil®
For chromatography, about 60-100 U.S. Mesh

packaging		product code
250 g	Plastic jar	F/1170/50

HS-Nr: 25120000

C

Florisil® is a registered trade name of Floridin company.

Fluorescamine
pure

packaging		product code
100 mg	Glass tube	F/1198/40

$C_{17}H_{10}O_4$
CAS: 38183-12-9
MW: 278.26
Melting point: 155 to 157°C

HS-Nr: 29329090
EINECS: 253-814-5
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Save money!
Order 4 bottles in a box

Fluorescein C.I. 45350
pure

packaging		product code
25 g	Glass packaging	F/1200/46
100 g	Glass packaging	F/1200/48

$C_{20}H_{12}O_5$
CAS: 2321-07-5
MW: 332.31
Melting point: 314 to 316°C

HS-Nr: 32041200
EINECS: 219-031-8
Risk: R36, R43
Safety: S26, S37/39

Xi

Guaranteed analysis
IR Analysis ..... Conform

Fluorescein sodium
pure

packaging		product code
100 g	Glass Jar	F/1300/48
500 g	Glass Jar	F/1300/53

$C_{20}H_{10}Na_2O_5$
CAS: 518-47-8
MW: 376.28
Melting point: 320°C

HS-Nr: 32041200
EINECS: 208-253-0
Risk: R36
Safety: S26, S37/39

Xi

Guaranteed analysis
IR Analysis ..... Conform

Fluorescein di-(methylimino diacetic acid) sodium salt
pure, Metal indicator (Calcein)

packaging		product code
5 g	Glass Jar	F/1250/44

$C_{30}H_{26}N_2O_{13}$
CAS: 1461-15-0
MW: 622.54
Melting point: 200°C

HS-Nr: 29329090
EINECS: 215-957-1
Risk: R20/21/22, R36/37/38
Safety: S26, S36/37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

Fluoride standard 10 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASF91AY
500 mL	Plastic bottle	SPASF91AX

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Fluoride standard 100 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASF91Y
500 mL	Plastic bottle	SPASF91X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Fluoride standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4548/05

Density at 20°C: 1
HS-Nr: 38220000

Manufactured to a tolerance of ± 1%.

Fluoride standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASF92Y
500 mL	Plastic bottle	SPASF92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Fluoroboric acid 50% solution in HBF4
Technical

packaging		product code
500 mL	Plastic bottle	F/1350/08

HBF_4
CAS: 16872-11-0
MW: 87.81
Density at 20°C: 1.31 g

ADR/RID: 8/II
UN: 1775
HS-Nr: 28111900
EINECS: 240-898-3

C

Fluorosilicic acid
Technical

packaging		product code
500 mL	Plastic bottle	F/1400/08

H_2F_6Si
CAS: 16961-83-4
MW: 144.09
Density at 20°C: 1.27
ADR/RID: 8/II

UN: 1778
HS-Nr: 28111900
EINECS: 241-034-8
Risk: R34
Safety: S26, S27, S45

C

Folin & Ciocalteu's phenol reagent
pure

packaging		product code
500 mL	Glass bottle	J/4100/08

HS-Nr: 38220000
Risk: R36/38
Safety: S26, S28

Xi

Contains 10% v / v HCl and 5% V / V H 3 PO 4.

Formaldehyde solution 37-41% SLR
extra pure

Specified LR

packaging		product code
500 mL	Plastic bottle	F/1501/PB08
1 L	Plastic bottle	F/1501/PB15
2.5 L	Plastic bottle	F/1501/PB17
25 L	Metal drum	F/1501/25

CH_2O
CAS: 50-00-0
MW: 30.03
Density at 20°C: 1.075 to 1.09
ADR/RID: 3(8)/III

UN: 1198
HS-Nr: 29121100
EINECS: 200-001-8
Risk: R23/24/25, R43, R34, R40
Safety: S26, S36/37, S45, S51

T

Assay: 37 to 41%

Guaranteed analysis

Acidity / Alkalinity	<0.01 meq/g	Total chloride (Cl)	<0.001%
Colour	<10 APHA	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<10 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<0.5 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<1 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<0.5 ppm	Methanol	10 to 14%
Magnesium (Mg)	<5 ppm	Other IMP.	No reaction
Potassium (K)	<1 ppm		

see page 279 for suitable Tap & accessories.

Formaldehyde solution (stabilized in methanol)
Technical

packaging		product code
2.5 L	Plastic bottle	F/1451/PB17
25 L	Metal drum	F/1451/25

H.CHO
CAS: 50-00-0
MW: 30.03
Density at 20°C: 1.07 to 1.09
ADR/RID: 3(8)/III
UN: 1198
HS-Nr: 29121100
EINECS: 200-001-8
Risk: R23/24/25, R43, R34, R40
Safety: S26, S36/37, S45, S51
T

Assay: 37 to 41%

Guaranteed analysis

Acidity / Alkalinity	<0.05 meq/g	Sodium (Na)	<50 ppm
Colour	<20 APHA	Total chloride (Cl)	<0.005%
Calcium (Ca)	<50 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm	Methanol	10 to 14%
Potassium (K)	<5 ppm		

see page 279 for suitable Tap & accessories.

Formaldehyde dimethyl acetal
See Dimethoxymethane, page 88

Formaldehyde solution
pure, 10% phosphate buffered

packaging		product code
5 L	Plastic bottle	F/1520/21

HS-Nr: 29121100
Risk: R40, R43
Safety: S26, S36/37, S45, S51
Xn

Guaranteed analysis

At pH 25°C ..... 7.2 to 7.4

Formaldehyde solution saline
pure, phosphate buffered pH 7.3

packaging		product code
25 L	Metal drum	F/1515/25

Density at 20°C: 1
HS-Nr: 38220000
Risk: R40, R43
Safety: S26, S36/37, S45, S51
Xn

Guaranteed analysis

At pH 20°C ..... 7.25 to 7.35

see page 279 for suitable Tap & accessories.

Formaldehyde solution
pure, 10% w/v in 0.9% sodium chloride solution

packaging		product code
5 L	Plastic bottle	F/1510/21

HS-Nr: 29121100
Risk: R40, R43
Safety: S26, S36/37, S45, S51
Xn

Guaranteed analysis

Sodium chloride	0.8 to 1%	Formaldehyde	9 to 11%

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Formamide
for analysis — Certified AR

packaging		product code
500 mL	Coated Glass Bottle	F/1551/PB08
2.5 L	Coated Glass Bottle	F/1551/PB17
200 L	Metal drum	F/1551/27

CH_3NO
CAS: 75-12-7
MW: 45.04
Density at 20°C: 1.13
Boiling point: 210°C
Boiling pressure: 760 mmHg
Melting point: 2 to 3°C
Flash point: 175°C
HS-Nr: 29121100
Risk: R61
Safety: S53, S45
T

Assay (GC): >99.5%

Guaranteed analysis

Colour	<10 APHA	Lead (Pb)	<0.5 ppm
Residue after ignition	<0.5%	Magnesium (Mg)	<5 ppm
Water	<0.1%	Potassium (K)	<5 ppm
Ammonium formate ($H.COO.NH_4$)	<0.1 %	Sodium (Na)	<2 ppm
		Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<10 ppm	Total silicon (Si)	<0.5 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<0.2 ppm	Manganese (Mn)	<0.1 ppm
Barium (Ba)	<0.2 ppm	Molybdenum (Mo)	<0.1 ppm
Cadmium (Cd)	<0.1 ppm	Nickel (Ni)	<0.1 ppm
Chromium (Cr)	<0.2 ppm	Strontium (Sr)	<0.1 ppm
Cobalt (Co)	<0.1 ppm	Titanium (Ti)	<0.1 ppm
Formic acid (H. COOH)	<0.02 %	Vanadium (V)	<0.1 ppm
Lithium (Li)	<0.1 ppm		

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Formamide
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	F/1550/PB08
2.5 L	Coated Glass Bottle	F/1550/PB17

CH_3NO
CAS: 75-12-7
MW: 45.04
Density at 20°C: 1.13
Boiling point: 210°C
Boiling pressure: 760 mmHg
Melting point: 2 to 3°C
Flash point: 175°C
HS-Nr: 29121100
EINECS: 200-842-0
Risk: R61
Safety: S53, S45
T

Assay (GC): >99%

Guaranteed analysis

Colour	<20 APHA	Magnesium (Mg)	<20 ppm
Residue after ignition	<1000%	Potassium (K)	<20 ppm
Water	<0.5%	Sodium (Na)	<50 ppm
Calcium (Ca)	<50 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Formic acid
for analysis
Certified AR

packaging		product code
500 mL	Coated Glass Bottle	F/1900/PB08
1 L	Coated Glass Bottle	F/1900/PB15
2.5 L	Coated Glass Bottle	F/1900/PB17
25 L	Metal drum	F/1900/25

CH_2O_2
CAS: 64-18-6
MW: 46.02
Density at 20°C: 1.22
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 8°C

Flash point: 69°C
ADR/RID: 3(8)/II
UN: 1779
HS-Nr: 29151100
EINECS: 200-579-1
Risk: R35
Safety: S23, S26, S45

Assay: >98%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.5 ppm
Calcium (Ca)	<2 ppm	Sodium (Na)	<1 ppm
Chromium (Cr)	<0.05 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<0.05 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<0.5 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<0.05 ppm	Total silicon (Si)	<2 ppm
Magnesium (Mg)	<0.1 ppm	Total sulphur (S)	<10 ppm
Nickel (Ni)	<0.05 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.05 ppm	Silver (Ag)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Manganese (Mn)	<0.02 ppm		

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Formic acid
for analysis
Certified AR

packaging		product code
500 mL	Plastic bottle	F/1820/PB08
2.5 L	Plastic bottle	F/1820/PB17

CH_2O_2
CAS: 64-18-6
MW: 46.03
Density at 20°C: 1.22
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 8°C

Flash point: 69°C
ADR/RID: 3(8)/II
UN: 1779
HS-Nr: 29151100
EINECS: 200-579-1
Risk: R35
Safety: S23, S26, S45

Assay: 89 to 91%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.5 ppm
Calcium (Ca)	<2 ppm	Sodium (Na)	<2 ppm
Chromium (Cr)	<0.05 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<0.1 ppm	Total nitrogen (N)	<200 ppm
Iron (Fe)	<0.5 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<0.05 ppm	Total silicon (Si)	<2 ppm
Magnesium (Mg)	<0.1 ppm	Total sulphur (S)	<10 ppm
Nickel (Ni)	<0.05 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Mercury (Hg)	<0.05 ppm
Barium (Ba)	<0.05 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Silver (Ag)	<0.02 ppm
Cobalt (Co)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Manganese (Mn)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono & Multi-elemental standard solution to discover on page 256

Formic acid
extra pure, min.98%
SLR

packaging		product code
500 mL	Coated Glass Bottle	F/1850/PB08
2.5 L	Coated Glass Bottle	F/1850/PB17
200 L	Metal drum	F/1850/27

CH_2O_2
CAS: 64-18-6
MW: 46.02
Density at 20°C: 1.22
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 8°C

Flash point: 69°C
ADR/RID: 3(8)/II
UN: 1779
HS-Nr: 29151100
EINECS: 200-579-1
Risk: R35
Safety: S23, S26, S45

Assay: >98%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<2 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<10 ppm
Chromium (Cr)	<0.5 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<2 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<1 ppm	Zinc (Zn)	<0.5 ppm
Nickel (Ni)	<0.5 ppm		

see page 279 for suitable Tap & accessories.

Formic acid
extra pure
SLR

packaging		product code
500 mL	Plastic bottle	F/1800/PB08
2.5 L	Plastic bottle	F/1800/PB17
200 L	Metal drum	F/1800/27

CH_2O_2
CAS: 64-18-6
MW: 46.02
Density at 20°C: 1.22
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 8°C

Flash point: 69°C
ADR/RID: 3(8)/II
UN: 1779
HS-Nr: 38220000
EINECS: 200-579-1
Risk: R35
Safety: S23, S26, S45

Assay: 89 to 91%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<2 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<10 ppm
Chromium (Cr)	<0.5 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<2 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<1 ppm	Zinc (Zn)	<0.5 ppm
Nickel (Ni)	<0.5 ppm		

see page 279 for suitable Tap & accessories.

Formic acid about 85%
pure

packaging		product code
1 L	Plastic bottle	F/1750/PB15
2.5 L	Plastic bottle	F/1750/PB17
25 L	Metal drum	F/1750/25

CH_2O_2
CAS: 64-18-6
MW: 46.02
Density at 20°C: 1.194 to 1.196
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: 8°C

Flash point: 69°C
ADR/RID: 3(8)/II
UN: 1779
HS-Nr: 29121100
EINECS: 200-579-1
Risk: R35
Safety: S23, S26, S45

Assay: 84 to 86%

see page 279 for suitable Tap & accessories.

Formic acid solution 0.25M
for HPLC — Certified

packaging		product code
500 mL	Coated Glass Bottle	J/4200/PB08

HS-Nr: 29151100
Safety: S24/25

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Drift in the baseline ..... <40 U Anson Gradient (max eluted peak)<0.005 mA.U.

Molarity between 0.24 and 0.25 mol / L

Formol
See Formaldehyde solution 37-41%, page 104

D(-)-Fructose
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	F/1952/48
500 g	Plastic jar	F/1952/53
1 kg	Plastic jar	F/1952/60

$C_6H_{12}O_6$
CAS: 57-48-7
MW: 180.16
Boiling pressure: 760 mmHg
Melting point: 103-105°C
HS-Nr: 17025000
EINECS: 200-333-3
Safety: S24/25

Guaranteed analysis

Loss on drying	<0.5%	Potassium (K)	<10 ppm
Specific rotation (α 20/D)	-+92° to -90°	Sodium (Na)	<50 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<1 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Lithium (Li)	<1 ppm
Arsenic (As)	<1 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Vanadium (V)	<1 ppm
Cobalt (Co)	<1 ppm		

Lot analysis on the label.

D(-)-Fructose
pure

packaging		product code
250 g	Plastic jar	F/1950/50

$C_6H_{12}O_6$
CAS: 57-48-7
MW: 180.16
Boiling pressure: 760 mmHg
Melting point: 103-105°C
HS-Nr: 17025000
EINECS: 200-333-3
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Full range indicator, pH range 1-13
for pH measurement

packaging		product code
100 mL	Coated Glass Bottle	U/0025/PB05
500 mL	Coated Glass Bottle	U/0025/PB08

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000
Risk: R11, R20/21/22, R40/20/21/22
Safety: S7, S16, S36/37, S45
F Xn

Fumaric acid
extra pure — SLR

packaging		product code
500 g	Plastic jar	F/2070/53

$C_4H_4O_4$
CAS: 110-17-8
MW: 116.07
Density at 20°C: 1.62
Boiling pressure: 760 mmHg
Melting point: 295-300°C
Flash point: 230°C
HS-Nr: 29171990
EINECS: 203-743-0
Risk: R36
Safety: S26
Xi

Assay: >99%

Furfuraldehyde
technical

packaging		product code
2.5 L	Coated Glass Bottle	F/2080/PB17

$C_5H_4O_2$
CAS: 98-01-1
MW: 96.09
Density at 20°C: <1.16
Boiling point: 161 to 162°C
Boiling pressure: 760 mmHg
Melting point: -36°C
Flash point: 60°C
ADR/RID: 3(6.1)/II
UN: 1199
HS-Nr: 29321200
EINECS: 202-627-7
Risk: R21, R23/25, R36/37, R40
Safety: S26, S36/37/39, S45
T

2.5-Furandione
See Maleic anhydride, page 154

Furfural
See Furfuraldehyde, page 107

Fusion mixture
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	F/2250/53
1 kg	Plastic jar	F/2250/60

$K_2CO_3.Na_2CO_3$
HS-Nr: 38220000
Risk: R36
Safety: S22, S26
Xi

Guaranteed analysis

Loss on drying 300°C	<1%	Total chloride (Cl)	<0.002 %
Calcium (Ca)	<100 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm

Gadolinium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLGD22Y
500 mL	Plastic bottle	SPPLGD22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Gadolinium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLGD23Y
500 mL	Plastic bottle	SPPLGD23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

D(+)Galactose anhydrous
extra pure — SLR

packaging		product code
100 g	Plastic jar	G/0050/48

$C_6H_{12}O_6$
CAS: 59-23-4
MW: 180.16
Melting point: 165 to 168°C
HS-Nr: 29400000
EINECS: 200-416-4
Safety: S24/25, S28A, S37, S45

Guaranteed analysis
Loss on drying ..... <0.5% Melting Point tested ..... 162 to 166°C

Gallium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLGA22Y
500 mL	Plastic bottle	SPPLGA22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Gelatine
extra pure, granular powder — SLR, Eur. Ph.

packaging		product code
500 g	Plastic jar	G/0150/53

CAS: 9000-70-8
HS-Nr: 35030010
EINECS: 232-554-6
Safety: S24/25

Gentian Violet *See Methyl violet, page 168*

Germanium standard metal solution 1000 ppm
for ICP solution in H_2O/HF trace, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLGE92Y
500 mL	Plastic bottle	SPPLGE92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Germanium standard metal solution 10 ppm
for ICP-MS solution in H_2O/HF trace, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLGE91AY

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Gibberellic acid
pure

packaging		product code
1 g	Glass tube	G/0200/43

$C_{19}H_{22}O_6$
CAS: 77-06-5
MW: 346.38
Boiling pressure: 760 mmHg
Melting point: 227 °C
HS-Nr: 38220000
EINECS: 201-001-0
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Giemsa stain
pure

packaging		product code
25 g	Glass packaging	G/0275/46

CAS: 51811-82-6
Boiling pressure: 760 mmHg
Melting point: 300°C
HS-Nr: 32041900
EINECS: 257-438-2
Safety: S24/25, S37, S45

Guaranteed analysis
IR Analysis ..... Conform

Glass balls
pure, 3.7-4.1 mm undrilled

packaging		product code
250 g	Plastic jar	G/0300/50
500 g	Plastic jar	G/0300/53

HS-Nr: 38220000

D(+)-Glucose anhydrous
for analysis — Certified AR, Eur.Ph.,BP,USP

packaging		product code
500 g	Plastic jar	G/0500/53
1 kg	Plastic jar	G/0500/60
2 kg	Plastic jar	G/0500/61
5 kg	Plastic drum	G/0500/65
25 kg	Fibre Keg	G/0500/70

$C_6H_{12}O_6$
CAS: 50-99-7
MW: 180.16
Melting point: 146°C
HS-Nr: 38220000
EINECS: 200-075-1
Safety: S24/25

Guaranteed analysis

Insoluble matter (in alcohol)	<0.005%	Magnesium (Mg)	<5 ppm
Loss on drying	<0.1%	Potassium (K)	<20 ppm
pH (aqueous solution 5%)	pH > 6	Sodium (Na)	<50 ppm
Specific rotation (α 20/D)	+52.5° to +53.5°	Total chloride (Cl)	<0.005 %
		Total phosphorus (P)	<10 ppm
Calcium (Ca)	<10 ppm	Total silicon (Si)	<5 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<5 ppm
Lead (Pb)	<0.5 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Lithium (Li)	<0.2 ppm
Arsenic (As)	<1 ppm	Manganese (Mn)	<0.2 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<0.5 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<0.5 ppm
Chromium (Cr)	<0.5 ppm	Vanadium (V)	<0.5 ppm
Cobalt (Co)	<0.5 ppm		

Lot analysis on the label.

D(+)-Glucose anhydrous
extra pure — SLR

Specified

packaging		product code
500 g	Plastic jar	G/0450/53
1 kg	Plastic jar	G/0450/60
2 kg	Plastic jar	G/0450/61
5 kg	Plastic drum	G/0450/65

$C_6H_{12}O_6$
CAS: 50-99-7
MW: 180.16
Melting point: 146°C
HS-Nr: 38220000
EINECS: 200-075-1
Safety: S24/25

Guaranteed analysis

Loss on drying	<1%	Potassium (K)	<100 ppm
Specific rotation (α 20/D)	+52° to +54°	Sodium (Na)	<200 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

D(+)-Glucose monohydrate
extra pure — SLR, Eur.Ph.,BP

Specified

packaging		product code
1 kg	Plastic jar	G/0400/60

$C_6H_{12}O_6.H_2O$
CAS: 5996-10-1
MW: 198.17
HS-Nr: 38220000
EINECS: 200-075-1

Guaranteed analysis

Loss on drying	6 to 10%	Specific rotation (α 20/D)	+52° to +53°
Residue after ignition	<0.1%	Lead (Pb)	<1 ppm

L(+)-Glutamic acid-5-amide
See L-Glutamine, page 109

L-Glutamic acid monosodium salt monohydrate
pure

packaging		product code
250 g	Plastic Jar	G/0513/50

$C_5H_8NO_4Na.H_2O$
CAS: 142-47-2
MW: 187.14
HS-Nr: 29224200
EINECS: 205-538-1
Risk: R20/21/22

Assay: >98%

L-Glutamine
extra pure — SLR

Specified

packaging		product code
250 g	Plastic jar	G/0514/50

$C_5H_{10}N_2O_3$
CAS: 56-85-9
MW: 146.15
Melting point: 185 °C
HS-Nr: 29241900
EINECS: 200-292-1
Risk: R36/37/38
Safety: S26, S37/39
Xi

Assay: >99%

Glutaraldehyde 50% solution
extra pure — SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	G/0518/PB08

$C_5H_8O_2$
CAS: 111-30-8
MW: 100.12
Density at 20°C: 1.126 to 1.134
Boiling point: >100°C
Melting point: -15°C
ADR/RID: 6.1(8)/II
UN: 2927
HS-Nr: 38220000
EINECS: 203-856-5
Risk: R23/25, R34, R42/43, R50
Safety: S26, S36/37/39, S45, S61
T N

Assay: 47 to 53%

Glycerine
See Glycerol, page 109

Glycerol
for analysis — Certified AR

Certified

packaging		product code
500 mL	Plastic bottle	G/0650/08
2.5 L	Plastic bottle	G/0650/17
25 L	Metal drum	G/0650/25
200 L	Metal drum	G/0650/27

$HOCH_2CH(OH)CH2OH$
CAS: 56-81-5
MW: 92.09
Density at 20°C: 1.26
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 18°C
Flash point: 160°C
HS-Nr: 29309085
EINECS: 200-289-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

Colour	<10 APHA	Magnesium (Mg)	<2 ppm
pH (aqueous solution 10%)	6.5 to 7.5	Potassium (K)	<5 ppm
Reducing substance	Conform	Sodium (Na)	<20 ppm
Residue after ignition	<0.005%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Chloride (Cl)	<0.0005 %	Total sulphur (S)	<5 ppm
Copper (Cu)	<0.5 ppm	Zinc (Zn)	<2 ppm
Iron (Fe)	<1 ppm	Esters of fatty acids	<0.08 %
Lead (Pb)	<0.5 ppm	Fatty acids	Conform

Typical analysis

Aluminium (Al)	<0.5 ppm	Lithium (Li)	<0.5 ppm
Arsenic (As)	<0.5 ppm	Manganese (Mn)	<0.5 ppm
Barium (Ba)	<0.5 ppm	Nickel (Ni)	<0.5 ppm
Cadmium (Cd)	<0.5 ppm	Titanium (Ti)	<0.5 ppm
Chromium (Cr)	<0.5 ppm	Vanadium (V)	<0.5 ppm
Cobalt (Co)	<0.5 ppm		

see page 279 for suitable Tap & accessories.

Glycerol
extra pure — SLR

Specified

packaging		product code
500 mL	Plastic bottle	G/0600/08
2.5 L	Plastic bottle	G/0600/17
25 L	Metal drum	G/0600/25

$HOCH_2CH(OH)CH_2OH$
CAS: 56-81-5
MW: 92.09
Density at 20°C: 1.26
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 18°C
Flash point: 160°C
HS-Nr: 15209000
EINECS: 200-289-5
Safety: S24/25

Assay: >98%

Guaranteed analysis

pH (aqueous solution 10%)	6.5 to 7.5	Magnesium (Mg)	<10 ppm
Residue after ignition	<0.01%	Potassium (K)	<20 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<100 ppm
Chloride (Cl)	<0.001%	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<10 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm

see page 279 for suitable Tap & accessories.

Glycine
for analysis

Certified AR

packaging		product code
100 g	Plastic jar	G/0800/48
250 g	Plastic jar	G/0800/50
1 kg	Plastic jar	G/0800/60

NH_2CH_2COOH
CAS: 56-40-6
MW: 75.07
Density at 20°C: 1.6
Boiling point: >233°C

Melting point: 182°C
HS-Nr: 29224910
EINECS: 200-272-2
Safety: S22, S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5.5 to 6.5	Potassium (K)	<20 ppm
Ammonium (NH_4)	<0.02 %	Sodium (Na)	<50 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<2 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Lithium (Li)	<1 ppm
Barium (Ba)	<2 ppm	Manganese (Mn)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Glycolic acid
extra pure

SLR

packaging		product code
100 g	Plastic jar	G/0803/48

$C_2H_4O_3$
CAS: 79-14-1
MW: 76.05
Boiling point: 100°C
Boiling pressure: 760 mmHg
Melting point: 72 to 80°C
Flash point: >300°C

ADR/RID: 8/III
UN: 3261
HS-Nr: 29181990
EINECS: 201-180-5
Risk: R22, R34
Safety: S26, S36/37/39, S45

C

Assay: >99%

Guaranteed analysis

Water ..... <1%

Gold standard metal solution 1000 ppm
for AAS, solution HCl 1M

packaging		product code
500 mL	Plastic bottle	J/8028/08

HS-Nr: 38220000

Xn

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Gold standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLAU32Y
500 mL	Plastic bottle	SPPLAU32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Gold standard metal solution 1000 ppm
for ICP-MS solution in HCl 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLAU11Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Gram's iodine
pure

packaging		product code
250 mL	Glass bottle	G/0910/07

HS-Nr: 38220000

Xn

Graphite powder
pure

packaging		product code
1 kg	Plastic jar	G/0900/60

CAS: 7782-42-5
HS-Nr: 38220000
EINECS: 231-955-3

Guaiacol
extra pure

SLR

packaging		product code
100 g	Glass bottle	G/0950/48

$C_7H_8O_2$
CAS: 90-05-1
MW: 124.14
Density at 20°C: 1.12
Boiling point: 205°C
Boiling pressure: 760 mmHg

Melting point: 27 to 29°C
Flash point: 82°C
HS-Nr: 29095010
EINECS: 201-964-7
Risk: R22, R36/38
Safety: S26

Xn

Guaranteed analysis

IR Analysis ..... Conform
Other impurities ..... <0.4%
Pyrocatéchol </body></html> .... <0.05%

Conforming to the IR spectrum of reference.

Gum acacia
pure, powder

packaging		product code
500 g	Plastic jar	G/1050/53

HS-Nr: 13012000

Gum tragacanth
pure, powder

packaging		product code
100 g	Plastic jar	G/1100/48

HS-Nr: 38220000

Hafnium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLHF12Y
500 mL	Plastic bottle	SPPLHF12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Hafnium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLHF13Y
500 mL	Plastic bottle	SPPLHF13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Haematoxylin
pure

packaging		product code
25 g	Glass packaging	H/0010/46

$C_{16}H_{14}O_6.xH_2O$
CAS: 517-28-2
MW: 302.27
Melting point: 100-120°C
HS-Nr: 32030010
EINECS: 208-237-3
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

N-Heptafluorobutyryl-imidazole
pure

packaging		product code
5 g	Glass bottle	H/0095/45

$C_7H_3F_7N_2O$
CAS: 32477-35-3
MW: 264.1
HS-Nr: 38220000
EINECS: 251-063-8
Risk: R36/37/38

Xi

Assay (GC): >98%

Heptane (approx. 99% n-Heptane)
for HPLC — Certified

HPLC

packaging		product code
1 L	Glass bottle	H/0106/15
2.5 L	Glass bottle	H/0106/17
2.5 L	Coated Glass Bottle	H/0106/PB17

C_7H_{16}
CAS: 142-82-5
MW: 100.21
Density at 20°C: 0.68
Boiling point: 98°C
Boiling pressure: 760 mmHg
Melting point: -91°C
Flash point: -4°C
ADR/RID: 3/II
UN: 1206
HS-Nr: 29011000
EINECS: 205-563-8
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.00015 meq/g	Water	<0.01%
Residue after evaporation	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.25 A.U.	230 nm	<0.02 A.U.
210 nm	<0.1 A.U.	240 nm	<0.01 A.U.
220 nm	<0.05 A.U.	250 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

Heptane (approx. 99% n-Heptane)
HPLC for fluorescence detection — Certified

HPLC fluorescence

packaging		product code
1 L	Glass bottle	H/0107/15
2.5 L	Glass bottle	H/0107/17

C_7H_{16}
CAS: 142-82-5
MW: 100.21
Density at 20°C: 0.68
Boiling point: 98°C
Boiling pressure: 760 mmHg
Melting point: -91°C
Flash point: -4°C
ADR/RID: 3/II
UN: 1206
HS-Nr: 29011000
EINECS: 205-563-8
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Residue after evaporation	<5 ppm	Water	<0.01%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.25 A.U.	240 nm	<0.01 A.U.
210 nm	<0.1 A.U.	250 nm	<0.005 A.U.
220 nm	<0.05 A.U.	Fluorescence	Conform
230 nm	<0.02 A.U.		

Fluorescence
Excitation in the range 250-270nm produces no fluorescence emission greater than the solvents natural Raman signal at 350nm excitation.
Thi sis equivalent to the emission maximum of approximately 1 ppb quinine sulfate.
Lot analysis on the label (Excluding fluorescence scan).
Filtered to 0.2 µm.

n-Heptane
for analysis — Certified AR

Certified AR

packaging		product code
500 mL	Glass bottle	H/0160/08
1 L	Glass bottle	H/0160/15
2.5 L	Glass bottle	H/0160/17
5 L	Metal can	H/0160/21
200 L	Metal drum	H/0160/27

C_7H_{16}
CAS: 142-82-5
MW: 100.21
Density at 20°C: 0.68
Boiling point: 98°C
Boiling pressure: 760 mmHg
Melting point: -91°C
Flash point: -4°C
ADR/RID: 3/II
UN: 1206
HS-Nr: 29011000
EINECS: 205-563-8
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99.5%

Guaranteed analysis

Acidity	<0.0001 meq/g	Iron (Fe)	<0.1 ppm
Colour	<10 APHA	Lead (Pb)	<0.02 ppm
Number of bromine	<0.5	Magnesium (Mg)	<0.05 ppm
Residue after evaporation	<10 ppm	Potassium (K)	<0.1 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Sodium (Na)	<0.5 ppm
		Total phosphorus (P)	<0.1 ppm
Water	<0.02%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<10 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.2 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

n-Heptane SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	H/0155/08
2.5 L	Glass bottle	H/0155/17
5 L	Metal can	H/0155/21
25 L	Metal drum	H/0155/25
200 L	Metal drum	H/0155/27

C_7H_{16}
CAS: 142-82-5
MW: 100.21
Density at 20°C: 0.68
Boiling point: 98°C
Boiling pressure: 760 mmHg
Melting point: -91°C
Flash point: -4°C

ADR/RID: 3/II
UN: 1206
HS-Nr: 29011000
EINECS: 205-563-8
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.003 meq/g	Lead (Pb)	<1 ppm
Colour	<10 APHA	Magnesium (Mg)	<1 ppm
Residue after evaporation	<20 ppm	Potassium (K)	<1 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Sodium (Na)	<2 ppm
Water	<0.05%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<2 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Heptane fraction SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	H/0100/08
1 L	Glass bottle	H/0100/15
2.5 L	Glass bottle	H/0100/17

C_7H_{16}
CAS: 142-82-5
MW: 100.21
Density at 20°C: 0.69 to 0.71
Boiling point: 98°C
Boiling pressure: 760 mmHg
Melting point: -91°C
Flash point: -4°C

ADR/RID: 3/II
UN: 1206
HS-Nr: 29011000
EINECS: 205-563-8
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

1-Heptane sulfonic acid sodium salt solution 0.1M Certified
for Ion pair chromatography

HPLC

packaging		product code
250 mL	Glass bottle	H/0166/07

Xi

HS-Nr: 29041000
EINECS: 245-210-5
Risk: R36/38
Safety: S26, S28

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.02 A.U.

Lot analysis on the label.

1-Heptane sulfonic acid sodium salt Certified
for Ion pair chromatography for electrochemical detection

HPLC electrochemical

packaging		product code
25 g	Plastic jar	H/0169/46

Xi

$C_7H_{15}NaO_3S$
CAS: 22767-50-6
MW: 202.27
Melting point: >300°C

HS-Nr: 29041000
EINECS: 245-210-5
Risk: R36/37/38
Safety: S26, S37/39

Assay: >98%

Guaranteed analysis
Electrochemical test ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Tested by HPLC-EC to show low electrochemical response.
Detector - ESA Coulochem II.
Mode-oxidative.
Electrode graphite.
Lot analysis on the label.

1-Heptane sulfonic acid sodium salt Certified
for Ion pair chromatography

HPLC

packaging		product code
25 g	Plastic jar	H/0168/46
100 g	Plastic jar	H/0168/48

$C_7H_{15}NaO_3S$
CAS: 22767-50-6
MW: 202.27
Melting point: >300°C

HS-Nr: 29041000
EINECS: 245-210-5
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Lot analysis on the label.

Heptan-1-ol
pure

packaging		product code
100 mL	Glass bottle	H/0250/05

$C_7H_{16}O$
CAS: 111-70-6
MW: 116.21
Density at 20°C: 0.823 to 0.825
Boiling point: 176°C
Boiling pressure: 760 mmHg
Melting point: -35°C

Flash point: 73°C
ADR/RID: 6.1/III
UN: 2810
HS-Nr: 29051990
EINECS: 203-897-9
Risk: R20/21/22, R36
Safety: S26, S36/37/39

Xn

Assay (GC): >98%

Hexachloroplatinic(IV) acid hydrate SLR
extra pure

Specified LR

packaging		product code
1 g	Glass tube	H/0262/43
5 g	Glass tube	H/0262/44

$H_2Cl_6Pt.6H_2O$
CAS: 16941-12-1
MW: 517.92
Melting point: 60°C
ADR/RID: 8/III

UN: 2507
HS-Nr: 38220000
EINECS: 241-010-7
Risk: R25, R34, R42/43
Safety: S22, S26, S36/37/39, S45

T

Assay: 39 to 41%

The price charged for this item is subject to alteration and will be that ruling at time of despatch.

Hexadecane SLR
extra pure

Specified LR

packaging		product code
100 mL	Glass bottle	H/0270/05

$C_{16}H_{34}$
CAS: 544-76-3
MW: 226.45
Density at 20°C: 0.77
Boiling point: 287°C
Boiling pressure: 760 mmHg

Melting point: 18°C
Flash point: 135°C
HS-Nr: 29011000
EINECS: 208-878-9
Risk: R65, R66
Safety: S62

Xn

Assay (GC): >98%

1.1,1.3,3.3-Hexafluoro propan-2-ol
for gas chromatography

packaging		product code
25 mL	Glass bottle	H/0285/04

$C_3H_2F_6O$
CAS: 920-66-1
MW: 168.04
Density at 20°C: 1.6
Boiling point: 59°C
Boiling pressure: 760 mmHg
Melting point: -4°C

Flash point: >100°C
ADR/RID: 8(6.1)/II
UN: 2922
HS-Nr: 29055010
EINECS: 213-059-4
Risk: R20/22, R34
Safety: S26, S36/37/39, S45

C

Assay (GC): >99%

Hexafluorosilicic acid
See Fluorosilicic acid, page 104

Hexamethylenediamine
See 1.6-Diaminohexane, page 80

Hexamine
for analysis — Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	H/0320/53
1 kg	Plastic jar	H/0320/60
5 kg	Plastic drum	H/0320/65

$C_6H_{12}N_4$
CAS: 100-97-0
MW: 140.19
Density at 20°C: 1.33
Melting point: 280°C
Flash point: 250°C

ADR/RID: 4.1/III
UN: 1328
HS-Nr: 29339010
EINECS: 202-905-8
Risk: R11, R42/43
Safety: S16, S22, S24, S37

F Xn

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 10%)	8.5 to 9.5	Potassium (K)	<10 ppm
Ammonium (NH_4)	<0.005 %	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.002 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Lithium (Li)	<1 ppm
Arsenic (As)	<1 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Vanadium (V)	<1 ppm
Cobalt (Co)	<1 ppm		

Lot analysis on the label.

Hexamine
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	H/0300/53
1 kg	Plastic jar	H/0300/60
5 kg	Plastic drum	H/0300/65
25 kg	Fibre Keg	H/0300/70

$C_6H_{12}N_4$
CAS: 100-97-0
MW: 140.19
Density at 20°C: 1.33
Melting point: 280°C
Flash point: 250°C

ADR/RID: 4.1/III
UN: 1328
HS-Nr: 29339010
EINECS: 202-905-8
Risk: R11, R42/43
Safety: S16, S22, S24, S37

F Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

n-Hexane
for analysis — Certified AR

Certified AR

packaging		product code
500 mL	Coated Glass Bottle	H/0421/PB08
2.5 L	Coated Glass Bottle	H/0421/PB17
25 L	Metal drum	H/0421/25
200 L	Metal drum	H/0421/27

C_6H_{14}
CAS: 110-54-3
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.00008 meq/g	Lead (Pb)	<0.02 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Number of bromine	<0.5	Potassium (K)	<0.1 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.1 ppm
Substances darkened by (H_2SO_4)	Conform	Total phosphorus (P)	<0.1 ppm
Water	<0.02%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.2 ppm	Total sulphur (S)	<10 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.1 ppm	Aromatic Hydrocarbons	<0.01 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

n-Hexane
extra pure — SLR

Specified LR

packaging		product code
2.5 L	Coated Glass Bottle	H/0420/PB17
5 L	Metal can	H/0420/21
25 L	Metal drum	H/0420/25

C_6H_{14}
CAS: 110-54-3
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Lead (Pb)	<1 ppm
Colour	<20 APHA	Magnesium (Mg)	<1 ppm
Number of bromine	<0.5	Potassium (K)	<1 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<2 ppm
Water	<0.05%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<2 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Hexanedioic acid
See Adipic acid, page 11

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Hexanes (95% n-Hexane approx.) — Certified
for HPLC

packaging		product code
1 L	Glass bottle	H/0406/15
2.5 L	Glass bottle	H/0406/17
2.5 L	Coated Glass Bottle	H/0406/PB17
5 L	Aluminium drum	H/0406/21
25 L	Stainless steel drum	H/0406/25SS
25 L	Metal drum	H/0406/DH25
200 L	Stainless steel drum	H/0406/27SS

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >95%

Guaranteed analysis

Acidity / Alkalinity	<0.00015 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.2 A.U.	240 nm	<0.005 A.U.
210 nm	<0.05 A.U.	250 nm	<0.005 A.U.
220 nm	<0.02 A.U.	260 nm	<0.005 A.U.
230 nm	<0.01 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Hexanes (95% n-Hexane approx.) — Certified
HPLC for fluorescence detection

packaging		product code
1 L	Coated Glass Bottle	H/0409/PB15
2.5 L	Coated Glass Bottle	H/0409/PB17

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >95%

Guaranteed analysis

Acidity / Alkalinity	<0.00015 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.3 A.U.	240 nm	<0.005 A.U.
210 nm	<0.1 A.U.	250 nm	<0.005 A.U.
220 nm	<0.025 A.U.	Fluorescence	Conform
230 nm	<0.01 A.U.		

Excitation in the range 250-750nm produces no fluorescence emission greater than the solvents natural Raman signal at 350nm excittation.This is equivalent to the emission maximum of approximately 1ppb quinine sulfate.
Lot analysis on the label (excluding fluorescence scan).
Filtered to 0.2 µm.

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Hexanes (95% n-Hexane approx.) — Distol
for residue and pesticide analysis

packaging		product code
1 L	Glass bottle	H/0403/15
2.5 L	Glass bottle	H/0403/17

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >95%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.01%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxyde (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile: (1) 50°C, 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Hexanes (95% n-Hexane approx.)
extra dry, for synthesis

packaging		product code
1 L	Coated Glass Bottle	H/0402/PB15
2.5 L	Coated Glass Bottle	H/0402/PB17

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >95%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.005%

Hexanes (95% n-Hexane approx) — Certified AR
for analysis

packaging		product code
1 L	Glass bottle	H/0355/15
2.5 L	Glass bottle	H/0355/17
5 L	Metal can	H/0355/21

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Assay (GC): >95%

Guaranteed analysis

Acidity / Alkalinity	<0.00008 meq/g	Lead (Pb)	<0.02 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Number of bromine	<0.5	Potassium (K)	<0.1 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.1 ppm
Substances darkened by (H_2SO_4)	Conform	Total phosphorus (P)	<0.1 ppm
Water	<0.02%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.2 ppm	Total sulphur (S)	<10 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.1 ppm	Aromatic Hydrocarbons	<0.1 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Hexanes fraction — SLR
extra pure, low in aromatic hydrocarbons

Specified

packaging		product code
500 mL	Glass bottle	**H/0400/08**
2.5 L	Glass bottle	**H/0400/17**

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Guaranteed analysis
Residue after evaporation ..... <20 ppm Aromatic Hydrocarbons ..... <0.1%

Hexanes fraction — SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	**H/0350/08**
1 L	Glass bottle	**H/0350/15**
2.5 L	Glass bottle	**H/0350/17**
2.5 L	Coated Glass Bottle	**H/0350/PB17**
5 L	Metal can	**H/0350/21**
25 L	Metal drum	**H/0350/25**
200 L	Metal drum	**H/0350/27**
200 L	Stainless steel drum	**H/0350/27SS**

C_6H_{14}
CAS: 92112-69-1
MW: 86.18
Density at 20°C: 0.66
Boiling point: 69°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: -22°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-777-6
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F Xn N

Guaranteed analysis
Residue after evaporation ..... <20 ppm

see page 279 for suitable Tap & accessories.

1-Hexane sulfonic acid sodium salt — Certified
for Ion pair chromatography for electrochemical detection

HPLC electrochemical

packaging		product code
25 g	Plastic jar	**H/0439/46**

Xi

$C_6H_{13}NaO_3S.xH_2O$
CAS: 2832-45-3
MW: 188.22
Melting point: >300°C

HS-Nr: 29041000
EINECS: 220-601-3
Risk: R36/38
Safety: S26, S28

Assay: >98%

Guaranteed analysis
Electrochemical test ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Tested by HPLC-EC to show low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.

1-Hexane sulfonic acid sodium salt — Certified
for Ion pair chromatography

HPLC

packaging		product code
25 g	Plastic jar	**H/0438/46**
100 g	Plastic jar	**H/0438/48**

$C_6H_{13}NaO_3S.xH_2O$
CAS: 2832-45-3
MW: 188.22
Melting point: >300°C

HS-Nr: 29041000
EINECS: 220-601-3
Risk: R36/38
Safety: S26, S28

Xi

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Lot analysis on the label.

n-Hexanoic acid — SLR
extra pure

Specified

packaging		product code
250 mL	Glass bottle	**H/0440/07**

$C_6H_{12}O_2$
CAS: 142-62-1
MW: 116.16
Density at 20°C: 0.92
Boiling point: 202 to 203°C
Boiling pressure: 760 mmHg
Melting point: -3°C

Flash point: 104°C
ADR/RID: 8/III
UN: 2829
HS-Nr: 38220000
EINECS: 205-550-7
Risk: R21, R34
Safety: S25, S36/37/39, S45

C

Guaranteed analysis
IR Analysis ..... Conform

Hexan-1-ol — SLR
extra pure

Specified

packaging		product code
500 mL	Coated Glass Bottle	**H/0450/PB08**
2.5 L	Coated Glass Bottle	**H/0450/PB17**
200 L	Metal drum	**H/0450/27**

$C_6H_{14}O$
CAS: 111-27-3
MW: 102.18
Density at 20°C: 0.81
Boiling point: 156.4°C
Boiling pressure: 760 mmHg
Melting point: -52°C

Flash point: 60°C
ADR/RID: 3/III
UN: 2282
HS-Nr: 38220000
EINECS: 203-852-3
Risk: R22
Safety: S24/25

Xn

Assay (GC): >99%

see page 279 for suitable Tap & accessories.

Hex-1-ene — SLR
extra pure

Specified

packaging		product code
100 mL	Glass bottle	**H/0460/05**

C_6H_{12}
CAS: 592-41-6
MW: 84.16
Density at 20°C: 0.68
Boiling point: 62 to 65°C
Boiling pressure: 760 mmHg
Melting point: -140°C
Flash point: -26°C

ADR/RID: 3/II
UN: 2370
HS-Nr: 29012900
EINECS: 209-753-1
Risk: R11, R51/53, R65, R67
Safety: S9, S16, S29, S33, S57, S62

F Xn N

Guaranteed analysis
IR Analysis ..... Conform

L-Histidine
pure

packaging		product code
100 g	Plastic jar	H/0467/48

$C_6H_9N_3O_2$
CAS: 71-00-1
MW: 155.16
Boiling pressure: 760 mmHg
Melting point: 282 °C
HS-Nr: 29332990
EINECS: 200-745-3
Safety: S24/25

Assay: >98%

Histo-clear®
For microscopy

packaging		product code
2.5 L	Glass bottle	H/0468/17

ADR/RID: 3/III
UN: 2319
HS-Nr: 38220000

Holmium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLHO22Y
500 mL	Plastic bottle	SPPLHO22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Hyamine® 1622
For microscopy, solution 0.004M

packaging		product code
2.5 L	Glass bottle	H/0480/17

HS-Nr: 29239000

Guaranteed analysis

Value between	0.97 to 1.03

Hydrazine hydrate
for analysis — Certified AR

AR

packaging		product code
500 mL	Plastic bottle	H/0560/PB08

$H_4N_2.H_2O$
CAS: 7803-57-8
MW: 50.06
Density at 20°C: 1.03
Boiling point: 120.1°C
Melting point: -51.5°C
Flash point: 75°C
ADR/RID: 8(6.1)/II
UN: 2030
HS-Nr: 28251000
Risk: R45, R23/24/25, R34, R43, R50/53
Safety: S53, S45, S60, S61

Guaranteed analysis

Colour	<10 APHA	Sodium (Na)	<100 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.005 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<5 ppm		

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Selenium (Se)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Tin (Sn)	<1 ppm
Lithium (Li)	<1 ppm	Titanium (Ti)	<1 ppm
Manganese (Mn)	<1 ppm	Vanadium (V)	<1 ppm

Hydrazine hydrate
extra pure — SLR

Specified LR

packaging		product code
250 mL	Coated Glass Bottle	H/0550/PB07
2.5 L	Plastic bottle	H/0550/PB17

$H_4N_2.H_2O$
CAS: 7803-57-8
MW: 50.06
Density at 20°C: 1.03
Boiling point: 120.1°C
Melting point: -51.5°C
Flash point: 75°C
ADR/RID: 8(6.1)/II
UN: 2030
HS-Nr: 28251000
Risk: R45, R23/24/25, R34, R43, R50/53
Safety: S53, S45, S60, S61

Assay: >99%

Guaranteed analysis

Colour	<20 APHA	Sodium (Na)	<500 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<20 ppm		

Hydrazine hydrate solution 60 % ($N_2H_4.H_2O$)
extra pure — SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	H/0500/PB08

$H_4N_2.H_2O$
CAS: 7803-57-8
MW: 50.06
Density at 20°C: 1.03
ADR/RID: 8(6.1)/II
UN: 2030
HS-Nr: 28251000
Risk: R45, R23/24/25, R34, R43
Safety: S53, S45

Assay: 60 to 64%

Guaranteed analysis

Total chloride (Cl)	<0.03%

Hydrazinium chloride
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	H/0600/50

$NH_2NH_2.2HCl$
CAS: 5341-61-7
MW: 104.97
Boiling point: 200°C
Boiling pressure: 760 mmHg
Melting point: 198°C
ADR/RID: 6.1/III
UN: 3288
HS-Nr: 28251000
EINECS: 226-283-2
Risk: R45, R23/24/25, R43, R50/53
Safety: S53, S45, S60, S61

Assay: >98%

Hydrazinium sulfate
for analysis — Certified AR

Certified AR

packaging		product code
100 g	Plastic jar	H/0700/48
250 g	Plastic jar	H/0700/50

$H_4N_2.H_2SO_4$
CAS: 10034-93-2
MW: 130.12
Melting point: 254°C
ADR/RID: 6.1/III
UN: 3288
HS-Nr: 28251000
EINECS: 233-110-4
Risk: R45, R23/24/25, R43, R50/53
Safety: S53, S45, S60, S61

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<10 ppm
Copper (Cu)	<5 ppm	Sodium (Na)	<20 ppm
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.002 %
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Lithium (Li)	<1 ppm
Barium (Ba)	<1 ppm	Manganese (Mn)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Hydrazinium sulfate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	H/0650/53

$H_4N_2.H_2SO_4$
CAS: 10034-93-2
MW: 130.12
Melting point: 254°C
ADR/RID: 6.1/III
UN: 3288

HS-Nr: 28251000
EINECS: 233-110-4
Risk: R45, R23/24/25, R43, R50/53
Safety: S53, S45, S60, S61

T N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<20 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<100 ppm
Iron (Fe)	<50 ppm	Total chloride (Cl)	<0.01%
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

Hydriodic acid 64-68%
for analysis — Certified AR

AR

packaging		product code
250 mL	Glass bottle	H/0850/07

HI
CAS: 10034-85-2
MW: 127.91
Boiling point: 127°C
Boiling pressure: 760 mmHg
ADR/RID: 8/II

UN: 1787
HS-Nr: 28111900
EINECS: 233-109-9
Risk: R35
Safety: S9, S26, S36/37/39, S45

C

Assay: 64 to 68%

Guaranteed analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<0.5 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Silver (Ag)	<1 ppm
Chloride and Bromide	<0.02%	Sodium (Na)	<10 ppm
Chromium (Cr)	<0.5 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<1 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<5 ppm		

Lot analysis on the label.

Hydrobromic acid 44-49% NEW SPEC.
for ultra trace analysis — OPTIMA

Optima

packaging		product code
500 mL	Bottle Teflon FEP	H/0955/08

HBr
CAS: 10035-10-6
MW: 80.92
Density at 20°C: 1.48
Boiling point: 126 to 128°C
Boiling pressure: 760 mmHg

Melting point: -11°C
ADR/RID: 8/II
UN: 1788
HS-Nr: 28111910
Risk: R34, R37
Safety: S7/9, S26, S45

C

Assay (HBr): 44 to 49%

Guaranteed analysis

Aluminium (Al)	<100 ppt	Gold (Au)	<100 ppt
Barium (Ba)	<100 ppt	Hafnium (Hf)	<10 ppt
Beryllium (Be)	<100 ppt	Holmium (Ho)	<10 ppt
Bismuth (Bi)	<100 ppt	Indium (In)	<10 ppt
Cadmium (Cd)	<100 ppt	Iron (Fe)	<100 ppt
Calcium (Ca)	<100 ppt	Lanthanum (La)	<10 ppt
Cerium (Ce)	<10 ppt	Lead (Pb)	<1 ppt
Cesium (Cs)	<10 ppt	Lithium (Li)	<100 ppt
Chromium (Cr)	<100 ppt	Lutetium (Lu)	<10 ppt
Cobalt (Co)	<100 ppt	Magnesium (Mg)	<100 ppt
Copper (Cu)	<100 ppt	Manganese (Mn)	<100 ppt
Dysprosium (Dy)	<10 ppt	Molybdenum (Mo)	<100 ppt
Erbium (Er)	<10 ppt	Neodymium (Nd)	<10 ppt
Europium (Eu)	<10 ppt	Nickel (Ni)	<100 ppt
Gadolinium (Gd)	<10 ppt	Niobium (Nb)	<10 ppt
Gallium (Ga)	<100 ppt		
Palladium (Pd)	<100 ppt	Tellurium (Te)	<10 ppt
Platinum (Pt)	<100 ppt	Terbium (Tb)	<10 ppt
Potassium (K)	<100 ppt	Thallium (Tl)	<10 ppt
Praseodymium (Pr)	<10 ppt	Thorium (Th)	<1 ppt
Rhenium (Re)	<100 ppt	Thulium (Tm)	<10 ppt
Rhodium (Rh)	<100 ppt	Tin (Sn)	<100 ppt
Rubidium (Rb)	<100 ppt	Titanium (Ti)	<100 ppt
Ruthenium (Ru)	<100 ppt	Tungsten (W)	<100 ppt
Samarium (Sm)	<10 ppt	Uranium (U)	<1 ppt
Scandium (Sc)	<100 ppt	Vanadium (V)	<100 ppt
Silver (Ag)	<100 ppt	Ytterbium (Yb)	<10 ppt
Sodium (Na)	<100 ppt	Yttrium (Y)	<10 ppt
Strontium (Sr)	<100 ppt	Zinc (Zn)	<100 ppt

Hydrobromic acid 48%
for analysis — Certified AR

AR

packaging		product code
500 mL	Plastic bottle	H/0950/PB08
2.5 L	Plastic bottle	H/0950/PB17

HBr
CAS: 10035-10-6
MW: 80.92
Density at 20°C: 1.48
Boiling point: 126 to 128°C
Boiling pressure: 760 mmHg
Melting point: -11°C

ADR/RID: 8/II
UN: 1788
HS-Nr: 28111900
EINECS: 233-113-0
Risk: R34, R37
Safety: S7/9, S26, S45

C

Assay: 47 to 49%

Guaranteed analysis

Aluminium (Al)	<0.2 ppm	Molybdenum (Mo)	<0.02 ppm
Arsenic (As)	<1 ppm	Nickel (Ni)	<0.5 ppm
Barium (Ba)	<0.5 ppm	Potassium (K)	<0.5 ppm
Cadmium (Cd)	<0.05 ppm	Silver (Ag)	<0.02 ppm
Calcium (Ca)	<2 ppm	Sodium (Na)	<10 ppm
Chromium (Cr)	<0.5 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Copper (Cu)	<0.1 ppm	Total chloride (Cl)	<0.05%
Iodide	<0.0002%	Total phosphorus (P)	<2 ppm
Iron (Fe)	<0.5 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<20 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Magnesium (Mg)	<0.5 ppm	Zinc (Zn)	<0.5 ppm

Hydrobromic acid 48%
extra pure — SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	H/0900/PB08
2.5 L	Plastic bottle	H/0900/PB17
200 L	Metal drum	H/0900/27

HBr
CAS: 10035-10-6
MW: 80.9
Density at 20°C: 1.48
Boiling point: 126 to 128°C
Boiling pressure: 760 mmHg
Melting point: -11°C

ADR/RID: 8/II
UN: 1788
HS-Nr: 38220000
EINECS: 233-113-0
Risk: R34, R37
Safety: S7/9, S26, S45

C

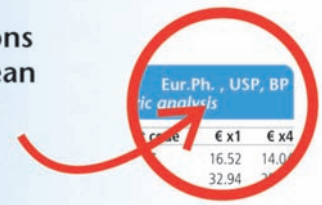
Assay: 47 to 49%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Potassium (K)	<10 ppm
Chromium (Cr)	<2 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.2%
Iodide	<0.001%	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm
Nickel (Ni)	<2 ppm		

see page 279 for suitable Tap & accessories.

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Hydrochloric acid 20% d=1.1 — Primar
for trace metal analysis

Primar

packaging		product code
500 mL	Coated Glass Bottle	H/1190/PB08
2.5 L	Coated Glass Bottle	H/1190/PB17

HCl
CAS: 7647-01-0
MW: 36.46
Density at 20°C: 1.05 to 1.15
ADR/RID: 8/II

UN: 1789
HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45

C

Guaranteed analysis

Aluminium (Al)	<0.05 ppm	Mercury (Hg)	<0.002 ppm
Arsenic (As)	<0.02 ppm	Molybdenum (Mo)	<0.005 ppm
Barium (Ba)	<0.05 ppm	Nickel (Ni)	<0.005 ppm
Cadmium (Cd)	<0.005 ppm	Potassium (K)	<0.2 ppm
Calcium (Ca)	<0.2 ppm	Silver (Ag)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Sodium (Na)	<1 ppm
Cobalt (Co)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Copper (Cu)	<0.01 ppm	Titanium (Ti)	<0.005 ppm
Iron (Fe)	<0.1 ppm	Total phosphorus (P)	<0.2 ppm
Lead (Pb)	<0.001 ppm	Total silicon (Si)	<0.5 ppm
Lithium (Li)	<0.002 ppm	Total sulphur (S)	<0.5 ppm
Magnesium (Mg)	<0.02 ppm	Vanadium (V)	<0.005 ppm
Manganese (Mn)	<0.005 ppm	Zinc (Zn)	<0.02 ppm

Hydrochloric acid 32-35% NEW SPEC. — OPTIMA
for ultra trace analysis

Optima

packaging		product code
250 mL	Bottle Teflon PFA	H/1205/07
500 mL	Bottle Teflon PFA	H/1205/08
1 L	Bottle Teflon PFA	H/1205/15

HCl
CAS: 7647-01-0
MW: 36.46
ADR/RID: 8/II
UN: 1789

HS-Nr: 28061000
EINECS: 231-595-7
Risk: R34, R37
Safety: S24/25

C

Assay (HCl): 32-35%

Guaranteed analysis

Aluminium (Al)	<20 ppt	Mercury (Hg)	<100 ppt
Antimony (Sb)	<20 ppt	Molybdenum (Mo)	<10 ppt
Arsenic (As)	<50 ppt	Neodymium (Nd)	<1 ppt
Barium (Ba)	<10 ppt	Nickel (Ni)	<50 ppt
Beryllium (Be)	<10 ppt	Niobium (Nb)	<1 ppt
Bismuth (Bi)	<10 ppt	Potassium (K)	<10 ppt
Boron (B)	<100 ppt	Praseodymium (Pr)	<1 ppt
Cadmium (Cd)	<10 ppt	Rhenium (Re)	<10 ppt
Calcium (Ca)	<20 ppt	Rhodium (Rh)	<10 ppt
Cerium (Ce)	<10 ppt	Rubidium (Rb)	<10 ppt
Cesium (Cs)	<10 ppt	Ruthenium (Ru)	<10 ppt
Chromium (Cr)	<20 ppt	Samarium (Sm)	<1 ppt
Cobalt (Co)	<10 ppt	Scandium (Sc)	<10 ppt
Copper (Cu)	<20 ppt	Silver (Ag)	<10 ppt
Dysprosium (Dy)	<1 ppt	Sodium (Na)	<10 ppt
Erbium (Er)	<1 ppt	Strontium (Sr)	<10 ppt
Europium (Eu)	<1 ppt	Tellurium (Te)	<1 ppt
Gadolinium (Gd)	<1 ppt	Terbium (Tb)	<1 ppt
Gallium (Ga)	<10 ppt	Thallium (Tl)	<10 ppt
Gold (Au)	<100 ppt	Thorium (Th)	<1 ppt
Hafnium (Hf)	<10 ppt	Thulium (Tm)	<1 ppt
Holmium (Ho)	<1 ppt	Tin (Sn)	<20 ppt
Indium (In)	<1 ppt	Titanium (Ti)	<20 ppt
Iron (Fe)	<20 ppt	Tungsten (W)	<10 ppt
Lanthanum (La)	<1 ppt	Uranium (U)	<1 ppt
Lead (Pb)	<10 ppt	Vanadium (V)	<10 ppt
Lithium (Li)	<10 ppt	Ytterbium (Yb)	<1 ppt
Lutetium (Lu)	<10 ppt	Yttrium (Y)	<1 ppt
Magnesium (Mg)	<10 ppt	Zinc (Zn)	<20 ppt
Manganese (Mn)	<10 ppt	Zirconium (Zr)	<10 ppt

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Hydrochloric acid 34-37% NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
500 mL	Coated Glass Bottle	H/1202/PB08
1 L	Coated Glass Bottle	H/1202/PB15
2.5 L	Coated Glass Bottle	H/1202/PB17

HCl
CAS: 7647-01-0
MW: 36.46
Boiling point: 57°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8/II
UN: 1789
HS-Nr: 28061000
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45

C

Assay: 34 to 37%

Guaranteed analysis

Colour	<10 APHA	Neodymium (Nd)	<0.1 ppb
Aluminium (Al)	<0.5 ppb	Nickel (Ni)	<0.1 ppb
Antimony (Sb)	<0.1 ppb	Niobium (Nb)	<0.1 ppb
Arsenic (As)	<0.1 ppb	Palladium (Pd)	<0.5 ppb
Barium (Ba)	<0.1 ppb	Platinum (Pt)	<0.5 ppb
Beryllium (Be)	<0.1 ppb	Potassium (K)	<0.1 ppb
Bismuth (Bi)	<0.1 ppb	Praséodymium (Pr)	<0.1 ppb
Boron (B)	<0.5 ppb	Rhenium (Re)	<0.1 ppb
Bromide (Br)	<10 ppm	Rhodium (Rh)	<0.1 ppb
Cadmium (Cd)	<0.1 ppb	Rubidium (Rb)	<0.1 ppb
Calcium (Ca)	<0.5 ppb	Ruthenium (Ru)	<0.1 ppb
Cerium (Ce)	<0.1 ppb	Samarium (Sm)	<0.1 ppb
Cesium (Cs)	<0.1 ppb	Scandium (Sc)	<0.1 ppb
Chlorine (Cl_2)	<0.5 ppm	Selenium (Se)	<0.1 ppb
Chromium (Cr)	<0.1 ppb	Silver (Ag)	<0.1 ppb
Cobalt (Co)	<0.1 ppb	Sodium (Na)	<0.5 ppb
Copper (Cu)	<0.1 ppb	Strontium (Sr)	<0.1 ppb
Dysprosium (Dy)	<0.1 ppb	Tantalum (Ta)	<1 ppb
Erbium (Er)	<0.1 ppb	Tellurium (Te)	<0.1 ppb
Europium (Eu)	<0.1 ppb	Terbium (Tb)	<0.1 ppb
Gadolinium (Gd)	<0.1 ppb	Thallium (Tl)	<0.1 ppb
Gallium (Ga)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Gold (Au)	<0.1 ppb	Thulium (Tm)	<0.1 ppb
Hafnium (Hf)	<0.1 ppb	Tin (Sn)	<0.1 ppb
Holmium (Ho)	<0.1 ppb	Titanium (Ti)	<0.1 ppb
Indium (In)	<0.1 ppb	Total phosphorus (P)	<0.01 ppm
Iron (Fe)	<0.5 ppb	Total sulphur (S)	<0.3 ppm
Lanthanum (La)	<0.1 ppb	Tungsten (W)	<0.1 ppb
Lead (Pb)	<0.1 ppb	Uranium (U)	<0.1 ppb
Lithium (Li)	<0.1 ppb	Vanadium (V)	<0.1 ppb
Lutetium (Lu)	<0.1 ppb	Ytterbium (Yb)	<0.1 ppb
Magnesium (Mg)	<0.5 ppb	Yttrium (Y)	<0.1 ppb
Manganese (Mn)	<0.1 ppb	Zinc (Zn)	<0.5 ppb
Mercury (Hg)	<0.2 ppb	Zirconium (Zr)	<0.1 ppb
Molybdenum (Mo)	<0.1 ppb		

Hydrochloric acid 35% d=1.18 NEW SPEC. — Primar Plus
for trace metal analysis

PrimarPlus

packaging		product code
250 mL	Coated Glass Bottle	H/1196/PB07
500 mL	Coated Glass Bottle	H/1196/PB08
1 L	Coated Glass Bottle	H/1196/PB15
2.5 L	Coated Glass Bottle	H/1196/PB17

HCl
CAS: 7647-01-0
MW: 36.46
Boiling point: 57°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8/II
UN: 1789
HS-Nr: 28061000
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45

C

Assay: 35%

Guaranteed analysis

Aluminium (Al)	< 0.02 ppm	Indium (In)	<0.005 ppm
Antimony (Sb)	<0.005 ppm	Iron (Fe)	< 0.1 ppm
Arsenic (As)	<0.01 ppm	Lead (Pb)	<0.002 ppm
Barium (Ba)	<0.02 ppm	Lithium (Li)	<0.002 ppm
Beryllium (Be)	<0.005 ppm	Magnesium (Mg)	< 0.02 ppm
Bismuth (Bi)	<0.005 ppm	Manganese (Mn)	<0.002 ppm
Boron (B)	<0.005 ppm	Mercury (Hg)	<0.005 ppm
Cadmium (Cd)	<0.002 ppm	Molybdenum (Mo)	<0.002 ppm
Calcium (Ca)	<0.1 ppm	Nickel (Ni)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Potassium (K)	< 0.05 ppm
Cobalt (Co)	<0.002 ppm	Silver (Ag)	<0.002 ppm
Copper (Cu)	<0.005 ppm	Sodium (Na)	<0.2 ppm
Gallium (Ga)	<0.005 ppm	Strontium (Sr)	<0.002 ppm
Germanium (Ge)	<0.005 ppm		

Thallium (Tl)	<0.005 ppm	Zinc (Zn)	<0.01 ppm
Tin (Sn)	<0.005 ppm	Chlorine	<1 ppm
Titanium (Ti)	<0.005 ppm	Residue after Ignition	< 2 ppm
Total phosphorus (P)	<0.2 ppm	Sulfate (SO_4)	<1 ppm
Vanadium (V)	<0.002 ppm		

Hydrochloric acid 37% d=1.18
for AAS

packaging		product code
2.5 L	Coated Glass Bottle	H/1185/PB17

HCl
CAS: 7647-01-0
MW: 36.46
ADR/RID: 8/II
UN: 1789

HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S24/25

C

Assay: 35 to 38%

Guaranteed analysis

Cadmium (Cd)	<0.02 ppm	Magnesium (Mg)	<0.2 ppm
Calcium (Ca)	<0.5 ppm	Manganese (Mn)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Copper (Cu)	<0.05 ppm	Potassium (K)	<0.2 ppm
Iron (Fe)	<0.2 ppm	Sodium (Na)	<1 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.2 ppm

Hydrochloric acid has a concentration of 11.65 M (11.65 N).

Hydrochloric acid 37% d=1.18
for electronic use (MOS)

packaging		product code
2.5 L	Plastic bottle	H/1111/PB17

HCl
CAS: 7647-01-0
MW: 36.46
ADR/RID: 8/II
UN: 1789

HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S24/25

C

Assay: 35.5 to 37.5%

Guaranteed analysis

Colour	<10 APHA	Manganese (Mn)	<0.02 ppm
Aluminium (Al)	<0.5 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.1 ppm	Nickel (Ni)	<0.01 ppm
Cadmium (Cd)	<0.05 ppm	Potassium (K)	<0.5 ppm
Calcium (Ca)	<1 ppm	Sodium (Na)	<2 ppm
Chlorine	<2 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.1 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total phosphorus (P)	<1 ppm
Copper (Cu)	<0.1 ppm	Total silicon (Si)	<0.5 ppm
Iron (Fe)	<0.5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<0.1 ppm	Vanadium (V)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Zinc (Zn)	<0.2 ppm
Magnesium (Mg)	<0.5 ppm		

Filtered to 0.2 µm.

Hydrochloric acid 37% d=1.18
For foodstuffs analysis, low in lead

packaging		product code
500 mL	Coated Glass Bottle	H/1180/PB08

HCl
CAS: 7647-01-0
MW: 36.46
ADR/RID: 8/II
UN: 1789

HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S24/25

C

Guaranteed analysis

Lead (Pb) <0.005 ppm

Save money!
Order 4 bottles in a box

Hydrochloric acid 35% d=1.18 NEW SPEC. Certified AR
for analysis

Certified AR

packaging		product code
500 mL	Plastic bottle	H/1200/PB08
1 L	Plastic bottle	H/1200/PB15
2.5 L	Plastic bottle	H/1200/PB17
2.5 L	Coated Glass Bottle	H/1200/PC17
25 L	Metal drum	H/1200/25

HCl
CAS: 7647-01-0
MW: 36.46
Boiling point: 57°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8/II
UN: 1789
HS-Nr: 28061000
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45

Assay: 35%

Guaranteed analysis

Colour	<10 APHA	Manganese (Mn)	<0.02 ppm
Residue after ignition	<0.005%	Mercury (Hg)	<0.05 ppm
Aluminium (Al)	<0.5 ppm	Molybdenum (Mo)	<0.02 ppm
Arsenic (As)	<0.01 ppm	Nickel (Ni)	<0.1 ppm
Barium (Ba)	<0.1 ppm	Potassium (K)	<0.5 ppm
Cadmium (Cd)	<0.02 ppm	Silver (Ag)	<0.02 ppm
Calcium (Ca)	<1 ppm	Sodium (Na)	<2 ppm
Chlorine	<1 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Sulfate (SO_4)	<5 ppm
Copper (Cu)	<0.1 ppm	Tin (Sn)	<0.1 ppm
Iron (Fe)	<0.5 ppm	Titanium (Ti)	<0.05 ppm
Lead (Pb)	<0.1 ppm	Total phosphorus (P)	<1 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.01 ppm
Magnesium (Mg)	<0.5 ppm	Zinc (Zn)	<0.5 ppm

Lot analysis on the label.
Hydrochloric acid is equivalent to a strength of 11.65M (11.65N).
see page 279 for suitable Tap & accessories.

Hydrochloric acid 37% d=1.18 SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	H/1150/PB15
2.5 L	Plastic bottle	H/1150/PB17
5 L	Plastic bottle	H/1150/21
25 L	Metal drum	H/1150/25
45 L	Plastic drum	H/1150/26

HCl
CAS: 7647-01-0
MW: 36.46
ADR/RID: 8/II
UN: 1789

HS-Nr: 28111900
EINECS: 231-595-7
Risk: R34, R37
Safety: S24/25

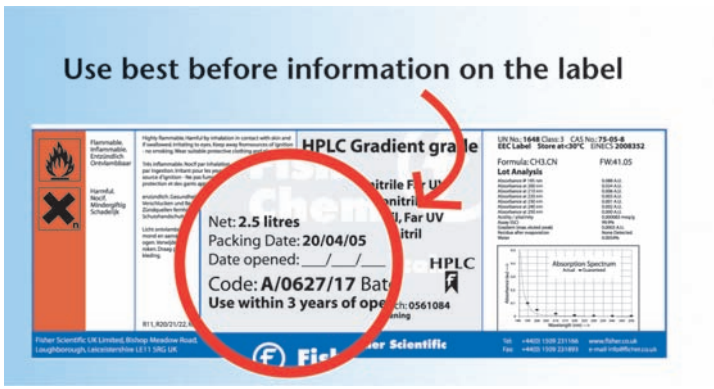
C

Assay: 35 to 38%

Guaranteed analysis

Colour	<20 APHA	Magnesium (Mg)	<5 ppm
Calcium (Ca)	<10 ppm	Potassium (K)	<5 ppm
Chlorine	<10 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm

Hydrochloric acid is equivalent to a strength of 11.65M (11.65N).
see page 279 for suitable Tap & accessories.



Hydrochloric acid 32% d=1.16 — Certified AR
for analysis

packaging		product code
1 L	Plastic bottle	H/1100/PB15
2.5 L	Plastic bottle	H/1100/PB17
45 L	bottle	H/1100/26

HCl
CAS: 7647-01-0
MW: 36.46
Density at 20°C: 1.16
Boiling point: 57°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8/II
UN: 1789
HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45

C

Assay: 31.5 to 33%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.05 ppm
Calcium (Ca)	<1 ppm	Potassium (K)	<0.5 ppm
Chlorine	<2 ppm	Sodium (Na)	<2 ppm
Chromium (Cr)	<0.05 ppm	Total phosphorus (P)	<1 ppm
Copper (Cu)	<0.05 ppm	Total silicon (Si)	<0.5 ppm
Iron (Fe)	<0.5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.2 ppm
Magnesium (Mg)	<0.5 ppm		

Typical analysis

Aluminium (Al)	<0.5 ppm	Manganese (Mn)	<0.02 ppm
Arsenic (As)	<0.05 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.1 ppm	Silver (Ag)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Hydrochloric acid is equivalent to a strength of 10.2M (10.2N).
Lot analysis on the label.

Hydrochloric acid 32% d=1.16 — SLR
extra pure

packaging		product code
2.5 L	Plastic bottle	H/1050/PB17
45 L	bottle	H/1050/26

HCl
CAS: 7647-01-0
MW: 36.46
Density at 20°C: 1.16
Boiling point: 57°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8/II
UN: 1789
HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45

C

Assay: 31 to 33%

Guaranteed analysis

Colour	<20 APHA	Nickel (Ni)	<1 ppm
Calcium (Ca)	<10 ppm	Potassium (K)	<5 ppm
Chlorine	<10 ppm	Sodium (Na)	<10 ppm
Chromium (Cr)	<1 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<5 ppm		

Hydrochloric acid is equivalent to a strength of 10.2M (10.2N).

Hydrochloric acid 32% d=1.16
Technical

packaging		product code
2.5 L	Plastic bottle	H/1000/PB17

HCl
CAS: 7647-01-0
MW: 36.46
ADR/RID: 8/II
UN: 1789

HS-Nr: 28273980
EINECS: 231-595-7
Risk: R34, R37
Safety: S24/25

C

Hydrochloric acid solution 5M
pure, Bench Reagent

packaging		product code
2.5 L	Plastic bottle	J/4270/17
25 L	Metal drum	J/4270/25

ADR/RID: 8/II
UN: 1789
HS-Nr: 38220000

EINECS: 231-595-7
Risk: R36/37/38
Safety: S26, S45

Xi

Manufactured to a tolerance of ±2.5%.
see page 279 for suitable Tap & accessories.

Hydrochloric acid solution 2M (2N)
pure, Bench Reagent

packaging		product code
2.5 L	Plastic bottle	J/4250/17

ADR/RID: 8/III
UN: 1789
HS-Nr: 38220000

EINECS: 231-595-7
Risk: R36/37/38
Safety: S26, S45

Xi

Guaranteed analysis

Molarity ..... 1.95 to 2.05 M

Manufactured to a tolerance of ±5%.

Hydrochloric acid solution 0.02M (0.02N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4360/PB15
2.5 L	Plastic bottle	J/4360/17

Density at 20°C: 1
HS-Nr: 38220000

Manufactured to a tolerance of ± 0.3%.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 0.1M (0.1N) NEW SPEC. — Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4350/15
2.5 L	Plastic bottle	J/4350/17
5 L	Plastic bottle	J/4350/21
10 L	Cubitainer	J/4350/24

Density at 20°C: 1
HS-Nr: 38220000

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 0.1M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/4350C/05
6	ampoule	J/4350C/90

ADR/RID: 8/III
UN: 1789
HS-Nr: 38220000
EINECS: 231-595-7

Stabilised with 10 ppm of Mercury(II) chloride.
Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Hydrochloric acid solution 0.2M (0.2N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4340/15
2.5 L	Plastic bottle	J/4340/17

Density at 20°C: 1
HS-Nr: 38220000
Risk: R36/37/38
Safety: S26, S45

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 0.5M (0.5N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4330/15
2.5 L	Plastic bottle	J/4330/17
25 L	Metal drum	J/4330/25

Density at 20°C: 1
ADR/RID: 8/III
UN: 1789
HS-Nr: 38220000
EINECS: 231-595-7
Risk: R36/37/38
Safety: S26, S45

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.
see page for suitable Tap & accessories.

Hydrochloric acid solution 0.5M (0.5N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/4330C/05
6	ampoule	J/4330C/90

ADR/RID: 8/II
UN: 1789
HS-Nr: 38220000
EINECS: 231-595-7
Risk: R36/37/38
Safety: S26, S45

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 1M (1N) NEW SPEC.
Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4320/15
2.5 L	Plastic bottle	J/4320/17
5 L	Plastic bottle	J/4320/21
10 L	Cubitainer	J/4320/24

Density at 20°C: 1
ADR/RID: 8/III
UN: 1789
HS-Nr: 38220000
EINECS: 231-595-7
Risk: R36/37/38
Safety: S26, S45

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 1M (1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/4320C/05
6	ampoule	J/4320C/90

ADR/RID: 8/II
UN: 1789
HS-Nr: 38220000
EINECS: 231-595-7
Risk: R34, R37
Safety: S26, S45
C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 2M (2N) NEW SPEC.
Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4315/15
2.5 L	Plastic bottle	J/4315/17

Density at 20°C: 1
ADR/RID: 8/III
UN: 1789
HS-Nr: 28061000
EINECS: 231-595-7
Risk: R36/37/38
Safety: S26, S45

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Hydrochloric acid solution 5M (5N)
Standard solution ready to use for volumetric analysis

packaging		product code
1 L	Plastic bottle	J/4310/15
2.5 L	Plastic bottle	J/4310/17

Density at 20°C: 1.08
ADR/RID: 8/II
UN: 1789
HS-Nr: 38220000
EINECS: 231-595-7
Risk: R36/37/38
Safety: S26
Xi

Manufactured to a tolerance of ± 0.5%.
See the full range of Standard Volumetric solution page 266.

Hydrofluoric acid 47-51% NEW SPEC.
OPTIMA
for ultra trace analysis

Optima

packaging		product code
250 mL	Bottle Teflon PFA	H/1435/07
500 mL	Bottle Teflon PFA	H/1435/08
1 L	Bottle Teflon PFA	H/1435/15

HF
CAS: 7664-39-3
MW: 20.01
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C
ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45
T+
C

Assay (HF): 47 to 51%

Guaranteed analysis

Aluminium (Al)	<20 ppt	Molybdenum (Mo)	<10 ppt
Antimony (Sb)	<20 ppt	Neodymium (Nd)	<1 ppt
Arsenic (As)	<50 ppt	Nickel (Ni)	<50 ppt
Barium (Ba)	<10 ppt	Niobium (Nb)	<10 ppt
Beryllium (Be)	<10 ppt	Palladium (Pd)	<20 ppt
Bismuth (Bi)	<10 ppt	Platinum (Pt)	<20 ppt
Boron (B)	<100 ppt	Potassium (K)	<10 ppt
Cadmium (Cd)	<10 ppt	Praseodymium (Pr)	<1 ppt
Calcium (Ca)	<20 ppt	Rhenium (Re)	<10 ppt
Cerium (Ce)	<10 ppt	Rhodium (Rh)	<20 ppt
Chromium (Cr)	<20 ppt	Rubidium (Rb)	<20 ppt
Cobalt (Co)	<10 ppt	Ruthenium (Ru)	<20 ppt
Copper (Cu)	<20 ppt	Samarium (Sm)	<1 ppt
Dysprosium (Dy)	<1 ppt	Scandium (Sc)	<10 ppt
Erbium (Er)	<1 ppt	Silver (Ag)	<10 ppt
Europium (Eu)	<1 ppt	Sodium (Na)	<10 ppt
Gadolinium (Gd)	<1 ppt	Strontium (Sr)	<10 ppt
Gallium (Ga)	<10 ppt	Tellurium (Te)	<1 ppt
Germanium (Ge)	<10 ppt	Terbium (Tb)	<1 ppt
Gold (Au)	<20 ppt	Thallium (Tl)	<10 ppt
Hafnium (Hf)	<10 ppt	Thorium (Th)	<1 ppt
Holmium (Ho)	<1 ppt	Thulium (Tm)	<1 ppt
Indium (In)	<1 ppt	Tin (Sn)	<20 ppt
Iron (Fe)	<20 ppt	Titanium (Ti)	<50 ppt
Lanthanum (La)	<10 ppt	Tungsten (W)	<20 ppt
Lead (Pb)	<10 ppt	Uranium (U)	<1 ppt
Lithium (Li)	<10 ppt	Vanadium (V)	<10 ppt
Lutetium (Lu)	<1 ppt	Ytterbium (Yb)	<1 ppt
Magnesium (Mg)	<10 ppt	Yttrium (Y)	<1 ppt
Manganese (Mn)	<10 ppt	Zinc (Zn)	<20 ppt
Mercury (Hg)	<100 ppt	Zirconium (Zr)	<10 ppt

Hydrofluoric acid 47-51% NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
500 mL	LDPE bottle	H/1432/08

HF
CAS: 7664-39-3
MW: 20
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
EINECS: 231-634-8
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45

T+ C

Assay: 47 to 51%

Guaranteed analysis

Colour	<10 APHA	Neodymium (Nd)	<0.1 ppb
Aluminium (Al)	<0.5 ppb	Nickel (Ni)	<0.1 ppb
Antimony (Sb)	<0.1 ppb	Niobium (Nb)	<0.5 ppb
Arsenic (As)	<0.1 ppb	Palladium (Pd)	<0.5 ppb
Barium (Ba)	<0.1 ppb	Platinum (Pt)	<0.5 ppb
Beryllium (Be)	<0.1 ppb	Potassium (K)	<0.2 ppb
Bismuth (Bi)	<0.1 ppb	Praséodymium (Pr)	<0.1 ppb
Boron (B)	<0.5 ppb	Rhenium (Re)	<0.1 ppb
Cadmium (Cd)	<0.1 ppb	Rhodium (Rh)	<0.5 ppb
Calcium (Ca)	<0.5 ppb	Rubidium (Rb)	<0.5 ppb
Cerium (Ce)	<0.5 ppb	Ruthenium (Ru)	<0.1 ppb
Cesium (Cs)	<0.5 ppb	Samarium (Sm)	<0.1 ppb
Chromium (Cr)	<0.1 ppb	Scandium (Sc)	<0.1 ppb
Cobalt (Co)	<0.1 ppb	Selenium (Se)	<0.1 ppb
Copper (Cu)	<0.1 ppb	Silver (Ag)	<0.1 ppb
Dysprosium (Dy)	<0.1 ppb	Sodium (Na)	<0.5 ppb
Erbium (Er)	<0.1 ppb	Strontium (Sr)	<0.1 ppb
Europium (Eu)	<0.1 ppb	Tantalum (Ta)	<0.1 ppb
Fluorosilicilique acid (SiF_6)	<20 ppm	Tellurium (Te)	<0.1 ppb
Gadolinium (Gd)	<0.1 ppb	Terbium (Tb)	<0.1 ppb
Gallium (Ga)	<0.1 ppb	Thallium (Tl)	<0.5 ppb
Germanium (Ge)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Gold (Au)	<0.5 ppb	Thulium (Tm)	<0.1 ppb
Hafnium (Hf)	<0.1 ppb	Tin (Sn)	<0.1 ppb
Holmium (Ho)	<0.1 ppb	Titanium (Ti)	<0.5 ppb
Indium (In)	<0.5 ppb	Total chloride (Cl)	<4 ppm
Iron (Fe)	<0.5 ppb	Total phosphorus (P)	<0.05 ppm
Lanthanum (La)	<0.1 ppb	Total sulphur (S)	<0.1 ppm
Lead (Pb)	<0.1 ppb	Tungsten (W)	<0.5 ppb
Lithium (Li)	<0.1 ppb	Uranium (U)	<0.1 ppb
Lutetium (Lu)	<0.1 ppb	Vanadium (V)	<0.1 ppb
Magnesium (Mg)	<0.2 ppb	Ytterbium (Yb)	<0.5 ppb
Manganese (Mn)	<0.2 ppb	Yttrium (Y)	<0.5 ppb
Mercury (Hg)	<1 ppb	Zinc (Zn)	<0.1 ppb
Molybdenum (Mo)	<0.2 ppb	Zirconium (Zr)	<0.1 ppb

Hydrofluoric acid 48%
for electronic use (MOS)

packaging		product code
2.5 L	Plastic bottle	H/1425/17

HF
CAS: 7664-39-3
MW: 20.01
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
EINECS: 231-634-8
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45

T+ C

Assay: >48%

Guaranteed analysis

Colour	<10 APHA	Molybdenum (Mo)	<0.05 ppm
Aluminium (Al)	<0.5 ppm	Nickel (Ni)	<0.1 ppm
Barium (Ba)	<0.02 ppm	Potassium (K)	<0.1 ppm
Cadmium (Cd)	<0.02 ppm	Sodium (Na)	<0.2 ppm
Calcium (Ca)	<0.5 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.05 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total chloride (Cl)	<0.0005%
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<2 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Magnesium (Mg)	<0.2 ppm	Zinc (Zn)	<0.5 ppm
Manganese (Mn)	<0.05 ppm		

Hydrofluoric acid 48% — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Plastic bottle	H/1420/15
2.5 L	Plastic bottle	H/1420/17

HF
CAS: 7664-39-3
MW: 20.01
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
EINECS: 231-634-8
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45

T+ C

Assay: >48%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Potassium (K)	<0.1 ppm
Chromium (Cr)	<0.05 ppm	Sodium (Na)	<0.2 ppm
Copper (Cu)	<0.1 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<0.2 ppm	Total phosphorus (P)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<0.2 ppm	Total sulphur (S)	<2 ppm
Manganese (Mn)	<0.05 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.05 ppm	Silver (Ag)	<0.02 ppm
Barium (Ba)	<0.1 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Molybdenum (Mo)	<0.05 ppm		

Lot analysis on the label.

Hydrofluoric acid 40% — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Plastic bottle	H/1400/15
2.5 L	Plastic bottle	H/1400/17

HF
CAS: 7664-39-3
MW: 20.01
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
EINECS: 231-634-8
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45

T+ C

Assay: >40%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Sodium (Na)	<0.5 ppm
Chromium (Cr)	<0.05 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<0.05 ppm	Total sulphur (S)	<2 ppm
Magnesium (Mg)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Nickel (Ni)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.05 ppm
Barium (Ba)	<0.1 ppm	Silver (Ag)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Manganese (Mn)	<0.05 ppm		

Lot analysis on the label.
The hydrofluoric acid 40% has a concentration of 22.6 M (22.6 N).

Hydrofluoric acid 40% — SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	H/1350/15
2.5 L	Plastic bottle	H/1350/17

HF
CAS: 7664-39-3
MW: 20.01
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
EINECS: 231-634-8
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45

T+ C

Assay: >40%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<5 ppm
Chromium (Cr)	<1 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<10 ppm
Nickel (Ni)	<1 ppm	Zinc (Zn)	<5 ppm

The hydrofluoric acid 40% has a concentration of 22.6 M (22.6 N).

Hydrofluoric acid 58-62%
Technical

packaging		product code
1 L	Plastic bottle	H/1300/15
2.5 L	Plastic bottle	H/1300/17

HF
CAS: 7664-39-3
MW: 20.01
Density at 20°C: 1.15
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: -35°C

ADR/RID: 8(6.1)/II
UN: 1790
HS-Nr: 28111100
EINECS: 231-634-8
Risk: R26/27/28, R35
Safety: S7/9, S26, S36/37, S45

T+ C

Assay: 58 to 62%

Hydrofluoric Acid Antidote Gel
pure

packaging		product code
6	Tubes 25 g	H/1430/90

ADR/RID: /II
HS-Nr: 38220000

Guaranteed analysis

Cesium (Cs)	<10 ppm

Hydrogen peroxide 6%w/v (20 volumes) Certified AR
for analysis

packaging		product code
1 L	Plastic bottle	H/1600/15
2.5 L	Plastic bottle	H/1600/17

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: 1.2
Boiling point: 114°C
Melting point: -52°C

ADR/RID: 5.1(8)/II
HS-Nr: 28470000
EINECS: 231-766-0
Risk: R36
Safety: S26, S28A

Xi

Assay: > 6% w/v

Guaranteed analysis

Acidity	<0.001 meq/g	Potassium (K)	<1 ppm
Colour	<10 APHA	Sodium (Na)	<5 ppm
Calcium (Ca)	<5 ppm	Total chloride (Cl)	<0.0001 %
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<2 ppm
Magnesium (Mg)	<1 ppm	Zinc (Zn)	<0.5 ppm

Typical analysis

Aluminium (Al)	<0.5 ppm	Mercury (Hg)	<0.1 ppm
Arsenic (As)	<0.1 ppm	Molybdenum (Mo)	<0.1 ppm
Barium (Ba)	<0.1 ppm	Nickel (Ni)	<0.1 ppm
Cadmium (Cd)	<0.1 ppm	Silver (Ag)	<0.1 ppm
Chromium (Cr)	<0.1 ppm	Strontium (Sr)	<0.1 ppm
Cobalt (Co)	<0.1 ppm	Titanium (Ti)	<0.1 ppm
Lithium (Li)	<0.1 ppm	Vanadium (V)	<0.1 ppm
Manganese (Mn)	<0.1 ppm		

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Hydrogen peroxide 6%w/v (20 volumes) SLR
extra pure

packaging		product code
1 L	Plastic bottle	H/1550/15
2.5 L	Plastic bottle	H/1550/17

H_2O_2
CAS: 7722-84-1
MW: 34
Density at 20°C: 1.2
Boiling point: 114°C
Melting point: -52°C

ADR/RID: 5.1(8)/II
HS-Nr: 28470000
EINECS: 231-766-0
Risk: R36
Safety: S26, S28A

Xi

Assay: > 6% w/v

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<2 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<5 ppm	Zinc (Zn)	<2 ppm

Hydrogen peroxide 12%w/v (40 volumes)
pure

packaging		product code
2.5 L	Plastic bottle	H/1650/17

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: 1.039 to 1.044
ADR/RID: 5.1(8)/II
UN: 2984

HS-Nr: 28470000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S28A, S36/37/39, S45

Xn

Assay: > 12% w/v

Hydrogen peroxide 30-32 % NEW OPTIMA

packaging		product code
500 mL	Teflon FEP bottle	H/1830/08

H_2O_2
CAS: 231-765-0
MW: 34.01
Density at 20°C: 2.11
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: 33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S39, S45

Xn

Assay: 30 to 32%

Guaranteed analysis

Aluminium (Al)	<10 ppt	Neodymium (Nd)	<0.5 ppt
Antimony (Sb)	<1 ppt	Nickel (Ni)	<10 ppt
Arsenic (As)	<10 ppt	Niobium (Nb)	<1 ppt
Barium (Ba)	<5 ppt	Palladium (Pd)	<10 ppt
Beryllium (Be)	<5 ppt	Potassium (K)	<10 ppt
Bismuth (Bi)	<10 ppt	Praséodymium (Pr)	<0.5 ppt
Cadmium (Cd)	<1 ppt	Rhenium (Re)	<5 ppt
Calcium (Ca)	<50 ppt	Rhodium (Rh)	<5 ppt
Cerium (Ce)	<1 ppt	Rubidium (Rb)	<5 ppt
Cesium (Cs)	<1 ppt	Ruthenium (Ru)	<10 ppt
Chromium (Cr)	<5 ppt	Samarium (Sm)	<0.5 ppt
Cobalt (Co)	<5 ppt	Scandium (Sc)	<10 ppt
Copper (Cu)	<5 ppt	Selenium (Se)	<50 ppt
Dysprosium (Dy)	<0.5 ppt	Silver (Ag)	<10 ppt
Erbium (Er)	<0.5 ppt	Sodium (Na)	<10 ppt
Europium (Eu)	<0.5 ppt	Strontium (Sr)	<1 ppt
Gadolinium (Gd)	<0.5 ppt	Tantalum (Ta)	<10 ppt
Gallium (Ga)	<5 ppt	Tellurium (Te)	<1 ppt
Germanium (Ge)	<10 ppt	Terbium (Tb)	<0.5 ppt
Gold (Au)	<10 ppt	Thallium (Tl)	<1 ppt
Hafnium (Hf)	<1 ppt	Thorium (Th)	<0.5 ppt
Holmium (Ho)	<0.5 ppt	Thulium (Tm)	<0.5 ppt
Indium (In)	<0.5 ppt	Tin (Sn)	<10 ppt
Iron (Fe)	<10 ppt	Titanium (Ti)	<10 ppt
Lanthanum (La)	<0.5 ppt	Tungsten (W)	<10 ppt
Lead (Pb)	<1 ppt	Uranium (U)	<0.5 ppt
Lithium (Li)	<1 ppt	Vanadium (V)	<5 ppt
Lutetium (Lu)	<0.5 ppt	Ytterbium (Yb)	<0.5 ppt
Magnesium (Mg)	<10 ppt	Yttrium (Y)	<1 ppt
Manganese (Mn)	<5 ppt	Zinc (Zn)	<10 ppt
Mercury (Hg)	<100 ppt	Zirconium (Zr)	<10 ppt
Molybdenum (Mo)	<5 ppt		

Hydrogen peroxide 30-32 % NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
1 L	LDPE bottle	H/1823/15

H_2O_2
CAS: 231-765-0
MW: 34.01
Density at 20°C: 1.11
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: 33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S39, S45

Xn

Assay: 30 to 32%

Guaranteed analysis

Aluminium (Al)	<1 ppb	Neodymium (Nd)	<0.1 ppb
Antimony (Sb)	<0.5 ppb	Nickel (Ni)	<1 ppb
Arsenic (As)	<0.5 ppb	Niobium (Nb)	<0.1 ppb
Barium (Ba)	<0.5 ppb	Palladium (Pd)	<0.1 ppb
Beryllium (Be)	<0.5 ppb	Platinum (Pt)	<0.5 ppb
Bismuth (Bi)	<0.1 ppb	Potassium (K)	<1 ppb
Boron (B)	<1 ppb	Praséodymium (Pr)	<0.1 ppb
Cadmium (Cd)	<0.5 ppb	Rhenium (Re)	<0.1 ppb
Calcium (Ca)	<1 ppb	Rhodium (Rh)	<0.1 ppb
Cerium (Ce)	<0.1 ppb	Rubidium (Rb)	<0.1 ppb
Cesium (Cs)	<0.1 ppb	Ruthenium (Ru)	<0.1 ppb
Chromium (Cr)	<0.5 ppb	Samarium (Sm)	<0.1 ppb
Cobalt (Co)	<0.5 ppb	Scandium (Sc)	<0.1 ppb
Copper (Cu)	<1 ppb	Selenium (Se)	<0.5 ppb
Dysprosium (Dy)	<0.1 ppb	Silver (Ag)	<0.1 ppb
Erbium (Er)	<0.1 ppb	Sodium (Na)	<1 ppb
Europium (Eu)	<0.1 ppb	Strontium (Sr)	<0.1 ppb
Gadolinium (Gd)	<0.1 ppb	Tantalum (Ta)	<0.1 ppb
Gallium (Ga)	<0.1 ppb	Tellurium (Te)	<0.1 ppb
Germanium (Ge)	<0.1 ppb	Terbium (Tb)	<0.1 ppb
Gold (Au)	<0.5 ppb	Thallium (Tl)	<0.1 ppb
Hafnium (Hf)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Holmium (Ho)	<0.1 ppb	Thulium (Tm)	<0.1 ppb
Indium (In)	<0.1 ppb	Tin (Sn)	<0.5 ppb
Iron (Fe)	<1 ppb	Titanium (Ti)	<0.5 ppb
Lanthanum (La)	<0.1 ppb	Tungsten (W)	<0.5 ppb
Lead (Pb)	<0.1 ppb	Uranium (U)	<0.5 ppb
Lithium (Li)	<0.5 ppb	Vanadium (V)	<0.5 ppb
Lutetium (Lu)	<0.1 ppb	Ytterbium (Yb)	<0.1 ppb
Magnesium (Mg)	<1 ppb	Yttrium (Y)	<0.1 ppb
Manganese (Mn)	<0.5 ppb	Zinc (Zn)	<1 ppb
Mercury (Hg)	<0.1 ppb	Zirconium (Zr)	<0.5 ppb
Molybdenum (Mo)	<0.5 ppb		

Hydrogen peroxyde 30%w/v (100 volumes)
for electronic use (MOS)

packaging		product code
2.5 L	Plastic bottle	H/1811/17

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: 1.11
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S28A, S36/37/39, S45

Xn

Assay: > 30% w/v

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Molybdenum (Mo)	<0.1 ppm
Colour	<10 APHA	Nickel (Ni)	<0.1 ppm
Aluminium (Al)	<0.5 ppm	Potassium (K)	<1 ppm
Barium (Ba)	<0.1 ppm	Sodium (Na)	<5 ppm
Cadmium (Cd)	<0.1 ppm	Strontium (Sr)	<0.1 ppm
Calcium (Ca)	<5 ppm	Titanium (Ti)	<0.1 ppm
Chromium (Cr)	<0.1 ppm	Total chloride (Cl)	<0.0005%
Cobalt (Co)	<0.1 ppm	Total nitrogen (N)	<50 ppm
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<2 ppm
Lithium (Li)	<0.1 ppm	Vanadium (V)	<0.1 ppm
Magnesium (Mg)	<1 ppm	Zinc (Zn)	<0.5 ppm
Manganese (Mn)	<0.1 ppm		

Filtered to 0.2 µm.

Hydrogen peroxide 30%w/v (100 volumes) — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Plastic bottle	H/1800/15
2.5 L	Plastic bottle	H/1800/17
25 L	Metal drum	H/1800/25

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: 1.11
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S28A, S36/37/39, S45

Xn

Assay: > 30% w/v

Guaranteed analysis

Acidity	<0.005 meq/g	Sodium (Na)	<5 ppm
Colour	<10 APHA	Total chloride (Cl)	<0.0005 %
Calcium (Ca)	<5 ppm	Total nitrogen (N)	<50 ppm
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<0.5 ppm
Magnesium (Mg)	<1 ppm	Zinc (Zn)	<0.5 ppm
Potassium (K)	<1 ppm		

Typical analysis

Aluminium (Al)	<0.5 ppm	Manganese (Mn)	<0.1 ppm
Arsenic (As)	<0.5 ppm	Molybdenum (Mo)	<0.1 ppm
Barium (Ba)	<0.1 ppm	Nickel (Ni)	<0.1 ppm
Cadmium (Cd)	<0.1 ppm	Silver (Ag)	<0.1 ppm
Chromium (Cr)	<0.1 ppm	Strontium (Sr)	<0.1 ppm
Cobalt (Co)	<0.1 ppm	Titanium (Ti)	<0.1 ppm
Lithium (Li)	<0.1 ppm	Vanadium (V)	<0.1 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Hydrogen peroxide 30%w/v (100 volumes) — Primar
for trace metal analysis

Primar

packaging		product code
1 L	Plastic bottle	H/1820/15

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: 1.11
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S28A, S36/37/39, S45

Xn

Assay: > 30% w/v

Guaranteed analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Arsenic (As)	<0.1 ppm	Nickel (Ni)	<0.005 ppm
Barium (Ba)	<0.005 ppm	Potassium (K)	<0.2 ppm
Cadmium (Cd)	<0.005 ppm	Silver (Ag)	<0.01 ppm
Calcium (Ca)	<0.2 ppm	Sodium (Na)	<2 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.005 ppm	Titanium (Ti)	<0.01 ppm
Copper (Cu)	<0.01 ppm	Total chloride (Cl)	<0.0005%
Iron (Fe)	<0.2 ppm	Total phosphorus (P)	<2 ppm
Lead (Pb)	<0.01 ppm	Total silicon (Si)	<0.1 ppm
Lithium (Li)	<0.005 ppm	Total sulphur (S)	<0.5 ppm
Magnesium (Mg)	<0.1 ppm	Vanadium (V)	<0.01 ppm
Manganese (Mn)	<0.005 ppm	Zinc (Zn)	<0.02 ppm

Hydrogen peroxide 30%w/v (100 volumes) — SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	H/1750/15
2.5 L	Plastic bottle	H/1750/17

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: 1.11
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 38220000
EINECS: 231-765-0
Risk: R22, R41
Safety: S26, S28A, S36/37/39, S45

Xn

Assay: > 30% w/v

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<2 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<5 ppm	Zinc (Zn)	<2 ppm

Hydrogen peroxide 60% w/v (200 volumes) SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	H/1862/15

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: >1.19
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R8, R20/22, R34
Safety: S17, S26, S28A, S36/37/39, S45

O C

Assay: > 59% w/v

Guaranteed analysis

Acidity	<0.006 meq/g	Potassium (K)	<0.01%
Calcium (Ca)	<0.001%	Sodium (Na)	<5 ppm
Copper (Cu)	<1 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<2 ppm	Total phosphorus (P)	<0.01%
Lead (Pb)	<1 ppm	Total sulphur (S)	<3 ppm
Magnesium (Mg)	<5 ppm		

Hydrogen peroxide 60% w/v (200 volumes)
pure

packaging		product code
1 L	Plastic bottle	H/1860/15

H_2O_2
CAS: 7722-84-1
MW: 34.01
Density at 20°C: >1.19
Boiling point: 108°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 5.1(8)/II
UN: 2014
HS-Nr: 28470000
EINECS: 231-765-0
Risk: R8, R20/22, R34
Safety: S17, S26, S28A, S36/37/39, S45

O C

Assay: > 59% w/v

Hydroquinone
See Quinol, page 222

Hydroxyacetic acid
See Glycolic acid, page 110

2-Hydroxybenzaldehyde
See Salicylaldehyde, page 224

Hydroxybenzene
See Phenol detached crystals, page 195

2-Hydroxybenzoic acid
See Salicylic acid, page 224

3-Hydroxy-4-(1-hydroxy-2-naphthylazo)-7-nitro-1-naphthalene sulfonic acid, sodium salt
See Eriochrome black T, page 95

Hydroxylammonium chloride SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	H/1900/48
500 g	Plastic jar	H/1900/53
1 kg	Plastic jar	H/1900/60

$NH_2OH.HCl$
CAS: 5470-11-1
MW: 69.49
Melting point: 155-158°C
ADR/RID: 8/III
UN: 2923

HS-Nr: 28251000
EINECS: 226-798-2
Risk: R22, R36/38, R43, R48/22, R50
Safety: S22, S24, S37, S61

Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<100 ppm		

Hydroxylammonium sulfate Certified AR
for analysis

AR

packaging		product code
100 g	Plastic Jar	H/2001/48

$(NH_2OH)_2.H_2SO_4$
CAS: 10039-54-0
MW: 164.13
Melting point: 170 °C
ADR/RID: 8/III
UN: 2865

HS-Nr: 28251000
EINECS: 233-118-8
Risk: R22, R36/38, R43, R48/22, R50
Safety: S22, S24, S37, S61

Xn N

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	3 to 4	Magnesium (Mg)	<5 ppm
Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<20 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<2 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<2 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<2 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<2 ppm	Zinc (Zn)	<5 ppm

1-(1-Hydroxy-4-methyl-2-phenylazo)-2-naphthol-4-sulfonic acid
pure, metal indicator (Calmagite)

packaging		product code
5 g	Glass Jar	H/2350/44

$C_{17}H_{14}N_2O_5S$
CAS: 3147-14-6
MW: 358.37
Melting point: 300°C

HS-Nr: 29270000
EINECS: 221-563-0
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

1-Hydroxynaphthalene
See 1-Naphthol, page 170

4--1(4H)-naphthalenone
See p-Naphtholbenzein, page 171

7-Hydroxy-8-(phenylazo)-1.3-naphthalenedi-sulfonic acid, disodium salt
See Orange G sodium salt, page 179

2-Hydroxy-1.2,3-propanetricarboxylic acid

See Citric acid, anhydrous, page 69

8-Hydroxyquinoline SLR
extra pure

packaging		product code
100 g	Glass packaging	**H/2500/48**

C_9H_7NO
CAS: 148-24-3
MW: 145.16
Boiling point: 267°C
Boiling pressure: 752 mmHg

Melting point: 72 to 74°C
HS-Nr: 29334990
EINECS: 205-711-1
Risk: R22, R36/37/38, R68
Safety: S26, S36/37/39, S45

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<20 ppm

DL-Hydroxysuccinic acid

See DL-Malic acid, page 154

2-Hydroxytoluene

See o-Cresol, page 76

3-Hydroxytoluene

See m-Cresol, page 76

4-Hydroxytoluene

See p-Cresol, page 76

Hypophosphorous acid SLR
extra pure

packaging		product code
500 mL	Plastic bottle	**H/2650/PB08**

H_3PO_2
CAS: 6303-21-5
MW: 66
Density at 20°C: 1.2 to 1.22
Boiling point: 108°C
Boiling pressure: 1013 hPa
Melting point: -25°C

ADR/RID: 8/II
UN: 3264
HS-Nr: 28111900
EINECS: 228-601-5
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: >49%

Guaranteed analysis

Lead (Pb)	<20 ppm	Total chloride (Cl)	<0.1%
Sulfate (SO_4)	<0.1%		

Imidazole SLR
extra pure

packaging		product code
100 g	Plastic jar	**I/0012/48**
1 kg	Plastic jar	**I/0012/60**
5 kg	Plastic drum	**I/0012/65**
10 kg	Plastic screw top Keg	**I/0012/68**

$C_3H_4N_2$
CAS: 288-32-4
MW: 68.08
Boiling point: 255 to 256°C
Boiling pressure: 760 mmHg
Melting point: 86 to 90°C
Flash point: 145°C

ADR/RID: 8/III
UN: 3263
HS-Nr: 29332990
EINECS: 206-019-2
Risk: R22, R34, R63
Safety: S22, S26, S36/37/39, S45

C

Assay: >99.5%

Guaranteed analysis

Melting Point tested	90 to 92°C	Lead (Pb)	<5 ppm
Copper (Cu)	<5 ppm	Mercury (Hg)	<2 ppm
Iron (Fe)	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
325 nm (sol. aqu. 12%) <0.15 A.U.

Imidazole
pure

packaging		product code
100 g	Plastic jar	**I/0010/48**
500 g	Plastic jar	**I/0010/53**

$C_3H_4N_2$
CAS: 288-32-4
MW: 68.08
Boiling point: 255 to 256°C
Boiling pressure: 760 mmHg
Melting point: 86 to 90°C
Flash point: 145°C

ADR/RID: 8/III
UN: 3263
HS-Nr: 29332990
EINECS: 206-019-2
Risk: R22, R34, R63
Safety: S22, S26, S36/37/39, S45

C

Assay: >99%

2.2'-Iminodiethanol

See Diethanolamine, page 84

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

pH Indicator

designation	pH range	colour change	packsize	product code	page
Alizarin	11.0-13.0	pink to violet	10 g	A/1460/45	11
Alizarin red S, C.I.58005	4.0-6.0	yellow to orange-red	25 g	A/1520/46	11
Bromocresol green	3.6-5.2	yellow to blue	1 g	B/4320/43	42
	3.6-5.2	yellow to blue	5 g	B/4320/44	42
	3.6-5.2	yellow to blue	25 g	B/4320/46	42
Bromocresol purple	5.2-6.8	yellow to violet	5 g	B/4330/44	43
	5.2-6.8	yellow to violet	25 g	B/4330/46	43
Bromophenol blue	2.8-4.6	yellow to blue-violet	5 g	B/4630/44	43
	2.8-4.6	yellow to blue-violet	25 g	B/4630/46	43
Congo red	3.0-5.0	violet to red-orange	25 g	C/7020/46	72
Cresol red	0.2-1.8	red to yellow	5 g	C/7460/44	76
Full range indicator, pH range 1-13	1.0-13.0	colour chart on bottle	100 mL	U/0025/PB05	107
	1.0-13.0	colour chart on bottle	500 mL	U/0025/PB08	107
Litmus	5.0-8.0	red to blue	25 g	L/2500/46	149
Methyl orange solid C.I. 13025	2.9-4.6	orange red to orange yellow	25 g	M/5000/46	166
	2.9-4.6	orange red to orange yellow	100 g	M/5000/48	166
Methyl red spirit soluble C.I. 13020	4.2-6.3	red to yellow	10 g	M/5150/45	167
	4.2-6.3	red to yellow	25 g	M/5150/46	167
Methyl red solid water soluble	4.2-6.3	red to yellow	5 g	M/5170/44	167
	4.2-6.3	red to yellow	100 g	M/5170/48	167
Methyl violet solid (crystal violet) C.I. 42555	0.1-3.2	yellow to violet	10 g	M/5370/45	168
	0.1-3.2	yellow to violet	25 g	M/5370/46	168
p-Naphtholbenzein	8.5-9.8	yellow to green	25 g	N/0500/46	171
Neutral red C.I 50040	6.8-8.0	red to yellow-orange	5 g	N/1270/44	171
Thymol blue	1.2-2.8	red to yellow	5 g	T/1470/44	286
Thymolphthalein solid	9.3-10.5	colourless to blue	5 g	T/1480/44	287
	9.3-10.5	colourless to blue	25 g	T/1480/46	287
Titan yellow C.I. 19540	12.0-13.0	yellow to red	25 g	T/2060/46	290
Universal indicator, pH range 4-10	4.0-10.0	colour chart on bottle	2.5 L	U/0020/PB17	299
	4.0-10.0	colour chart on bottle	100 mL	U/0020/PB05	299
	4.0-10.0	colour chart on bottle	500 mL	U/0020/PB08	299

Redox Indicator

designation	transition	colour change (oxidised to reduced state)	packsize	package type	product code	page
Barium diphenylamine-4-sulfonate	+ 0.84	violet to colourless	5 g	Plastic jar	B/0620/44	36
Diphenylamine	+ 0.76	violet to colourless	100 g	Glass packaging	D/4600/48	93
Methylene blue solid C.I. 52015	+ 0.53	violet to colourless	10 g	Glass packaging	M/4870/45	165
	+ 0.87	violet to colourless	25 g	Glass packaging	M/4870/46	165
1.10-Phenanthroline monohydrate	+ 1.08	faint blue to red	1 g	Glass tube	P/2200/43	195
	+ 1.08	faint blue to red	5 g	Glass bottle	P/2200/44	195
Phenol-indo-2.6-dichlorophenol sodium salt	+ 0.67	red to colourless	1 g	Glass Jar	P/2390/43	196
	+ 0.67	red to colourless	5 g	Glass Jar	P/2390/44	196
Phenosafranine	+ 0.28	blue to colourless	5 g	Glass packaging	P/2450/44	196
N-Phenylanthranilic acid	+ 1.08	purple-red to colourless	5 g	Plastic jar	P/2460/44	197
Sodium diphenylamine-4-sulfonate	+ 0.84	red-violet to colourless	5 g	Glass Jar	S/3780/44	240

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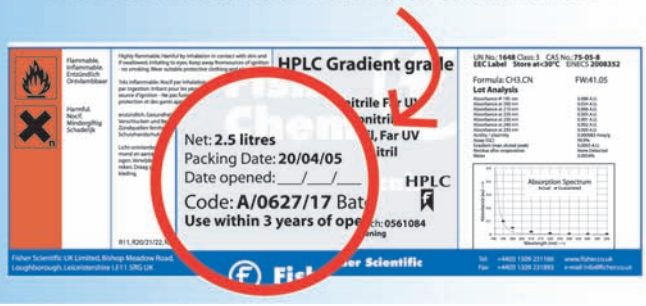
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Use best before information on the label



Adsorption Indicator

designation	colour index	packsize	package type	product code	page
Alizarin	C.I. 58000	10 g	Glass packaging	A/1460/45	11
Bromocresol purple		5 g	Glass packaging	B/4330/44	43
		25 g	Glass packaging	B/4330/46	43
Bromophenol blue		5 g	Glass packaging	B/4630/44	43
		25 g	Glass packaging	B/4630/46	43
Congo red	C.I. 22120	25 g	Glass packaging	C/7020/46	72
Dichloro (R) fluorescein		5 g	Glass packaging	D/1820/44	82
1.5-Diphenylcarbazone		10 g	Glass packaging	D/4850/45	93
Fluorescein sodium		100 g	Glass Jar	F/1300/48	104
		500 g	Glass Jar	F/1300/53	104
Mercury(II) thiocyanate		25 g	Plastic jar	M/3300/46	160
Phenosafranine	C.I. 50200	5 g	Glass packaging	P/2450/44	196
Tetrabromo (R) fluorescein	C.I. 45380	10 g	Glass Jar	T/0470/45	281

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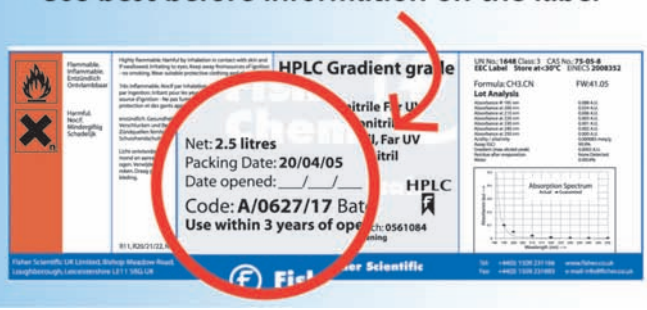
Use best before information on the label



NIST Certified Standard from SPEX

A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS

Discover them on page 258

Acids, Bases and Water for Trace Metal analysis

The right grade for the right detection level. Choose between Optima®, Trace Metal® & Primar Plus® grade.

Read more page 9

Indigo carmine
extra pure, C.I. 73015

SLR

packaging		product code
25 g	Glass packaging	I/0300/46

$C_{16}H_8N_2Na_2O_8S_2$
CAS: 860-22-0
MW: 466.36
Boiling pressure: 760 mmHg

HS-Nr: 32041200
EINECS: 212-728-8
Risk: R22

Xn

Guaranteed analysis

IR Analysis ..... Conform

Conforming to the IR spectrum of reference.

5.5'-Indigodisulfonic acid, disodium salt
See Indigo carmine, page 129

Indium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLIN22Y
500 mL	Plastic bottle	SPPLIN22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Indium standard metal solution 10 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLIN21AY

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

myo-Inositol
pure

packaging		product code
100 g	Plastic jar	I/0385/48

$C_6H_{12}O_6$
CAS: 87-89-8
MW: 180.16
Boiling pressure: 760 mmHg

Melting point: 220 to 228°C
HS-Nr: 38220000
EINECS: 201-781-2
Safety: S24/25

Guaranteed analysis

Melting Point tested ..... 224 to 225°C

Iodine
for analysis

Certified AR

packaging		product code
100 g	Glass packaging	I/0500/48
250 g	Glass packaging	I/0500/50
500 g	Glass packaging	I/0500/53

I_2
CAS: 7553-56-2
MW: 126.9
ADR/RID: 8(6.1)/II
UN: 2923

HS-Nr: 28012000
EINECS: 231-442-4
Risk: R20, R24, R34, R50
Safety: S23, S25, S26, S36/37/39, S45, S61

C N

Assay: >99.9%

Guaranteed analysis

Insoluble matter	Conforming BP, USP	Magnesium (Mg)	<2 ppm
Calcium (Ca)	<5 ppm	Potassium (K)	<20 ppm
Chloride and Bromide	<0.005 %	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<10 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<5 ppm		

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Iodine
extra pure

SLR

packaging		product code
100 g	Glass packaging	I/0450/48
250 g	Glass packaging	I/0450/50
500 g	Glass packaging	I/0450/53
5 kg	Plastic screw top Keg	I/0450/65
25 kg	Plastic screw top Keg	I/0450/70

I_4
CAS: 7553-56-2
MW: 126.9
ADR/RID: 8(6.1)/II
UN: 2923

HS-Nr: 28012000
EINECS: 231-442-4
Risk: R20, R24, R34, R50
Safety: S23, S25, S26, S36/37/39, S45, S61

C N

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Magnesium (Mg)	<10 ppm
Chloride and Bromide	<0.02%	Potassium (K)	<100 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<50 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<10 ppm

Iodine indicator
pure, indicator grade

packaging		product code
250 g	Plastic jar	I/0505/50

I_2
ADR/RID: 8(6.1)/II
UN: 2923

HS-Nr: 35051090
EINECS: 231-442-4

F

Iodine indicator is a stable white powder which is readily soluble in water. It forms a blue complex with iodine: 0.2-0.5g being the usual amount per titration.
Sensitivity to iodine: 0.05 ml of 0.01N iodine gives a distinct blue colour in 100ml solution.
Glassware is easily cleaned after use.

Iodine solution - Wij's
pure, indicator grade

packaging		product code
1 L	Coated Glass Bottle	J/4500/PB15
2.5 L	Coated Glass Bottle	J/4500/PB17

Flash point: 41.11°C
ADR/RID: 3(8)/II
UN: 2920

HS-Nr: 38220000
Risk: R34, R10
Safety: S2, S26, S45

C F

Guaranteed analysis

Iodine (I) ..... 2.4 to 2.7%

Formulation free of carbon tetrachloride.

Iodine solution 1% w/v in potassium iodide
pure

packaging		product code
1 L	Glass bottle	J/4450/15
2.5 L	Glass bottle	J/4450/17

HS-Nr: 38220000

Iodine solution 0.05M (0.1N) NEW SPEC. Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/4410/15
2.5 L	Glass bottle	J/4410/17

Density at 20°C: 1.02
HS-Nr: 38220000
Safety: S24/25

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Iodine solution 0.05M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/4410C/05
6	ampoule	J/4410C/90

Density at 20°C: 1.02
HS-Nr: 38220000
Safety: S24/25

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Iodine solution 0.5M (1N) NEW SPEC. Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
500 mL	Coated Glass Bottle	J/4400/PB08
1 L	Coated Glass Bottle	J/4400/PB15
2.5 L	Coated Glass Bottle	J/4400/PB17

Density at 20°C: 1.45
HS-Nr: 38220000
Risk: R21, R34
Safety: S26, S36/37/39, S45

C

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Iodine bromide
pure

packaging		product code
100 g	Glass packaging	I/0510/48

BrI
CAS: 7789-33-5
MW: 206.81
Density at 20°C: 4.41
Boiling point: 116°C
Boiling pressure: 760 mmHg
Melting point: 42 to 50°C

ADR/RID: 8/II
UN: 3260
HS-Nr: 28129000
EINECS: 232-159-9
Risk: R34, R37
Safety: S26, S36/37/39, S45

C

Iodine trichloride SLR
extra pure

Specified

packaging		product code
100 g	Coated Glass Bottle	I/0650/48

ICl_3
CAS: 865-44-1
MW: 233.26
ADR/RID: 8/II

UN: 1759
HS-Nr: 28121090
EINECS: 212-739-8

C T

Assay: >96%

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

1-Iodobutane SLR
extra pure

Specified

packaging		product code
25 mL	Glass bottle	I/0697/04

C_4H_9I
CAS: 542-69-8
MW: 184.02
Density at 20°C: 1.61
Boiling point: 130 to 131°C
Melting point: -103°C

ADR/RID: 3/III
UN: 1993
HS-Nr: 29033090
EINECS: 208-824-4
Risk: R10, R21/22
Safety: S25

Xn

Assay (GC): >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.49 to 1.51

Iodoethane SLR
extra pure

Specified

packaging		product code
100 mL	Coated Glass Bottle	I/0700/PB05

C_2H_5I
CAS: 75-03-6
MW: 155.97
Density at 20°C: 1.92 to 1.93
Boiling point: 69 to 73°C
Boiling pressure: 760 mmHg
Melting point: -108°C

Flash point: 53°C
ADR/RID: 3/III
UN: 1993
HS-Nr: 29033090
EINECS: 200-833-1
Risk: R10, R20, R36/37/38
Safety: S16, S26, S37/39

Xn

Iodoform SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	I/0750/48

CHI_3
CAS: 75-47-8
MW: 393.73
Melting point: 119 to 122°C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29033090
EINECS: 200-874-5
Risk: R20/21/22, R36/37/38
Safety: S22, S26, S36/37/39

Xn

Guaranteed analysis
Melting Point tested ..... >118°C

Iodomethane SLR
extra pure

Specified

packaging		product code
100 mL	Coated Glass Bottle	I/0800/PB05

CH_3I
CAS: 74-88-4
MW: 141.94
Density at 20°C: 2.26 to 2.29
Boiling point: 42.5°C
Boiling pressure: 760 mmHg
Melting point: -66°C

ADR/RID: 6.1/II
UN: 2644
HS-Nr: 29033090
EINECS: 200-819-5
Risk: R21, R23/25, R37/38, R40
Safety: S36/37, S38, S45

T

Assay (GC): >98%

2-Iodopropane SLR
extra pure

Specified

packaging		product code
100 mL	Coated Glass Bottle	I/0831/PB05

C_3H_7I
CAS: 75-30-9
MW: 169.99
Density at 20°C: 1.7
Boiling point: 90°C
Boiling pressure: 760 mmHg
Melting point: -90°C

Flash point: 21°C
ADR/RID: 3/III
UN: 2392
HS-Nr: 29033090
EINECS: 200-859-3
Risk: R10, R36/37/38
Safety: S16, S26, S37/39

Xi

Assay (GC): >98%

Ionol *See 2.6-Di-tert-butyl-p-cresol, page 81*

Iridium standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLIR32Y
500 mL	Plastic bottle	SPPLIR32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8030/05
500 mL	Plastic bottle	J/8030/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342980
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8271/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8270/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342980
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLFE22Y
250 mL	Plastic bottle	SPPLFE22T
500 mL	Plastic bottle	SPPLFE22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLFE12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLFE23Y
500 mL	Plastic bottle	SPPLFE23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLFE13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLFE22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Iron powder
extra pure, metal reduced by hydrogen

SLR

packaging		product code
500 g	Plastic jar	I/0950/53

Fe
CAS: 7439-89-6
MW: 55.85
Density at 20°C: 7.86
Boiling point: 3000°C
Boiling pressure: 760 mmHg
Melting point: 1535°C
HS-Nr: 72052900
EINECS: 231-096-4
Risk: R11
Safety: S16

Iron filings (coarse)
pure

packaging		product code
1 kg	Plastic jar	I/0855/60
25 kg	Plastic screw top Keg	I/0855/70

Fe
CAS: 7439-89-6
MW: 55.84
Density at 20°C: 7.86
Boiling point: 3000°C
Boiling pressure: 760 mmHg

Melting point: 1535°C
HS-Nr: 38220000
EINECS: 231-096-4
Risk: R11
Safety: S16

Iron filings (fine) metal
pure

packaging		product code
250 g	Plastic jar	I/0850/50
1 kg	Plastic jar	I/0850/60
3 kg	Plastic jar	I/0850/63

Fe
CAS: 7439-89-6
MW: 55.84
Density at 20°C: 7.86
Boiling point: 3000°C
Boiling pressure: 760 mmHg

Melting point: 1535°C
HS-Nr: 38220000
EINECS: 231-096-4
Risk: R11
Safety: S16

Iron(III) chloride anhydrous
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	I/1035/50
500 g	Plastic jar	I/1035/53
3 kg	Plastic jar	I/1035/63

$FeCl_3$
CAS: 7705-08-0
MW: 162.21
Boiling point: 316°C
Boiling pressure: 760 mmHg
Melting point: 300 °C

ADR/RID: 8/III
UN: 1773
HS-Nr: 28273920
EINECS: 231-729-4
Risk: R22, R34
Safety: S26, S36/37/39, S45

C

Assay: >97%

Guaranteed analysis

Iron (II) ..... <1%

Iron(III) chloride
pure, solution about 60% w/v, $FeCl_3$

packaging		product code
2.5 L	Plastic bottle	I/1045/PB17

$FeCl_3$
CAS: 7705-08-0
Density at 20°C: 1.4 to 1.5
ADR/RID: 8/III

UN: 2582
HS-Nr: 28273920
Risk: R22, R34
Safety: S25, S36/37/39, S45

C

Iron(III) chloride solution about 60% w/v
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	I/1047/PB08

$FeCl_3$
CAS: 10025-77-1
ADR/RID: 8(8)/III
UN: 2582

HS-Nr: 28273920
Risk: R22, R34
Safety: S25/26/28, S36/37/39, S45

C

Guaranteed analysis

Calcium (Ca)	<500 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<100 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<0.1 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<500 ppm
Potassium (K)	<200 ppm		

Iron(III) citrate trihydrate
pure

packaging		product code
500 g	Plastic jar	I/1060/53

$C_6H_5FeO_7.3H_2O$
CAS: 3522-50-7
MW: 299

HS-Nr: 38220000
EINECS: 222-536-6

Iron(II) disulfide
extra pure, powder — SLR

Specified LR

packaging		product code
1 kg	Glass packaging	I/1165/60

FeS_2
CAS: 12068-85-8
HS-Nr: 38220000

EINECS: 235-106-8
Risk: R32

Xn

Iron(III) nitrate nonahydrate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	I/1075/50
500 g	Plastic jar	I/1075/53
1 kg	Plastic jar	I/1075/60

$Fe(NO_3)_3.9H_2O$
CAS: 7782-61-8
MW: 404
ADR/RID: 5.1/III

UN: 1466
HS-Nr: 28342980
Risk: R8, R36/37/38
Safety: S17, S24/25

O
Xi

Assay: 98 to 102%

Guaranteed analysis

Acidity	<0.1 meq/g	Sodium (Na)	<100 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Arsenic (As)	<5 ppm	Manganese (Mn)	<0.02 %
Barium (Ba)	<5 ppm	Molybdenum (Mo)	<0.001 %
Cadmium (Cd)	<0.005 %	Silver (Ag)	<5 ppm
Chromium (Cr)	<0.005 %	Strontium (Sr)	<5 ppm
Cobalt (Co)	<0.001 %	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Iron(III) nitrate nonahydrate
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	I/1070/50
500 g	Plastic jar	I/1070/53
1 kg	Plastic jar	I/1070/60

$Fe(NO_3)_3.9H_2O$
CAS: 7782-61-8
MW: 404
ADR/RID: 5.1/III

UN: 1466
HS-Nr: 28342980
Risk: R8, R36/37/38
Safety: S17, S24/25

O
Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<100 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<100 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<500 ppm
Sodium (Na)	<1000 ppm		

Iron oxide
pure, magnetic precipitated

packaging		product code
500 g	Glass Jar	I/1100/53

CAS: 1317-61-9
HS-Nr: 28211000
EINECS: 215-277-5

Iron oxide
pure, precipitated

packaging		product code
500 g	Plastic jar	I/1150/53

Fe_2O_3
CAS: 1309-37-1
MW: 159.69
Density at 20°C: 5.24
Melting point: 1538 °C
HS-Nr: 28211000
EINECS: 215-168-2
Safety: S24/25

Iron(III) oxide calcined
pure

packaging		product code
1 kg	Glass packaging	I/1013/60
25 kg	Fibre Keg	I/1013/70

Fe_2O_3
CAS: 1309-37-1
MW: 159.69
Density at 20°C: 5.24
Melting point: 1538 °C
HS-Nr: 38220000
EINECS: 215-168-2
Safety: S24/25

Assay: >95%

Iron(II) sulfate heptahydrate
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	I/1157/50
500 g	Plastic jar	I/1157/53
1 kg	Plastic jar	I/1157/60

$FeSO_4.7H_2O$
CAS: 7720-78-7
MW: 278.02
HS-Nr: 38220000
EINECS: 231-753-5
Risk: R8, R36/38

Assay: 98 to 102%

Guaranteed analysis

pH (aqueous solution 5%)	3 to 4	Sodium (Na)	<100 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<10 ppm	Total nitrogen (N)	<20 ppm
Iron (III)	<0.05 %	Total phosphorus (P)	<10 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<50 ppm		

Typical analysis

Arsenic (As)	<5 ppm	Manganese (Mn)	<0.05 %
Barium (Ba)	<5 ppm	Molybdenum (Mo)	<5 ppm
Cadmium (Cd)	<0.01 %	Silver (Ag)	<5 ppm
Chromium (Cr)	<0.01 %	Strontium (Sr)	<5 ppm
Cobalt (Co)	<0.001 %	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

NIST Certified
Standard from SPEX
A full range of Mono
& Multi-elemental standard
and Calibration solution
for ICP & ICP-MS
Discover them on page 258

Iron(II) sulfate heptahydrate
extra pure — SLR

packaging		product code
1 kg	Plastic jar	I/1155/60
2.5 kg	Plastic jar	I/1155/62
5 kg	Plastic jar	I/1155/65

$FeSO_4.7H_2O$
CAS: 7720-78-7
MW: 278.02
HS-Nr: 28332950
EINECS: 231-753-5
Risk: R8, R36/38

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.01%
Lead (Pb)	<50 ppm	Total phosphorus (P)	<50 ppm
Magnesium (Mg)	<200 ppm	Total silicon (Si)	<100 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<500 ppm

Iron(II) sulfate heptahydrate
Technical

packaging		product code
2 kg	Plastic jar	I/1154/61

$FeSO_4.7H_2O$
CAS: 7720-78-7
MW: 278.02
HS-Nr: 28332950
EINECS: 231-753-5
Risk: R8, R36/38

Iron(II) sulfate dried
extra pure — SLR

packaging		product code
1 kg	Plastic jar	I/1159/60

$FeSO_4$
CAS: 7720-78-7
HS-Nr: 28332950
EINECS: 231-753-5
Risk: R8, R36/38

Assay: 77 to 90%

Guaranteed analysis

Copper (Cu)	<500 ppm	Lead (Pb)	<50 ppm

Content 77 90 % in FeSO 4

Iron(III) sulfate monohydrate
Technical

packaging		product code
500 g	Plastic jar	I/1160/53
1 kg	Plastic jar	I/1160/60

$Fe_2(SO_4)_3.H_2O$
CAS: 10028-22-5
HS-Nr: 28332950
EINECS: 233-072-9

Iron(II) sulfide
Technical

packaging		product code
1 kg	Plastic jar	I/1170/60
3 kg	Plastic jar	I/1170/63

FeS
CAS: 1317-37-9
MW: 87.92
Density at 20°C: 4.84
Melting point: 1195°C
HS-Nr: 38220000
EINECS: 215-268-6
Safety: S24/25

iso-Butyl alcohol *See iso-Butanol, page 50*

Isohexane (contains <5% n-Hexane) — Certified
for HPLC

HPLC

packaging		product code
1 L	Coated Glass Bottle	**H/0405/PB15**
2.5 L	Coated Glass Bottle	**H/0405/PB17**
5 L	Aluminium drum	**H/0405/21**
25 L	Metal drum	**H/0405/25**
25 L	Stainless steel drum	**H/0405/25SS**
200 L	Stainless steel drum	**H/0405/27SS**

C_6H_{14}
CAS: 73513-42-5
MW: 86.18
Density at 20°C: 0.66
Boiling point: 60°C
Boiling pressure: 760 mmHg
Melting point: -154°C
Flash point: -23°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-523-4
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.00015 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.3 A.U.	240 nm	<0.02 A.U.
210 nm	<0.15 A.U.	250 nm	<0.01 A.U.
220 nm	<0.07 A.U.	260 nm	<0.005 A.U.
230 nm	<0.03 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Isohexane (contains <5% n-Hexane) — Certified
HPLC for fluorescence detection

HPLC fluorescence

packaging		product code
1 L	Coated Glass Bottle	**H/0410/PB15**
2.5 L	Coated Glass Bottle	**H/0410/PB17**

C_6H_{14}
CAS: 73513-42-5
MW: 86.18
Density at 20°C: 0.66
Boiling point: 60°C
Boiling pressure: 760 mmHg
Melting point: -154°C
Flash point: -23°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-523-4
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.00015 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm	N-Hexane	<5%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.3 A.U.	240 nm	<0.02 A.U.
210 nm	<0.15 A.U.	250 nm	<0.01 A.U.
220 nm	<0.07 A.U.	260 nm	<0.005 A.U.
230 nm	<0.03 A.U.	Fluorescence	Conform

Excitation in the range 250-750nm produces no fluorescence emission greater than the solvents natural Raman signal at 350nm excittation.This is equivalent to the emission maximum of approximately 1ppb quinine sulfate.
Lot analysis on the label (excluding fluorescence scan).
Filtered to 0.2 µm.

Isohexane (contains <5% n-Hexane) — Distol
for residue and pesticide analysis

Distol

packaging		product code
1 L	Glass bottle	**H/0408/15**
2.5 L	Glass bottle	**H/0408/17**

C_6H_{14}
CAS: 73513-42-5
MW: 86.18
Density at 20°C: 0.66
Boiling point: 60°C
Boiling pressure: 760 mmHg
Melting point: -154°C
Flash point: -23°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-523-4
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.01%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile: (1) 50°C, 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Isohexane — Certified AR
for analysis, contains <5% n-Hexane

Certified AR

packaging		product code
1 L	Coated Glass Bottle	**H/0411/PB15**
2.5 L	Coated Glass Bottle	**H/0411/PB17**
5 L	Metal can	**H/0411/21**
25 L	Metal drum	**H/0411/25**
25 L	Metal drum	**H/0411/DH25**

C_6H_{14}
CAS: 73513-42-5
MW: 86.18
Density at 20°C: 0.66
Boiling point: 60°C
Boiling pressure: 760 mmHg
Melting point: -154°C
Flash point: -23°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-523-4
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.00008 meq/g	Lead (Pb)	<0.02 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Number of bromine	<0.5	Potassium (K)	<0.1 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.1 ppm
Substances darkened		Total phosphorus (P)	<0.1 ppm
by (H_2SO_4)	Conform	Total silicon (Si)	<0.05 ppm
Water	<0.02%	Total sulphur (S)	<10 ppm
Calcium (Ca)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Copper (Cu)	<0.02 ppm	Aromatic Hydrocarbons	<0.01 %
Iron (Fe)	<0.1 ppm	N-Hexane	<5 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Isohexane (contains <5% n-Hexane) — SLR
extra pure

Specified LR

packaging		product code
1 L	Glass bottle	**H/0401/15**
2.5 L	Coated Glass Bottle	**H/0401/PB17**
5 L	Metal can	**H/0401/21**
25 L	Metal drum	**H/0401/25**
200 L	Metal drum	**H/0401/27**

C_6H_{14}
CAS: 73513-42-5
MW: 86.18
Density at 20°C: 0.66
Boiling point: 60°C
Boiling pressure: 760 mmHg
Melting point: -154°C
Flash point: -23°C

ADR/RID: 3/II
UN: 1208
HS-Nr: 29011000
EINECS: 203-523-4
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Magnesium (Mg)	<1 ppm
Colour	<20 APHA	Potassium (K)	<1 ppm
Number of bromine	<0.5	Sodium (Na)	<2 ppm
Residue after evaporation	<50 ppm	Total phosphorus (P)	<1 ppm
Water	<0.05%	Total silicon (Si)	<1 ppm
Calcium (Ca)	<2 ppm	Total sulphur (S)	<50 ppm
Copper (Cu)	<1 ppm	Zinc (Zn)	<2 ppm
Iron (Fe)	<5 ppm	N-Hexane	<5%
Lead (Pb)	<1 ppm		

see page 279 for suitable Tap & accessories.

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

220 nm	<0.2 A.U.	250 nm	<0.01 A.U.
230 nm	<0.1 A.U.	260 nm	<0.005 A.U.
240 nm	<0.05 A.U.	270 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Isooctane *See 2,2,4-Trimethylpentane, page 296*

Isopentyl alcohol *See iso-Amyl alcohol, page 30*

Isopropanol — Certified
HPLC for gradient analysis

HPLC

packaging		product code
2.5 L	Glass bottle	**P/7508/17**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Water	<0.1%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

220 nm	<0.2 A.U.	Gradient (max eluted peak)	<0.002 A.U.
230 nm	<0.1 A.U.	260 nm	<0.005 A.U.
240 nm	<0.05 A.U.	270 nm	<0.005 A.U.
250 nm	<0.01 A.U.		

HPLC analysis:
Absorbance of the largest peak <0.002A.U.
Column: C18 Reverse Phase
Flow rate: 0.5 mL / min
Wavelength 254 nm
Solvent A: Water
Solvent B: Propan -2-ol
Gradient: Linear from 95% A/ 5% B to 100% B over 20mins.
Lot analysis on the label including absorbance curve.
Filtered to 0.2 µm.

Isopropanol — Certified
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	**P/7507/15**
2.5 L	Glass bottle	**P/7507/17**
2.5 L	Coated Glass Bottle	**P/7507/PB17**
200 L	Stainless steel drum	**P/7507/27SS**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Water	<0.1%
Residue after evaporation	<2 ppm		

Isopropanol — Certified
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
2.5 L	Glass bottle	**P/7509/17**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Residue after evaporation	<2 ppm
Electrochemical test	Conform	Water	<0.05%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

220 nm	<0.2 A.U.	250 nm	<0.01 A.U.
230 nm	<0.1 A.U.	260 nm	<0.005 A.U.
240 nm	<0.05 A.U.	270 nm	<0.005 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Isopropanol — Distol
for residue and pesticide analysis

Distol

packaging		product code
1 L	Glass bottle	**P/7501/15**
2.5 L	Glass bottle	**P/7501/17**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.1%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile:
(1) 50°C for 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Isopropanol
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Glass bottle	**P/7503/15**
2.5 L	Glass bottle	**P/7503/17**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.1 ppm
Colour	<5 APHA	Potassium (K)	<0.2 ppm
Residue after evaporation	<10 ppm	Sodium (Na)	<1 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Total phosphorus (P)	<0.1 ppm
Substances reducing $KMnO_4$	<0.0005%	Total silicon (Si)	<0.05 ppm
Water	<0.1%	Total sulphur (S)	<0.5 ppm
Calcium (Ca)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Copper (Cu)	<0.02 ppm	Alcohols C 4	<0.005 %
Iron (Fe)	<0.1 ppm	Alcohols C 5	<0.005 %
Lead (Pb)	<0.02 ppm	Ethanol	<0.005 %
		Methanol	<0.005 %
		Propan -1-ol	<0.05 %

Typical analysis

Aluminium (Al)	<0.02 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Isopropanol
for electronic use (MOS)

packaging		product code
2.5 L	Glass bottle	**P/7555/17**
5 L	Plastic drum	**P/7555/21**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Manganese (Mn)	<0.02 ppm
Colour	<5 APHA	Molybdenum (Mo)	<0.02 ppm
Residue after evaporation	<10 ppm	Nickel (Ni)	<0.02 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Potassium (K)	<0.2 ppm
Water	<0.1%	Sodium (Na)	<1 ppm
Aluminium (Al)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Total phosphorus (P)	<0.1 ppm
Calcium (Ca)	<0.2 ppm	Total silicon (Si)	<0.05 ppm
Chromium (Cr)	<0.02 ppm	Total sulphur (S)	<0.5 ppm
Cobalt (Co)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Copper (Cu)	<0.02 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.1 ppm	Alcohols C 4	<0.005%
Lead (Pb)	<0.02 ppm	Alcohols C 5	<0.005%
Lithium (Li)	<0.02 ppm	Ethanol	<0.005%
Magnesium (Mg)	<0.1 ppm	Methanol	<0.005%
		Propan -1-ol	<0.05%

Isopropanol (Propan-2-ol)
extra pure — SLR

Specified LR

packaging		product code
1 L	Glass bottle	**P/7490/15**
2.5 L	Glass bottle	**P/7490/17**
2.5 L	Coated Glass Bottle	**P/7490/PB17**
5 L	Metal can	**P/7490/21**
25 L	Metal drum	**P/7490/25**
25 L	Plastic drum	**P/7490/PC25**
25 L	Metal drum	**P/7490/DH25**
200 L	Metal drum	**P/7490/27**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<5 ppm
Colour	<10 APHA	Lead (Pb)	<2 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<2 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Potassium (K)	<2 ppm
Substances reducing $KMnO_4$	<0.0005%	Sodium (Na)	<5 ppm
Water	<0.2%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
		Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Isopropylacetone
See 4-Methylpentan-2-one, page 166

Isopropyl alcohol
See Isopropanol, page 136

Isopropyl iodide
See 2-Iodopropane, page 130

Isopropanol (Propan-2-ol)
for analysis — Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	**P/7500/15**
2.5 L	Glass bottle	**P/7500/17**
2.5 L	Coated Glass Bottle	**P/7500/PB17**
2.5 L	Plastic bottle	**P/7500/PC17**
5 L	Metal can	**P/7500/21**
10 L	Plastic drum	**P/7500/24**
25 L	Metal drum	**P/7500/25**
25 L	Metal drum	**P/7500/DH25**
200 L	Metal drum	**P/7500/27**

$(CH_3)_2CHOH$
CAS: 67-63-0
MW: 60.1
Density at 20°C: 0.79
Boiling point: 81 to 83°C
Boiling pressure: 760 mmHg
Melting point: -89.5°C

Flash point: 12°C
ADR/RID: 3/II
UN: 1219
HS-Nr: 29051200
EINECS: 200-661-7
Risk: R11, R36, R67
Safety: S7, S16, S24/25, S26

F Xi

Assay (GC): >99.8%

Kaolin light
pure, washed with acid

packaging		product code
1 kg	Plastic jar	**K/0050/60**
3 kg	Plastic drum	**K/0050/63**
25 kg	Fibre Keg	**K/0050/70**

CAS: 1332-58-7
Melting point: 1750°C
HS-Nr: 38220000
Safety: S24/25

Karl Fischer reagents for Volumetric Analysis

Aqualine

For high water content.
Available as 1 or 2 component system, pyridine free.
See alphabetical entry in the main body of this catalogue for full details.

designation	packsize	package type	product code	page
Karl Fischer Aqualine® Complete 1	1 L	Glass bottle	K/1900/15	138
Karl Fischer Aqualine® Complete 2	1 L	Glass bottle	K/1950/15	138
Karl Fischer Aqualine® Complete 3	2.5 L	Glass bottle	K/1950/17	138
Karl Fischer Aqualine® Complete 5	1 L	Glass bottle	K/2000/15	138
Karl Fischer Aqualine® Complete 6	2.5 L	Glass bottle	K/2000/17	138
Karl Fischer Aqualine® Complete 5K	1 L	Glass bottle	K/2250R/15	138
Karl Fischer Aqualine® Matrix K	1 L	Glass bottle	K/2300R/15	138
Karl Fischer Aqualine® Solvent	1 L	Glass bottle	K/2100/15	138
	2.5 L	Glass bottle	K/2100/17	138
Karl Fischer Aqualine® solvent CM	1 L	Glass bottle	K/2110/15	138
	2.5 L	Glass bottle	K/2110/17	138
Karl Fischer Aqualine® Titrant 2	1 L	Glass bottle	K/2150/15	138
Karl Fischer Aqualine® Titrant 3	2.5 L	Glass bottle	K/2150/17	138
Karl Fischer Aqualine® Titrant 5	1 L	Glass bottle	K/2200/15	138
Karl Fischer Aqualine® Titrant 6	2.5 L	Glass bottle	K/2200/17	138

Karl Fischer reagents for Coulometric Analysis

Aqualine

For low water content at ppm level.
Anolytes & Catholyte solutions.
See alphabetical entry in the main body of this catalogue for full details.

designation	packsize	package type	product code	page
Karl Fischer Aqualine® Electrolyte A	500 mL	Glass bottle	K/2500/08	138
Karl Fischer Aqualine® Electrolyte AD	500 mL	Glass bottle	K/2510/08	139
Karl Fischer Aqualine® Electrolyte AD-G	500 mL	Glass bottle	K/2515/08	139
Karl Fischer Aqualine® Electrolyte AG	500 mL	Glass bottle	K/2520/08	139
Karl Fischer Aqualine® Electrolyte AG-H	500 mL	Glass bottle	K/2530/08	139
Karl Fischer Aqualine® Electrolyte CG	25 mL	Glass bottle	K/2560/04	139

Standards for Volumetric & Coulometric application

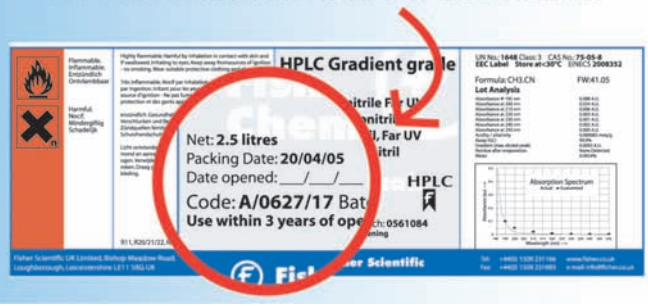
Aqualine

designation	packsize	package type	product code	page
Karl Fischer Aqualine® sodium tartrate standard	100 g	Plastic Jar	K/2770/48	139
Karl Fischer Aqualine® tri-Potassium citrate standard	10 g	Glass bottle	K/2760/45	139
Karl Fischer Aqualine® Water solution in methanol(1ml=5.0mg/H_2O)	1 L	Glass bottle	J/9000/15	139
	500 mL	Coated Glass Bottle	J/9000/PB08	139
Karl Fischer Aqualine® Water standard 0.2 mg/g	40 mL	ampoule	K/2740/99	139
Karl Fischer Aqualine® Water standard 1 mg/g	40 mL	ampoule	K/2710/99	139
Karl Fischer Aqualine® Water standard 5 mg/ml	500 mL	Glass bottle	K/2730/08	140
Karl Fischer Aqualine® Water standard 10 mg/g	80 mL	ampoule	K/2720/99	140

Fisher Chemical products takes care of the environment!

Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Use best before information on the label



Karl Fischer Aqualine® Complete 1
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/1900/15**

ADR/RID: 8/III
UN: 1760
HS-Nr: 38220000

Single component (composite) reagent with a water equivalence of 1mg Water/ml (pyridine free)

Karl Fischer Aqualine® Complete 2
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/1950/15**
2.5 L	Glass bottle	**K/1950/17**

ADR/RID: 8/III
UN: 1760
HS-Nr: 38220000

Single component (composite) reagent with a water equivalence of 2mg Water/ml (pyridine free)

Karl Fischer Aqualine® Complete 5
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2000/15**
2.5 L	Glass bottle	**K/2000/17**

ADR/RID: 8/III
UN: 1760
HS-Nr: 38220000

Single component (composite) reagent with a water equivalence of 5mg Water/ml (pyridine free)

Karl Fischer Aqualine® Complete 5K
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2250R/15**

ADR/RID: 8/III
UN: 1760
HS-Nr: 29094400

Risk: R20/21/22, R34, R50
Safety: S23, S26, S36/37/39, S45, S61

Guaranteed analysis
pH (aqueous solution 10%) ..... 2.6 to 6

Single component (composite) reagent for water determination in aldehydes and ketones with a water equivalence of 5mg Water/ml (pyridine free).
Must be used in conjunction with Aqualine® Matrix K.

Karl Fischer Aqualine® Matrix K
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2300R/15**

ADR/RID: 3(6.1)/III
UN: 1992
HS-Nr: 29031300

Risk: R10, R20/21/22, R36/38, R40, R48/20/22
Safety: S36/37, S46

Guaranteed analysis
Water ..... <0.05%

A mixture of solvents used as working medium for the determination of water in aldehydes and ketones.
Must be used in conjunction with Aqualine®Complete 5K.

Karl Fischer Aqualine® Solvent
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2100/15**
2.5 L	Glass bottle	**K/2100/17**

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Aqualine® Solvent acts as the working medium with the two-component reagent (pyridine free). Water capacity of at least 8mg water/ml.

Karl Fischer Aqualine® Solvent CM
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2110/15**
2.5 L	Glass bottle	**K/2110/17**

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Guaranteed analysis
Water ..... <0.05%

Aqualine® Solvent CM acts as the working medium with the two-component reagent (pyridine free) for samples with high hydrocarbon content.

Karl Fischer Aqualine® Titrant 2
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2150/15**
2.5 L	Glass bottle	**K/2150/17**

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 38220000

Aqualine® two component reagent with a water equivalence of 2mg Water/ml (pyridine free).
Aqualine® Titrant 2 is used as the titration reagent in conjunction with Aqualine® Solvent.

Karl Fischer Aqualine® Titrant 5
For Karl Fischer titration by Volumetry

packaging		product code
1 L	Glass bottle	**K/2200/15**
2.5 L	Glass bottle	**K/2200/17**

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 38220000

Aqualine® two component reagent with a water equivalence of 5mg Water/ml (pyridine free).
Aqualine® Titrant 5 is used as the titration reagent in conjunction with Aqualine® Solvent.

Karl Fischer Aqualine® Electrolyte A
For Karl Fischer titration by Coulometry

packaging		product code
500 mL	Glass bottle	**K/2500/08**

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Guaranteed analysis
Water ..... <0.005%

Anolyte solution for general use in conventional cells with a diaphragm.

Karl Fischer Aqualine® Electrolyte AD
For Karl Fischer titration by Coulometry

packaging		product code
500 mL	Glass bottle	K/2510/08

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Guaranteed analysis
Water ..... <0.005%

Anolyte for cells without diaphragm (fritless).

Karl Fischer Aqualine® Electrolyte AD-G
For Karl Fischer titration by Coulometry

packaging		product code
500 mL	Glass bottle	K/2515/08

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Guaranteed analysis
Water ..... <0.005%

Halogen-free anolyte solution for use in cells without diaphragm (fritless).

Karl Fischer Aqualine® Electrolyte AG
For Karl Fischer titration by Coulometry

packaging		product code
500 mL	Glass bottle	K/2520/08

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Guaranteed analysis
Water ..... <0.005%

Halogen-free anolyte solution for general use in conventional cells with diaphragm.

Karl Fischer Aqualine® Electrolyte AG-H
For Karl Fischer titration by Coulometry

packaging		product code
500 mL	Glass bottle	K/2530/08

Flash point: 12°C
ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 29051100

Risk: R11, R23/24/25, R34, R39/23/24/25
Safety: S7, S9, S16, S26, S36/37/39, S45

F T

Halogen-free anolyte solution for general use in conventional cells with a diaphragm.

Karl Fischer Aqualine® Electrolyte CG
For Karl Fischer titration by Coulometry

packaging		product code
25 mL	Glass bottle	K/2560/04

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Guaranteed analysis
Water ..... <0.005%

Chlorine-free catholyte solution for general use in conventional cells with a diaphragm.

Karl Fischer Aqualine® Sodium tartrate-2-H_2O
For Karl Fischer titration

packaging		product code
100 g	Plastic Jar	K/2770/48

$(CH(OH).COONa)_2$,
$2H_2O$
HS-Nr: 38220000
EINECS: 212-773-2

Primary standard for volumetric analysis.
water content 15.66±0.05%.

Karl Fischer Aqualine® tri-Potassium citrate standard
For Karl Fischer titration

packaging		product code
10 g	Glass bottle	K/2760/45

$K_3C_6H_5O_7$
HS-Nr: 38220000
EINECS: 212-755-5

Guaranteed analysis
Loss on drying 200°C ..... 5.5 to 5.61%

Potassium citrate monohydrate for use in KF oven techniques. Actual water content by weight (as loss on drying) is specified on the label.

Karl Fischer Aqualine® Water solution
For Karl Fischer titration

packaging		product code
500 mL	Coated Glass Bottle	J/9000/PB08
1 L	Glass bottle	J/9000/15

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100

Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

1 mL is equivalent to 5.00 + /-0.05 mg water.

Karl Fischer Aqualine® Water standard 0.2 mg
For Karl Fischer titration

packaging		product code
40 mL	ampoule	K/2740/99

ADR/RID: 3/II
UN: 2222
HS-Nr: 38220000

Standard for Karl Fischer titration.
1 mL is equivalent to 0.200 + /-0.005 mg water.
Each pack contains 10 x 4mL ampoules and is supplied with a certificate of analysis.
Each ampoule has a shelf life of at least 5 years unopened.

Karl Fischer Aqualine® Water standard 1.0 mg
For Karl Fischer titration

packaging		product code
40 mL	ampoule	K/2710/99

ADR/RID: 3/III
UN: 2222
HS-Nr: 38220000

Standard for Karl Fischer titration.
1 mL is equivalent to 1.00 + /-0.03 mg water.
Each pack contains 10 x 4mL ampoules and is supplied with a certificate of analysis.
Each ampoule has a shelf life of at least 5 years unopened.

Karl Fischer Aqualine® Water standard 5 mg
For Karl Fischer titration

packaging		product code
500 mL	Glass bottle	K/2730/08

ADR/RID: 3/III
UN: 1993
HS-Nr: 38220000

Standard for Karl Fischer titration.
1 mL is equivalent to 5.00 + /-0.02 mg water.

Karl Fischer Aqualine® Water standard 10 mg
For Karl Fischer titration

packaging		product code
80 mL	ampoule	K/2720/99

ADR/RID: 3/III
UN: 1993
HS-Nr: 38220000

Standard for Karl Fischer titration.
1 mL is equivalent to 10.00 + /-0.1 mg water.
Each pack contains 10 x 8mL ampoules and is supplied with a certificate of analysis.
Each ampoule has a shelf life of at least 5 years unopened.

Karl Fischer reagent solution, modified
For Karl Fischer titration

packaging		product code
500 mL	Coated Glass Bottle	J/4620/PB08
1 L	Coated Glass Bottle	J/4620/PB15
2.5 L	Coated Glass Bottle	J/4620/PB17

ADR/RID: 3/III
UN: 1993
HS-Nr: 38220000

Risk: R10, R23/24/25, R60, R61
Safety: S45, S53

F T

Water equivalent approximately 5 mg / mL when prepared.

Karl Fischer reagent solution
For Karl Fischer titration

packaging		product code
500 mL	Coated Glass Bottle	J/4600/PB08
1 L	Coated Glass Bottle	J/4600/PB15
2.5 L	Coated Glass Bottle	J/4600/PB17

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Risk: R11, R23/24/25
Safety: S7, S26, S28

F T

Guaranteed analysis
pH (aqueous solution 10%) .... 3.5 to 4.5

Water equivalent approximately 5 mg / ml when prepared.
This solution deteriorates on storage even closed containers.

Kieselguhr
pure, white

packaging		product code
1 kg	Plastic Keg	K/0090/60

SiO_2
CAS: 61790-53-2
MW: 60.08

HS-Nr: 25120000
Risk: R36/37, R48/20
Safety: S26, S39

Xn

Kieselguhr
pure, washed with acid

packaging		product code
500 g	Plastic Jar	K/0100/53
1 kg	Plastic Keg	K/0100/60

SiO_2
CAS: 61790-53-2
MW: 60.08

HS-Nr: 25120000
Risk: R36/37, R48/20
Safety: S26, S39

Xn

Guaranteed analysis
IR Analysis ..... Conform

Kjedhal Boric acid solution
pure, solution 4% alkaline with indicator

packaging		product code
1 L	Plastic bottle	K/0200/15
5 L	Plastic bottle	K/0200/21

HS-Nr: 29181100

Assay: 3.9 to 4.1%

Guaranteed analysis
At pH 20°C ..... 3.8 to 4.2

Kjeldahl catalyst Copper tablets
pure

packaging		product code
500	Tablets	K/0120/80
1000	Tablets	K/0120/81

HS-Nr: 38220000

Each tablet contains 1 g of sodium sulphate and the equivalent of 0.1 g of copper sulfate (II)

Kjeldahl catalyst Copper tablets
pure

packaging		product code
500	Tablets	K/0125/80
1000	Tablets	K/0125/81

HS-Nr: 38220000

Each tablet contains 5 g of sodium sulphate and the equivalent of 0.1 g of copper sulfate (II)

Kjeldahl catalyst Mercury tablets
pure

packaging		product code
500	Tablets	K/0130/80

UN: 2025
HS-Nr: 38220000
Risk: R25, R33
Safety: S2, S13

T

Each tablet contains 1 g of sodium sulphate and the equivalent of 0.1 g of mercury

Kjeldahl catalyst Selenium tablets
pure

packaging		product code
1	Tablets	K/0150/81
500	Tablets	K/0150/80

UN: 3283
HS-Nr: 28049000
Risk: R25, R33
Safety: S20/21, S28, S44

T

Each tablet contains 1 g of sodium sulphate and the equivalent of 0.05 g selenium

Kjeldahl catalyst Sodium sulfate tablets
pure

packaging		product code
500	Tablets	K/0160/80
1000	Tablets	K/0160/81

HS-Nr: 38220000

Each tablet contains 1 g of sodium sulphate

Kjeldahl catalyst Titanium tablets
pure

packaging		product code
1000	Tablets	K/0170/81

HS-Nr: 38220000

Each tablet contains 1 g of sodium sulphate and the equivalent of 0.03 g titanium dioxide and 0.03 g of copper sulphate

Kjeldahl Digestion reagent
pure

packaging		product code
2.5 L	Coated Glass Bottle	K/0210/PB17

ADR/RID: 8/II
UN: 1830
HS-Nr: 29181100

Risk: R35
Safety: S26, S30, S45

C

Kjeldahl phenol reagent
pure, for determination of nitrogen

packaging		product code
1 L	Plastic bottle	K/0220/15

ADR/RID: 6.1/II
UN: 2821
HS-Nr: 38220000

Risk: R24/25, R35
Safety: S26, S28, S37/39, S45

C

Kjeldhal Sodium hydroxide/sodium thiosulfate solution
pure, for Kjel-Foss automatic nitrogen analyser

packaging		product code
5 L	Plastic bottle	K/0310/21

ADR/RID: 8/II
UN: 1824
HS-Nr: 38220000

Risk: R35
Safety: S26, S27, S37/39, S45

C

Solution: Sodium Hydroxide at 400 g / L and Sodium Thiosulfate 80 g / L

Lacmoid indicator
pure

packaging		product code
1 g	Glass tube	L/0060/43

CAS: 42249-61-6
EINECS: 255-736-7
Risk: R20/21/22, R36/38

Guaranteed analysis

IR Analysis ..... Conform

Lactic acid
for analysis — Certified AR, Eur.Ph.

packaging		product code
500 mL	Plastic bottle	L/0150/PB08
2.5 L	Plastic bottle	L/0150/PB17

$C_3H_6O_3$
CAS: 598-82-3
MW: 90.08
Density at 20°C: 1.2
Boiling point: 122°C
Boiling pressure: 15 mmHg
Melting point: 18°C

Flash point: >110°C
ADR/RID: 8/III
UN: 3265
HS-Nr: 29181100
EINECS: 209-954-4
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: >88%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<10 ppm
Sugar reducer	Conform	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Lactic acid
extra pure — SLR

packaging		product code
500 mL	Plastic bottle	L/0100/PB08
2.5 L	Plastic bottle	L/0100/PB17

$C_3H_6O_3$
CAS: 598-82-3
MW: 90.08
Density at 20°C: 1.2
Boiling point: 122°C
Boiling pressure: 15 mmHg
Melting point: 18°C

Flash point: >110°C
ADR/RID: 8/III
UN: 3265
HS-Nr: 29181100
EINECS: 209-954-4
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: >88%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<50 ppm
Chromium (Cr)	<5 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<200 ppm
Nickel (Ni)	<5 ppm	Zinc (Zn)	<50 ppm

Lactose monohydrate
for analysis, fine powder — Certified AR

packaging		product code
500 g	Plastic jar	L/0250/53
1 kg	Plastic jar	L/0250/60

$C_{12}H_{22}O_{11}.H_2O$
CAS: 63-42-3
MW: 360.32

HS-Nr: 17021010
EINECS: 200-559-2

Guaranteed analysis

Acidity	<0.005 meq/g	Lithium (Li)	<1 ppm
Solubility in the alcohol	<0.2%	Magnesium (Mg)	<10 ppm
Specific rotation (α 20/D)	+52° to +52.8°	Manganese (Mn)	<1 ppm
Water	4.8 to 5.4%	Nickel (Ni)	<1 ppm
Aluminium (Al)	<2 ppm	Potassium (K)	<100 ppm
Arsenic (As)	<1 ppm	Sodium (Na)	<100 ppm
Barium (Ba)	<2 ppm	Titanium (Ti)	<1 ppm
Cadmium (Cd)	<1 ppm	Total chloride (Cl)	<0.005%
Calcium (Ca)	<50 ppm	Total nitrogen (N)	<500 ppm
Chromium (Cr)	<1 ppm	Total phosphorus (P)	<200 ppm
Cobalt (Co)	<1 ppm	Total silicon (Si)	<5 ppm
Copper (Cu)	<1 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<2 ppm	Vanadium (V)	<1 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<5 ppm

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Lactose monohydrate — SLR
extra pure, fine powder

packaging		product code
500 g	Plastic jar	L/0200/53
1 kg	Plastic jar	L/0200/60
5 kg	Plastic drum	L/0200/65
25 kg	Fibre Keg	L/0200/70

$C_{12}H_{22}O_{11}.H_2O$
CAS: 63-42-3
MW: 360.32
HS-Nr: 17021010
EINECS: 200-559-2

Guaranteed analysis

Specific rotation (α 20/D)	+52° to +53°	Potassium (K)	<500 ppm
Water	4.5 to 6%	Sodium (Na)	<500 ppm
Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<1000 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<20 ppm

Lanolin anhydrous — SLR
extra pure

packaging		product code
500 g	Plastic jar	L/0350/53
1 kg	Plastic jar	L/0350/60

CAS: 8006-54-0
Melting point: 38 to 40°C
Flash point: +209°C
HS-Nr: 15050090
EINECS: 232-348-6
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Lanthanum chloride solution 10%w/v
for AAS

packaging		product code
250 mL	Glass bottle	L/0460/07
1 L	Glass bottle	L/0460/15

$LaCl_3.7H_2O$
HS-Nr: 28469000

Assay: 9.5 to 10.5%

Guaranteed analysis

Calcium (Ca)	<2 ppm	Lead (Pb)	<1 ppm
Copper (Cu)	<0.5 ppm	Magnesium (Mg)	<0.5 ppm
Iron (Fe)	<0.5 ppm	Zinc (Zn)	<0.5 ppm

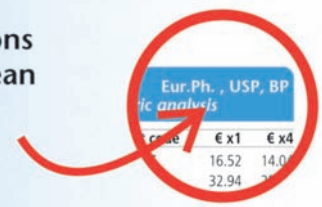
Lanthanum standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLLA22Y
500 mL	Plastic bottle	SPPLLA22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Lanthanum standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLLA23Y
500 mL	Plastic bottle	SPPLLA23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lanthanum chloride heptahydrate
for AAS

packaging		product code
25 g	Plastic jar	L/0455/46
100 g	Plastic jar	L/0455/48

$LaCl_3.7H_2O$
CAS: 10025-84-0
MW: 371.36
Melting point: 91 °C
HS-Nr: 28469000
EINECS: 233-237-5
Risk: R36/37/38
Safety: S26, S37/39

Guaranteed analysis

Calcium (Ca) ..... <10 ppm Magnesium (Mg) ..... <1 ppm

Lanthanum chloride heptahydrate — Certified AR
for analysis

packaging		product code
25 g	Plastic jar	L/0451/46
100 g	Plastic jar	L/0451/48

$LaCl_3.7H_2O$
CAS: 10025-84-0
MW: 371.36
Melting point: 91 °C
HS-Nr: 28469000
EINECS: 233-237-5
Risk: R36/37/38
Safety: S26, S37/39

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Molybdenum (Mo)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<1 ppm
Calcium (Ca)	<10 ppm	Potassium (K)	<20 ppm
Chromium (Cr)	<1 ppm	Silver (Ag)	<1 ppm
Cobalt (Co)	<1 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<2 ppm	Titanium (Ti)	<1 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<5 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Lot analysis on the label.

Lanthanum nitrate hexahydrate — SLR
extra pure

packaging		product code
25 g	Plastic jar	L/0500/46
100 g	Plastic jar	L/0500/48

$La(NO_3)_3.6H_2O$
CAS: 10277-43-7
MW: 433.03
Boiling point: 126°C
Boiling pressure: 760 mmHg
Melting point: 40°C
ADR/RID: 5.1/II
UN: 1477
HS-Nr: 28469000
EINECS: 233-238-0
Risk: R8
Safety: S17

Assay: >99.5%

Lanthanum oxide SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	L/0510/48

La_2O_3
CAS: 1312-81-8
MW: 325.82
Boiling point: 4200°C
Melting point: 2315°C
HS-Nr: 28469000
EINECS: 215-200-5
Safety: S24/25

Lauric acid SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	L/0560/53

$C_{12}H_{24}O_2$
CAS: 143-07-7
MW: 200.32
Boiling point: 225°C
Boiling pressure: 100 mmHg
Melting point: 44 to 46°C
Flash point: 156°C
HS-Nr: 29159000
EINECS: 205-582-1
Risk: R36/38
Safety: S26, S37/39
Xi

Assay: 98 to 101%

di-Lauroyl peroxide
pure

packaging		product code
1 g	Glass Tube	L/0565/99
100 g	Plastic Jar	L/0565/48

$C_{24}H_{46}O_4$
CAS: 105-74-8
MW: 398.63
Melting point: 53 to 57°C
ADR/RID: 5.2/II
UN: 3106
HS-Nr: 29159090
EINECS: 203-326-3
Risk: R7
Safety: S3/7, S14A, S36/37/39
O

Guaranteed analysis
IR Analysis ..... Conform

Lead standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8035/05
500 mL	Plastic bottle	J/8035/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lead standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8276/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lead standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8275/05

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000
Risk: R61, R20/22, R33, R34, R52/53
Safety: S23, S26, S36, S45
C Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lead standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLPB22Y
250 mL	Plastic bottle	SPPLPB22T
500 mL	Plastic bottle	SPPLPB22X

Density at 20°C: 1.02
Risk: R36/38
Safety: S26
Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lead standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLPB23Y
500 mL	Plastic bottle	SPPLPB23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lead standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLPB22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lead metal powder SLR
extra pure, below 200 mesh

Specified

packaging		product code
500 g	Plastic jar	L/0750/53

Pb
CAS: 7439-92-1
MW: 207.19
Boiling point: 1740°C
Boiling pressure: 760 mmHg
Melting point: 327.4°C
HS-Nr: 78042000
EINECS: 231-100-4
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61
T N

Lead metal foil
extra pure, about 0.13 mm — SLR

packaging		product code
500	Box	L/0610/53

Pb
CAS: 7439-92-1
MW: 207.19
Boiling point: 1740°C
Boiling pressure: 760 mmHg
Melting point: 327.4°C

HS-Nr: 38220000
EINECS: 231-100-4
Risk: R61, R20/22, R33, R50/53, R62
Safety: S53, S45, S60, S61

T N

Lead metal granulated
pure

packaging		product code
500 g	Plastic Jar	L/0700/53

Pb
CAS: 7439-92-1
MW: 207.19
Boiling point: 1740°C
Boiling pressure: 760 mmHg
Melting point: 327.4°C

HS-Nr: 78011000
EINECS: 231-100-4
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61

T N

Guaranteed analysis

Copper (Cu)	<200 ppm	Iron (Fe)	<10 ppm

Lead metal shot
extra pure, about 2 mm — SLR

Specified LR

packaging		product code
1 kg	Plastic jar	L/0800/60

Pb
CAS: 7439-92-1
MW: 207.19
Boiling point: 1740°C
Boiling pressure: 760 mmHg
Melting point: 327.4°C

HS-Nr: 78011000
EINECS: 231-100-4
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61

T N

Lead(II) acetate trihydrate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	L/1000/50
500 g	Plastic jar	L/1000/53
1 kg	Plastic jar	L/1000/60

$Pb(CH_3CO_2)_2.3H_2O$
CAS: 6080-56-4
MW: 379.33
Melting point: 75°C
ADR/RID: 6.1/III

UN: 1616
HS-Nr: 29152900
Risk: R61, R33, R48/22, R50/53, R62
Safety: S53, S45, S60, S61

T N

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<5 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<20 ppm
Magnesium (Mg)	<5 ppm	Total silicon (Si)	<20 ppm
Potassium (K)	<10 ppm	Total sulphur (S)	<50 ppm
Sodium (Na)	<20 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Lithium (Li)	<1 ppm
Arsenic (As)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Vanadium (V)	<1 ppm
Cobalt (Co)	<1 ppm		

Lot analysis on the label.

Lead(II) acetate trihydrate
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	L/0950/50
500 g	Plastic jar	L/0950/53
1 kg	Plastic jar	L/0950/60

$Pb(CH_3CO_2)_2.3H_2O$
CAS: 6080-56-4
MW: 379.33
Melting point: 75°C
ADR/RID: 6.1/III

UN: 1616
HS-Nr: 29152900
Risk: R61, R33, R48/22, R50/53, R62
Safety: S53, S45, S60, S61

T N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm
Sodium (Na)	<200 ppm		

Lead(II) bromide
pure

packaging		product code
100 g	Plastic jar	L/1100/48
250 g	Plastic jar	L/1100/50

$PbBr_2$
CAS: 10031-22-8
MW: 367.01
Density at 20°C: 6.66
Boiling point: 916°C
Boiling pressure: 760 mmHg
Melting point: 373°C

ADR/RID: 6.1/III
UN: 2291
HS-Nr: 28275900
EINECS: 233-084-4
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61

T N

Lead(II) carbonate basic
extra pure, precipitated — SLR

Specified LR

packaging		product code
250 g	Plastic jar	L/1150/50
500 g	Plastic jar	L/1150/53

$(PbCO_3)_2.Pb(OH)_2$
CAS: 1319-46-6
MW: 775.59
Melting point: 400 °C
ADR/RID: 6.1/III
UN: 3288

HS-Nr: 28369917
EINECS: 215-290-6
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61

T N

Lead(II) chloride
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	L/1200/50

$PbCl_2$
CAS: 7758-95-4
MW: 278.09
Density at 20°C: 5.85
Boiling point: 950°C
Melting point: 501°C
ADR/RID: 6.1/III

UN: 3288
HS-Nr: 28273985
EINECS: 231-845-5
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61

T N

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Lead(II) acetate basic
pure, for sugar analysis

packaging		product code
500 g	Plastic jar	L/1050/53
25 kg	Plastic screw top Keg	L/1050/70

$(CH_3COO)_2Pb.$
$2Pb(OH)_2$ (approx)
CAS: 1335-32-6
Density at 20°C: 1.33
ADR/RID: 6.1/III

UN: 1616
HS-Nr: 29152900
EINECS: 215-630-3
Risk: R61, R62, R33, R40, R48/22
Safety: S53, S45

T N

Assay: >95%

Guaranteed analysis

Copper (Cu)	<100 ppm	Nitrate (NO_3)	<0.01%
Iron (Fe)	<100 ppm		

Lead(II) sulfide
pure

packaging		product code
100 g	Glass packaging	L/1730/48

PbS
CAS: 1314-87-0
MW: 239.26
ADR/RID: 6.1/III
UN: 3288

HS-Nr: 28332960
EINECS: 215-246-6
Risk: R61, R62, R20/22, R33
Safety: S53, S45

T N

Lead(II) iodide SLR
extra pure

Specified LR

packaging		product code
100 g	Glass packaging	L/1400/48

PbI_2
CAS: 10101-63-0
MW: 461
Density at 20°C: 6.16
Melting point: 402°C
ADR/RID: 6.1/III

UN: 2291
HS-Nr: 28276000
EINECS: 233-256-9
Risk: R61, R62, R20/22, R33, R50/53
Safety: S53, S45, S60, S61

T N

Lead(II) nitrate Certified AR
for analysis

Certified AR

packaging		product code
250 g	Plastic jar	L/1500/50
500 g	Plastic jar	L/1500/53
1 kg	Plastic jar	L/1500/60

$Pb(NO_3)_2$
CAS: 10099-74-8
MW: 331.2
Density at 20°C: 4.53
Melting point: 470 °C
ADR/RID: 5.1(6.1)/II

UN: 1469
HS-Nr: 28342950
EINECS: 233-245-9
Risk: R61, R8, R20/22, R33, R50/53, R62
Safety: S53, S17, S45, S60, S61

O T N

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	3 to 4	Sodium (Na)	<20 ppm
Calcium (Ca)	<5 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Lithium (Li)	<1 ppm
Arsenic (As)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Vanadium (V)	<1 ppm
Cobalt (Co)	<1 ppm		

Lot analysis on the label.

Lead(II) nitrate SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	L/1450/53
1 kg	Plastic jar	L/1450/60

$Pb(NO_3)_2$
CAS: 10099-74-8
MW: 331.2
Density at 20°C: 4.53
Melting point: 470 °C
ADR/RID: 5.1(6.1)/II

UN: 1469
HS-Nr: 28342950
EINECS: 233-245-9
Risk: R61, R8, R20/22, R33, R50/53, R62
Safety: S53, S17, S45, S60, S61

O T N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm
Sodium (Na)	<200 ppm		

Lead(II) oxide SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	L/1600/53

PbO
CAS: 1317-36-8
MW: 223.19
Boiling point: 1470°C
Melting point: 886°C
ADR/RID: 6.1/III

UN: 3288
HS-Nr: 28241000
EINECS: 215-267-0
Risk: R61, R20/22, R33, R50/53, R62
Safety: S53, S45, S60, S61

T N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm
Sodium (Na)	<200 ppm		

Lead(II) oxide
Technical, canary yellow

packaging		product code
500 g	Plastic jar	L/1670/53

PbO
CAS: 1317-36-8
MW: 223.19
Boiling point: 1470°C
Melting point: 886°C
ADR/RID: 6.1/III

UN: 3288
HS-Nr: 28241000
EINECS: 215-267-0
Risk: R61, R20/22, R33, R50/53, R62
Safety: S53, S45, S60, S61

T N

Lead (II,V)oxide SLR
extra pure, minium, red lead

Specified LR

packaging		product code
500 g	Plastic jar	L/1700/53

Pb_3O_4
CAS: 1314-41-6
MW: 685.57
Melting point: 500 °C
ADR/RID: 6.1/III
UN: 3288

HS-Nr: 38220000
EINECS: 215-235-6
Risk: R61, R8, R20/22, R33, R50/53, R62
Safety: S53, S45, S60, S61

O T N

Save money!
Order 4 bottles in a box

Lead(IV) dioxide
extra pure SLR

Specified

packaging		product code
250 g	Plastic jar	L/1350/50
500 g	Plastic jar	L/1350/53

PbO_2
CAS: 1309-60-0
MW: 239.19
Melting point: 290 °C
ADR/RID: 5.1/III
UN: 1872

HS-Nr: 28249090
EINECS: 215-174-5
Risk: R61, R8, R20/22, R33, R50/53, R62
Safety: S53, S45, S60, S61

O T N

Assay: >94%

Guaranteed analysis
Sulfate (SO_4) ..... <0.01%

Lead(II) sulfate
extra pure SLR

Specified

packaging		product code
500 g	Plastic jar	L/1720/53

$PbSO_4$
CAS: 7446-14-2
MW: 303.25
ADR/RID: 6.1/III

UN: 3288
HS-Nr: 28332960
EINECS: 231-198-9

T N

Leishman's stain
pure

packaging		product code
10 g	Glass packaging	L/1815/45

CAS: 12627-53-1
HS-Nr: 29051100
EINECS: 235-732-1

Risk: R36/38
Safety: S26, S37/39

Xi

Leishman's stain solution
pure, in 100% Methanol

packaging		product code
100 mL	Coated Glass Bottle	L/1815L/PB05

Flash point: 10°C
ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Risk: R11, R39/23/24/25, R23/24/25
Safety: S7, S16, S36/37

F T

L-Leucine
extra pure SLR

Specified

packaging		product code
100 g	Plastic jar	L/1819/48

$C_6H_{13}NO_2$
CAS: 61-90-5
MW: 131.18
Boiling pressure: 760 mmHg

Melting point: 286-288°C
HS-Nr: 29224990
EINECS: 200-522-0
Safety: S24/25

Assay: >99%

L-iso-Leucine
pure

packaging		product code
25 g	Plastic jar	L/1822/46

$C_6H_{13}NO_2$
CAS: 73-32-5
MW: 131.18
Boiling pressure: 760 mmHg

Melting point: 168-170°C
HS-Nr: 29224990
EINECS: 200-798-2
Safety: S24/25

Assay: >99%

Guaranteed analysis
Melting Point tested ..... 287 to 288°C

Light green SF C.I 42095
pure

packaging		product code
25 g	Glass packaging	L/1840/46

$C_{37}H_{34}N_2Na_2O_9S_3$
CAS: 5141-20-8
MW: 792.84
Melting point: 288 °C

HS-Nr: 32041200
EINECS: 225-906-5
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Ligroin
extra pure SLR

Specified

packaging		product code
2.5 L	Glass bottle	L/1850/17

CAS: 8032-32-4
Density at 20°C: 0.71 to 0.73
Flash point: -40°C
ADR/RID: 3/II
UN: 1268

HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11
Safety: S9, S16, S29, S23

F

Guaranteed analysis
Number of bromine ..... <3 Residue after evaporation ..... <50 ppm

Ligroine
See Petroleum ether over 120°C, page 190

Lime water
pure

packaging		product code
5 L	Plastic bottle	J/5000/21

HS-Nr: 38220000

D(+) Limonene
pure

packaging		product code
250 mL	Glass bottle	L/1860/07

$C_{10}H_{16}$
CAS: 5989-27-5
MW: 136.24
Density at 20°C: 0.8 to 0.9
Boiling point: 175.4 to 176°C
Boiling pressure: 760 mmHg
Melting point: -74°C

Flash point: 48°C
ADR/RID: 3/III
UN: 2052
HS-Nr: 29021910
EINECS: 227-813-5
Risk: R10, R38, R43, R50/53
Safety: S24, S37, S60, S61

Xi N

Linseed oil
pure, raw approx.d= 0.93

packaging		product code
2.5 L	Glass bottle	L/1950/17

CAS: 8001-26-1
HS-Nr: 38220000
EINECS: 232-278-6

Guaranteed analysis
Density 15.5°C ..... 0.92 to 0.94

Linseed oil
pure, boiled approx.d= 0.95

packaging		product code
2.5 L	Glass bottle	L/1900/17

CAS: 8001-26-1
Density at 20°C: 0.93
HS-Nr: 38220000

EINECS: 232-278-6
Risk: R10, R38, R43, R50/53

Guaranteed analysis
Density 15.5°C ..... 0.94 to 0.96

Lithium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8037/05
500 mL	Plastic bottle	J/8037/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342980
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8281/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8280/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342980
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLLI22Y
500 mL	Plastic bottle	SPPLLI22X

Density at 20°C: 1.02
Risk: R36/37/38
Safety: S24/25
Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLLI12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLLI23Y
500 mL	Plastic bottle	SPPLLI23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLLI13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Lithium standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4550/05

HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Guaranteed analysis
Value between ..... 9990 to 1010

Manufactured to a tolerance of ± 1%.

Lithium metal in liquid paraffin SLR
extra pure

Specified LR

packaging		product code
10 g	Metal Can	L/2000/45

Li
CAS: 7439-93-2
MW: 6.94
Density at 20°C: 0.53
Boiling point: 1340°C
Boiling pressure: 760 mmHg
Melting point: 180°C

ADR/RID: 4.3/I
UN: 1415
HS-Nr: 28051990
EINECS: 231-102-5
Risk: R14/15, R34
Safety: S8, S43C, S45

F C

Lithium acetate dihydrate SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	L/2050/50

$C_2H_3LiO_2.2H_2O$
CAS: 546-89-4
MW: 102.02
Melting point: 280 to 285°C

HS-Nr: 29152900
EINECS: 208-914-3
Risk: R36
Safety: S26, S39

Xi

Lithium aluminium hydride
pure

packaging		product code
10 g	Metal packaging	A/2160/45

$LiAlH_4$
CAS: 16853-85-3
MW: 37.95
Density at 20°C: 0.91
Melting point: 125°C
ADR/RID: 4.3/I

UN: 1410
HS-Nr: 28500010
EINECS: 240-877-9
Risk: R15, R25, R35
Safety: S7/8, S24/25, S26, S36/37/39, S43B, S45

F T

Assay: >95%

Lithium bromide anhydrous
extra pure — SLR

packaging		product code
100 g	Plastic jar	L/2080/48
500 g	Plastic jar	L/2080/53

LiBr
CAS: 7550-35-8
MW: 86.85
Density at 20°C: 3.46
Boiling point: 1265°C

Boiling pressure: 760 mmHg
Melting point: 550°C
HS-Nr: 28275900
EINECS: 231-439-8
Risk: R22

Xn

Assay: >98%

Guaranteed analysis

Iron (Fe)	<50 ppm	Sulfate (SO_4)	<0.02%
Lead (Pb)	<50 ppm		

Lithium carbonate
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	L/2105/48

Li_2CO_3
CAS: 554-13-2
MW: 73.89
Density at 20°C: 2.11
Boiling pressure: 760 mmHg

Melting point: 720°C
HS-Nr: 28369100
EINECS: 209-062-5
Risk: R22, R36/37/38, R41
Safety: S26, S37/39

Xn

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<1 ppm	Nickel (Ni)	<1 ppm
Arsenic (As)	<5 ppm	Potassium (K)	<10 ppm
Barium (Ba)	<5 ppm	Sodium (Na)	<50 ppm
Cadmium (Cd)	<1 ppm	Tin (Sn)	<2 ppm
Calcium (Ca)	<20 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Total chloride (Cl)	<0.002%
Cobalt (Co)	<1 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Lithium carbonate
extra pure — SLR

packaging		product code
250 g	Plastic jar	L/2100/50

Li_2CO_3
CAS: 554-13-2
MW: 73.89
Density at 20°C: 2.11
Boiling pressure: 760 mmHg

Melting point: 720°C
HS-Nr: 28369100
EINECS: 209-062-5
Risk: R22, R36/37/38, R41
Safety: S26, S37/39

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<1000 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<50 ppm

Lithium chloride anhydrous
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	L/2201/50
5 kg	Plastic jar	L/2201/65

LiCl
CAS: 7447-41-8
MW: 42.38
Density at 20°C: 2.06
Boiling point: 1382°C
Boiling pressure: 760 mmHg

Melting point: 605°C
HS-Nr: 28273985
EINECS: 231-212-3
Risk: R22, R36/38
Safety: S26, S37/39

Xn

Assay: >99.5%

Guaranteed analysis

Loss on drying	<2%	Potassium (K)	<50 ppm
pH (aqueous solution 5%)	6 to 9	Sodium (Na)	<50 ppm
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Tin (Sn)	<2 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Vanadium (V)	<1 ppm
Cobalt (Co)	<1 ppm		

Lot analysis on the label.

Lithium chloride anhydrous
extra pure — SLR

packaging		product code
100 g	Plastic jar	L/2200/48
250 g	Plastic jar	L/2200/50
5 kg	Plastic jar	L/2200/65
25 kg	Fibre Keg	L/2200/70

LiCl
CAS: 7447-41-8
MW: 42.38
Density at 20°C: 2.06
Boiling point: 1382°C
Boiling pressure: 760 mmHg

Melting point: 605°C
HS-Nr: 28273985
EINECS: 231-212-3
Risk: R22, R36/38
Safety: S26, S37/39

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

Lithium hydroxide monohydrate
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	L/2301/53

$LiOH.H_2O$
CAS: 1310-66-3
MW: 41.96
Boiling point: 920°C
Boiling pressure: 760 mmHg
Melting point: 462°C

ADR/RID: 8/II
UN: 2680
HS-Nr: 28252000
EINECS: 215-183-4
Risk: R20/22, R35
Safety: S22, S26, S36/37/39, S45

C

Assay: >99.5%

Guaranteed analysis

Arsenic (As)	<2 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Potassium (K)	<10 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<50 ppm
Calcium (Ca)	<100 ppm	Titanium (Ti)	<1 ppm
Carbonate (Na_2CO_3)	<0.5%	Total chloride (Cl)	<0.002%
Chromium (Cr)	<1 ppm	Total nitrogen (N)	<10 ppm
Cobalt (Co)	<1 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<5 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Lithium hydroxide monohydrate SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	L/2300/48
250 g	Plastic jar	L/2300/50
1 kg	Plastic jar	L/2300/60
10 kg	Plastic screw top Keg	L/2300/68

$LiOH.H_2O$
CAS: 1310-66-3
MW: 41.96
Boiling point: 920°C
Boiling pressure: 760 mmHg
Melting point: 462°C

ADR/RID: 8/II
UN: 2680
HS-Nr: 28252000
EINECS: 215-183-4
Risk: R20/22, R35
Safety: S22, S26, S36/37/39, S45

C

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Carbonate (Na_2CO_3)	<1%	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<500 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<50 ppm		

Lithium iodide trihydrate SLR
extra pure

Specified

packaging		product code
100 g	Glass packaging	L/2320/48

$LiI.3H_2O$
CAS: 7790-22-9
MW: 187.89
Density at 20°C: 3.49

HS-Nr: 28276000
EINECS: 233-822-5
Safety: S24/25

Lithium metaborate anhydrous SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	L/2330/48

$LiBO_2$
CAS: 13453-69-5
MW: 49.75
Melting point: 845°C

HS-Nr: 28402090
EINECS: 236-631-5
Safety: S24/25

Guaranteed analysis

Calcium (Ca)	<50 ppm	Lead (Pb)	<50 ppm
Iron (Fe)	<50 ppm	Magnesium (Mg)	<20 ppm

To determine the melting point.

Lithium nitrate anhydrous NEW SPEC. SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	L/2350/48
10 kg	Plastic drum	L/2350/68

$LiNO_3$
CAS: 7790-69-4
MW: 68.95
Density at 20°C: 2.38
Boiling point: 600°C
Boiling pressure: 760 mmHg
Melting point: 251°C

ADR/RID: 5.1/III
UN: 2722
HS-Nr: 28342980
EINECS: 232-218-9
Risk: R8
Safety: S17

O

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<20 ppm	Zinc (Zn)	<20 ppm

Lithium sulfate monohydrate Certified AR
for analysis

AR

packaging		product code
100 g	Plastic jar	L/2450/48

$Li_2SO_4.H_2O$
CAS: 10102-25-7
MW: 127.95
Density at 20°C: 2.22

HS-Nr: 28332990
EINECS: 233-820-4
Risk: R22

Xn

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Manganese (Mn)	<1 ppm
Aluminium (Al)	<1 ppm	Nickel (Ni)	<2 ppm
Arsenic (As)	<2 ppm	Potassium (K)	<50 ppm
Barium (Ba)	<2 ppm	Sodium (Na)	<50 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001%
Chromium (Cr)	<1 ppm	Total nitrogen (N)	<20 ppm
Cobalt (Co)	<1 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Vanadium (V)	<1 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<5 ppm		

Lot analysis on the label.

Lithium sulfate monohydrate SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	L/2400/53

$Li_2SO_4.H_2O$
CAS: 10102-25-7
MW: 127.95
Density at 20°C: 2.22

HS-Nr: 28332990
EINECS: 233-820-4
Risk: R22

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

Litmus
pure, indicator grade

packaging		product code
25 g	Glass packaging	L/2500/46

CAS: 1393-92-6
HS-Nr: 32030010
EINECS: 215-739-6
Safety: S24/25

Guaranteed analysis

At pH 20°C ..... 5.0-8.0 red to blue pH

Litmus solution
pure, indicator grade

packaging		product code
500 mL	Glass bottle	L/2500L/08

HS-Nr: 38220000

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Lotoxane®
pure

packaging		product code
1 L	Glass bottle	L/2550/15
2.5 L	Glass bottle	L/2550/17
25 L	Metal drum	L/2550/25

Density at 20°C: 0.76 to 0.78
HS-Nr: 27101190

Non chlorinated aromatic solvent to replace 1.1,1-trichloroethane in cold cleaning applications.
see page 279 for suitable Tap & accessories.

Luminol
See 3-Aminophthalhydrazide (Luminol), page 17

Lutetium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLLU22Y
500 mL	Plastic bottle	SPPLLU22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

L-Lysine monohydrochloride
extra pure SLR

packaging		product code
100 g	Plastic jar	L/2700/48

$C_6H_{14}N_2O_2.HCl$
CAS: 657-27-2
MW: 182.65
Melting point: 263-264°C
HS-Nr: 29224100
EINECS: 211-519-9
Safety: S24/25

Assay: >98%

Guaranteed analysis

Loss on drying	<0.5%	Iron (Fe)	<10 ppm
Residue after ignition	<0.1%	Lead (Pb)	<10 ppm
Specific rotation (α 20/D)	+19° to +22°		

Magnesium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8040/05
500 mL	Plastic bottle	J/8040/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8286/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8285/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLMG22Y
250 mL	Plastic bottle	SPPLMG22T

Density at 20°C: 1.02
Risk: R36/38
Safety: S26

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLMG12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLMG23Y
500 mL	Plastic bottle	SPPLMG23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLMG13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLMG22Y

C

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Magnesium metal powder
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	M/0050/50
500 g	Plastic jar	M/0050/53

F

Mg
CAS: 7439-95-4
MW: 24.3
Density at 20°C: 1.74
Boiling point: 1107°C
Boiling pressure: 760 mmHg
Melting point: 651°C

Flash point: 500°C
ADR/RID: 4.1/III
UN: 1418
HS-Nr: 38220000
EINECS: 231-104-6
Risk: R11, R15
Safety: S7/8, S43A

Magnesium metal ribbon
extra pure — SLR

Specified LR

packaging		product code
25 g	Plastic jar	M/0100/46

F

Mg
CAS: 7439-95-4
MW: 24.3
Density at 20°C: 1.74
Boiling point: 1107°C
Boiling pressure: 760 mmHg
Melting point: 651°C

Flash point: 500°C
ADR/RID: 4.1/III
UN: 1869
HS-Nr: 38220000
EINECS: 231-104-6
Risk: R11, R15
Safety: S7/8, S43A

Magnesium metal turnings
pure, for Grignard reaction

packaging		product code
250 g	Plastic jar	M/0200/50
500 g	Plastic jar	M/0200/53

F

Mg
CAS: 7439-95-4
MW: 24.3
Density at 20°C: 1.74
Boiling point: 1107°C
Boiling pressure: 760 mmHg
Melting point: 651°C

Flash point: 500°C
ADR/RID: 4.1/III
UN: 1869
HS-Nr: 38220000
EINECS: 231-104-6
Risk: R11, R15
Safety: S7/8, S43A

Magnesium acetate tetrahydrate
for analysis — Certified AR

AR

packaging		product code
500 g	Plastic jar	M/0350/53

$C_4H_6O_4Mg.4H_2O$
CAS: 16674-78-5
MW: 214.46
Melting point: 80°C

HS-Nr: 29152900
EINECS: 205-554-9
Safety: S24/25

Assay: 99.5 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 9	Nickel (Ni)	<1 ppm
Aluminium (Al)	<2 ppm	Potassium (K)	<10 ppm
Barium (Ba)	<0.001%	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<10 ppm
Calcium (Ca)	<20 ppm	Strontium (Sr)	<5 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<2 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<20 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<50 ppm
Manganese (Mn)	<0.001%	Vanadium (V)	<1 ppm
Molybdenum (Mo)	<1 ppm	Zinc (Zn)	<5 ppm

Lot analysis on the label.

Magnesium acetate tetrahydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	M/0300/53

$C_4H_6O_4Mg.4H_2O$
CAS: 16674-78-5
MW: 214.46
Melting point: 80°C

HS-Nr: 29152900
EINECS: 205-554-9
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm
Sodium (Na)	<50 ppm		

Magnesium bromide hexahydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	M/0400/53

Xi

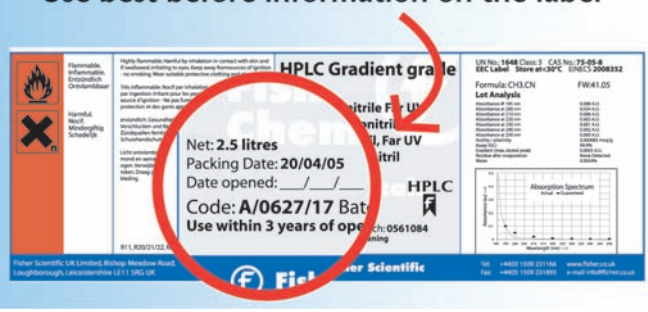
$MgBr_2.6H_2O$
CAS: 13446-53-2
MW: 292.22
Melting point: 165 °C

HS-Nr: 28275900
EINECS: 232-170-9
Risk: R36/37/38
Safety: S26, S37/39

Assay: >98%

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Use best before information on the label



Magnesium carbonate pentahydrate — Certified AR
for analysis, basic light

packaging		product code
100 g	Plastic jar	M/0515/48

$4MgCO_3.Mg(OH)_2.5H_2O$
CAS: 12125-28-9
MW: 485.65
Density at 20°C: 2.16

HS-Nr: 28369911
EINECS: 235-192-7
Safety: S24/25

Assay: 99 to 103%

Guaranteed analysis

Aluminium (Al)	<0.001%	Potassium (K)	<20 ppm
Barium (Ba)	<0.001%	Silver (Ag)	<2 ppm
Cadmium (Cd)	<2 ppm	Sodium (Na)	<1000 ppm
Calcium (Ca)	<100 ppm	Strontium (Sr)	<5 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<10 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<2 ppm	Total sulphur (S)	<50 ppm
Manganese (Mn)	<5 ppm	Vanadium (V)	<2 ppm
Molybdenum (Mo)	<2 ppm	Zinc (Zn)	<10 ppm
Nickel (Ni)	<0.002%		

Lot analysis on the label.

Magnesium carbonate pentahydrate — SLR, Eur.Ph.,BP
extra pure, heavy

packaging		product code
500 g	Plastic jar	M/0450/53

$MgCO_3.5H_2O$
CAS: 12125-28-9
MW: 62.31

HS-Nr: 28369911
EINECS: 235-192-7

Guaranteed analysis

Residue after ignition	42 to 45%	Sodium (Na)	<5000 ppm
Calcium (Ca)	<10 000 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<500 ppm	Total silicon (Si)	<500 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<5000 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<100 ppm

Magnesium carbonate pentahydrate — SLR, Eur.Ph.,BP
extra pure, light

packaging		product code
500 g	Plastic jar	M/0500/53

$MgCO_3.5H_2O$
CAS: 12125-28-9
MW: 62.31

HS-Nr: 28369911
EINECS: 235-192-7

Guaranteed analysis

Residue after ignition	42 to 45%	Sodium (Na)	<5000 ppm
Calcium (Ca)	<10 000 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<500 ppm	Total sulphur (S)	<5000 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<200 ppm		

Magnesium chloride hexahydrate — Certified AR, Eur.Ph.,BP
for analysis

packaging		product code
500 g	Plastic jar	M/0600/53
1 kg	Plastic jar	M/0600/60
2 kg	Plastic jar	M/0600/61
5 kg	Plastic drum	M/0600/65

$MgCl_2.6H_2O$
CAS: 7791-18-6
MW: 203.31
Density at 20°C: 1.56

Melting point: 117°C
HS-Nr: 28273100
EINECS: 232-094-6
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Sodium (Na)	<10 ppm
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Potassium (K)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<0.001 %	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.002 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Magnesium chloride hexahydrate — SLR
extra pure

packaging		product code
500 g	Plastic jar	M/0550/53
1 kg	Plastic jar	M/0550/60
5 kg	Plastic drum	M/0550/65

$MgCl_2.6H_2O$
CAS: 7791-18-6
MW: 203.31
Density at 20°C: 1.56

Melting point: 117°C
HS-Nr: 28273100
EINECS: 232-094-6
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

Magnesium chloride 50% w/w solution — Certified AR
for analysis

packaging		product code
2.5 L	Glass bottle	M/0602/17

$MgCl_2$+aq
CAS: 7791-18-6
MW: 203.31

HS-Nr: 28273100
Safety: S24/25

Assay: 49 to 51%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 5.5	Nickel (Ni)	<1 ppm
Aluminium (Al)	<1 ppm	Potassium (K)	<10 ppm
Barium (Ba)	<0.001%	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<10 ppm
Calcium (Ca)	<20 ppm	Strontium (Sr)	<0.002%
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<5 ppm
Molybdenum (Mo)	<1 ppm		

Lot analysis on the label.

Magnesium hydroxide — SLR
extra pure

packaging		product code
500 g	Plastic jar	M/0650/53

$Mg(OH)_2$
CAS: 1309-42-8
MW: 58.33
Melting point: 350 °C

HS-Nr: 28161000
EINECS: 215-170-3
Risk: R36/37/38
Safety: S26, S37/39

Xi

Magnesium nitrate hexahydrate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	M/0752/53
1 kg	Plastic jar	M/0752/60

$MgCl_2.6H_2O$
CAS: 13446-18-9
MW: 256.41
Density at 20°C: 1.63
Boiling point: 330°C
Boiling pressure: 760 mmHg
Melting point: 89°C

Flash point: 93.3°C
ADR/RID: 5.1/III
UN: 1474
HS-Nr: 28342980
EINECS: 233-826-7
Risk: R8, R36/37/38
Safety: S17, S36, S37/39

O Xi

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Sodium (Na)	<10 ppm
Ammonium (NH_4)	<0.002 %	Total chloride (Cl)	<0.001 %
Calcium (Ca)	<20 ppm	Total phosphorus (P)	<5 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<5 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<10 ppm		

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<0.001 %	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.002 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Magnesium nitrate hexahydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	M/0750/53

$Mg(NO_3)_2.6H_2O$
CAS: 13446-18-9
MW: 256.41
Density at 20°C: 1.63
Boiling point: 330°C
Boiling pressure: 760 mmHg
Melting point: 89°C

Flash point: 93.3°C
ADR/RID: 5.1/III
UN: 1474
HS-Nr: 28342980
EINECS: 233-826-7
Risk: R8, R36/37/38
Safety: S17, S36, S37/39

O Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm
Sodium (Na)	<50 ppm		

Magnesium oxide — SLR, Eur.Ph.,BP
extra pure, light

Specified LR

packaging		product code
500 g	Plastic jar	M/0850/53
1 kg	Plastic drum	M/0850/60

MgO
CAS: 1309-48-4
MW: 40.31
Density at 20°C: 3.58
Boiling point: 3600°C

Boiling pressure: 760 mmHg
Melting point: 2800°C
HS-Nr: 25199010
EINECS: 215-171-9
Safety: S24/25

Guaranteed analysis

Loss on ignition	<5%	Lead (Pb)	<20 ppm
Arsenic (As)	<5 ppm	Total chloride (Cl)	<0.1%
Copper (Cu)	<50 ppm	Total sulphur (S)	<10 000 ppm
Iron (Fe)	<500 ppm	Zinc (Zn)	<50 ppm

Magnesium oxide — SLR, Eur.Ph.,USP,BP
extra pure, heavy

Specified LR

packaging		product code
500 g	Plastic jar	M/0800/53

MgO
CAS: 1309-48-4
MW: 40.31
Density at 20°C: 3.58
Boiling point: 3600°C

Boiling pressure: 760 mmHg
Melting point: 2800°C
HS-Nr: 25199010
EINECS: 215-171-9
Safety: S24/25

Guaranteed analysis

Loss on ignition	<5%	Lead (Pb)	<20 ppm
Arsenic (As)	<5 ppm	Total chloride (Cl)	<0.1%
Copper (Cu)	<50 ppm	Total sulphur (S)	<10 000 ppm
Iron (Fe)	<500 ppm	Zinc (Zn)	<50 ppm

Magnesium perchlorate dried
pure, Desiccating agent

packaging		product code
250 g	Plastic jar	M/0950/50
500 g	Plastic jar	M/0950/53

$Mg(ClO_4)_2$
CAS: 10034-81-8
MW: 223.21
Melting point: 251°C
ADR/RID: 5.1/II

UN: 1475
HS-Nr: 28299010
EINECS: 233-108-3
Risk: R8, R36/37/38
Safety: S17, S26, S37/39

O Xi

Magnesium stearate — SLR, Eur.Ph.,BP,USP
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	M/0955/53

$C_{36}H_{70}MgO_4$
CAS: 557-04-0
MW: 591.27
Melting point: 130 to 140°C

HS-Nr: 29157030
EINECS: 209-150-3
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

Magnesium sulfate — SLR
extra pure, dried

Specified LR

packaging		product code
500 g	Plastic jar	M/1100/53
1 kg	Plastic jar	M/1100/60
2 kg	Plastic jar	M/1100/61
10 kg	Plastic drum	M/1100/68

$MgSO_4$
CAS: 7487-88-9
MW: 120.37
Density at 20°C: 2.66

Melting point: 1124°C
HS-Nr: 28332100
EINECS: 231-298-2
Safety: S24/25

Assay: 62 to 70%

Guaranteed analysis

Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.05%
Lead (Pb)	<10 ppm		

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

Magnesium sulfate heptahydrate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	M/1050/53
1 kg	Plastic jar	M/1050/60
5 kg	Plastic drum	M/1050/65

$MgSO_4.7H_2O$
CAS: 10034-99-8
MW: 246.48
HS-Nr: 28332100
EINECS: 231-229-8
Safety: S24/25

Assay: 99.5 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Sodium (Na)	<20 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<2 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<5 ppm
Potassium (K)	<20 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<0.001 %	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<0.002 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Magnesium sulfate heptahydrate — SLR, Eur.Ph.,USP,BP
extra pure

Specified LR

packaging		product code
1 kg	Plastic jar	M/1000/60
2.5 kg	Plastic jar	M/1000/62
5 kg	Plastic drum	M/1000/65

$MgSO_4.7H_2O$
CAS: 10034-99-8
MW: 246.48
HS-Nr: 28332100
EINECS: 231-229-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<500 ppm
Potassium (K)	<500 ppm	Zinc (Zn)	<20 ppm

Malachite Green (oxalate) C.I. 42000
pure

packaging		product code
25 g	Glass packaging	M/1245/46

$C_{23}H_{25}N_2.1/2C_2H_2O_4.$
C_2HO_4
CAS: 2437-29-8
MW: 927.03
Melting point: 164 °C
ADR/RID: 9/III
UN: 3077
HS-Nr: 32041300
EINECS: 241-922-5
Risk: R22, R41, R50/53, R63
Safety: S2, S26, S36/37, S39, S46, S60, S61

Xn N

Guaranteed analysis

IR Analysis ..... Conform

NIST Certified Standard from SPEX

A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS

Discover them on page 258

Maleic acid — Certified AR
for analysis

AR

packaging		product code
500 g	Plastic jar	M/1255/53

$C_4H_4O_4$
CAS: 110-16-7
MW: 116.08
Melting point: 134 to 138°C
Flash point: 127°C
HS-Nr: 29171990
EINECS: 203-742-5
Risk: R22, R36/37/38
Safety: S26, S28A, S37

Xn

Assay: >99.5%

Guaranteed analysis

Aluminium (Al)	<1 ppm	Nickel (Ni)	<1 ppm
Arsenic (As)	<5 ppm	Potassium (K)	<20 ppm
Barium (Ba)	<1 ppm	Sodium (Na)	<20 ppm
Cadmium (Cd)	<1 ppm	Tin (Sn)	<2 ppm
Calcium (Ca)	<5 ppm	Titanium (Ti)	<1 ppm
Chromium (Cr)	<1 ppm	Total chloride (Cl)	<0.001%
Cobalt (Co)	<1 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Manganese (Mn)	<1 ppm	Fumaric acid	<0.5%

Lot analysis on the label.

Maleic acid — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	M/1250/53

$C_4H_4O_4$
CAS: 110-16-7
MW: 116.08
Melting point: 134 to 138°C
Flash point: 127°C
HS-Nr: 29171990
EINECS: 203-742-5
Risk: R22, R36/37/38
Safety: S26, S28A, S37

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<100 ppm	Fumaric acid	<2%
Sodium (Na)	<100 ppm		

Maleic anhydride — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	M/1300/53
10 kg	Plastic drum	M/1300/68

$C_4H_2O_3$
CAS: 108-31-6
MW: 98.06
Density at 20°C: 1.48
Boiling point: 200°C
Melting point: 52 to 55°C
Flash point: 102°C
ADR/RID: 8/III
UN: 2215
HS-Nr: 29171400
EINECS: 203-571-6
Risk: R22, R34, R42/43
Safety: S22, S26, S36/37/39, S45

C

Assay: >99.5%

DL-Malic acid — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	M/1350/53

$C_4H_6O_5$
CAS: 617-48-1
MW: 134.09
Melting point: 130 to 132°C
HS-Nr: 29181910
EINECS: 210-514-9
Risk: R22, R34, R42/43

Assay: >99%

Guaranteed analysis

Melting Point tested	131 to 132°C	Sulfate (SO_4)	<0.02%
Residue after ignition	<0.03%	Total chloride (Cl)	<0.02%

Malonic acid
extra pure SLR

Specified LR

packaging		product code
100 g	Plastic jar	M/1400/48

$C_3H_4O_4$
CAS: 141-82-2
MW: 104.07
Melting point: 130-135°C

HS-Nr: 29171910
EINECS: 205-503-0
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >99%

Maltose monohydrate
extra pure SLR

Specified LR

packaging		product code
100 g	Plastic jar	M/1450/48
500 g	Plastic jar	M/1450/53

$C_{12}H_{22}O_{11}.H_2O$
CAS: 6363-53-7
MW: 360.32

Melting point: 110°C
HS-Nr: 17029010
EINECS: 200-716-5

Guaranteed analysis
IR Analysis ..... Conform

Manganese standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8045/05
500 mL	Plastic bottle	J/8045/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Manganese standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8291/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Manganese standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8290/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 28416090

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Manganese standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLMN22Y
250 mL	Plastic bottle	SPPLMN22T
500 mL	Plastic bottle	SPPLMN22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Manganese standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLMN23Y
500 mL	Plastic bottle	SPPLMN23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Manganese standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLMN22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Manganese(II) acetate tetrahydrate
extra pure SLR

Specified LR

packaging		product code
250 g	Plastic jar	M/1700/50

$C_4H_6O_4Mn.4H_2O$
CAS: 6156-78-1
MW: 245.09
Density at 20°C: 1.58
Boiling pressure: 760 mmHg

Melting point: >300°C
Flash point: >130°C
HS-Nr: 29152900
EINECS: 211-334-3
Safety: S24/25

Assay: >99%

Guaranteed analysis

Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<100 ppm	Total sulphur (S)	<100 ppm

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Manganese(II) chloride tetrahydrate — Certified AR
for analysis

packaging		product code
500 g	Plastic jar	M/1850/53
1 kg	Plastic jar	M/1850/60

$MnCl_2.4H_2O$
CAS: 13446-34-9
MW: 197.91
Melting point: 58°C

HS-Nr: 28273985
EINECS: 231-869-6
Risk: R22, R48/22, R52
Safety: S45, S61

Xn

Assay: 98 to 102%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 6	Potassium (K)	<20 ppm
Substances		Sodium (Na)	<50 ppm
reducing $KMnO_4$	<0.0005%	Total nitrogen (N)	<30 ppm
Calcium (Ca)	<50 ppm	Total phosphorus (P)	<50 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm		

Typical analysis

Arsenic (As)	<5 ppm	Lithium (Li)	<2 ppm
Cadmium (Cd)	<2 ppm	Titanium (Ti)	<2 ppm
Chromium (Cr)	<2 ppm	Vanadium (V)	<2 ppm
Cobalt (Co)	<2 ppm		

Lot analysis on the label.

Manganese(II) chloride tetrahydrate — SLR
extra pure

packaging		product code
250 g	Plastic jar	M/1800/50
500 g	Plastic jar	M/1800/53

$MnCl_2.4H_2O$
CAS: 13446-34-9
MW: 197.91
Melting point: 58°C

HS-Nr: 28273985
EINECS: 231-869-6
Risk: R22, R48/22, R52
Safety: S45, S61

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<200 ppm
Potassium (K)	<50 ppm		

Manganese(IV) oxide — SLR
extra pure, precipitated

packaging		product code
250 g	Glass packaging	M/1665/50
500 g	Glass packaging	M/1665/53

MnO_2
CAS: 1313-13-9
MW: 86.94
Density at 20°C: 5.02
Boiling point: DC°C
Melting point: 535 °C

ADR/RID: 5.1/II
UN: 1479
HS-Nr: 28201000
EINECS: 215-202-6
Risk: R20/22
Safety: S25

Xn

Manganese(IV) oxide
Technical, powder

packaging		product code
500 g	Glass packaging	M/1660/53

MnO_2
CAS: 1313-13-9
MW: 86.94
Density at 20°C: 5.02
Boiling point: DC°C
Melting point: 535 °C

ADR/RID: 5.1/II
UN: 1479
HS-Nr: 28201000
EINECS: 215-202-6
Risk: R20/22
Safety: S25

Xn

Manganese(II) sulfate tetrahydrate — SLR
extra pure

packaging		product code
500 g	Plastic jar	M/2250/53
1 kg	Plastic jar	M/2250/60

$MnSO_4.4H_2O$
CAS: 7785-87-7
MW: 223.06
Boiling point: 850°C
Boiling pressure: 760 mmHg

Melting point: 700°C
HS-Nr: 28332990
EINECS: 232-089-9
Risk: R48/20/22, R51/53
Safety: S22, S61

Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<50 ppm		

Manganese(II) sulfate monohydrate
pure, dried powder

packaging		product code
1 kg	Plastic jar	M/2350/60

$MnSO_4.H_2O$
CAS: 10034-96-5
MW: 169.02
Boiling point: 850°C
Boiling pressure: 760 mmHg

Melting point: 700°C
HS-Nr: 28332990
EINECS: 232-089-9
Risk: R48/20/22, R51/53
Safety: S22, S61

Xn N

Mannitol — Certified AR, Eur.Ph., BP
for analysis

packaging		product code
500 g	Plastic jar	M/2405/53

$C_6H_{14}O_6$
CAS: 69-65-8
MW: 182.17
Boiling pressure: 760 mmHg

Melting point: 167 to 170°C
HS-Nr: 29054300
EINECS: 200-711-8
Safety: S24/25

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.0008 meq/g	Magnesium (Mg)	<5 ppm
Specific rotation (α 20/D)	+23° to +24°	Potassium (K)	<10 ppm
Sugar reducer	<0.05%	Sodium (Na)	<50 ppm
Water	<0.5%	Total chloride (Cl)	<0.001 %
Calcium (Ca)	<10 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Lithium (Li)	<1 ppm
Arsenic (As)	<5 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Tin (Sn)	<2 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Fisher Chemical products takes care of the environment!

Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Mannitol
extra pure SLR

Specified

packaging		product code
500 g	Plastic jar	M/2400/53

$C_6H_{14}O_6$
CAS: 69-65-8
MW: 182.17
Boiling pressure: 760 mmHg
Melting point: 167 to 170°C
HS-Nr: 29054300
EINECS: 200-711-8
Safety: S24/25

Assay (GC): >98%

Guaranteed analysis

Sugar reducer	<0.2%	Potassium (K)	<50 ppm
Water	<0.5%	Sodium (Na)	<200 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<10 ppm

D(+)-Mannose
extra pure SLR

Specified

packaging		product code
10 g	Plastic jar	M/2420/45

$C_6H_{12}O_6$
CAS: 3458-28-4
MW: 180.16
Melting point: 133°C
HS-Nr: 29400000
EINECS: 222-392-4
Safety: S24/25

Guaranteed analysis

Loss on drying	<0.5%	Specific rotation (α 20/D)	+13.3° to +14.3°
Melting Point tested	129 to 131°C		
Residue after ignition	<0.1%	Lead (Pb)	<10 ppm

Marble chips
pure

packaging		product code
1 kg	Plastic Jar	M/2450/60
3 kg	Plastic Jar	M/2450/63

$CCaO_3$
CAS: 471-34-1
MW: 100.09
Melting point: 825 °C
HS-Nr: 25174100
EINECS: 207-439-9
Risk: R36/38
Safety: S26, S37/39
Xi

MEK *See Ethyl methyl ketone, page 102*

D(+)Melibiose monohydrate
pure

packaging		product code
10 g	Plastic jar	M/2510/45

$C_{12}H_{22}O_{11}.H_2O$
CAS: 585-99-9
MW: 360.32
Melting point: 182 °C
HS-Nr: 29400000
EINECS: 209-568-6
Safety: S24/25

Guaranteed analysis

Loss on drying	<6%	Specific rotation (α 20/D)	+141° to +143°
Residue after ignition	<0.2%	Lead (Pb)	<10 ppm

Menthol
extra pure, natural SLR

Specified

packaging		product code
100 g	Glass packaging	M/2550/48

$C_{10}H_{20}O$
CAS: 2216-51-5
MW: 156.28
Boiling point: 212°C
Boiling pressure: 760 mmHg
Melting point: 41 to 43°C
Flash point: 93°C
HS-Nr: 29061100
EINECS: 218-690-9
Risk: R36/37/38, R41
Safety: S26, S37/39
Xi

Guaranteed analysis

Melting Point tested	41 to 44°C	Specific rotation (α 20/D)	-+50° to -49°

Mercury standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8047/05
500 mL	Plastic bottle	J/8047/08

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000
Risk: R20/21/22, R33, R34, R50/53
Safety: S13, S28, S45, S60, S61
C N Xn

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8293/08

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000
Risk: R20/21/22, R33, R34, R50/53
Safety: S13, S28, S45, S60, S61
C N Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8292/05

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000
Risk: R23/24/25, R33, R34, R50/53
Safety: S13, S28, S45, S60, S61
C N T

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury standard metal solution 1000 ppm
for ICP solution in HNO_3 10%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLHG42Y
250 mL	Plastic bottle	SPPLHG42T
500 mL	Plastic bottle	SPPLHG42X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury standard metal solution 10 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLHG21AY**
500 mL	Plastic bottle	**SPPLHG21AX**
500 mL	Plastic bottle	**SPPLHG21X**

Density at 20°C: 1
Risk: R34
Safety: S45S36/37/39, S26

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury (metal)
extra pure — SLR

packaging		product code
250 g	Plastic bottle	**M/3650/50**
1 kg	Plastic bottle	**M/3650/60**

Hg
CAS: 7439-97-6
MW: 200.59
Density at 20°C: 13.54
Boiling point: 356.5°C
Boiling pressure: 760 mmHg
Melting point: -38.9°C

ADR/RID: 8/III
UN: 2809
HS-Nr: 38220000
EINECS: 231-106-7
Risk: R23, R33, R50/53
Safety: S7, S45, S60, S61

The price charged for this item is subject to alteration and will be that ruling at time of despatch..

Mercury standard metal solution 10 000 ppm
for ICP solution in HNO_3 10%, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLHG43Y**
500 mL	Plastic bottle	**SPPLHG43X**

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury (metal)
pure, for polarography

packaging		product code
100 g	Plastic bottle	**M/3751/48**

Hg
CAS: 7439-97-6
MW: 200.59
Density at 20°C: 13.54
Boiling point: 356.5°C
Boiling pressure: 760 mmHg
Melting point: -38.9°C

ADR/RID: 8/III
UN: 2809
HS-Nr: 28054090
EINECS: 231-106-7
Risk: R23, R33, R50/53
Safety: S7, S45, S60, S61

The price charged for this item is subject to alteration and will be that ruling at time of despatch.

Mercury standard metal solution 10 ppm
for ICP-MS solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPCLHG21AY**

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Mercury clean up kit
pure

packaging		product code
1	part	**M/3754/90**

ADR/RID: 8/III
UN: 3260
HS-Nr: 29125000

Risk: 34
Safety: 26-45

The Mercury Clean-up kit is a compact safety pack used for cleaning up split mercury.It contains the special mercury absorber, safety gloves, brush, and scoop, and a spare container for holding the collected mercury prior to disposal. Full instructions are only included with each kit.

Mercury (metal)
for analysis, — Certified AR

packaging		product code
100 g	Plastic bottle	**M/3750/48**
250 g	Plastic bottle	**M/3750/50**
500 g	Plastic bottle	**M/3750/53**
1 kg	Plastic bottle	**M/3750/60**

Hg
CAS: 7439-97-6
MW: 200.59
Density at 20°C: 13.54
Boiling point: 356.5°C
Boiling pressure: 760 mmHg
Melting point: -38.9°C

ADR/RID: 8/III
UN: 2809
HS-Nr: 38220000
EINECS: 231-106-7
Risk: R23, R33, R50/53
Safety: S7, S45, S60, S61

Assay: >99.99%

Guaranteed analysis

Cadmium (Cd)	<0.2 ppm	Magnesium (Mg)	<0.5 ppm
Calcium (Ca)	<1 ppm	Nickel (Ni)	<0.2 ppm
Copper (Cu)	<0.5 ppm	Potassium (K)	<1 ppm
Iron (Fe)	<0.5 ppm	Sodium (Na)	<2 ppm
Lead (Pb)	<0.5 ppm	Total sulphur (S)	<1 ppm
Lithium (Li)	<0.2 ppm	Zinc (Zn)	<0.5 ppm

The prices applied to mercury and derivatives vary with the price of the raw material.
Lot analysis on the label.

Mercury(II) acetate
for analysis — Certified AR

packaging		product code
50 g	Plastic jar	**M/2652/47**
250 g	Plastic jar	**M/2652/50**

$C_4H_6HgO_4$
CAS: 1600-27-7
MW: 318.68
Melting point: 179 to 182°C
ADR/RID: 6.1/II
UN: 1629

HS-Nr: 28520000
EINECS: 216-491-1
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S36, S45, S60, S61

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<10 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<10 ppm	Zinc (Zn)	<5 ppm
Sodium (Na)	<20 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Lithium (Li)	<1 ppm
Barium (Ba)	<1 ppm	Manganese (Mn)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<2 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Mercury(II) acetate
extra pure — SLR

packaging		product code
250 g	Plastic jar	M/2650/50

$C_4H_6HgO_4$
CAS: 1600-27-7
MW: 318.68
Melting point: 179 to 182°C
ADR/RID: 6.1/II
UN: 1629

HS-Nr: 28520000
EINECS: 216-491-1
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S36, S45, S60, S61

T+ N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<50 ppm

Mercury(I) chloride
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	M/3450/48

Hg_2Cl_2
CAS: 10112-91-1
MW: 472.09
Density at 20°C: 7.15
Boiling pressure: 760 mmHg
ADR/RID: 6.1/III

UN: 2025
HS-Nr: 28520000
EINECS: 233-307-5
Risk: R22, R36/37/38, R50/53
Safety: S13, S24/25, S46, S60, S61

Xn N

Assay: >99.5%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<10 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<20 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<100 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Mercury(I) chloride
extra pure — SLR

packaging		product code
100 g	Plastic jar	M/3400/48

Hg_2Cl_2
CAS: 10112-91-1
MW: 472.09
Density at 20°C: 7.15
Boiling pressure: 760 mmHg
ADR/RID: 6.1/III

UN: 2025
HS-Nr: 28520000
EINECS: 233-307-5
Risk: R22, R36/37/38, R50/53
Safety: S13, S24/25, S46, S60, S61

Xn N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<50 ppm		

Mercury(II) chloride
extra pure — SLR

packaging		product code
100 g	Plastic jar	M/2800/48
250 g	Plastic jar	M/2800/50
500 g	Plastic jar	M/2800/53

$HgCl_2$
CAS: 7487-94-7
MW: 271.5
Density at 20°C: 5.44
Boiling point: 302°C
Boiling pressure: 760 mmHg
Melting point: 277°C

ADR/RID: 6.1/II
UN: 1624
HS-Nr: 28520000
EINECS: 231-299-8
Risk: R28, R34, R48/24/25, R50/53
Safety: S36/37/39, S45, S60, S61

T+ N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<50 ppm		

Mercury(II) iodide
extra pure — SLR

packaging		product code
25 g	Plastic jar	M/2950/46
100 g	Plastic jar	M/2950/48

HgI_2
CAS: 7774-29-0
MW: 454.39
Density at 20°C: 6.36
Boiling point: 354°C
Boiling pressure: 760 mmHg
Melting point: 259°C

ADR/RID: 6.1/II
UN: 1638
HS-Nr: 28520000
EINECS: 231-873-8
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S45, S60, S61

T+ N

Assay: >99%

Mercury(I) nitrate dihydrate
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	M/3550/48

$Hg_2(NO_3)_2.2H_2O$
CAS: 7782-86-7
MW: 561.22
Melting point: 70°C
ADR/RID: 6.1/II

UN: 1627
HS-Nr: 28520000
Risk: R26/27/28, R33, R50/53
Safety: S13, S45, S60, S61

T+ N

Assay: >98%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<10 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<20 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Mercury(I) nitrate dihydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	M/3500/53

$Hg_2(NO_3)_2.2H_2O$
CAS: 7782-86-7
MW: 561.22
Melting point: 70°C
ADR/RID: 6.1/II

UN: 1627
HS-Nr: 28520000
Risk: R26/27/28, R33, R50/53
Safety: S13, S45, S60, S61

T+ N

Assay: >95%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<50 ppm

Mercury(II) nitrate dihydrate
for analysis — Certified AR

AR

packaging		product code
100 g	Plastic jar	M/3002/48

$Hg(NO_3)_2.2H_2O$
CAS: 7783-34-8
MW: 342.6
Density at 20°C: 4.3
Melting point: 77 to 79°C
ADR/RID: 6.1/II

UN: 1625
HS-Nr: 28520000
EINECS: 233-152-3
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S45, S60, S61

T+ N

Assay: 59 to 61%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<10 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<20 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Mercury(II) nitrate dihydrate
extra pure — SLR

Specified LR

packaging		product code
100 g	Plastic jar	M/3000/48

$Hg(NO_3)_2.2H_2O$
CAS: 7783-34-8
MW: 342.61
Density at 20°C: 4.3
Melting point: 77 to 79°C
ADR/RID: 6.1/II

UN: 1625
HS-Nr: 29061100
EINECS: 233-152-3
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S45, S60, S61

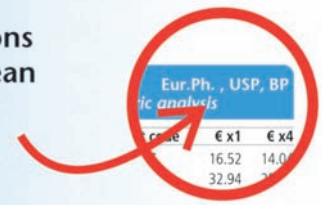
T+ N

Assay: 58 to 62%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<50 ppm

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Mercury(II) oxide yellow
pure

packaging		product code
100 g	Plastic jar	M/3100/48

HgO
CAS: 21908-53-2
MW: 216.59
Boiling pressure: 760 mmHg
Melting point: 500 °C

ADR/RID: 6.1/II
UN: 1641
HS-Nr: 28520000
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S45, S60, S61

T+ N

Assay: >99%

Guaranteed analysis

Total chloride (Cl) ..... <0.2%

Mercury(II) oxide red
extra pure — SLR

Specified LR

packaging		product code
100 g	Plastic jar	M/3050/48

HgO
CAS: 21908-53-2
MW: 216.59
Boiling pressure: 760 mmHg
Melting point: 500 °C

ADR/RID: 6.1/II
UN: 1641
HS-Nr: 28520000
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S45, S60, S61

T+ N

Assay: >99%

Mercury(II) sulfate
extra pure — SLR

Specified LR

packaging		product code
100 g	Plastic jar	M/3200/48
250 g	Plastic jar	M/3200/50

$HgSO_4$
CAS: 7783-35-9
MW: 296.65
Density at 20°C: 6.47
ADR/RID: 6.1/II

UN: 1645
HS-Nr: 28520000
EINECS: 231-992-5
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S45, S60, S61

T+ N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<50 ppm		

Mercury(II) sulfate solution 20% w/v
pure

packaging		product code
500 mL	Glass bottle	J/5100/08

ADR/RID: 6.1(8)/II
UN: 3289
HS-Nr: 38220000

Risk: R27/28, R33, R35, R50/53
Safety: S13, S28, S45, S60, S61

C T

Guaranteed analysis

Dichromate demand (ml FeSO) .... >2 mL Mercuric sulfate (II) 20%

Mercury(II) thiocyanate
extra pure — SLR

Specified LR

packaging		product code
25 g	Plastic jar	M/3300/46

$C_2HgN_2S_2$
CAS: 592-85-8
MW: 316.75
Melting point: 165 °C
ADR/RID: 6.1/II
UN: 1646

HS-Nr: 28520000
EINECS: 209-773-0
Risk: R26/27/28, R33, R50/53
Safety: S13, S28A, S36, S45, S60, S61

T+ N

Metaldehyde
pure

packaging		product code
250 g	Plastic jar	M/3800/50

$(C_2H_4O)_n$
CAS: 9002-91-9
Melting point: 246°C
Flash point: 50°C
ADR/RID: 4.1/III

UN: 1332
HS-Nr: 29125000
EINECS: 200-836-8
Risk: R10, R22
Safety: S13, S25, S46

Xn

Guaranteed analysis
IR Analysis ..... Conform

Metaphosphoric acid
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic jar	M/3851/53

HPO_3
CAS: 37267-86-0
ADR/RID: 8/III
UN: 3260

HS-Nr: 28092000
EINECS: 253-433-4
Risk: R34
Safety: S26, S36/37/39, S45

C

Guaranteed analysis

Arsenic (As)	<5 ppm	Lead (Pb)	<10 ppm
Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.002%

Methanesulfonic acid, sodium salt
Ion pair chromatography Certified

HPLC

packaging		product code
25 g	Plastic jar	M/3876/46

CH_3SO_3Na
CAS: 2386-57-4
MW: 118.09
HS-Nr: 29041000

EINECS: 219-203-2
Risk: R36/38
Safety: S26, S36, S45

Xi

Assay: >95%

Lot analysis on the label.

Methanol
for HPLC-MS Certified

HPLC LC-MS

packaging		product code
1 L	Glass bottle	M/4062/15
2.5 L	Glass bottle	M/4062/17

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.9%

Guaranteed analysis

Acidity	<0.0002 meq/g	Copper (Cu)	<0.01 ppm
Alkalinity	<0.00008 meq/g	Iron (Fe)	<0.01 ppm
LC-MS analysis	Conform	Lead (Pb)	<0.01 ppm
Residue after evaporation	<5 ppm	Magnesium (Mg)	<0.01 ppm
Water	<0.02%	Manganese (Mn)	<0.01 ppm
Aluminium (Al)	<0.02 ppm	Nickel (Ni)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Potassium (K)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Silver (Ag)	<0.01 ppm
Calcium (Ca)	<0.05 ppm	Sodium (Na)	<0.5 ppm
Chromium (Cr)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Zinc (Zn)	<0.01 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

230 nm	<0.05 A.U.	260 nm	<0.005 A.U.
Gradient (max eluted peak).	<0.5 mA.U.		

Gradient analysis
Absorbance of the largest eluted peak < 0.05 mA.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 2 mL / min
Wavelength 254 nm
Absorbance range: 0-0.08 AU.
Solvent A: Water
Solvent B: Methanol
Gradient
Gradient: linear 95% /5% B 100% B during 20 min.
Lot analysis on the label.
This product has been tested on an LC-MS instrument to ensure suitability.
Filtered to 0.2 µm.

Methanol NEW SPEC. Certified Advanced HPLC
HPLC for gradient analysis

advanced HPLC

packaging		product code
1 L	Coated Glass Bottle	M/4060/PB15
2.5 L	Coated Glass Bottle	M/4060/PB17

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C

Flash point: 12°C
ADR/RID: 3(6.1)/II
HS-Nr: 38220000
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

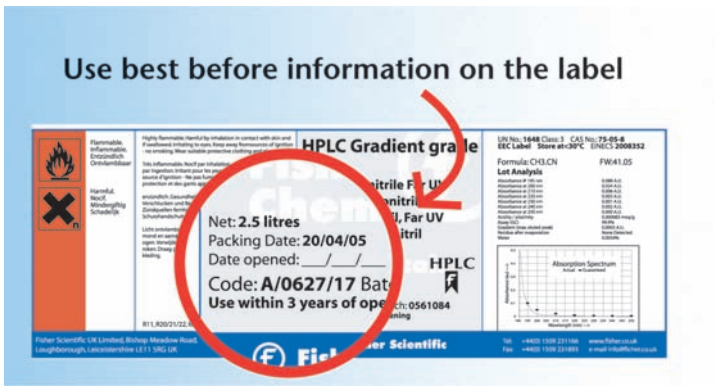
Guaranteed analysis

Acidity	<0.0002 meq/g	Residue after evaporation	<5 ppm
Alkalinity	<0.0002 meq/g	Water	<0.03%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.2 A.U.	250 nm	<0.005 A.U.
220 nm	<0.1 A.U.	Drift in the baseline	<40 mA.U.
230 nm	<0.05 A.U.	Gradient (max eluted peak).	<0.1 mA.U.
240 nm	<0.01 A.U.	260 nm	<0.005 A.U.

Absorbance of the largest eluted peak < 0.1 mA.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 3 mL / min
Wavelength 220 nm
Solvent A: Water
Solvent B: Methanol
Gradient: 10 min at 30% solvent B followed by a linear gradient to 95% solvent B over 15 min.
Filtered to 0.2 µm.



Methanol
HPLC for gradient analysis
Certified

packaging		product code
1 L	Glass bottle	**M/4058/15**
2.5 L	Glass bottle	**M/4058/17**
2.5 L	Coated Glass Bottle	**M/4058/PB17**
5 L	Aluminium drum	**M/4058/21**
25 L	Metal drum	**M/4058/DH25**
200 L	Stainless steel drum	**M/4058/27SS**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.9%

Guaranteed analysis

Acidity	<0.0002 meq/g	Residue after evaporation	<5 ppm
Alkalinity	<0.0002 meq/g	Water	<0.03%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.2 A.U.	250 nm	<0.005 A.U.
220 nm	<0.1 A.U.	Gradient (max eluted peak).	<0.001 A.U.
230 nm	<0.05 A.U.	260 nm	<0.005 A.U.
240 nm	<0.01 A.U.		

Gradient analysis
Absorbance of the largest eluted peak < 0.004 A.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 2 mL / min
Wavelength 254 nm
Absorbance range: 0-0.08 AU.
Solvent A: Water
Solvent B: Methanol
Gradient: linear 95% /5% B 100% B during 20 min.
Lot analysis on the label (except gradient analysis).
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Methanol
for HPLC
Certified

packaging		product code
1 L	Glass bottle	**M/4056/15**
2.5 L	Glass bottle	**M/4056/17**
2.5 L	Coated Glass Bottle	**M/4056/PB17**
5 L	Aluminium drum	**M/4056/21**
25 L	Stainless steel drum	**M/4056/25SS**
25 L	Metal drum	**M/4056/DH25**
200 L	Stainless steel drum	**M/4056/27SS**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.02%
Residue after evaporation	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.2 A.U.	240 nm	<0.02 A.U.
220 nm	<0.1 A.U.	250 nm	<0.005 A.U.
230 nm	<0.05 A.U.	260 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Methanol
HPLC for fluorescence detection
Certified

packaging		product code
2.5 L	Coated Glass Bottle	**M/4057/PB17**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 38220000
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.8%

Guaranteed analysis

Acidity	<0.0002 meq/g	Residue after evaporation	<5 ppm
Alkalinity	<0.0002 meq/g	Water	<0.02%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.2 A.U.	250 nm	<0.005 A.U.
220 nm	<0.1 A.U.	260 nm	<0.005 A.U.
230 nm	<0.05 A.U.	Fluorescence	Conform
240 nm	<0.01 A.U.		

Excitation in the range 250-750nm produces no fluorescence emission greater than the solvents natural Raman signal at 350nm excittation.This is equivalent to the emission maximum of approximately 1ppb quinine sulfate.
Lot analysis on the label (excluding fluorescence scan).
Filtered to 0.2 µm.

Methanol
HPLC for electrochemical detection
Certified

packaging		product code
2.5 L	Coated Glass Bottle	**M/4059/PB17**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.8%

Guaranteed analysis

Acidity	<0.0002 meq/g	Residue after evaporation	<5 ppm
Alkalinity	<0.0002 meq/g	Water	<0.02%
Electrochemical test	Conform		

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Methanol
for trace metal analysis
Primar

packaging		product code
2.5 L	Glass bottle	**M/4020/17**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.9%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Manganese (Mn)	<0.005 ppm
Colour	<5 APHA	Molybdenum (Mo)	<0.005 ppm
Residue after evaporation	<2 ppm	Nickel (Ni)	<0.005 ppm
Water	<0.05%	Potassium (K)	<0.05 ppm
Aluminium (Al)	<0.02 ppm	Silver (Ag)	<0.005 ppm
Barium (Ba)	<0.005 ppm	Sodium (Na)	<0.2 ppm
Cadmium (Cd)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Titanium (Ti)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Total phosphorus (P)	<0.02 ppm
Cobalt (Co)	<0.005 ppm	Total silicon (Si)	<0.02 ppm
Copper (Cu)	<0.01 ppm	Total sulphur (S)	<0.1 ppm
Iron (Fe)	<0.05 ppm	Vanadium (V)	<0.005 ppm
Lead (Pb)	<0.005 ppm	Zinc (Zn)	<0.01 ppm
Lithium (Li)	<0.005 ppm	Ethanol	<0.005%
Magnesium (Mg)	<0.02 ppm	Propan -2-ol	<0.002%

Methanol
for residue and pesticide analysis
Distol

Distol

packaging		product code
1 L	Glass bottle	**M/4053/15**
2.5 L	Glass bottle	**M/4053/17**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.9%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.1%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile: (1) 50°C, 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Methanol
extra dry, for synthesis

Dried distilled

packaging		product code
500 mL	Glass bottle	**M/4050/08**
1 L	Glass bottle	**M/4050/15**
2.5 L	Glass bottle	**M/4050/17**
2.5 L	Coated Glass Bottle	**M/4050/PB17**
25 L	Metal drum	**M/4050/25**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.9%

Guaranteed analysis

Residue after evaporation	<5 ppm	Water	<0.01%

Reagent for anhydrous Karl Fischer titration and non-aqueous peptide sequencing.
see page 279 for suitable Tap & accessories.

Methanol
for analysis
Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	**M/4000/15**
1 L	Coated Glass Bottle	**M/4000/PB15**
2.5 L	Glass bottle	**M/4000/17**
2.5 L	Coated Glass Bottle	**M/4000/PB17**
2.5 L	Plastic bottle	**M/4000/PC17**
5 L	Metal can	**M/4000/21**
25 L	Metal drum	**M/4000/25**
25 L	Plastic bottle	**M/4000/PC25**
25 L	Metal drum	**M/4000/DH25**
200 L	Metal drum	**M/4000/27**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.9%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<0.02 ppm
Colour	<5 APHA	Magnesium (Mg)	<0.05 ppm
Residue after evaporation	<10 ppm	Potassium (K)	<0.5 ppm
Substances darkened by (H_2SO_4)	<5 APHA	Sodium (Na)	<0.5 ppm
		Total phosphorus (P)	<0.05 ppm
Substances reducing $KMnO_4$	<0.00025%	Total silicon (Si)	<0.05 ppm
		Total sulphur (S)	<0.1 ppm
Water	<0.05%	Zinc (Zn)	<0.05 ppm
Calcium (Ca)	<0.2 ppm	Ethanol	<0.05 %
Copper (Cu)	<0.02 ppm	Propan--2-ol	<0.005 %
Iron (Fe)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.05 ppm	Molybdenum (Mo)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm
Manganese (Mn)	<0.01 ppm		

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Methanol
extra pure
SLR

Specified AR

packaging		product code
1 L	Glass bottle	**M/3950/15**
2.5 L	Glass bottle	**M/3950/17**
2.5 L	Coated Glass Bottle	**M/3950/PB17**
2.5 L	Plastic bottle	**M/3950/PC17**
5 L	Metal can	**M/3950/21**
25 L	Metal drum	**M/3950/25**
25 L	Plastic drum	**M/3950/PC25**
25 L	Metal drum	**M/3950/DH25**
200 L	Metal drum	**M/3950/27**

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 38220000
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<5 ppm
Colour	<10 APHA	Lead (Pb)	<2 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<1 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Potassium (K)	<2 ppm
		Sodium (Na)	<2 ppm
Substances reducing $KMnO_4$	<0.001%	Total phosphorus (P)	<1 ppm
		Total silicon (Si)	<1 ppm
Water	<0.2%	Total sulphur (S)	<1 ppm
Calcium (Ca)	<2 ppm	Zinc (Zn)	<1 ppm
Copper (Cu)	<2 ppm		

see page 279 for suitable Tap & accessories.

Methanol
Technical

packaging		product code
2.5 L	Glass bottle	M/3900/17
2.5 L	Coated Glass Bottle	M/3900/PB17
25 L	Metal drum	M/3900/25
200 L	Metal drum	M/3900/27

CH_3OH
CAS: 67-56-1
MW: 32.04
Density at 20°C: 0.79
Boiling point: 64.7°C
Boiling pressure: 760 mmHg
Melting point: -98°C
Flash point: 12°C

ADR/RID: 3(6.1)/II
UN: 1230
HS-Nr: 29051100
EINECS: 200-659-6
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

Assay (GC): >98%

see page 279 for suitable Tap & accessories.

Methenamine *See Hexamine, page 113*

L-Methionine
pure

packaging		product code
100 g	Plastic jar	M/4065/48

$CH_3S(CH_2)_2CHNH_2COOH$
CAS: 63-68-3

MW: 149.21
HS-Nr: 29304000
EINECS: 200-562-9

Assay: >95%

Methoxybenzene *See Anisole, page 32*

2-Methoxyethanol
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	M/4101/08
2.5 L	Coated Glass Bottle	M/4101/PB17
25 L	Metal drum	M/4101/25

$C_3H_8O_2$
CAS: 109-86-4
MW: 76.09
Density at 20°C: 0.96
Boiling point: 124°C
Boiling pressure: 760 mmHg
Melting point: -85°C

Flash point: 38°C
ADR/RID: 3/III
UN: 1188
HS-Nr: 29094400
EINECS: 203-713-7
Risk: R61, R10, R20/21/22, R60
Safety: S53, S45

T

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0008 meq/g	Magnesium (Mg)	<0.1 ppm
Colour	<10 APHA	Potassium (K)	<1 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<1 ppm
Substance consuming iodine	<0.005%	Total phosphorus (P)	<0.1 ppm
Water	<0.1%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<0.2 ppm
Copper (Cu)	<0.5 ppm	Zinc (Zn)	<1 ppm
Iron (Fe)	<1 ppm	Peroxide	<0.001 %
Lead (Pb)	<0.5 ppm		

Typical analysis

Aluminium (Al)	<0.2 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.05 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

2-Methoxyethanol
extra pure — SLR

packaging		product code
1 L	Glass bottle	M/4100/15
2.5 L	Coated Glass Bottle	M/4100/PB17

$C_3H_8O_2$
CAS: 109-86-4
MW: 76.09
Density at 20°C: 0.96
Boiling point: 124°C
Boiling pressure: 760 mmHg
Melting point: -85°C

Flash point: 38°C
ADR/RID: 3/III
UN: 1188
HS-Nr: 29094400
EINECS: 203-713-7
Risk: R61, R10, R20/21/22, R60
Safety: S53, S45

T

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<5 ppm
Water	<0.3%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<10 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<5 ppm		

2-Methoxyphenol *See Guaiacol, page 110*

Methyl acetate
extra pure — SLR

packaging		product code
500 mL	Glass bottle	M/4150/08
2.5 L	Glass bottle	M/4150/17

$C_3H_6O_2$
CAS: 79-20-9
MW: 74.08
Density at 20°C: 0.93
Boiling point: 57.4°C
Boiling pressure: 760 mmHg
Melting point: -98°C

Flash point: -10°C
ADR/RID: 3/II
UN: 1231
HS-Nr: 29153930
EINECS: 201-185-7
Risk: R11, R36, R66, R67
Safety: S16, S26, S29, S33

F Xi

Assay: >98%

Guaranteed analysis

Acidity	<0.0003 meq/g	Residue after evaporation	<100 ppm

4-Methylamino phenol sulphate
extra pure — SLR

packaging		product code
250 g	Plastic jar	M/5400/50

$C_{14}H_{18}N_2O_2.H_2SO_4$
CAS: 55-55-0
MW: 344.38
Density at 20°C: 1.58
Melting point: 260 °C
ADR/RID: 9/III

UN: 3077
HS-Nr: 29222900
EINECS: 200-237-1
Risk: R22, R43, R48/22, R50/53
Safety: S36/37, S46, S60, S61

Xn N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm

4-Methylaniline *See p-Toluidine, page 292*

Methylbenzene *See Toluene, page 291*

Methyl benzoate
extra pure SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	M/4460/PB08
2.5 L	Coated Glass Bottle	M/4460/PB17

$C_8H_8O_2$
CAS: 93-58-3
MW: 136.15
Density at 20°C: 1.07 to 1.09
Boiling point: 198 to 199°C
Boiling pressure: 760 mmHg
Melting point: -12°C
Flash point: 82°C
HS-Nr: 38220000
EINECS: 202-259-7
Risk: R22

Xn

Assay (GC): >98.5%

4-Methylbenzoic acid
See p-Toluic acid, page 292

Methyl blue C.I. 42780
pure

packaging		product code
25 g	Glass packaging	M/4475/46

HS-Nr: 38220000

Guaranteed analysis
IR Analysis ..... Conform

2-Methylbutan-2-ol
extra pure SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	M/4480/PB08

$C_5H_{12}O$
CAS: 75-85-4
MW: 88.15
Density at 20°C: 0.8
Boiling point: 102°C
Boiling pressure: 760 mmHg
Melting point: -12°C
Flash point: 20°C
ADR/RID: 3/II
UN: 1105
HS-Nr: 38220000
EINECS: 200-908-9
Risk: R11, R20, R37/38
Safety: S46

F Xn

Assay (GC): >98%

3-Methylbutyric acid
See iso-Valeric acid, page 300

Methyl cyanide
See Acetonitrile, page 7

Methylcyclohexane
extra pure SLR

Specified

packaging		product code
2.5 L	Glass bottle	M/4650/17
200 L	Metal drum	M/4650/27

C_7H_{14}
CAS: 108-87-2
MW: 98.19
Density at 20°C: 0.769 to 0.773
Boiling point: 101°C
Boiling pressure: 760 mmHg
Melting point: -126.3°C
Flash point: -3°C
ADR/RID: 3/II
UN: 2296
HS-Nr: 29021980
EINECS: 203-624-3
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S33, S61, S62

F Xn N

Assay (GC): >98%

see page 279 for suitable Tap & accessories.

Methyldiglycol
extra pure SLR

Specified

packaging		product code
1 L	Glass bottle	M/4720/15

$C_5H_{12}O_3$
CAS: 111-77-3
MW: 120.15
Density at 20°C: 1.015 to 1.022
Boiling point: 194°C
Boiling pressure: 760 mmHg
Melting point: -70°C
Flash point: 83°C
HS-Nr: 29094918
EINECS: 203-906-6
Risk: R63
Safety: S36/37

Xn

Assay (GC): >98%

Methylene blue C.I. 52015
pure, Biological stain

packaging		product code
25 g	Glass packaging	M/P206/46

$C_{16}H_{18}ClN_3S$
CAS: 61-73-4
MW: 319.85
Melting point: 190 °C
HS-Nr: 32041900
EINECS: 200-515-2
Risk: R22
Safety: S26, S36/37/39

Xn

Suitable as a stain in electrophoresis. Especially sensitive for RNA.

Methylene blue solid C.I. 52015
pure, Redox indicator

packaging		product code
10 g	Glass packaging	M/4870/45
25 g	Glass packaging	M/4870/46

$C_{16}H_{18}ClN_3S$
CAS: 61-73-4
MW: 319.85
Melting point: 190 °C
HS-Nr: 32041300
EINECS: 200-515-2
Risk: R22
Safety: S26, S36/37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

Methylene blue dihydrate
extra pure, C.I. 52015 SLR

Specified

packaging		product code
100 g	Glass packaging	M/4850/48

$C_{16}H_{18}ClN_3S.2H_2O$
CAS: 61-73-4
MW: 355.89
Melting point: 190 °C
HS-Nr: 32041300
EINECS: 200-515-2
Risk: R22
Safety: S26, S36/37/39

Xn

Guaranteed analysis
Loss on drying ..... 8 to 15%
Lead (Pb) ..... <20 ppm
Iron (Fe) ..... <500 ppm

Methylene blue solution 0.015%
pure, Redox indicator

packaging		product code
500 mL	Glass bottle	M/4870L/08

HS-Nr: 38220000

Methylene iodide
See Di-iodomethane, page 87

Methyl green C.I. 42585
pure, Biological stain

packaging		product code
25 g	Glass packaging	M/P205/46

HS-Nr: 38220000

Guaranteed analysis
IR Analysis ..... Conform

Methyl hydroxybenzoate
See Methyl salicylate, page 168

Methyl iodide
See Iodomethane, page 130

Methyl isobutyl ketone
See 4-Methylpentan-2-one, page 166

Methyl methacrylate
extra pure, stabilized with quinol — SLR

Specified

packaging		product code
500 mL	Glass bottle	M/4950/08
2.5 L	Glass bottle	M/4950/17

$C_5H_8O_2$
CAS: 80-62-6
MW: 100.12
Density at 20°C: 0.93
Boiling point: 100°C
Boiling pressure: 760 mmHg
Melting point: -48°C

Flash point: 8°C
ADR/RID: 3/II
UN: 1247
HS-Nr: 38220000
EINECS: 201-297-1
Risk: R11, R37/38, R43
Safety: S24, S37, S46

F Xi

Assay (GC): >99.5%

Guaranteed analysis
Water ..... <0.1%

Methyl orange solid C.I. 13025
pure, indicator grade

packaging		product code
25 g	Glass packaging	M/5000/46
100 g	Glass packaging	M/5000/48

$C_{14}H_{14}N_3NaO_3S$
CAS: 547-58-0
MW: 327.34
Melting point: >300°C
ADR/RID: 6.1/III

UN: 3143
HS-Nr: 29270000
EINECS: 208-925-3
Risk: R25
Safety: S28A, S45

T

Guaranteed analysis
IR Analysis ..... Conform

pH 2.9-4.6 red-orange to yellow-orange.

Methyl orange solution 0.04%
pure, indicator grade

packaging		product code
500 mL	Glass bottle	M/5000L/08

UN: 1170
HS-Nr: 38220000
Risk: R10
Safety: S16, S24/25

F

Guaranteed analysis
At pH 20°C ..... 6.5 to 8 Sensitivity (according to standard CAC) ..... Conform

pH 2.9-4.6 red-orange to yellow-orange.

Methyl orange-xylene cyanol FF
pure, indicator grade

packaging		product code
500 mL	Glass bottle	M/5020L/08

ADR/RID: 8/III
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S16, S24/25

F

pH 2.9-4.6 red to green.
Solution methyl orange 0.2% / xylene cyanol 0.28%

2-Methylpentan-2.4-diol
extra pure — SLR

Specified

packaging		product code
500 mL	Glass bottle	M/5050/08

$C_6H_{14}O_2$
CAS: 107-41-5
MW: 118.18
Density at 20°C: 0.92 to 0.925
Boiling point: 197°C
Boiling pressure: 760 mmHg

Melting point: -40°C
Flash point: 93°C
HS-Nr: 29053910
EINECS: 203-489-0
Risk: R36/38

Xi

Assay (GC): >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.427 to 1.428

4-Methylpentan-2-one
for AAS

packaging		product code
500 mL	Glass bottle	M/5080/08
2.5 L	Glass bottle	M/5080/17

$C_6H_{12}O$
CAS: 108-10-1
MW: 100.16
Density at 20°C: 0.798 to 0.802
Boiling point: 117.4°C
Melting point: -84°C
Flash point: 14°C

ADR/RID: 3/II
UN: 1245
HS-Nr: 29141300
EINECS: 203-550-1
Risk: R11, R20, R36/37, R66
Safety: S9, S16, S23C, S29, S33

F Xn

Guaranteed analysis

Calcium (Ca)	<0.05 ppm	Magnesium (Mg)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Copper (Cu)	<0.02 ppm	Potassium (K)	<0.05 ppm
Iron (Fe)	<0.05 ppm	Sodium (Na)	<0.1 ppm
Lead (Pb)	<0.02 ppm	Zinc (Zn)	<0.1 ppm

4-Methylpentan-2-one
for analysis — Certified AR

Certified

packaging		product code
1 L	Glass bottle	M/5085/15
1 L	Coated Glass Bottle	M/5085/PB15
2.5 L	Glass bottle	M/5085/17
2.5 L	Coated Glass Bottle	M/5085/PB17
200 L	Metal drum	M/5085/27

$C_6H_{12}O$
CAS: 108-10-1
MW: 100.16
Density at 20°C: 0.8
Boiling point: 117.4°C
Boiling pressure: 760 mmHg
Melting point: -84°C

Flash point: 14°C
ADR/RID: 3/II
UN: 1245
HS-Nr: 29141300
EINECS: 203-550-1
Risk: R11, R20, R36/37, R66
Safety: S9, S16, S29

F Xn

Assay (GC): >99%

Guaranteed analysis

Acetone	<0.1%	Magnesium (Mg)	<0.05 ppm
Acidity / Alkalinity	<0.0002 meq/g	Potassium (K)	<0.1 ppm
Butanone	<0.2%	Sodium (Na)	<0.5 ppm
Colour	<10 APHA	Total phosphorus (P)	<0.05 ppm
Residue after evaporation	<10 ppm	Total silicon (Si)	<0.02 ppm
Water	<0.1%	Total sulphur (S)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Zinc (Zn)	<0.05 ppm
Copper (Cu)	<0.02 ppm	2-Hexanol	<0.2 %
Iron (Fe)	<0.1 ppm	4-methyl -3-pentèn -2-one	<0.05 %
Lead (Pb)	<0.02 ppm	Pentan -2-one	<0.2 %

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

4-Methylpentan-2-one SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	M/5078/08
500 mL	Coated Glass Bottle	M/5078/PB08
1 L	Glass bottle	M/5078/15
2.5 L	Glass bottle	M/5078/17
2.5 L	Coated Glass Bottle	M/5078/PB17
5 L	Metal can	M/5078/21
25 L	Metal drum	M/5078/25

$C_6H_{12}O$
CAS: 108-10-1
MW: 100.16
Density at 20°C: 0.8
Boiling point: 117.4°C
Boiling pressure: 760 mmHg
Melting point: -84°C

Flash point: 14°C
ADR/RID: 3/II
UN: 1245
HS-Nr: 29141300
EINECS: 203-550-1
Risk: R11, R20, R36/37, R66
Safety: S9, S16, S29

F Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<2 ppm
Water	<0.2%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<1 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

2-Methylphenol
See o-Cresol, page 76

4-Methylphenol
See p-Cresol, page 76

3-Methylphenol
See m-Cresol, page 76

2-Methyl-2-propanol
See tert-Butyl alcohol, page 50

2-Methylpropyl acetate
See iso-Butyl acetate, page 51

Methyl propyl carbinol
See Pentan-2-ol, page 185

N-Methylpyrrolidone
See 1-Methyl-2-pyrrolidinone, page 168

Methyl red spirit soluble C.I. 13020
pure, indicator grade

packaging		product code
10 g	Glass packaging	M/5150/45
25 g	Glass packaging	M/5150/46

$C_{15}H_{15}N_3O_2$
CAS: 493-52-7
MW: 269.3
Melting point: 178 to 182°C

HS-Nr: 38220000
EINECS: 207-776-1
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

pH 4.2-6.3 red to yellow.

Methyl red solid water soluble
pure, indicator grade

packaging		product code
5 g	Glass packaging	M/5170/44
100 g	Glass packaging	M/5170/48

$C_{15}H_{15}N_3O_2$
CAS: 493-52-7
MW: 269.3
Melting point: 178 to 182°C

HS-Nr: 29270000
EINECS: 212-682-9
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

pH 4.2-6.3 red to yellow.

Methyl red solution 0.01% water soluble
pure, indicator grade

packaging		product code
500 mL	Glass bottle	M/5171L/08

ADR/RID: 3/III
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S16, S24/25

F

Guaranteed analysis
At pH 20°C ..... 1.95 to 2.05

pH 4.2-6.3 red to yellow.
In solution in water 81%, ethanol 15% and methanol 4%.

Methyl red solution 0.01% spirit soluble
pure, indicator grade

packaging		product code
500 mL	Glass bottle	M/5150L/08

ADR/RID: 3/III
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S16, S24/25

F

pH 4.2-6.3 red to yellow.
In solution 50% ethanol 45% water and 5% methanol.

Methyl red solution 0.025% water soluble
pure, indicator grade

packaging		product code
500 mL	Glass bottle	M/5170L/08

ADR/RID: 3/III
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S16, S24/25

F

pH 4.2-6.3 red to yellow.
In solution 81% water, 15% ethanol and 4% methanol.

Methyl violet 2B (basic violet) C.I. 42535
pure, indicator grade

packaging		product code
10 g	Glass packaging	M/5345/45

$C_{24}H_{28}ClN_3$
CAS: 8004-87-3
MW: 393.95
Melting point: 137 °C
ADR/RID: 6.1/III

UN: 3077
HS-Nr: 32041300
Risk: R25, R40, R41
Safety: S53, S45

T

Guaranteed analysis
IR Analysis ..... Conform

Methyl violet (crystal violet) C.I. 42555
pure, indicator grade

packaging		product code
100 g	Glass packaging	M/5350/48

CAS: 548-62-9
ADR/RID: 6.1/III
UN: 3077
HS-Nr: 32041300

EINECS: 208-953-6
Risk: R25, R40, R41
Safety: S53, S45

Xn N

Methyl violet solid (crystal violet) C.I. 42555
pure, indicator grade

packaging		product code
10 g	Glass Jar	M/5370/45
25 g	Glass Jar	M/5370/46

$C_{25}H_{30}ClN_3$
CAS: 548-62-9
MW: 407.97
Melting point: 215 °C
ADR/RID: 6.1/III

UN: 3077
HS-Nr: 32041300
EINECS: 208-953-6
Risk: R45, R22, R41, R50/53
Safety: S53, S45, S60, S61

Xn N

pH 0.1-3.2 yellow to purple.

Methyl violet 1% aqueous solution (crystal violet) C.I 42555
pure, indicator grade

packaging		product code
500 mL	Glass bottle	M/5370L/08

HS-Nr: 38220000

Guaranteed analysis
At pH 20°C ..... 3 to 5

pH 0.1-3.2 yellow to purple.

1-Methyl-2-pyrrolidinone
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	M/5125/08

C_5H_9NO
CAS: 872-50-4
MW: 99.13
Density at 20°C: 1.03
Boiling point: 202°C
Boiling pressure: 760 mmHg

Melting point: -24°C
Flash point: 91°C
HS-Nr: 29337900
EINECS: 212-828-1
Risk: R61, R36/37/38
Safety: S53, S26, S37/39, S45

T

Assay (GC): >99.7%

Guaranteed analysis

Residue after ignition	<0.01%	Potassium (K)	<1 ppm
Water	<0.05%	Sodium (Na)	<5 ppm
Calcium (Ca)	<1 ppm	Total phosphorus (P)	<0.5 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<0.1 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<0.2 ppm
Magnesium (Mg)	<0.5 ppm		

Typical analysis

Aluminium (Al)	<0.5 ppm	Manganese (Mn)	<0.1 ppm
Barium (Ba)	<0.1 ppm	Molybdenum (Mo)	<0.1 ppm
Cadmium (Cd)	<0.1 ppm	Nickel (Ni)	<0.1 ppm
Chromium (Cr)	<0.1 ppm	Strontium (Sr)	<0.1 ppm
Cobalt (Co)	<0.1 ppm	Titanium (Ti)	<0.1 ppm
Lithium (Li)	<0.1 ppm	Vanadium (V)	<0.1 ppm

Lot analysis on the label.

1-Methyl-2-pyrrolidinone
extra pure — SLR

packaging		product code
100 mL	Glass bottle	M/5120/05
500 mL	Glass bottle	M/5120/08

C_5H_9NO
CAS: 872-50-4
MW: 99.13
Density at 20°C: 1.03
Boiling point: 202°C
Boiling pressure: 760 mmHg

Melting point: -24°C
Flash point: 91°C
HS-Nr: 29337900
EINECS: 212-828-1
Risk: R61, R36/37/38
Safety: S53, S26, S37/39, S45

T

Assay (GC): >99%

Guaranteed analysis

Residue after ignition	<0.1%	Potassium (K)	<5 ppm
Water	<0.2%	Sodium (Na)	<20 ppm
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<2 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<2 ppm		

Methyl salicylate
extra pure — SLR

packaging		product code
500 mL	Coated Glass Bottle	M/5200/PB08
2.5 L	Coated Glass Bottle	M/5200/PB17

$C_8H_8O_3$
CAS: 119-36-8
MW: 152.15
Density at 20°C: 1.18
Boiling point: 222°C
Boiling pressure: 760 mmHg

Melting point: -8 to 7°C
Flash point: 110°C
HS-Nr: 29182310
EINECS: 204-317-7
Risk: R22, R36/38
Safety: S24/25

Xn

Assay (GC): >99%

Guaranteed analysis
Acidity ..... <0.01 meq/g

MIBK
See 4-Methylpentan-2-one, page 166

Millon's reagent
pure

packaging		product code
100 mL	Coated Glass Bottle	J/5300/PB05

ADR/RID: 6.1/II
UN: 2024
HS-Nr: 38220000

Risk: R26/27/28, R33, R35, R50/53
Safety: S28, S45, S60, S61

C N T+

Mohr's salt
See Ammonium Iron(II) Sulfate hexahydrate, page 26

Molecular sieve type 13X (10A)
pure

packaging		product code
500 g	Plastic jar	MS/1070/53

CAS: 1318-02-1
HS-Nr: 38220000

Particle size 1.6-2.5 mm.
Density 0.71 g / mL.

Molecular sieve type 13X (10A)
pure

packaging		product code
500 g	Plastic jar	MS/1060/53

CAS: 1318-02-1
HS-Nr: 38220000

Porosity 10 Angstroms.
Particle size 2.5-5.0 mm.
Density 0.70 g / mL.

Molecular sieve type 4A
pure

packaging		product code
500 g	Plastic jar	MS/1030/53
2.5 kg	Plastic jar	MS/1030/62

CAS: 1318-02-1
HS-Nr: 38220000

Particle size 1.6-2.5 mm.
Density 0.74 g / mL.

Molecular sieve type 4A
pure

packaging		product code
500 g	Plastic jar	**MS/1020/53**
2.5 kg	Plastic jar	**MS/1020/62**

CAS: 1318-02-1
HS-Nr: 38220000

Porosity 4 Angstroms.
Particle size 2.5-5.0 mm.
Density 0.72 g / mL.

Molecular sieve type 3A
pure

packaging		product code
250 g	Plastic jar	**MS/1010/50**
500 g	Plastic jar	**MS/1010/53**

CAS: 1318-02-1
HS-Nr: 25120000

Porosity 3 Angstroms.
Density 0.74 g / mL.
Particle size 1.6-2.5 mm.

Molybdenum standard metal solution 1000 ppm
for AAS, solution HNO_3 0.1M

packaging		product code
100 mL	Plastic bottle	**J/8050/05**
500 mL	Plastic bottle	**J/8050/08**

HS-Nr: 81021000

Guaranteed analysis
Value between ..... 0.995 to 1.005

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Molybdenum standard metal solution 1000 ppm
for ICP, solution NH3 0.1M

packaging		product code
500 mL	Plastic bottle	**J/8296/08**

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

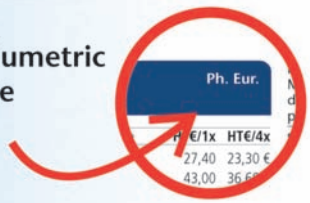
Molybdenum standard metal solution 10 000 ppm
for ICP, solution NH3 1%

packaging		product code
100 mL	Plastic bottle	**J/8294/05**

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191



Molybdenum standard metal solution 1000 ppm
for ICP solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLMO92Y**
250 mL	Plastic bottle	**SPPLMO92T**
500 mL	Plastic bottle	**SPPLMO92X**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Molybdenum standard metal solution 10 000 ppm
for ICP solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLMO93Y**
500 mL	Plastic bottle	**SPPLMO93X**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Molybdenum standard metal solution 1000 ppm
for ICP-MS solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPCLMO92Y**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

dodeca-Molybdophosphoric acid
pure

packaging		product code
100 g	Plastic jar	**M/5650/48**

$H_3Mo_{12}O_{40}P.xH_2O$
CAS: 51429-74-4
MW: 1825.25
ADR/RID: 8/III
UN: 3085
HS-Nr: 28111900
Risk: R34
Safety: S26, S36/37/39, S45
C

Guaranteed analysis
Iron (Fe) ..... <200 ppm
Lead (Pb) ..... <100 ppm
Total sulphur (S) ..... <1000 ppm

MonoFax 057 surfactant
pure, (mono and di-phosphate esters)

packaging		product code
500 mL	Coated Glass Bottle	**M/5715/PB08**

ADR/RID: 8/III
UN: 1760
HS-Nr: 34021300
Risk: R22, R36/38
Safety: S26
Xn

Mordant Black 11 *See Eriochrome black T, page 95*

Mordant Blue 3 *See Eriochrome cyanine R, page 95*

Mordant Red 11 *See Alizarin C.I. 58000, page 11*

Morpholine
pure

packaging		product code
500 mL	Coated Glass Bottle	M/5750/PB08

C_4H_9NO
CAS: 110-91-8
MW: 87.12
Density at 20°C: 0.99
Boiling point: 129°C
Boiling pressure: 760 mmHg
Melting point: -5°C

Flash point: 38°C
ADR/RID: 3(8)/I
UN: 2054
HS-Nr: 29349990
EINECS: 203-815-1
Risk: R10, R20/21/22, R34
Safety: S23, S36, S45

C

Assay (GC): >99%

2-(N-Morpholino)ethane-sulfonic acid
extra pure SLR

Specified LR

packaging		product code
100 g	Plastic Jar	M/5760/48

$C_6H_{13}NO_4S.H_2O$
CAS: 145224-94-8
MW: 213.25

Melting point: >300°C
HS-Nr: 29349990
Safety: S24/25

Assay: >99%

Guaranteed analysis

Residue after ignition	<0.2%	Lead (Pb)	<10 ppm
Iron (Fe)	<5 ppm	Sulfate (SO_4)	<0.01%

Naphtha solvent
Technical

packaging		product code
2.5 L	Coated Glass Bottle	N/0050/PB17
25 L	Metal drum	N/0050/25

CAS: 8030-30-6
Density at 20°C: 0.8 to 0.9
ADR/RID: 3/III
UN: 1268
HS-Nr: 29159000

EINECS: 232-443-2
Risk: R10, R20/21, R38
Safety: S24/25, S16, S23, S29, S33

Xn F

see page 279 for suitable Tap & accessories.

Naphthalene
extra pure SLR

Specified LR

packaging		product code
500 g	Glass packaging	N/0150/53

$C_{10}H_8$
CAS: 91-20-3
MW: 128.17
Density at 20°C: 0.99
Boiling point: 218°C
Boiling pressure: 760 mmHg
Melting point: 79 to 83°C

Flash point: 78°C
ADR/RID: 4.1/III
UN: 1334
HS-Nr: 38220000
EINECS: 202-049-5
Risk: R22, R40, R50/53
Safety: S36/37, S46, S60, S61

Xn N

Assay (GC): >99%

Guaranteed analysis

Melting Point tested	79.6 to 80.2°C	Residue after evaporation	<500 ppm

Naphthalene black 10B
Technical

packaging		product code
10 g	Glass Jar	N/0211/45

$C_{22}H_{14}N_6Na_2O_9S_2$
CAS: 1064-48-8
MW: 616.48

HS-Nr: 32041200
EINECS: 213-903-1
Risk: R20/21, R33

Xn

Naphthalene-2-sulfonic acid sodium salt
for Ion pair chromatography

HPLC

packaging		product code
25 g	Plastic jar	N/0216/46

$C_{10}H_7NaO_3S$
CAS: 532-02-5
MW: 230.22
HS-Nr: 29041000

EINECS: 208-523-8
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

1.2-Naphthaquinone-4-sulfonic acid sodium salt
pure

packaging		product code
25 g	Glass packaging	N/0230/46

$C_{10}H_5NaO_5S$
CAS: 521-24-4
MW: 260.19
Melting point: 289 °C

HS-Nr: 29146900
EINECS: 208-308-9
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

1-Naphthol
for analysis Certified AR

AR

packaging		product code
100 g	Glass packaging	N/0350/48

$C_{10}H_8O$
CAS: 90-15-3
MW: 144.17
Boiling point: 278 to 280°C
Boiling pressure: 760 mmHg
Melting point: 95 to 97°C
Flash point: 125°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29071500
EINECS: 201-969-4
Risk: R21/22, R37/38, R41
Safety: S22, S26, S37/39

Xn

Assay (GC): >99%

Guaranteed analysis

Insoluble matter (in alcohol)	<0.01%	Nickel (Ni)	<2 ppm
Aluminium (Al)	<2 ppm	Potassium (K)	<10 ppm
Barium (Ba)	<2 ppm	Sodium (Na)	<20 ppm
Cadmium (Cd)	<2 ppm	Titanium (Ti)	<2 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005%
Chromium (Cr)	<2 ppm	Total phosphorus (P)	<5 ppm
Cobalt (Co)	<2 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<5 ppm	Vanadium (V)	<2 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<5 ppm
Lithium (Li)	<2 ppm	2-Naphthol	<0.5%
Magnesium (Mg)	<10 ppm	Naphthalene	<0.1%
Manganese (Mn)	<2 ppm		

1-Naphthol
extra pure SLR

Specified LR

packaging		product code
250 g	Glass packaging	N/0300/50

$C_{10}H_8O$
CAS: 90-15-3
MW: 144.17
Boiling point: 278 to 280°C
Boiling pressure: 760 mmHg
Melting point: 95 to 97°C
Flash point: 125°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29071500
EINECS: 201-969-4
Risk: R21/22, R37/38, R41
Safety: S22, S26, S37/39

Xn

Assay (GC): >97%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

2-Naphthol SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	N/0400/53

$C_{10}H_8O$
CAS: 135-19-3
MW: 144.17
Boiling point: 285 to 286°C
Boiling pressure: 760 mmHg
Melting point: 120 to 124°C
Flash point: 160°C

ADR/RID: 6.1/I
UN: 2811
HS-Nr: 29071500
EINECS: 205-182-7
Risk: R20/22, R50
Safety: S24/25, S61

Xn N

Assay (GC): >97%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

p-Naphtholbenzein
pure, indicator grade

packaging		product code
25 g	Glass packaging	N/0500/46

$C_{27}H_{18}O_2$
CAS: 145-50-6
MW: 374.44

HS-Nr: 29072900
EINECS: 205-656-3
Safety: S24/25

pH 8.5-9.8 yellow to green.

1-Naphthylamine-7-sulfonic acid SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	N/0910/48

$C_{10}H_6(NH_2).SO_3H$
CAS: 119-28-8
MW: 223.25
ADR/RID: 8/III
UN: 2585

HS-Nr: 29214500
EINECS: 204-311-4
Risk: R36/38
Safety: S22

Xi

Guaranteed analysis

IR Analysis ..... Conform

N-1-Naphthylethylene diamine dihydrochloride Certified AR
for analysis

AR

packaging		product code
5 g	Glass packaging	N/1252/44
10 g	Glass packaging	N/1252/45

$C_{12}H_{14}N_2.2HCl$
CAS: 1465-25-4
MW: 259.18
Melting point: 200 °C

HS-Nr: 29291090
EINECS: 215-981-2
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Residue after ignition ..... <0.05% Sensitivity to sulphanilamide ..... Conform

Lot analysis on the label.

N-1-Naphthylethylene diamine dihydrochloride SLR
extra pure

Specified

packaging		product code
10 g	Glass packaging	N/1250/45
100 g	Glass packaging	N/1250/48

$C_{12}H_{14}N_2.2HCl$
CAS: 1465-25-4
MW: 259.18
Melting point: 200 °C

HS-Nr: 29215900
EINECS: 215-981-2
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >97%

Guaranteed analysis

Sensitivity to sulphanilamide ..... Conform

Neodymium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLND22Y
500 mL	Plastic bottle	SPPLND22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nessler's solution
pure, for detection and determination of ammonia and ammonium salts

packaging		product code
500 mL	Coated Glass Bottle	J/5500/PB08
1 L	Coated Glass Bottle	J/5500/PB15

ADR/RID: 8(6.1)
UN: 2922
HS-Nr: 38220000

Risk: R25, R48/20/21, R33, R35, R52/53
Safety: S28, S45, S60, S61

C T+

Neutral red C.I 50040
pure, indicator grade

packaging		product code
5 g	Glass packaging	N/1270/44

$C_{15}H_{17}ClN_4$
CAS: 553-24-2
MW: 288.77
Melting point: 290 °C

HS-Nr: 32041300
EINECS: 209-035-8
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Nickel standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8055/05
500 mL	Plastic bottle	J/8055/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nickel standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8297/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nickel standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8295/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nickel standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLNI22Y
250 mL	Plastic bottle	SPPLNI22T
500 mL	Plastic bottle	SPPLNI22X

Density at 20°C: 1.02
Risk: R36/38
Safety: S26
Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nickel standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLNI23Y
500 mL	Plastic bottle	SPPLNI23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nickel standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLNI22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nickel metal powder
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	N/1300/50

Ni
CAS: 7440-02-0
MW: 58.7
Density at 20°C: 8.9
Boiling point: 2732 to 2837°C
Boiling pressure: 760 mmHg
Melting point: 1455°C
ADR/RID: 4.1/II
UN: 3089
HS-Nr: 75040000
EINECS: 231-111-4
Risk: R40, R43
Safety: S22, S36
Xn

Nickel metal sheet
pure, about 0.5 mm

packaging		product code
100 g	Leaf	N/1370/48
250 g	Leaf	N/1370/50

Ni
CAS: 7440-02-0
MW: 58.7
Density at 20°C: 8.9
Boiling point: 2732 to 2837°C
Boiling pressure: 760 mmHg
Melting point: 1455°C
HS-Nr: 38220000
EINECS: 231-111-4
Risk: R40, R43
Safety: S22, S36
Xn

Nickel metal pellets
pure

packaging		product code
250 g	Plastic jar	N/1320/50

Ni
CAS: 7440-02-0
MW: 58.7
Density at 20°C: 8.9
Boiling point: 2732 to 2837°C
Boiling pressure: 760 mmHg
Melting point: 1455°C
ADR/RID: 4.3/III
UN: 2813
HS-Nr: 38220000
EINECS: 231-111-4
Risk: R40, R43
Safety: S22, S36
Xn

Nickel-aluminium alloy
pure, powder for preparing catalytic nickel

packaging		product code
250 g	Plastic Jar	N/1460/50

UN: 2813
HS-Nr: 75040000
Risk: R40, R43
Safety: S22, S36
Xn

Nickel(II) carbonate tetrahydrate
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	N/1550/50
500 g	Plastic jar	N/1550/53

approx.$CH_4Ni_3O_7.4H_2O$
CAS: 12607-70-4
HS-Nr: 28369919
EINECS: 235-715-9
Risk: R20/22, R40, R43, R50/53
Safety: S22, S36/37, S60, S61
Xn
N

Nickel(II) chloride hexahydrate
for analysis — Certified AR

AR

packaging		product code
250 g	Plastic jar	N/1650/50
1 kg	Plastic jar	N/1650/60

$NiCl_2.6H_2O$
CAS: 7791-20-0
MW: 237.71
ADR/RID: 6.1/III
UN: 3288
HS-Nr: 28369919
EINECS: 231-743-0
Risk: R45, R25, R43, R50/53
Safety: S53, S24, S29, S37, S45, S61
T
N

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	3 to 7	Magnesium (Mg)	<20 ppm
Aluminium (Al)	<0.001%	Potassium (K)	<50 ppm
Barium (Ba)	<0.001%	Silver (Ag)	<0.001%
Cadmium (Cd)	<0.001%	Sodium (Na)	<100 ppm
Calcium (Ca)	<50 ppm	Strontium (Sr)	<0.001%
Chromium (Cr)	<0.001%	Titanium (Ti)	<0.001%
Cobalt (Co)	<50 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<10 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<20 ppm	Vanadium (V)	<0.001%
Lithium (Li)	<0.001%	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Nickel(II) chloride hexahydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	N/1600/53

$NiCl_2.6H_2O$
CAS: 7791-20-0
MW: 237.71
ADR/RID: 6.1/III
UN: 3288

HS-Nr: 28273500
EINECS: 231-743-0
Risk: R45, R25, R43, R50/53
Safety: S53, S24, S29, S37, S45, S61

T N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Potassium (K)	<500 ppm
Cobalt (Co)	<2000 ppm	Sodium (Na)	<2000 ppm
Copper (Cu)	<100 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<200 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<200 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm

Nickel(II) nitrate hexahydrate
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	N/1750/50
500 g	Plastic jar	N/1750/53

$Ni(NO_3)_2.6H_2O$
CAS: 13478-00-7
MW: 290.79
Density at 20°C: 2.05
Boiling point: 137°C
Boiling pressure: 760 mmHg
Melting point: 56.7°C

ADR/RID: 5.1/III
UN: 2725
HS-Nr: 28342910
EINECS: 236-068-5
Risk: R8, R22, R40
Safety: S17, S36/37, S45

O Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Sodium (Na)	<1000 ppm
Cobalt (Co)	<2000 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<100 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<200 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<200 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<500 ppm		

Nickel(II) oxide (black)
pure

packaging		product code
500 g	Plastic jar	N/1850/53

NiO
CAS: 1313-99-1
MW: 74.71
Density at 20°C: 6.67
Melting point: 1960°C
ADR/RID: 6.1/III

UN: 3288
HS-Nr: 28254000
EINECS: 215-215-7
Risk: R49, R43, R53
Safety: S53, S45, S61

T

Nickel(II) sulfate hexahydrate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	N/2051/50

$NiSO_4.6H_2O$
CAS: 10101-97-0
MW: 262.85
Melting point: 53°C
ADR/RID: 9/III

UN: 3077
HS-Nr: 38220000
Risk: R22, R40, R42/43, R50/53
Safety: S22, S36/37, S60, S61

Xn N

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	4 to 6	Potassium (K)	<50 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Cobalt (Co)	<50 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<10 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<20 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<0.001 %	Silver (Ag)	<0.001 %
Barium (Ba)	<0.001 %	Strontium (Sr)	<0.001 %
Cadmium (Cd)	<0.001 %	Titanium (Ti)	<0.001 %
Chromium (Cr)	<0.001 %	Vanadium (V)	<0.001 %
Lithium (Li)	<0.001 %		

Lot analysis on the label.

Nickel(II) sulfate hexahydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	N/2000/53
1 kg	Plastic jar	N/2000/60

$NiSO_4.6H_2O$
CAS: 10101-97-0
MW: 262.85
Melting point: 53°C
ADR/RID: 6.1/III

UN: 3077
HS-Nr: 28332400
Risk: R22, R40, R42/43, R50/53
Safety: S22, S36/37, S60, S61

Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Potassium (K)	<500 ppm
Cobalt (Co)	<2000 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<200 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm

Nicotinic acid
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	N/2110/50

$C_6H_5NO_2$
CAS: 59-67-6
MW: 123.11
Melting point: 234 to 238°C

HS-Nr: 29369090
EINECS: 200-441-0
Risk: R36
Safety: S26, S39

Xi

Assay: >99.5%

Guaranteed analysis

Melting Point tested	234 to 237°C	Water	<1%
Residue after ignition	<0.2%		

Ninhydrin monohydrate
extra pure — SLR

packaging		product code
100 g	Glass packaging	N/2158/48
500 g	Glass packaging	N/2158/53

$C_9H_6O_4$
CAS: 485-47-2
MW: 178.15
Boiling pressure: 760 mmHg
Melting point: 250 °C

HS-Nr: 29144900
EINECS: 207-618-1
Risk: R22, R36/37/38
Safety: S26, S28A

Xn

Assay: >98%

Guaranteed analysis

Amino Acid Detection	Conform	Residue after ignition	<0.05%
Melting Point tested	240 to 260°C		

Ninhydrin spray
pure

packaging		product code
120 mL	Aerosol	N/2160/90

Density at 20°C: 0.81
ADR/RID: 3/III
UN: 1120

HS-Nr: 38220000
Risk: R12
Safety: S7/9, S16

F+

Pressurise container carefullyby pumping the removable piston several times.

Ninhydrin spray refill
pure, 0.5% ninhydrin in butan-1-ol

packaging		product code
500 mL	Glass bottle	N/2161/90

Density at 20°C: 0.81
UN: 1120
HS-Nr: 38220000
Risk: R12
Safety: S7/9, S16
F+

Guaranteed analysis
Residue after evaporation ..... 0.4 to 0.6%

Niobium standard metal solution 1000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLNB92Y
500 mL	Plastic bottle	SPPLNB92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Niobium standard metal solution 10 000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLNB93Y
500 mL	Plastic bottle	SPPLNB93X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Nitrate standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4556/05

Density at 20°C: 1
HS-Nr: 38220000

Manufactured to a tolerance of ± 1%.

Nitrate standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASNO392Y
500 mL	Plastic bottle	SPASNO392X

CAS: 7757-79-1
Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Nitrate-Nitrogen standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASNO3N92Y

CAS: 7757-79-1
Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Nitrite standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASNO292Y
500 mL	Plastic bottle	SPASNO292X

CAS: 7632-00-0
Density at 20°C: 1
Risk: R8, R25
Safety: S45
T
O

Manufactured to a tolerance of ± 0.3%.

Nitrite-Nitrogen standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASNO2N92Y
500 mL	Plastic bottle	SPASNO2N92X

CAS: 7632-00-0
Density at 20°C: 1
Risk: R8, R25
Safety: S45
T
O

Manufactured to a tolerance of ± 0.3%.

Nitric Acid 53% d = 1.33 — Certified AR
for analysis

CertiFied AR

packaging		product code
1 L	Plastic bottle	N/2175/PB15

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.325 to 1.335
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C
ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
EINECS: 231-714-2
Risk: R35
Safety: S23, S26, S36, S45
C

Assay: 52.5 to 55%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.05 ppm
Arsenic (As)	<0.05 ppm	Sodium (Na)	<2 ppm
Calcium (Ca)	<1 ppm	Total chloride (Cl)	<0.00005 %
Chromium (Cr)	<0.05 ppm	Total phosphorus (P)	<0.5 ppm
Copper (Cu)	<0.1 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<1 ppm
Magnesium (Mg)	<0.2 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Potassium (K)	<0.2 ppm
Cadmium (Cd)	<0.02 ppm	Silver (Ag)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Iron (Fe)	<0.2 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Manganese (Mn)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Mercury (Hg)	<0.05 ppm		

Lot analysis on the label.

Nitric Acid 53% d = 1.33 — SLR
extra pure

SpecFied LR

packaging		product code
1 L	Plastic bottle	N/2170/PB15
5 L	Plastic bottle	N/2170/PB21

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.32 to 1.33
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C
ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
EINECS: 231-714-2
Risk: R35
Safety: S23, S26, S36, S45
C

Assay: 52.5 to 55%

Guaranteed analysis

Colour	<10 APHA	Molybdenum (Mo)	<0.02 ppm
Aluminium (Al)	<0.1 ppm	Nickel (Ni)	<0.05 ppm
Arsenic (As)	<0.05 ppm	Potassium (K)	<0.2 ppm
Barium (Ba)	<0.02 ppm	Silver (Ag)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Sodium (Na)	<2 ppm
Calcium (Ca)	<1 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.05 ppm	Tin (Sn)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Copper (Cu)	<0.1 ppm	Total chloride (Cl)	<0.0005%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<0.5 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<0.5 ppm
Lithium (Li)	<0.02 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<0.2 ppm	Vanadium (V)	<0.02 ppm
Manganese (Mn)	<0.02 ppm	Zinc (Zn)	<0.1 ppm
Mercury (Hg)	<0.05 ppm		

Nitric Acid 65% d = 1.40 — Certified AR
for analysis

AR

packaging		product code
1 L	Plastic bottle	N/2185/PB15
2.5 L	Plastic bottle	N/2185/PB17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.4
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
EINECS: 231-714-2
Risk: R35
Safety: S23, S26, S36, S45

C

Assay: >65%

Guaranteed analysis

Aluminium (Al)	<0.1 ppm	Nickel (Ni)	<0.05 ppm
Calcium (Ca)	<1 ppm	Potassium (K)	<0.2 ppm
Chromium (Cr)	<0.05 ppm	Sodium (Na)	< 2 ppm
Colour	< 10 APHA	Total chloride (Cl)	< 0.00005 %
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<0.1 ppm	Zinc (Zn)	<0.1 ppm
Magnesium (Mg)	<0.2 ppm		

Typical analysis

Arsenic (As)	<0.02 ppm	Silver (Ag)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Manganese (Mn)	<0.02 ppm	Total silicon (Si)	<0.5 ppm
Mercury (Hg)	<0.05 ppm	Vanadium (V)	<0.02 ppm
Molybdenum (Mo)	<0.02 ppm		

Lot analysis on the label.

Nitric Acid 64% d = 1.38 — SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	N/2180/PB15
2.5 L	Plastic bottle	N/2180/PB17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.4
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R35
Safety: S23, S26, S36, S45

C

Assay: >64%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.2 ppm
Calcium (Ca)	<1 ppm	Sodium (Na)	<2 ppm
Chromium (Cr)	<0.05 ppm	Total chloride (Cl)	<0.00005%
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<1 ppm
Magnesium (Mg)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Nickel (Ni)	<0.05 ppm		

Nitric acid 67-70% NEW SPEC. — OPTIMA
for ultra trace analysis

Optima

packaging		product code
250 mL	Bottle Teflon FEP	N/2275/07
500 mL	Bottle Teflon FEP	N/2275/08
1 L	Bottle Teflon FEP	N/2275/15

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.4
Boiling point: 122°C
Boiling pressure: 760 mmHg

Melting point: -42°C
ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
Risk: R35
Safety: S23, S26, S36, S45

C

Assay (HNO_3): 67 to 70%

Guaranteed analysis

Aluminium (Al)	<20 ppt	Molybdenum (Mo)	<10 ppt
Antimony (Sb)	<10 ppt	Neodymium (Nd)	<1 ppt
Arsenic (As)	<20 ppt	Nickel (Ni)	<50 ppt
Barium (Ba)	<10 ppt	Niobium (Nb)	<1 ppt
Beryllium (Be)	<10 ppt	Palladium (Pd)	<20 ppt
Bismuth (Bi)	<10 ppt	Platinum (Pt)	<20 ppt
Boron (B)	<20 ppt	Potassium (K)	<10 ppt
Cadmium (Cd)	<10 ppt	Praseodymium (Pr)	<1 ppt
Calcium (Ca)	<20 ppt	Rhenium (Re)	<10 ppt
Cerium (Ce)	<10 ppt	Rhodium (Rh)	<10 ppt
Cesium (Cs)	<10 ppt	Rubidium (Rb)	<10 ppt
Chromium (Cr)	<20 ppt	Ruthenium (Ru)	<20 ppt
Cobalt (Co)	<10 ppt	Samarium (Sm)	<1 ppt
Copper (Cu)	<20 ppt	Scandium (Sc)	<10 ppt
Dysprosium (Dy)	<1 ppt	Silver (Ag)	<10 ppt
Erbium (Er)	<1 ppt	Sodium (Na)	<10 ppt
Europium (Eu)	<1 ppt	Strontium (Sr)	<10 ppt
Gadolinium (Gd)	<1 ppt	Tantalum (Ta)	<10 ppt
Gallium (Ga)	<10 ppt	Tellurium (Te)	<1 ppt
Germanium (Ge)	<10 ppt	Terbium (Tb)	<1 ppt
Gold (Au)	<20 ppt	Thallium (Tl)	<10 ppt
Hafnium (Hf)	<10 ppt	Thorium (Th)	<1 ppt
Holmium (Ho)	<1 ppt	Thulium (Tm)	<1 ppt
Indium (In)	<1 ppt	Tin (Sn)	<20 ppt
Iron (Fe)	<20 ppt	Titanium (Ti)	<10 ppt
Lanthanum (La)	<1 ppt	Tungsten (W)	<10 ppt
Lead (Pb)	<10 ppt	Uranium (U)	<1 ppt
Lithium (Li)	<10 ppt	Vanadium (V)	<10 ppt
Lutetium (Lu)	<1 ppt	Ytterbium (Yb)	<1 ppt
Magnesium (Mg)	<10 ppt	Yttrium (Y)	<1 ppt
Manganese (Mn)	<10 ppt	Zinc (Zn)	<20 ppt
Mercury (Hg)	<100 ppt	Zirconium (Zr)	<10 ppt

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

Nitric acid 67-70% NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
500 mL	Coated Glass Bottle	N/2273/PB08
1 L	Coated Glass Bottle	N/2273/PB15

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.4
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R35
Safety: S23, S26, S36, S45

C

Assay: 67 to 70%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.1 ppb
Aluminium (Al)	<0.5 ppb	Niobium (Nb)	<0.1 ppb
Antimony (Sb)	<0.1 ppb	Palladium (Pd)	<0.1 ppb
Arsenic (As)	<0.1 ppb	Platinum (Pt)	<0.1 ppb
Barium (Ba)	<0.1 ppb	Potassium (K)	<0.2 ppb
Beryllium (Be)	<0.1 ppb	Praséodymium (Pr)	<0.1 ppb
Bismuth (Bi)	<0.1 ppb	Rhenium (Re)	<0.1 ppb
Boron (B)	<0.5 ppb	Rhodium (Rh)	<0.1 ppb
Cadmium (Cd)	<0.1 ppb	Rubidium (Rb)	<0.1 ppb
Calcium (Ca)	<0.5 ppb	Ruthenium (Ru)	<0.1 ppb
Cerium (Ce)	<0.1 ppb	Samarium (Sm)	<0.1 ppb
Cesium (Cs)	<0.1 ppb	Scandium (Sc)	<0.1 ppb
Chromium (Cr)	<0.5 ppb	Selenium (Se)	<0.1 ppb
Cobalt (Co)	<0.1 ppb	Silver (Ag)	<0.1 ppb
Copper (Cu)	<0.1 ppb	Sodium (Na)	<0.2 ppb
Dysprosium (Dy)	<0.1 ppb	Strontium (Sr)	<0.1 ppb
Erbium (Er)	<0.1 ppb	Tantalum (Ta)	<0.1 ppb
Europium (Eu)	<0.1 ppb	Tellurium (Te)	<0.1 ppb
Gadolinium (Gd)	<0.1 ppb	Terbium (Tb)	<0.1 ppb
Gallium (Ga)	<0.1 ppb	Thallium (Tl)	<0.1 ppb
Germanium (Ge)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Gold (Au)	<0.1 ppb	Thulium (Tm)	<0.1 ppb
Hafnium (Hf)	<0.1 ppb	Tin (Sn)	<0.1 ppb
Holmium (Ho)	<0.1 ppb	Titanium (Ti)	<0.1 ppb
Indium (In)	<0.1 ppb	Total chloride (Cl)	<0.2 ppm
Iron (Fe)	<0.5 ppb	Total phosphorus (P)	<0.01 ppm
Lanthanum (La)	<0.1 ppb	Total sulphur (S)	<0.3 ppm
Lead (Pb)	<0.1 ppb	Tungsten (W)	<0.1 ppb
Lithium (Li)	<0.1 ppb	Uranium (U)	<0.1 ppb
Lutetium (Lu)	<0.1 ppb	Vanadium (V)	<0.1 ppb
Magnesium (Mg)	<0.2 ppb	Ytterbium (Yb)	<0.1 ppb
Manganese (Mn)	<0.1 ppb	Yttrium (Y)	<0.1 ppb
Mercury (Hg)	<0.2 ppb	Zinc (Zn)	<0.2 ppb
Molybdenum (Mo)	<0.1 ppb	Zirconium (Zr)	<0.1 ppb
Neodymium (Nd)	<0.1 ppb		

Nitric acid 68% d =1.42 NEW SPEC. — Primar Plus
for trace metal analysis

PrimarPlus

packaging		product code
500 mL	Coated Glass Bottle	N/2272/PB08
1 L	Coated Glass Bottle	N/2272/PB15
2.5 L	Coated Glass Bottle	N/2272/PB17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.4
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R35
Safety: S23, S26, S36, S45

C

Assay: >68%

Guaranteed analysis

Aluminium (Al)	<0.1 ppm	Iron (Fe)	<0.05 ppm
Antimony (Sb)	<0.005 ppm	Lead (Pb)	<0.002 ppm
Arsenic (As)	<0.005 ppm	Lithium (Li)	<0.002 ppm
Barium (Ba)	<0.05 ppm	Magnesium (Mg)	<0.02 ppm
Beryllium (Be)	<0.005 ppm	Manganese (Mn)	<0.002 ppm
Bismuth (Bi)	<0.005 ppm	Mercury (Hg)	<0.005 ppm
Boron (B)	<0.005 ppm	Molybdenum (Mo)	<0.002 ppm
Cadmium (Cd)	<0.002 ppm	Nickel (Ni)	<0.002 ppm
Calcium (Ca)	<0.05 ppm	Potassium (K)	<0.02 ppm
Chromium (Cr)	<0.005 ppm	Selenium (Se)	<0.002 ppm
Copper (Cu)	<0.005 ppm	Silver (Ag)	<0.005 ppm
Gallium (Ga)	<0.005 ppm	Sodium (Na)	<0.1 ppm
Germanium (Ge)	<0.005 ppm	Strontium (Sr)	<0.002 ppm
Indium (In)	<0.005 ppm		
Thallium (Tl)	<0.005 ppm	Total sulphur (S)	<0.2 ppm
Tin (Sn)	<0.005 ppm	Vanadium (V)	<0.002 ppm
Titanium (Ti)	<0.002 ppm	Zinc (Zn)	<0.01 ppm
Total chloride (Cl)	<0.2 ppm	Zirconium (Zr)	<0.005 ppm
Total phosphorus (P)	<0.05 ppm		

Nitric acid 70% d=,42
for electronic use (MOS)

packaging		product code
2.5 L	Plastic bottle	N/2222/PB17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.41
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R8, R35
Safety: S23, S26, S36, S45

O C

Assay: 69 to 71%

Guaranteed analysis

Colour	<10 APHA	Molybdenum (Mo)	<0.02 ppm
Aluminium (Al)	<0.1 ppm	Nickel (Ni)	<0.05 ppm
Barium (Ba)	<0.02 ppm	Potassium (K)	<0.2 ppm
Cadmium (Cd)	<0.02 ppm	Sodium (Na)	<2 ppm
Calcium (Ca)	<1 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.05 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total chloride (Cl)	<0.00005%
Copper (Cu)	<0.1 ppm	Total phosphorus (P)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Total sulphur (S)	<1 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Magnesium (Mg)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Manganese (Mn)	<0.02 ppm		

The concentration of nitric acid solution is 15.8 M (15.8 N).
Filtered to 10 µm.

Nitric acid 68 % d= 1.42 NEW SPEC. — Certified AR
for analysis

Certified AR

packaging		product code
500 mL	Coated Glass Bottle	N/2300/PB08
1 L	Plastic bottle	N/2300/PB15
2.5 L	Plastic bottle	N/2300/PB17
2.5 L	Coated Glass Bottle	N/2300/PC17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.41
Boiling point: 122°C
Boiling pressure: 760
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R8, R35
Safety: S23, S26, S36, S45

Assay: >68%

Guaranteed analysis

Colour	<10 APHA	Nickel (Ni)	<0.02 ppm
Residue after ignition	<0.0005%	Potassium (K)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Residue after ignition	<0.0005%
Chromium (Cr)	<0.05 ppm	Total chloride (Cl)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Total phosphorus (P)	<0.1 ppm
Iron (Fe)	<0.2 ppm	Total sulphur (S)	<1 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.05 ppm
Magnesium (Mg)	<0.2 ppm		

Typical analysis

Aluminium (Al)	<0.05 ppm	Molybdenum (Mo)	<0.01 ppm
Arsenic (As)	<0.01 ppm	Silver (Ag)	<0.01 ppm
Barium (Ba)	<0.02 ppm	Sodium (Na)	<0.5 ppm
Cadmium (Cd)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Titanium (Ti)	<0.02 ppm
Manganese (Mn)	<0.02 ppm	Total silicon (Si)	<0.5 ppm
Mercury (Hg)	<0.01 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
The concentration of nitric acid solution is 15.8 M (15.8 N).

Nitric acid 70% d=,42 SLR
extra pure

Specified

packaging		product code
1 L	Plastic bottle	N/2250/PB15
2.5 L	Plastic bottle	N/2250/PB17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.41
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R8, R35
Safety: S23, S26, S36, S45

O C

Assay: 68 to 72%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Potassium (K)	<10 ppm
Chromium (Cr)	<2 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<20 ppm
Nickel (Ni)	<2 ppm	Zinc (Zn)	<2 ppm

The concentration of nitric acid solution is 15.8 M (15.8 N).

Nitric acid 70% d=1.42
Technical

packaging		product code
2.5 L	Plastic bottle	N/2200/PB17

HNO_3
CAS: 7697-37-2
MW: 63.01
Density at 20°C: 1.41
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C

ADR/RID: 8/II
UN: 2031
HS-Nr: 28080000
EINECS: 231-714-2
Risk: R8, R35
Safety: S23, S26, S36, S45

O C

Assay: >70%

Nitric acid solution 2M (2N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
2.5 L	Plastic bottle	J/5545/PB17

Density at 20°C: 1.03
ADR/RID: 8/II
UN: 2031

HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.

Nitric acid solution 0.1M (0.1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/5600/PB15
2.5 L	Plastic bottle	J/5600/17

Density at 20°C: 1
HS-Nr: 38220000
Safety: S24/25

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Nitric acid solution 1M (1N) NEW SPEC. Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/5550/PB15
2.5 L	Plastic bottle	J/5550/PB17
10 L	Cubitainer	J/5550/24

Density at 20°C: 1.03
ADR/RID: 8/II
UN: 2031

HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Nitric acid solution 1M (1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/5550C/05
6	ampoule	J/5550C/90

Density at 20°C: 1.4
Boiling point: 122°C
Boiling pressure: 760 mmHg
Melting point: -42°C
ADR/RID: 8/II

UN: 2031
HS-Nr: 38220000
Risk: R35
Safety: S23, S26, S36, S45

C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

2.2′,2′′-Nitrilotriethanol *See Triethanolamine, page 294*

p-Nitroaniline *See 4-Nitroaniline, page 177*

4-Nitroaniline
pure

packaging		product code
100 g	Glass packaging	N/2600/48

$C_6H_6N_2O_2$
CAS: 100-01-6
MW: 138.13
Boiling point: 332°C
Boiling pressure: 760 mmHg
Melting point: 147 to 151°C
Flash point: 199°C

ADR/RID: 6.1/II
UN: 1661
HS-Nr: 29214210
EINECS: 202-810-1
Risk: R23/24/25, R33, R52/53
Safety: S28A, S36/37, S45, S61

T

Guaranteed analysis
Melting Point tested ..... 146 to 149°C

Nitromethane SLR
extra pure

Specified

packaging		product code
100 mL	Coated Glass Bottle	N/3000/PB05
500 mL	Coated Glass Bottle	N/3000/PB08
200 L	Metal drum	N/3000/27

CH_3NO_2
CAS: 75-52-5
MW: 61.04
Density at 20°C: 1.13 to 1.139
Boiling point: 100 to 102°C
Boiling pressure: 760 mmHg
Melting point: -29°C

Flash point: 35°C
ADR/RID: 3/II
UN: 1261
HS-Nr: 29042090
EINECS: 200-876-6
Risk: R5, R10, R22
Safety: S41

Xn

see page 279 for suitable Tap & accessories.

3-Nitrophenol SLR
extra pure

Specified

packaging		product code
25 g	Plastic jar	N/3150/46

$C_6H_5NO_3$
CAS: 554-84-7
MW: 139.11
Boiling point: 194°C
Boiling pressure: 70 mmHg
Melting point: 96 to 98°C

ADR/RID: 6.1/III
UN: 1663
HS-Nr: 29089090
EINECS: 209-073-5
Risk: R20/21/22, R33
Safety: S36/37, S45

Xn

Guaranteed analysis
Melting Point tested ..... 96 to 98°C

4-Nitrophenol SLR
extra pure, pH indicator

Specified LR

packaging		product code
100 g	Glass packaging	N/3200/48

$C_6H_5NO_3$
CAS: 100-02-7
MW: 139.11
Boiling point: 279°C
Boiling pressure: 760 mmHg
Melting point: >112°C
Flash point: 169°C

ADR/RID: 6.1/III
UN: 1663
HS-Nr: 29089990
EINECS: 202-811-7
Risk: R20/21/22, R33
Safety: S28A

Xn

Guaranteed analysis
Melting Point tested ..... 111 to 114°C

For the determination of pH.
pH 5.6-7.6 colorless to yellow.

p-Nitrophenylamine *See 4-Nitroaniline, page 177*

4-Nitrophenyl disodium orthophosphate
pure

packaging		product code
5 g	Plastic jar	N/3390/44
25 g	Plastic jar	N/3390/46

$C_6H_4NNa_2PO_6.6H_2O$
CAS: 4264-83-9
MW: 371.15
Melting point: >300°C

HS-Nr: 38220000
EINECS: 224-246-5
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Nitroso-R-salt SLR
extra pure, determination of cobalt

Specified LR

packaging		product code
25 g	Plastic jar	N/3650/46

$C_{10}H_5NNa_2O_8S_2.xH_2O$
CAS: 525-05-3
MW: 377.26
Melting point: >300°C

HS-Nr: 29089000
EINECS: 208-369-1
Risk: R20/21/22, R36/37/38
Safety: S26, S36/37/39

Xn

Assay: >90%

n-Nonane
pure

packaging		product code
100 mL	Glass bottle	N/3900/05

C_9H_{20}
CAS: 111-84-2
MW: 128.26
Density at 20°C: 0.71
Boiling point: 151°C
Boiling pressure: 760 mmHg
Melting point: -53°C

Flash point: 31°C
ADR/RID: 3/III
UN: 1920
HS-Nr: 29011000
EINECS: 203-913-4
Risk: R10, R51/53
Safety: S16, S61

N

Assay (GC): >99%

1-Nonanol SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	N/4020/08

$C_9H_{20}O$
CAS: 143-08-8
MW: 144.26
Density at 20°C: 0.83
Boiling point: 213 to 215°C
Boiling pressure: 760 mmHg
Melting point: -5°C

Flash point: 74°C
ADR/RID: 9/III
UN: 3082
HS-Nr: 29051990
EINECS: 205-583-7
Risk: R20, R51/53
Safety: S29, S61

Xn
N

Nonyl alcohol *See 1-Nonanol, page 178*

n-Octane SLR
extra pure

Specified LR

packaging		product code
100 mL	Glass bottle	O/0020/05
500 mL	Glass bottle	O/0020/08

C_8H_{18}
CAS: 111-65-9
MW: 114.23
Density at 20°C: 0.696 to 0.705
Boiling point: 125 to 127°C
Boiling pressure: 760 mmHg
Melting point: -57°C
Flash point: 13°C

ADR/RID: 3/II
UN: 1262
HS-Nr: 29011000
EINECS: 203-892-1
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F
Xn
N

Assay (GC): >99%

1-Octane sulfonic acid sodium salt
for Ion pair chromatography in electrochemical detection

HPLC electrochemical

packaging		product code
25 g	Plastic jar	O/0029/46

$C_8H_{17}NaSO_3$
CAS: 5324-84-5
MW: 216.28
Melting point: >300°C

HS-Nr: 29041000
EINECS: 357-424-1
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis
Electrochemical test ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.

1-Octane sulfonic acid sodium salt
for Ion pair chromatography

HPLC

packaging		product code
5 g	Glass packaging	O/0028/44
25 g	Plastic jar	O/0028/46
100 g	Plastic jar	O/0028/48

$C_8H_{17}NaSO_3$
CAS: 5324-84-5
MW: 216.28
Melting point: >300°C

HS-Nr: 29041000
EINECS: 357-424-1
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis
Solution (5% in methanol) ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Lot analysis on the label.

Save money!
Order 4 bottles in a box

1-Octanesulfonic acid sodium salt solution 0.1M
for Ion pair chromatography

HPLC

packaging		product code
250 mL	Glass bottle	O/0026/07

Xi

HS-Nr: 29041000
Risk: R36/38
Safety: S26, S28

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.02 A.U.

Lot analysis on the label.

n-Octanoic acid
extra pure SLR

Specified

packaging		product code
500 mL	Glass bottle	O/0030/08

C

$C_8H_{16}O_2$
CAS: 124-07-2
MW: 144.24
Density at 20°C: 0.91
Boiling point: 237°C
Boiling pressure: 760 mmHg
Melting point: 16 to 16.5°C
Flash point: 130°C
ADR/RID: 8/III
UN: 3265
HS-Nr: 29159000
EINECS: 204-677-5
Risk: R34
Safety: S25, S36/37/39, S45

Assay: >98%

Octan-1-ol
pure

packaging		product code
500 mL	Glass bottle	O/0050/08
2.5 L	Glass bottle	O/0050/17

Xi

$C_8H_{18}O$
CAS: 111-87-5
MW: 130.23
Density at 20°C: 0.82
Boiling point: 195°C
Boiling pressure: 760 mmHg
Melting point: -16°C
Flash point: 81°C
HS-Nr: 29051690
EINECS: 203-917-6
Risk: R36/38
Safety: S26, S37/39

Assay (GC): >98%

Octan-2-ol
pure

packaging		product code
500 mL	Glass bottle	O/0100/08
2.5 L	Glass bottle	O/0100/17

$C_8H_{18}O$
CAS: 123-96-6
MW: 130.23
Density at 20°C: 0.81
Boiling point: 174 to 181°C
Boiling pressure: 760 mmHg
Melting point: -38°C
Flash point: 71°C
HS-Nr: 29051690
EINECS: 204-667-0
Safety: S24/25

Assay (GC): >98%

Oct-1-ene
pure

packaging		product code
100 mL	Coated Glass Bottle	O/0105/PB05

F Xn

C_8H_{16}
CAS: 111-66-0
MW: 112.21
Density at 20°C: 0.72
Boiling point: 121 to 123°C
Boiling pressure: 760 mmHg
Melting point: -102°C
Flash point: 13°C
ADR/RID: 3/II
UN: 3295
HS-Nr: 29012990
EINECS: 203-893-7
Risk: R11, R65
Safety: S9, S16, S33, S62

Assay (GC): >95%

Oleic acid
extra pure SLR

Specified

packaging		product code
1 L	Glass bottle	O/0200/15
2.5 L	Glass bottle	O/0200/17

Xi

$C_{18}H_{34}O_2$
CAS: 112-80-1
MW: 282.47
Density at 20°C: 0.885 to 0.9
Boiling point: 360°C
Boiling pressure: 760 mmHg
Melting point: 13°C
Flash point: 189°C
HS-Nr: 38220000
EINECS: 204-007-1
Risk: R36/37/38
Safety: S26, S37/39

Guaranteed analysis
Acid ..... 197 to 202 mg KOH/g
Iodine index ..... 85 - 92
Residue after ignition ..... <0.1%

Oleic acid
pure

packaging		product code
2.5 L	Glass bottle	O/0150/17
200 L	Metal drum	O/0150/27

Xi

$C_{18}H_{34}O_2$
CAS: 112-80-1
MW: 282.46
Density at 20°C: 0.89
Boiling point: 360°C
Boiling pressure: 760 mmHg
Melting point: 13°C
Flash point: 189°C
HS-Nr: 38220000
EINECS: 204-007-1
Risk: R36/37/38
Safety: S26, S37/39

Guaranteed analysis
IR Analysis ..... Conform

see page 279 for suitable Tap & accessories.

Oleum
See Sulfuric acid fuming, page 276

Olive oil
pure

packaging		product code
500 mL	Glass bottle	O/0250/08
2.5 L	Glass bottle	O/0250/17

HS-Nr: 38220000

Orange G sodium salt
pure

packaging		product code
25 g	Glass packaging	O/0275/46

Xi

$C_{16}H_{10}N_2Na_2O_7S_2$
CAS: 1936-15-8
MW: 452.37
Melting point: 141°C
HS-Nr: 32041200
EINECS: 217-705-6
Risk: R36/37/38
Safety: S26, S37/39

Guaranteed analysis
IR Analysis ..... Conform

Orcein staining
pure

packaging		product code
5 g	Glass packaging	O/0300/44

Xn

CAS: 1400-62-0
ADR/RID: 6.1/III
UN: 3143
HS-Nr: 38220000
EINECS: 215-750-6
Risk: R22, R36/38
Safety: S26, S37/39

Guaranteed analysis
IR Analysis ..... Conform

Orcinol monohydrate
pure

packaging		product code
25 g	Plastic jar	O/0351/46

$C_7H_8O_2.H_2O$
CAS: 6153-39-5
MW: 142.15
Boiling point: 290°C
Boiling pressure: 760 mmHg

Melting point: 56 to 61°C
HS-Nr: 29072990
EINECS: 207-984-2
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Guaranteed analysis

IR Analysis ..... Conform

Orthophosphoric acid 85%
HPLC for electrochemical detection
Certified

HPLC electrochemical

packaging		product code
500 mL	Coated Glass Bottle	O/0515/PB08

C

H_3PO_4
CAS: 7664-38-2
MW: 98
Density at 20°C: 1.68
Boiling point: 158°C
Boiling pressure: 760 mmHg
Melting point: 21°C

ADR/RID: 8/III
UN: 1805
HS-Nr: 28092000
EINECS: 231-633-2
Risk: R34
Safety: S26, S45

Assay: >85%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<5 ppm
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.001%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.02 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Orthophosphoric acid 85% is equivalent to a strength of 15.2 M (45.6 N).
Lot analysis on the label.
Filtered to 0.2 µm.

Orthophosphoric acid solution 1M
for HPLC
Certified

HPLC

packaging		product code
500 mL	Coated Glass Bottle	J/5655/PB08

UN: 1805
HS-Nr: 28061000

Guaranteed analysis

Molarity ..... 0.98 to 1.02 M

Orthophosphoric acid 85%
for electronic use (MOS)

packaging		product code
2.5 L	Coated Glass Bottle	O/0505/PB17
200 L	Metal drum	O/0505/27

H_3PO_4
CAS: 7664-38-2
MW: 98
Density at 20°C: 1.68
Boiling point: 158°C
Boiling pressure: 760 mmHg
Melting point: 21°C

ADR/RID: 8/III
UN: 1805
HS-Nr: 28061000
EINECS: 231-633-2
Risk: R34
Safety: S26, S45

C

Assay: >85%

Guaranteed analysis

Colour	<10 APHA	Molybdenum (Mo)	<1 ppm
Aluminium (Al)	<2 ppm	Nickel (Ni)	<5 ppm
Barium (Ba)	<1 ppm	Potassium (K)	<20 ppm
Cadmium (Cd)	<1 ppm	Sodium (Na)	<200 ppm
Calcium (Ca)	<50 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<10 ppm	Total nitrogen (N)	<5 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Vanadium (V)	<20 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<5 ppm

Orthophosphoric acid 85% is equivalent to a strength of 15.2 M (45.6 N).
Filtered to 10 µm.
see page 279 for suitable Tap & accessories.

Orthophosphoric acid 85+%
for analysis
Certified AR

Certified AR

packaging		product code
500 mL	Plastic bottle	O/0500/PB08
1 L	Plastic bottle	O/0500/PB15
2.5 L	Plastic bottle	O/0500/PB17
200 L	Metal drum	O/0500/27

H_3PO_4
CAS: 7664-38-2
MW: 98
Density at 20°C: 1.68
Boiling point: 158°C
Boiling pressure: 760 mmHg
Melting point: 21°C

ADR/RID: 8/III
UN: 1805
HS-Nr: 28092000
EINECS: 231-633-2
Risk: R34
Safety: S26, S45

C

Assay: >85%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<20 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<10 ppm	Total nitrogen (N)	<5 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<20 ppm
Nickel (Ni)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<2 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Orthophosphoric acid is equivalent to a strength of 15.2 M or 45.6 N.
Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Orthophosphoric acid 85+%
extra pure
SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	O/0450/PB08
1 L	Plastic bottle	O/0450/PB15
2.5 L	Plastic bottle	O/0450/PB17
5 L	Plastic bottle	O/0450/PB21
25 L	Metal drum	O/0450/25

H_3PO_4
CAS: 7664-38-2
MW: 98
Density at 20°C: 1.68
Boiling point: 158°C
Boiling pressure: 760 mmHg
Melting point: 21°C

ADR/RID: 8/III
UN: 1805
HS-Nr: 38220000
EINECS: 231-633-2
Risk: R34
Safety: S26, S45

C

Assay: >85%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<1000 ppm
Iron (Fe)	<50 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<100 ppm
Nickel (Ni)	<20 ppm	Zinc (Zn)	<20 ppm

Orthophosphoric acid is equivalent to a strength of 15.2 M or 45.6 N.
see page 279 for suitable Tap & accessories.

Orthophosphoric acid
pure, about 100% H3PO4 (contains some H4P2O7)

packaging		product code
500 g	Plastic jar	O/0510/53

H_3PO_4
CAS: 7664-38-2
MW: 98
Density at 20°C: 1.68
Boiling point: 158°C
Boiling pressure: 760 mmHg
Melting point: 21°C

ADR/RID: 8/III
UN: 3453
HS-Nr: 28061000
EINECS: 231-633-2
Risk: R34
Safety: S26, S45

C

Oxalic acid anhydrous
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic jar	O/0580/53

$C_2H_2O_4$
CAS: 144-62-7
MW: 90.04
Density at 20°C: 1.9
Boiling point: DC°C
Melting point: 189-191°C
Flash point: >93.4°C

ADR/RID: 8/II
UN: 3261
HS-Nr: 29171100
EINECS: 205-634-3
Risk: R21/22
Safety: S24/25

Xn

Guaranteed analysis
IR Analysis ..... Conform

Oxalic acid dihydrate
for analysis Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	O/0650/53
1 kg	Plastic jar	O/0650/60
5 kg	Plastic drum	O/0650/65
25 kg	Plastic screw top Keg	O/0650/70

$C_2H_4O_4.2H_2O$
CAS: 6153-56-6
MW: 126.07
Melting point: 98 to 102°C
ADR/RID: 8/II

UN: 3261
HS-Nr: 28092000
EINECS: 205-634-3
Risk: R21/22
Safety: S24/25

Xn

Assay: 99.5 to 100.5%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<2 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<20 ppm	Zinc (Zn)	<2 ppm
Sodium (Na)	<50 ppm		

Typical analysis

Aluminium (Al)	<1 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Oxalic acid dihydrate
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic jar	O/0600/53
1 kg	Plastic jar	O/0600/60
2.5 kg	Plastic jar	O/0600/62
5 kg	Plastic drum	O/0600/65

$C_2H_4O_4.2H_2O$
CAS: 6153-56-6
MW: 126.07
Melting point: 98 to 102°C
ADR/RID: 8/II

UN: 3261
HS-Nr: 29171100
EINECS: 205-634-3
Risk: R21/22
Safety: S24/25

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<10 ppm

Oxalic acid solution 0.05M (0.1N)
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/5650C/05
6	ampoule	J/5650C/90

HS-Nr: 38220000
Risk: R21/22
Safety: S24/25

Xn

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Oxalic acid, sodium salt
See Sodium oxalate, page 250

Oxygen mixture
pure, (Potassium(V)chlorate & Manganèse(IV)oxide)

packaging		product code
500 g	Glass packaging	O/0850/53

ADR/RID: 8/
UN: 1479
HS-Nr: 38220000

Risk: R9, R20/22
Safety: S2, S13, S16, S27

O
Xn

Palladium standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLPD32Y
500 mL	Plastic bottle	SPPLPD32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Palladium chloride(II)
extra pure SLR

Specified LR

packaging		product code
1 g	Glass tube	P/0120/43
5 g	Glass tube	P/0120/44

$PdCl_2$
CAS: 7647-10-1
MW: 177.31
Melting point: 678-680°C
ADR/RID: 6.1(8)/II

UN: 3290
HS-Nr: 28439090
EINECS: 231-596-2
Risk: R28, R34, R40, R43
Safety: S26, S37/39, S45

T+

The palladium prices vary depending on the course of the raw material.

Pancreatin
pure, from mammalian pancrea, BP

packaging		product code
100 g	Plastic jar	P/0290/48

CAS: 8049-47-6
HS-Nr: 38220000
EINECS: 232-468-9

Risk: R36/37/38, R42/43
Safety: S22, S24, S26, S37/39

Xn

Guaranteed analysis
IR Analysis ..... Conform

(+)-Pantothenic acid calcium salt SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic Jar	P/0295/48

$C_8H_{32}Ca(NO_5)_2$
CAS: 137-08-6
MW: 476.54
Melting point: 190°C

HS-Nr: 29362400
EINECS: 205-278-9
Safety: S24/25, S37, S45

Guaranteed analysis

Loss on drying ..... <5%
Specific rotation (α 20/D) ... +25° to +27°
Calcium (Ca) ..... 82000 to 86000 ppm
Lead (Pb) ..... <30 ppm

Paraffin liquid d=0.86
For IR Spectroscopy

packaging		product code
500 mL	Glass bottle	P/0405/08

CAS: 8012-95-1
Density at 20°C: 0.85 to 0.87
HS-Nr: 27122090
EINECS: 232-384-2

Guaranteed analysis

IR Analysis ..... Conform

Paraffin soft white
pure

packaging		product code
500 g	box	P/0480/53

CAS: 64771-71-7
HS-Nr: 27121090
EINECS: 232-384-2

Guaranteed analysis

IR Analysis ..... Conform

Paraffin soft yellow
pure

packaging		product code
500 g	box	P/0440/53

CAS: 64771-71-7
HS-Nr: 27121090
EINECS: 232-384-2

Guaranteed analysis

IR Analysis ..... Conform

Paraffin liquid water white
pure, d=0.86-0.89

packaging		product code
2.5 L	Glass bottle	P/0400/17
25 L	Metal drum	P/0400/25

CAS: 8012-95-1
HS-Nr: 27122090
EINECS: 232-384-2

Guaranteed analysis

Density 15.5°C ..... 0.86 to 0.89

see page 279 for suitable Tap & accessories.

Paraffin liquid water white
pure, d=0.83-0.86

packaging		product code
2.5 L	Glass bottle	P/0360/17
25 L	Metal drum	P/0360/25

CAS: 8012-95-1
HS-Nr: 27122090
EINECS: 232-384-2

Guaranteed analysis

Density 15.5°C ..... 0.83 to 0.86

see page 279 for suitable Tap & accessories.

Paraffin liquid
Technical, d=0.88 for oil baths

packaging		product code
2.5 L	Glass bottle	P/0320/17
25 L	Metal drum	P/0320/25

CAS: 8012-95-1
HS-Nr: 27122090
EINECS: 232-384-2

Guaranteed analysis

Density 15.5°C ..... 0.86 to 0.89

see page 279 for suitable Tap & accessories.

Paraffin wax pastillated
pure, melting point about 60°C

packaging		product code
450 g	Plastic jar	P/0680/90

CAS: 8002-74-2
Boiling point: 322°C
Boiling pressure: 760 mmHg
Melting point: 58 to 62°C

Flash point: 198°C
HS-Nr: 38220000
EINECS: 232-315-6
Safety: S24/25

Guaranteed analysis

Melting Point tested ..... 55 to 65°C

Paraffin wax pastillated
pure, melting point about 57°C

packaging		product code
450 g	Plastic jar	P/0650/90

CAS: 8002-74-2
Boiling point: 322°C
Boiling pressure: 760 mmHg
Melting point: 58 to 62°C

Flash point: 198°C
HS-Nr: 38220000
EINECS: 232-315-6
Safety: S24/25

Guaranteed analysis

Melting Point tested ..... 56 to 58°C

Paraffin wax pastillated
pure, melting point about 52°C

packaging		product code
450 g	Plastic jar	P/0600/90

CAS: 8002-74-2
Boiling point: 322°C
Boiling pressure: 760 mmHg
Melting point: 58 to 62°C

Flash point: 198°C
HS-Nr: 38220000
EINECS: 232-315-6
Safety: S24/25

Guaranteed analysis

Melting Point tested ..... 51 to 53°C

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Paraffin wax
pure, melting point about 49°C-52°C

packaging		product code
450 g	Plastic jar	P/0560/90

CAS: 8002-74-2
Boiling point: 322°C
Boiling pressure: 760 mmHg
Melting point: 58 to 62°C
Flash point: 198°C
HS-Nr: 38220000
EINECS: 232-315-6
Safety: S24/25

Guaranteed analysis
Melting Point tested ..... 49 to 52°C

Paraffin wax
pure, clearing point about 65-71°C

packaging		product code
450 g	Plastic jar	P/0720/90

CAS: 8002-74-2
Boiling point: 322°C
Boiling pressure: 760 mmHg
Melting point: 58 to 62°C
Flash point: 198°C
HS-Nr: 38220000
EINECS: 232-315-6
Safety: S24/25

Paraformaldehyde
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/0840/53

$(CH_2O)_n$
CAS: 30525-89-4
Melting point: 120-170°C
Flash point: 71°C
ADR/RID: 4.1/III
UN: 2213
HS-Nr: 29126000
EINECS: 200-001-8
Risk: R20/22, R36/37/38, R40, R43
Safety: S24, S26, S36/37/39, S45
Xn

Guaranteed analysis
IR Analysis ..... Conform

Pectin
pure, citrus - 121 grade slow setting 121

packaging		product code
100 g	Plastic jar	P/0920/48

CAS: 9000-69-5
HS-Nr: 38220000
EINECS: 232-553-0
Safety: S24/25

Pelargonic alcohol *See 1-Nonanol, page 178*

Pentachlorophenol
pure

packaging		product code
500 g	Plastic jar	P/0960/53

C_6HCl_5O
CAS: 87-86-5
MW: 266.34
Density at 20°C: 1.97
Boiling point: 310°C
Boiling pressure: 760 mmHg
Melting point: 165 to 180°C
ADR/RID: 6.1/II
UN: 3155
HS-Nr: 29081090
EINECS: 201-778-6
Risk: R24/25, R26, R36/37/38, R40, R50/53
Safety: S22, S36/37, S45, S52, S60, S61
T+ N

Guaranteed analysis
IR Analysis ..... Conform

iso-Pentane
for analysis Certified AR

AR

packaging		product code
500 mL	Glass bottle	P/1031/08
2.5 L	Glass bottle	P/1031/17

C_5H_{12}
CAS: 78-78-4
MW: 72.15
Density at 20°C: 0.62
Boiling point: 30°C
Boiling pressure: 760 mmHg
Melting point: -160°C
Flash point: -51°C
ADR/RID: 3/I
UN: 1265
HS-Nr: 29011000
EINECS: 201-142-8
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62
F+ Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Magnesium (Mg)	<0.1 ppm
Colour	<10 APHA	Manganese (Mn)	<0.02 ppm
Residue after evaporation	<50 ppm	Molybdenum (Mo)	<0.02 ppm
Water	<0.01%	Nickel (Ni)	<0.02 ppm
Aluminium (Al)	<0.1 ppm	Potassium (K)	<0.2 ppm
Barium (Ba)	<0.02 ppm	Sodium (Na)	<1 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Calcium (Ca)	<0.5 ppm	Titanium (Ti)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Total phosphorus (P)	<0.5 ppm
Cobalt (Co)	<0.02 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<0.2 ppm	Vanadium (V)	<0.02 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.1 ppm
Lithium (Li)	<0.02 ppm	n-Pentane	<1%

Lot analysis on the label.

iso-Pentane
extra pure SLR

Specified LR

packaging		product code
500 mL	Glass bottle	P/1030/08
2.5 L	Glass bottle	P/1030/17
5 L	Metal can	P/1030/21

C_5H_{12}
CAS: 78-78-4
MW: 72.15
Density at 20°C: 0.62
Boiling point: 30°C
Boiling pressure: 760 mmHg
Melting point: -160°C
Flash point: -51°C
ADR/RID: 3/I
UN: 1265
HS-Nr: 29011000
EINECS: 201-142-8
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62
F+ Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<10 ppm
Water	<0.05%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Pentane (mixed isomers)
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	P/1006/15
2.5 L	Glass bottle	P/1006/17

C_5H_{12}
CAS: 109-66-0
MW: 72.15
Density at 20°C: 0.63
Boiling point: 36°C
Boiling pressure: 760 mmHg
Melting point: -130°C
Flash point: -49°C

ADR/RID: 3/II
UN: 1265
HS-Nr: 29011000
EINECS: 203-692-4
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F+ Xn N

Assay (GC): >95%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.25 A.U.	230 nm	<0.01 A.U.
210 nm	<0.15 A.U.	240 nm	<0.005 A.U.
220 nm	<0.05 A.U.	250 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

Pentane, (95% n-Pentane approx.) — Distol
for residue and pesticide analysis

Distol

packaging		product code
1 L	Glass bottle	P/1024/15
2.5 L	Glass bottle	P/1024/17

C_5H_{12}
CAS: 109-66-0
MW: 72.15
Density at 20°C: 0.63
Boiling point: 36°C
Boiling pressure: 760 mmHg
Melting point: -130°C
Flash point: -49°C

ADR/RID: 3/II
UN: 1265
HS-Nr: 29011000
EINECS: 203-692-4
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F+ Xn N

Assay (GC): >95%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.02%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile: (1) 50°C, 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

n-Pentane — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	P/1021/15
2.5 L	Glass bottle	P/1021/17

C_5H_{12}
CAS: 109-66-0
MW: 72.15
Density at 20°C: 0.63
Boiling point: 36°C
Boiling pressure: 760 mmHg
Melting point: -130°C
Flash point: -49°C

ADR/RID: 3/II
UN: 1265
HS-Nr: 29011000
EINECS: 203-692-4
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F+ Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.1 ppm
Colour	<10 APHA	Potassium (K)	<0.2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<1 ppm
Water	<0.01%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.02 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Lead (Pb)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.

n-Pentane — SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	P/1020/08
2.5 L	Glass bottle	P/1020/17
2.5 L	Coated Glass Bottle	P/1020/PB17
5 L	Metal can	P/1020/21
25 L	Metal drum	P/1020/25

C_5H_{12}
CAS: 109-66-0
MW: 72.15
Density at 20°C: 0.63
Boiling point: 36°C
Boiling pressure: 760 mmHg
Melting point: -130°C
Flash point: -49°C

ADR/RID: 3/II
UN: 1265
HS-Nr: 29011000
EINECS: 203-692-4
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F+ Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<10 ppm
Water	<0.05%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

Pentanedial
See Glutaraldehyde 50% solution, page 109

1-Pentanesulfonic acid sodium salt — Certified
for Ion pair chromatography in electrochemical detection

HPLC electrochemical

packaging		product code
25 g	Plastic jar	P/1039/46

Xi

$C_5H_{11}NaO_3S$
CAS: 22767-49-3
MW: 174.21
Melting point: >300°C

HS-Nr: 29041000
EINECS: 245-208-4
Risk: R36/38
Safety: S26, S28

Assay: >98%

Guaranteed analysis
Electrochemical test ..... Conform

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.

1-Pentanesulfonic acid sodium salt
for Ion pair chromatography

HPLC

packaging		product code
25 g	Plastic jar	P/1038/46
100 g	Plastic jar	P/1038/48

$C_5H_{11}NaO_3S$
CAS: 22767-49-3
MW: 174.21
Melting point: >300°C

HS-Nr: 29041000
EINECS: 245-208-4
Risk: R36/38
Safety: S26, S28

Xi

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm (sol. aqu. 0.25 M)	<0.1 A.U.	230 nm (sol. aqu. 0.25 M)	<0.03 A.U.
210 nm (sol. aqu. 0.25 M)	<0.05 A.U.	240 nm (sol. aqu. 0.25 M)	<0.02 A.U.
220 nm (sol. aqu. 0.25 M)	<0.04 A.U.	260 nm (sol. aqu. 0.25 M)	<0.02 A.U.

Lot analysis on the label.

1-Pentanesulfonic acid sodium salt solution 0.1M
for Ion pair chromatography

HPLC

packaging		product code
250 mL	Glass bottle	P/1036/07

HS-Nr: 29041000

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.04 A.U.	240 nm	<0.008 A.U.
210 nm	<0.02 A.U.	250 nm	<0.008 A.U.
220 nm	<0.016 A.U.	260 nm	<0.008 A.U.
230 nm	<0.012 A.U.		

Lot analysis on the label.

iso-Pentanol
See iso-Amyl alcohol, page 30

Pentan-1-ol
for analysis
Certified AR

AR

packaging		product code
2.5 L	Coated Glass Bottle	P/1041/PB17

$C_5H_{12}O$
CAS: 71-41-0
MW: 88.15
Density at 20°C: 0.81
Boiling point: 137 to 139°C
Boiling pressure: 760 mmHg
Melting point: -78°C

Flash point: 49°C
ADR/RID: 3/III
UN: 1105
HS-Nr: 29051900
EINECS: 200-752-1
Risk: R10, R20, R37, R66
Safety: S46

Xn

Assay (GC): >98.5%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Manganese (Mn)	<0.02 ppm
Colour	<10 APHA	Molybdenum (Mo)	<0.02 ppm
Residue after evaporation	<10 ppm	Nickel (Ni)	<0.05 ppm
Water	<0.2%	Potassium (K)	<0.1 ppm
Aluminium (Al)	<0.05 ppm	Sodium (Na)	<1 ppm
Barium (Ba)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Calcium (Ca)	<0.5 ppm	Total phosphorus (P)	<0.2 ppm
Chromium (Cr)	<0.05 ppm	Total silicon (Si)	<0.05 ppm
Cobalt (Co)	<0.02 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Vanadium (V)	<0.02 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.5 ppm
Lead (Pb)	<0.05 ppm	Iso-amyl acetate	<0.1%
Lithium (Li)	<0.02 ppm	Iso-amyl alcohol	<0.5%
Magnesium (Mg)	<0.1 ppm		

Lot analysis on the label.

Pentan-1-ol
extra pure
SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	P/1040/PB08
2.5 L	Coated Glass Bottle	P/1040/PB17

$C_5H_{12}O$
CAS: 71-41-0
MW: 88.15
Density at 20°C: 0.81
Boiling point: 137 to 139°C
Boiling pressure: 760 mmHg
Melting point: -78°C

Flash point: 49°C
ADR/RID: 3/III
UN: 1105
HS-Nr: 29051900
EINECS: 200-752-1
Risk: R10, R20, R37, R66
Safety: S46

Xn

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<100 ppm	Sodium (Na)	<10 ppm
Water	<0.3%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

Pentan-2-ol (sec-Amyl alcohol)
extra pure
SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	P/1080/PB08

$C_5H_{12}O$
CAS: 6032-29-7
MW: 88.15
Density at 20°C: 0.8 to 0.82
Boiling point: 118 to 119°C
Boiling pressure: 760 mmHg
Melting point: -50°C

Flash point: 34°C
ADR/RID: 3/III
UN: 1105
HS-Nr: 29051900
EINECS: 227-907-6
Risk: R10, R20, R37, R66
Safety: S46

Xn

Assay (GC): >98%

1-Pentyl acetate
See n-Amyl acetate, page 30

Pentyl alcohol
See Pentan-1-ol, page 185

Pepsin powder
extra pure
SLR

Specified

packaging		product code
100 g	Plastic jar	P/1120/48
500 g	Plastic jar	P/1120/53

HS-Nr: 38220000
EINECS: 232-629-3

Peptone
pure, For bacteriological work

packaging		product code
250 g	Plastic jar	P/1160/50

HS-Nr: 35040000

Guaranteed analysis

IR Analysis	Conform

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Perchloric acid 60%
for HPLC
Certified

HPLC

packaging		product code
100 mL	Coated Glass Bottle	P/1290/PB05

$HClO_4$
CAS: 7601-90-3
MW: 100.46
Density at 20°C: 1.66
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: -18°C

Flash point: 113°C
ADR/RID: 5.1(8)/I
UN: 1873
HS-Nr: 28111900
EINECS: 231-512-4
Risk: R5, R8, R22, R35
Safety: S23, S26, S36, S45

O C

Assay: 60 to 62%

Guaranteed analysis

Residue after evaporation	<30 ppm	Lead (Pb)	<0.5 ppm
Iron (Fe)	<1 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

254 nm	<0.01 A.U.

Perchloric acid 60% is equivalent to a strength of 9.2 M (9.2 N).
Lot analysis on the label.
Filtered to 0.2 µm.

Perchloric acid 60% d=1.53
for analysis
Certified AR

Certified AR

packaging		product code
500 mL	Coated Glass Bottle	P/1240/PB08
2.5 L	Coated Glass Bottle	P/1240/PB17

$HClO_4$
CAS: 7601-90-3
MW: 100.46
Density at 20°C: 1.66
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: -18°C

Flash point: 113°C
ADR/RID: 5.1(8)/I
UN: 1873
HS-Nr: 28111900
EINECS: 231-512-4
Risk: R5, R8, R22, R35
Safety: S23, S26, S36, S45

O C

Assay: 60 to 62%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.5 ppm
Calcium (Ca)	<1 ppm	Sodium (Na)	<5 ppm
Chlorate	<0.002 %	Total chloride (Cl)	<0.0005 %
Chromium (Cr)	<0.2 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<0.2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<1 ppm	Total silicon (Si)	<1 ppm
Lead (Pb)	<0.2 ppm	Total sulphur (S)	<5 ppm
Magnesium (Mg)	<0.5 ppm	Zinc (Zn)	<0.1 ppm
Nickel (Ni)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.5 ppm	Manganese (Mn)	<0.02 ppm
Arsenic (As)	<0.1 ppm	Molybdenum (Mo)	<0.05 ppm
Barium (Ba)	<0.05 ppm	Silver (Ag)	<0.02 ppm
Cadmium (Cd)	<0.05 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Perchloric acid 60% is equivalent to a strength of 9.2 M (9.2 N).
Lot analysis on the label.

Perchloric acid 60%
extra pure
SLR

SpecFied LR

packaging		product code
500 mL	Coated Glass Bottle	P/1200/PB08
2.5 L	Coated Glass Bottle	P/1200/PB17

$HClO_4$
CAS: 7601-90-3
MW: 100.46
Density at 20°C: 1.66
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: -18°C

Flash point: 113°C
ADR/RID: 5.1(8)/I
UN: 1873
HS-Nr: 28111900
EINECS: 231-512-4
Risk: R5, R8, R22, R35
Safety: S23, S26, S36, S45

O C

Assay: >60%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<5 ppm
Chromium (Cr)	<2 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<5 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<50 ppm
Nickel (Ni)	<2 ppm	Zinc (Zn)	<5 ppm

Perchloric acid 60% is equivalent to a strength of 9.2 M (9.2 N).

Perchloric acid 67-71% NEW
OPTIMA

Optima

packaging		product code
250 mL	Teflon FEP bottle	P/1295/07
500 mL	Teflon FEP bottle	P/1295/08
1 L	Teflon FEP bottle	P/1295/15

$HClO_4$
CAS: 7601-90-3
MW: 100.46
Density at 20°C: 1.66
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: -18°C

Flash point: 113°C
ADR/RID: 5.1(8)/I
UN: 1873
HS-Nr: 28111980
Risk: R5, R8, R35
Safety: S23, S26, S36, S45

O C

Assay: 65 to 71%

Guaranteed analysis

Aluminium (Al)	<100 ppt	Nickel (Ni)	<30 ppt
Antimony (Sb)	<50 ppt	Niobium (Nb)	<10 ppt
Arsenic (As)	<100 ppt	Palladium (Pd)	<10 ppt
Barium (Ba)	<20 ppt	Platinum (Pt)	<1 ppt
Beryllium (Be)	<5 ppt	Potassium (K)	<20 ppt
Bismuth (Bi)	<2 ppt	Praséodymium (Pr)	<1 ppt
Cadmium (Cd)	<1 ppt	Rhodium (Rh)	<5 ppt
Calcium (Ca)	<100 ppt	Rubidium (Rb)	<10 ppt
Cerium (Ce)	<1 ppt	Samarium (Sm)	<1 ppt
Cesium (Cs)	<1 ppt	Scandium (Sc)	<100 ppt
Cobalt (Co)	<5 ppt	Silver (Ag)	<5 ppt
Copper (Cu)	<20 ppt	Sodium (Na)	<50 ppt
Dysprosium (Dy)	<1 ppt	Strontium (Sr)	<1 ppt
Erbium (Er)	<1 ppt	Tantalum (Ta)	<30 ppt
Europium (Eu)	<1 ppt	Tellurium (Te)	<10 ppt
Gadolinium (Gd)	<1 ppt	Terbium (Tb)	<1 ppt
Gallium (Ga)	<5 ppt	Thallium (Tl)	<1 ppt
Hafnium (Hf)	<1 ppt	Thorium (Th)	<0.1 ppt
Holmium (Ho)	<1 ppt	Thulium (Tm)	<1 ppt
Indium (In)	<1 ppt	Tin (Sn)	<20 ppt
Iron (Fe)	<70 ppt	Titanium (Ti)	<20 ppt
Lanthanum (La)	<1 ppt	Tungsten (W)	<20 ppt
Lead (Pb)	<2 ppt	Uranium (U)	<0.1 ppt
Lithium (Li)	<1 ppt	Vanadium (V)	<20 ppt
Lutetium (Lu)	<1 ppt	Ytterbium (Yb)	<1 ppt
Magnesium (Mg)	<20 ppt	Yttrium (Y)	<1 ppt
Manganese (Mn)	<5 ppt	Zinc (Zn)	<20 ppt
Molybdenum (Mo)	<10 ppt	Zirconium (Zr)	<3 ppt
Neodymium (Nd)	<1 ppt		

Perchloric acid 67-71% NEW
for trace metal analysis
Trace metal grade

TraceMetal

packaging		product code
500 mL	Coated Glass Bottle	P/1292/PB08
1 L	Coated Glass Bottle	P/1292/PB15

$HClO_4$
CAS: 7601-90-3
MW: 100.46
Density at 20°C: 1.66
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: -18°C

Flash point: 113°C
ADR/RID: 5.1(8)/I
UN: 1873
HS-Nr: 28111980
Risk: R5, R8, R35
Safety: S23, S26, S36, S45

O C

Assay: 65 to 71%

Guaranteed analysis

Colour	<10 APHA	Cerium (Ce)	<0.5 ppb
Aluminium (Al)	<1 ppb	Cesium (Cs)	<0.5 ppb
Antimony (Sb)	<0.1 ppb	Cobalt (Co)	<0.1 ppb
Arsenic (As)	<0.5 ppb	Copper (Cu)	<0.5 ppb
Barium (Ba)	<0.1 ppb	Dysprosium (Dy)	<0.5 ppb
Beryllium (Be)	<0.1 ppb	Erbium (Er)	<0.5 ppb
Bismuth (Bi)	<0.1 ppb	Europium (Eu)	<0.5 ppb
Cadmium (Cd)	<0.1 ppb	Gadolinium (Gd)	<0.5 ppb
Calcium (Ca)	<1 ppb		

Gallium (Ga)	<0.5 ppb	Rubidium (Rb)	<0.5 ppb
Hafnium (Hf)	<0.5 ppb	Samarium (Sm)	<0.5 ppb
Holmium (Ho)	<0.5 ppb	Scandium (Sc)	<0.5 ppb
Indium (In)	<0.5 ppb	Silver (Ag)	<0.1 ppb
Iron (Fe)	<0.5 ppb	Sodium (Na)	<0.5 ppb
Lanthanum (La)	<0.5 ppb	Strontium (Sr)	<0.1 ppb
Lead (Pb)	<0.1 ppb	Tantalum (Ta)	<1 ppb
Lithium (Li)	<0.1 ppb	Tellurium (Te)	<0.5 ppb
Lutetium (Lu)	<0.5 ppb	Terbium (Tb)	<0.5 ppb
Magnesium (Mg)	<0.5 ppb	Thallium (Tl)	<0.5 ppb
Manganese (Mn)	<0.1 ppb	Thorium (Th)	<0.1 ppb
Molybdenum (Mo)	<0.1 ppb	Thulium (Tm)	<0.5 ppb
Neodymium (Nd)	<0.5 ppb	Tin (Sn)	<0.1 ppb
Nickel (Ni)	<0.1 ppb	Titanium (Ti)	<0.1 ppb
Niobium (Nb)	<0.5 ppb	Tungsten (W)	<0.5 ppb
Palladium (Pd)	<0.5 ppb	Uranium (U)	<0.1 ppb
Platinum (Pt)	<0.5 ppb	Vanadium (V)	<0.5 ppb
Potassium (K)	<0.5 ppb	Ytterbium (Yb)	<0.5 ppb
Praséodymium (Pr)	<0.5 ppb	Yttrium (Y)	<0.5 ppb
Rhodium (Rh)	<0.5 ppb	Zinc (Zn)	<0.5 ppb

Perchloric acid 70% d=1.67 — Certified AR
for analysis

packaging		product code
500 mL	Coated Glass Bottle	P/1280/PB08
1 L	Coated Glass Bottle	P/1280/PB15
2.5 L	Coated Glass Bottle	P/1280/PB17

$HClO_4$
CAS: 7601-90-3
MW: 100.46
Density at 20°C: 1.66
Boiling point: 203°C
Boiling pressure: 760 mmHg
Melting point: -18°C

Flash point: 113°C
ADR/RID: 5.1(8)/I
UN: 1873
HS-Nr: 28111900
EINECS: 231-512-4
Risk: R5, R8, R22, R35
Safety: S23, S26, S36, S45

O C

Assay: 68 to 72%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.2 ppm
Calcium (Ca)	<1 ppm	Sodium (Na)	<2 ppm
Chlorate	<0.001 %	Total chloride (Cl)	<0.0001 %
Chromium (Cr)	<0.2 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<0.2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<1 ppm	Total silicon (Si)	<1 ppm
Lead (Pb)	<0.2 ppm	Total sulphur (S)	<5 ppm
Magnesium (Mg)	<0.5 ppm	Zinc (Zn)	<0.5 ppm
Nickel (Ni)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.5 ppm	Manganese (Mn)	<0.02 ppm
Arsenic (As)	<0.2 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.05 ppm	Silver (Ag)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Perchloric acid 70% is equivalent to a strength of 11.6 M (11.6 N).
Lot analysis on the label.

Perchloric acid solution 0.1M (0.1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/5820/PB15
2.5 L	Plastic bottle	J/5820/PB17

ADR/RID: 3(8)/II
UN: 2920
HS-Nr: 28111980

Risk: R10, R35
Safety: S23, S26, S45

C F

Guaranteed analysis

Water ..... <0.1%

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Perchloric acid solution 0.05 M in propan-1-ol
pure, ready to use

packaging		product code
2.5 L	Glass bottle	J/9027/17

Density at 20°C: 0.79
Flash point: 12°C
HS-Nr: 38220000
Risk: R8, R36/38

Guaranteed analysis

Water ..... <0.1% m

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Perchloroethylene *See Tetrachloroethylene, page 283*

Periodic acid — Certified AR
for analysis

packaging		product code
100 g	Plastic jar	P/1322/48

H_5IO_6
CAS: 10450-60-9
MW: 227.94
Melting point: 122°C
ADR/RID: 5.1(8)/II

UN: 3085
HS-Nr: 28111900
EINECS: 233-937-0
Risk: R8, R34
Safety: S26, S36, S28

O C

Assay: >99.5%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<2 ppm	Potassium (K)	<20 ppm
Calcium (Ca)	<10 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<5 ppm	Sodium (Na)	<50 ppm
Cobalt (Co)	<2 ppm	Strontium (Sr)	<2 ppm
Copper (Cu)	<5 ppm	Titanium (Ti)	<1 ppm
Iodide	<0.001%	Total nitrogen (N)	<50 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Petroleum ether 30-40°C — Certified AR
for analysis, n-hexane < 0.1%

packaging		product code
1 L	Glass bottle	P/1720/15
2.5 L	Glass bottle	P/1720/17

CAS: 64742-49-0
Density at 20°C: 0.62 to 0.64
Boiling point: 80 to 110°C
Melting point: -40°C
Flash point: -30°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Lead (Pb)	<0.05 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Number of bromine	<2	Potassium (K)	<0.2 ppm
Residue after evaporation	<10 ppm	Sodium (Na)	<0.5 ppm
Water	<0.01%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.05 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.05 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Manganese (Mn)	<0.02 ppm	Vanadium (V)	<0.01 ppm

Petroleum ether 30-40°C — Certified AR
for analysis, low in aromatic

packaging		product code
2.5 L	Glass bottle	P/1960/17
180 L	Metal drum	P/1960/99

CAS: 64742-49-0
Density at 20°C: 0.62 to 0.64
Boiling point: 80 to 110°C
Melting point: -40°C
Flash point: -30°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101190
EINECS: 232-453-7
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.00003 meq/g	Total sulphur (S)	<5 ppm
Residue after evaporation	<10 ppm	Aromatic Hydrocarbons	<0.01%
Water	<0.02%		

Petroleum ether 30-40°C — SLR
extra pure

packaging		product code
2.5 L	Glass bottle	P/1400/17
5 L	Metal can	P/1400/21
25 L	Metal drum	P/1400/25

CAS: 64742-49-0
Density at 20°C: 0.63 to 0.63
Boiling point: 80 to 110°C
Melting point: -40°C
Flash point: -30°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 38220000
EINECS: 232-453-7
Risk: R12, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Number of bromine	<5	Potassium (K)	<2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<5 ppm
Water	<0.03%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Petroleum ether 40-60°C — Distol
for residue and pesticide analysis

packaging		product code
1 L	Glass bottle	P/2092/15
2.5 L	Glass bottle	P/2092/17

CAS: 64742-49-0
Density at 20°C: 0.65
Boiling point: 36 to 70°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -45°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.02%
GC (NPD) analysis	Conform		

Petroleum ether 40-60°C
extra dry, for synthesis

packaging		product code
2.5 L	Glass bottle	P/2082/17

CAS: 64742-49-0
Density at 20°C: 0.65
Boiling point: 36 to 70°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -45°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Petroleum ether 40-60°C — Certified AR
for analysis, n-hexane < 2%

packaging		product code
1 L	Glass bottle	P/1760/15
2.5 L	Glass bottle	P/1760/17
5 L	Metal can	P/1760/21
25 L	Metal drum	P/1760/25
200 L	Metal drum	P/1760/27

CAS: 64742-49-0
Density at 20°C: 0.64 to 0.66
Boiling point: 36 to 70°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -45°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101190
EINECS: 232-453-7
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, SS33, S61, S62

F+ Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.05 ppm
Colour	<10 APHA	Potassium (K)	<0.2 ppm
Number of bromine	<2	Sodium (Na)	<0.5 ppm
Residue after evaporation	<10 ppm	Tin (Sn)	<0.02 ppm
Water	<0.01%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Lead (Pb)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.01 ppm
Manganese (Mn)	<0.05 ppm		

see page 279 for suitable Tap & accessories.

Petroleum ether 40-60°C — Certified AR
for analysis, low in aromatic

packaging		product code
2.5 L	Glass bottle	P/2000/17

CAS: 64742-49-0
Density at 20°C: 0.64 to 0.66
Boiling point: 36 to 70°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -45°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101190
EINECS: 232-453-7
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, SS33, S61, S62

F Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.00003 meq/g	Water	<0.02%
Residue after evaporation	<10 ppm	Total sulphur (S)	<5 ppm

Petroleum ether 40-60°C — SLR
extra pure

packaging		product code
2.5 L	Glass bottle	P/1440/17
2.5 L	Coated Glass Bottle	P/1440/PB17
5 L	Metal can	P/1440/21
25 L	Metal drum	P/1440/25
200 L	Metal drum	P/1440/27

CAS: 64742-49-0
Density at 20°C: 0.64 to 0.66
Boiling point: 36 to 70°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -45°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R51/53, R65, R67
Safety: S9, S16, S29, S33, S61, S62

F Xn N

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Number of bromine	<5	Potassium (K)	<2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<5 ppm
Water	<0.03%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Petroleum ether 60-80°C — Distol
for residue and pesticide analysis

packaging		product code
1 L	Glass bottle	**P/2094/15**
2.5 L	Glass bottle	**P/2094/17**

CAS: 64742-49-0
Density at 20°C: 0.69
Boiling point: 60 to 95°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.02%
GC (NPD) analysis	Conform		

Petroleum ether 60-80°C — Certified AR
for analysis, low in aromatic

packaging		product code
2.5 L	Glass bottle	**P/2040/17**

CAS: 64742-49-0
Density at 20°C: 0.67 to 0.67
Boiling point: 60 to 95°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.00003 meq/g	Total sulphur (S)	<5 ppm
Residue after evaporation	<10 ppm	Aromatic Hydrocarbons	<0.05%
Water	<0.02%		

Petroleum ether 60-80°C — SLR
extra pure

packaging		product code
1 L	Glass bottle	**P/1480/15**
2.5 L	Glass bottle	**P/1480/17**
5 L	Metal can	**P/1480/21**
25 L	Metal drum	**P/1480/25**
200 L	Metal drum	**P/1480/27**

CAS: 64742-49-0
Density at 20°C: 0.67 to 0.67
Boiling point: 60 to 95°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Number of bromine	<5	Potassium (K)	<2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<5 ppm
Water	<0.03%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Petroleum ether 60-80°C
extra dry, for synthesis

packaging		product code
500 mL	Coated Glass Bottle	**P/2084/PB08**
2.5 L	Glass bottle	**P/2084/17**

CAS: 64742-49-0
Density at 20°C: 0.69
Boiling point: 60 to 95°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Petroleum ether 60-80°C — Certified AR
for analysis, n-hexane < 50%

packaging		product code
1 L	Glass bottle	**P/1800/15**
2.5 L	Glass bottle	**P/1800/17**
2.5 L	Coated Glass Bottle	**P/1800/PB17**
200 L	Metal drum	**P/1800/27**

CAS: 64742-49-0
Density at 20°C: 0.66 to 0.68
Boiling point: 60 to 95°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.05 ppm
Colour	<10 APHA	Potassium (K)	<0.2 ppm
Number of bromine	<2	Sodium (Na)	<0.5 ppm
Residue after evaporation	<10 ppm	Tin (Sn)	<0.02 ppm
Water	<0.01%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.1 ppm
Lead (Pb)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.01 ppm
Manganese (Mn)	<0.05 ppm		

see page 279 for suitable Tap & accessories.

Petroleum ether 80-100°C — Certified AR
for analysis, n-hexane < 20%

packaging		product code
2.5 L	Glass bottle	**P/1840/17**
200 L	Metal drum	**P/1840/27**

CAS: 64742-49-0
Density at 20°C: 0.69 to 0.71
Boiling point: 80 to 110°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -020°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.05 ppm
Colour	<10 APHA	Potassium (K)	<0.2 ppm
Number of bromine	<2	Sodium (Na)	<0.5 ppm
Residue after evaporation	<10 ppm	Total phosphorus (P)	<0.5 ppm
Water	<0.01%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<0.001%
Copper (Cu)	<0.05 ppm	Vanadium (V)	<0.01 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.02 ppm
Lead (Pb)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.05 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Manganese (Mn)	<0.05 ppm		

Lot analysis on the label.

see page 279 for suitable Tap & accessories.

Petroleum ether 80-100°C — SLR
extra pure

Specified LR

packaging		product code
2.5 L	Glass bottle	P/1520/17
5 L	Metal can	P/1520/21
25 L	Metal drum	P/1520/25

CAS: 64742-49-0
Density at 20°C: 0.69 to 0.71
Boiling point: 80 to 110°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -020°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R48/20, R51/53, R62, R65, R67
Safety: S9, S16, S29, S33, S36/37, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Number of bromine	<5	Potassium (K)	<2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<5 ppm
Water	<0.03%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Petroleum ether 100-120°C — Certified AR
for analysis, n-hexane < 2%

Certified AR

packaging		product code
2.5 L	Glass bottle	P/1880/17
25 L	Metal drum	P/1880/25
200 L	Metal drum	P/1880/27

CAS: 64742-49-0
Density at 20°C: 0.7 to 0.75
Boiling point: 100 to 140°C
Boiling pressure: 760 mmHg
Melting point: -30°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F T N

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Lead (Pb)	<0.05 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Number of bromine	<2	Potassium (K)	<0.2 ppm
Residue after evaporation	<10 ppm	Sodium (Na)	<0.5 ppm
Water	<0.01%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.1 ppm

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.05 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Manganese (Mn)	<0.05 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Petroleum ether 100-120°C — SLR
extra pure

Specified LR

packaging		product code
1 L	Glass bottle	P/1560/15
2.5 L	Glass bottle	P/1560/17

CAS: 64742-49-0
Density at 20°C: 0.715 to 0.735
Boiling point: 100 to 140°C
Boiling pressure: 760 mmHg
Melting point: -30°C
Flash point: -20°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F T N

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Number of bromine	<5	Potassium (K)	<2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<5 ppm
Water	<0.03%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

Petroleum ether over 120°C — Certified AR
for analysis

Certified AR

packaging		product code
2.5 L	Glass bottle	P/1920/17

CAS: 64742-49-0
Density at 20°C: 0.75 to 0.75
Boiling point: 40 to 60°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -30°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Lead (Pb)	<0.05 ppm
Colour	<8 APHA	Magnesium (Mg)	<0.05 ppm
Number of bromine	<1.6	Potassium (K)	<0.2 ppm
Residue after evaporation	<10 ppm	Sodium (Na)	<0.5 ppm
Water	<0.01%	Total phosphorus (P)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<0.2 ppm		

Typical analysis

Aluminium (Al)	<0.1 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Selenium (Se)	<0.05 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Titanium (Ti)	<0.01 ppm
Manganese (Mn)	<0.05 ppm	Vanadium (V)	<0.01 ppm

Lot analysis on the label.

Petroleum ether > 120°C — SLR
extra pure

Specified LR

packaging		product code
2.5 L	Glass bottle	P/1600/17

CAS: 64742-49-0
Density at 20°C: 0.75 to 0.75
Boiling point: 40 to 60°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -30°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101190
EINECS: 232-453-7
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F N Xn

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Number of bromine	<5	Potassium (K)	<2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<5 ppm
Water	<0.03%	Total phosphorus (P)	<1 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<1 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<50 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

Petroleum ether (petroleum spirit with <15% n-hexane)
pure

packaging		product code
2.5 L	Glass bottle	P/1360/17
25 L	Metal drum	P/1360/25

CAS: 64742-49-0
Density at 20°C: 0.69 to 0.71
Boiling point: 80 to 110°C
Boiling pressure: 760 mmHg
Melting point: -40°C
Flash point: -020°C
ADR/RID: 3/II

UN: 1268
HS-Nr: 27101125
EINECS: 232-453-7
Risk: R11, R36/38, R45, R51/53, R65, R66, R67
Safety: S9, S16, S29, S33, S61, S62

F N Xn

see page 279 for suitable Tap & accessories.

Reagents, Solvents & Volumetric solutions conform to the European Pharmacopeia (Eur.Ph), British (BP) & US (USP) NEW SPEC.

designation	EP	BP	USP	packsize	package type	product code	page
Acetic acid glacial 99-100%	●	●	●	1 L	Plastic bottle	A/0360/PB15	2
	●	●	●	2.5 L	Plastic bottle	A/0360/PB17	2
	●	●	●	25 L	Metal drum	A/0360/25	2
Acetone	●			1 L	Glass bottle	A/0600/15	4
	●			2.5 L	Glass bottle	A/0600/17	4
	●				Coated Glass Bottle	A/0600/PB17	4
	●				Plastic bottle	A/0600/PC17	4
	●			5 L	Metal can	A/0600/21	4
	●				Plastic bottle	A/0600/PC21	4
	●			25 L	Metal drum	A/0600/25	4
	●			200 L	Metal drum	A/0600/27	4
Acetonitrile	●			1 L	Glass bottle	A/0627/15	6
	●			2.5 L	Glass bottle	A/0627/17	6
	●				Coated Glass Bottle	A/0627/PB17	6
	●			5 L	Aluminium drum	A/0627/21	6
	●			200 L	Stainless steel drum	A/0627/27SS	6
Aluminium chloride hexahydrate	●	●	●	500 g	Plastic jar	A/1960/53	14
Ammonium chloride	●	●		500 g	Plastic jar	A/3920/53	22
	●	●		1 kg	Plastic jar	A/3920/60	22
	●	●		2 kg	Plastic jar	A/3920/61	22
	●	●		5 kg	Plastic drum	A/3920/65	22
	●	●		25 kg	Fibre Keg	A/3920/70	22
Ammonium thiocyanate solution 0.1M (0.1N)	●	●	●	1 L	Plastic bottle	J/1500/PB15	30
	●	●	●	2.5 L	Plastic bottle	J/1500/PB17	30
Benzyl alcohol	●	●	●	2.5 L	Coated Glass Bottle	B/2550/PB17	39
	●	●	●	500 mL	Glass bottle	B/2550/08	39
Boric acid	●			500 g	Plastic jar	B/3750/53	41
	●			1 kg	Plastic jar	B/3750/60	41
	●			5 kg	Plastic drum	B/3750/65	41
Boric acid	●			500 g	Plastic jar	B/3760/53	41
	●			1 kg	Plastic jar	B/3760/60	41
	●			5 kg	Plastic drum	B/3760/65	41
	●			25 kg	Fibre Keg	B/3760/70	41
Calcium carbonate	●	●		1 kg	Plastic jar	C/1040/60	56
	●	●		3 kg	Plastic jar	C/1040/63	56
	●	●		5 kg	Plastic drum	C/1040/65	56
Calcium gluconate	●		●	500 g	Plastic jar	C/1610/53	57
Calcium lactate pentahydrate	●	●	●	500 g	Plastic jar	C/1820/53	57
Cerium(IV) sulfate solution 0.1, (0.1N)	●	●		1 L	Glass bottle	J/3000/15	61
Cerium(IV) sulfate solution 0.1M (0.1N)	●	●		2.5 L	Glass bottle	J/3000/17	61
Chloral hydrate	●	●		500 g	Plastic jar	C/4280/53	63
	●	●		10 kg	Plastic screw top Keg	C/4280/68	63
Chloramine-T Sodium salt	●	●	●	250 g	Plastic jar	C/4320/50	63
	●	●	●	500 g	Plastic jar	C/4320/53	63
Citric acid, anhydrous	●	●	●	500 g	Plastic jar	C/6240/53	69
Citric acid monohydrate	● ●		● ●	500 g	Plastic jar	C/6200/53	70
	● ●		● ●		Plastic jar	C/6200/53	70
	● ●		● ●	1 kg	Plastic jar	C/6200/60	70
	● ●		● ●		Plastic jar	C/6200/60	70
	● ●		● ●	2.5 kg	Plastic jar	C/6200/62	70
	● ●		● ●		Plastic jar	C/6200/62	70
	● ●		● ●	5 kg	Plastic drum	C/6200/65	70
	● ●		● ●		Plastic drum	C/6200/65	70
	●		●	25 kg	Fibre Keg	C/6200/70	70
	●		●		Fibre Keg	C/6200/70	70
Diethyl ether stabilized with BHT	●			1 L	Glass bottle	D/2450/15	86
	●				Coated Glass Bottle	D/2450/PB15	86
	●			2.5 L	Glass bottle	D/2450/17	86
	●				Coated Glass Bottle	D/2450/PB17	86
	●			5 L	Metal can	D/2450/21	86

Reagents, Solvents & Volumetric solutions conform to the European Pharmacopeia (Eur.Ph), British (BP) & US (USP) NEW SPEC.

designation	EP	BP	USP	packsize	package type	product code	page
Diethyl ether stabilized with BHT	●			25 L	Metal drum	D/2450/25	86
	●			200 L	Metal drum	D/2450/27	86
	●			500 mL	Coated Glass Bottle	D/2450/PB08	86
Ethanol absolute	●	●	●	1 L	Glass bottle	E/0650DF/15	96
	●	●	●	2.5 L	Glass bottle	E/0650DF/17	96
	●	●	●		Plastic bottle	E/0650DF/C17	96
	●	●	●	5 L	Metal can	E/0650DF/21	96
	●	●	●	10 L	Plastic drum	E/0650DF/24	96
	●	●	●	25 L	Metal drum	E/0650DF/25	96
	●	●	●	205 L	Metal drum	E/0650DF/28	96
Ethanol			●	1 L	Glass bottle	E/0550DF/15	97
			●	2.5 L	Glass bottle	E/0550DF/17	97
			●		Plastic bottle	E/0550DF/C17	97
			●	5 L	Metal can	E/0550DF/21	97
			●	25 L	Metal drum	E/0550DF/25	97
Ethanol 96% v/v	●	●	●	2.5 L	Glass bottle	E/0555DF/17	97
	●	●	●		Plastic bottle	E/0555DF/C17	97
	●	●	●	5 L	Metal can	E/0555DF/21	97
	●	●	●	25 L	Metal drum	E/0555DF/25	97
Ethylenediaminetetraacetic acid disodium salt dihydrate	●	●		100 g	Plastic jar	D/0700/48	100
	●	●		250 g	Plastic jar	D/0700/50	100
	●	●		500 g	Plastic jar	D/0700/53	100
	●	●		1 kg	Plastic jar	D/0700/60	100
	●	●		10 kg	Plastic screw top Keg	D/0700/68	100
	●	●		25 kg	Fibre Keg	D/0700/70	100
Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N)	●	●		1 L	Plastic bottle	J/3700/15	101
	●	●		2.5 L	Plastic bottle	J/3700/17	101
	●	●		10 L	Cubitainer	J/3700/24	101
Gelatine	●			500 g	Plastic jar	G/0150/53	108
D(+)-Glucose anhydrous	●	●	●	500 g	Plastic jar	G/0500/53	108
	●	●	●	1 kg	Plastic jar	G/0500/60	108
	●	●	●	2 kg	Plastic jar	G/0500/61	108
	●	●	●	5 kg	Plastic drum	G/0500/65	108
	●	●	●	25 kg	Fibre Keg	G/0500/70	108
D(+)-Glucose monohydrate	●	●		1 kg	Plastic jar	G/0400/60	109
Hydrochloric acid solution 0.1M (0.1N)	●	●		1 L	Plastic bottle	J/4350/15	120
	●	●		2.5 L	Plastic bottle	J/4350/17	120
	●	●		5 L	Plastic bottle	J/4350/21	120
	●	●		10 L	Cubitainer	J/4350/24	120
Hydrochloric acid solution 1M (1N)	●	●	●	1 L	Plastic bottle	J/4320/15	121
	●	●	●	2.5 L	Plastic bottle	J/4320/17	121
	●	●	●	5 L	Plastic bottle	J/4320/21	121
	●	●	●	10 L	Cubitainer	J/4320/24	121
Hydrochloric acid solution 2M (2N)	●	●		1 L	Plastic bottle	J/4315/15	121
	●	●		2.5 L	Plastic bottle	J/4315/17	121
Iodine solution 0.05M (0.1N)	●	●	●	1 L	Glass bottle	J/4410/15	130
	●	●	●	2.5 L	Glass bottle	J/4410/17	130
Iodine solution 0.5M (1N)	●	●		1 L	Coated Glass Bottle	J/4400/PB15	130
	●	●		2.5 L	Coated Glass Bottle	J/4400/PB17	130
	●	●		500 mL	Coated Glass Bottle	J/4400/PB08	130
Lactic acid	●			2.5 L	Plastic bottle	L/0150/PB17	141
	●			500 mL	Plastic bottle	L/0150/PB08	141
Magnesium carbonate pentahydrate	●	●		500 g	Plastic jar	M/0450/53	152
Magnesium carbonate pentahydrate	●	●		500 g	Plastic jar	M/0500/53	152
Magnesium chloride hexahydrate	●	●		500 g	Plastic jar	M/0600/53	152
	●	●		1 kg	Plastic jar	M/0600/60	152
	●	●		2 kg	Plastic jar	M/0600/61	152
	●	●		5 kg	Plastic drum	M/0600/65	152
Magnesium oxide	●	●		500 g	Plastic jar	M/0850/53	153
	●	●		1 kg	Plastic drum	M/0850/60	153
Magnesium oxide	●	●	●	500 g	Plastic jar	M/0800/53	153
Magnesium stearate	●	●	●	500 g	Plastic jar	M/0955/53	153
Magnesium sulfate heptahydrate	●	●	●	1 kg	Plastic jar	M/1000/60	154
	●	●	●	2.5 kg	Plastic jar	M/1000/62	154
	●	●	●	5 kg	Plastic drum	M/1000/65	154
Mannitol	●	●		500 g	Plastic jar	M/2405/53	156

Reagents, Solvents & Volumetric solutions conform to the European Pharmacopeia (Eur.Ph), British (BP) & US (USP) NEW SPEC.

designation	EP	BP	USP	packsize	package type	product code	page
Nitric acid solution 1M (1N)	●	●	●	1 L	Plastic bottle	J/5550/PB15	177
	●	●	●	2.5 L	Plastic bottle	J/5550/PB17	177
	●	●	●	10 L	Cubitainer	J/5550/24	177
Phenol detached crystals	●	●	●	500 g	Plastic jar	P/2360/53	195
	●	●	●	1 kg	Plastic jar	P/2360/60	195
	●	●	●	2 kg	Plastic jar	P/2360/61	195
	●	●	●	25 kg	Fibre Keg	P/2360/70	195
Potassium carbonate anhydrous	●			250 g	Plastic jar	P/4120/50	204
	●			500 g	Plastic jar	P/4120/53	204
	●			1 kg	Plastic jar	P/4120/60	204
	●			2.5 kg	Plastic jar	P/4120/62	204
Potassium chloride	●			500 g	Plastic jar	P/4240/53	205
	●			1 kg	Plastic jar	P/4240/60	205
	●			2.5 kg	Plastic jar	P/4240/62	205
	●			5 kg	Plastic jar	P/4240/65	205
tri-Potassium citrate	●	●	●	500 g	Plastic jar	P/4442/53	205
Potassium dichromate solution 0.0167M (0.1N)	●	●	●	1 L	Glass bottle	J/6212/15	207
	●	●	●	2.5 L	Glass bottle	J/6212/17	207
Potassium hydrogen carbonate	●	●	●	500 g	Plastic jar	P/5080/53	209
	●	●	●	2.5 kg	Plastic jar	P/5080/62	209
Potassium hydroxide	●	●		500 g	Plastic jar	P/5640/53	211
	●	●		1 kg	Plastic jar	P/5640/60	211
	●	●		5 kg	Plastic jar	P/5640/65	211
	●	●		10 kg	Plastic drum	P/5640/68	211
	●	●		25 kg	Metal drum	P/5640/70	211
Potassium hydroxide solution 0.1M (0.1N), (in methanol)	●	●		1 L	Glass bottle	J/6625/15	211
Potassium hydroxide solution 1M (1N)	●	●		1 L	Plastic bottle	J/6630/PB15	212
	●	●		2.5 L	Plastic bottle	J/6630/17	212
Potassium iodate 0.05M solution stabilized with 10 ppm mercury(II) chloride	●	●	●	1 L	Glass bottle	J/6690/15	213
	●	●	●	2.5 L	Glass bottle	J/6690/17	213
Potassium nitrate	●	●		500 g	Plastic jar	P/6120/53	214
	●	●		1 kg	Plastic jar	P/6120/60	214
	●	●		5 kg	Plastic jar	P/6120/65	214
Potassium permanganate	●	●	●	250 g	Glass packaging	P/6560/50	215
	●	●	●	500 g	Glass packaging	P/6560/53	215
	●	●	●	5 kg	Plastic screw top Keg	P/6560/65	215
	●	●	●	25 kg	Metal drum	P/6560/70	215
Propane-1.2-diol	●	●	●	2.5 L	Glass bottle	P/7440/17	218
	●	●	●	25 L	Metal drum	P/7440/25	218
	●	●	●	200 L	Metal drum	P/7440/27	218
	●	●	●	500 mL	Glass bottle	P/7440/08	218
Silver nitrate solution 0.1M (0.1N)	●	●	●	1 L	Plastic bottle	J/7330/15	230
	●	●	●	2.5 L	Plastic bottle	J/7330/17	230
	●	●	●	10 L	Cubitainer	J/7330/24	230
Sodium dihydrogen orthophosphate dihydrate	●	●		500 g	Plastic jar	S/3760/53	240
	●	●		1 kg	Plastic jar	S/3760/60	240
	●	●		5 kg	Plastic drum	S/3760/65	240
	●	●		25 kg	Plastic drum	S/3760/70	240
di-Sodium hydrogen orthophosphate anhydrous	●	●		500 g	Plastic jar	S/4520/53	242
	●	●		1 kg	Plastic jar	S/4520/60	242
	●	●		3 kg	Plastic jar	S/4520/63	242
	●	●		5 kg	Plastic drum	S/4520/65	242
	●	●		25 kg	Fibre Keg	S/4520/70	242
di-Sodium hydrogen orthophosphate dodecahydrate	●	●		500 g	Plastic jar	S/4400/53	243
	●	●		1 kg	Plastic jar	S/4400/60	243
	●	●		10 kg	Plastic screw top Keg	S/4400/68	243
Sodium acetate trihydrate	●	●		500 g	Plastic Jar	S/2000/53	234
	●	●		1 kg	Plastic Jar	S/2000/60	234
	●	●		2.5 kg	Plastic Jar	S/2000/62	234
	●	●		5 kg	Plastic Keg	S/2000/65	234
Sodium benzoate	●	●		500 g	Plastic Jar	S/2440/53	235
	●	●		1 kg	Plastic Jar	S/2440/60	235
Sodium chloride	●			500 g	Plastic jar	S/3160/53	237
	●			1 kg	Plastic jar	S/3160/60	237
	●			3 kg	Plastic jar	S/3160/63	237
	●			5 kg	Plastic jar	S/3160/65	237
	●			10 kg	Plastic screw top Keg	S/3160/68	237
	●			25 kg	Plastic screw top Keg	S/3160/70	237

Reagents, Solvents & Volumetric solutions conform to the European Pharmacopeia (Eur.Ph), British (BP) & US (USP) NEW SPEC.

designation	EP	BP	USP	packsize	package type	product code	page
tri-Sodium citrate dihydrate	●	●	●	500 g	Plastic Jar	S/3320/53	238
	●	●	●	1 kg	Plastic Jar	S/3320/60	238
	●	●	●	5 kg	Plastic Keg	S/3320/65	238
	●	●	●	25 kg	Fibre Keg	S/3320/70	238
Sodium hydrogen carbonate	●			500 g	Plastic Jar	S/4240/53	242
	●			1 kg	Plastic Jar	S/4240/60	242
	●			3 kg	Plastic Jar	S/4240/63	242
	●			5 kg	Plastic Keg	S/4240/65	242
Sodium hydroxide pellets	●	●		500 g	Plastic jar	S/4920/53	244
	●	●		1 kg	Plastic jar	S/4920/60	244
	●	●		3 kg	Plastic jar	S/4920/63	244
	●	●		5 kg	Plastic jar	S/4920/65	244
	●	●		10 kg	Plastic drum	S/4920/68	244
	●	●		25 kg	Metal can	S/4920/70	244
Sodium hydroxide solution 2M (2N)		●		1 L	Plastic bottle	J/7610/PB15	246
		●		2.5 L	Plastic bottle	J/7610/17	246
		●		5 L	Plastic bottle	J/7610/21	246
Sodium hydroxide solution 1M (1N)	●	●	●	1 L	Plastic bottle	J/7620/15	246
	●	●	●	2.5 L	Plastic bottle	J/7620/17	246
	●	●	●	5 L	Plastic bottle	J/7620/21	246
	●	●	●	10 L	Cubitainer	J/7620/24	246
Sodium hydroxide solution 0.1M (0.1N)	●	●		1 L	Plastic bottle	J/7660/15	247
	●	●		2.5 L	Plastic bottle	J/7660/17	247
	●	●		5 L	Plastic bottle	J/7660/21	247
	●	●		10 L	Cubitainer	J/7660/24	247
Sodium metabisulfite	●	●		500 g	Plastic jar	S/5240/53	248
	●	●		1 kg	Plastic jar	S/5240/60	248
	●	●		2.5 kg	Plastic jar	S/5240/62	248
di-Sodium tetraborate decahydrate	●			1 kg	Plastic jar	S/7010/60	254
	●			3 kg	Plastic jar	S/7010/63	254
Sodium thiosulfate solution 0.1M (0.1N)	●	●	●	1 L	Plastic bottle	J/7950/15	255
	●	●	●	2.5 L	Plastic bottle	J/7950/17	255
	●	●	●	5 L	Plastic bottle	J/7950/21	255
	●	●	●	10 L	Cubitainer	J/7950/24	255
Sorbitol	●		●	500 g	Plastic jar	S/7400/53	255
	●		●	3 kg	Plastic jar	S/7400/63	255
Sucrose	●	●		500 g	Plastic jar	S/8600/53	272
	●	●		1 kg	Plastic jar	S/8600/60	272
	●	●		3 kg	Plastic jar	S/8600/63	272
	●	●		5 kg	Plastic drum	S/8600/65	272
	●	●		10 kg	Plastic drum	S/8600/68	272
	●	●		25 kg	Fibre Keg	S/8600/70	272
Sulfuric acid solution 0.5M (1N)	●	●	●	1 L	Plastic bottle	J/8430/15	277
	●	●	●	2.5 L	Plastic bottle	J/8430/17	277
	●	●	●	10 L	Cubitainer	J/8430/24	277
Sulfuric acid solution 0.05M (0.1N)	●	●		1 L	Plastic bottle	J/8460/15	277
	●	●		2.5 L	Plastic bottle	J/8460/17	277
	●	●		10 L	Cubitainer	J/8460/24	277
(+)-Tartaric acid	●			500 g	Plastic jar	T/0250/53	280
	●			1 kg	Plastic jar	T/0250/60	280
Zinc oxide	●	●	●	500 g	Plastic jar	Z/1300/53	309
	●	●	●	1 kg	Plastic jar	Z/1300/60	309

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page

1.10-Phenanthroline monohydrate
for analysis — Certified AR

packaging		product code
1 g	Glass tube	P/2200/43
5 g	Glass bottle	P/2200/44

$C_{12}H_8N_2.H_2O$
CAS: 5144-89-8
MW: 198.23
Boiling pressure: 760 mmHg
Melting point: 97 to 101°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29339090
Risk: R25, R50/53
Safety: S45, S60, S61

T N

Assay: >99.5%

Guaranteed analysis
Residue after ignition ..... <0.05% Sensitivity test (iron) ..... Conform

Indicator Redox
Lot analysis on the label.

1.10-Phenanthroline monohydrate
pure

packaging		product code
5 g	Plastic jar	P/2190/44

$C_{12}H_8N_2.H_2O$
CAS: 5144-89-8
MW: 198.23
Boiling pressure: 760 mmHg
Melting point: 97 to 101°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29339090
Risk: R25, R50/53
Safety: S45, S60, S61

T N

Assay: >98%

1.10-Phenanthroline ferrous solution 0.025M
pure

packaging		product code
100 mL	Coated Glass Bottle	P/2220/PB05

$C_{36}H_{24}FeNSO_4$
CAS: 14634-91-4
MW: 692.53

HS-Nr: 38220000
EINECS: 228-676-6
Safety: S24/25

Suitable for use in the Chemical Oxygen Demand test (DCO).

2-Phenylethanol
extra pure — SLR

packaging		product code
500 mL	Glass bottle	P/2526/08

$C_8H_{10}O$
CAS: 60-12-8
MW: 122.17
Density at 20°C: 1.02
Boiling point: 219°C
Boiling pressure: 760 mmHg
Melting point: -27°C

Flash point: 102°C
ADR/RID: 6.1/III
UN: 2810
HS-Nr: 29062900
EINECS: 200-456-2
Risk: R21/22, R36/38
Safety: S26, S36/37/39

Xn

Assay (GC): >99%

2-Phenylethylamine
extra pure — SLR

packaging		product code
100 mL	Coated Glass Bottle	P/2530/PB05

$C_8H_{11}N$
CAS: 64-04-0
MW: 121.18
Density at 20°C: 0.96
Boiling point: 194 to 195°C
Boiling pressure: 760 mmHg
Melting point: -60°C

Flash point: 90°C
ADR/RID: 8/III
UN: 2735
HS-Nr: 29214980
EINECS: 200-574-4
Risk: R22, R34
Safety: S26, S36/37/39, S45

C

Assay: >98.5%

Phenol liquified 80% w/w in water
for analysis — Certified AR

packaging		product code
2.5 L	Coated Glass Bottle	P/2316/PB17

C_6H_6O
CAS: 108-95-2
MW: 94.11
Density at 20°C: 1.07
Boiling point: 182°C
Melting point: 41°C
Flash point: 79°C

ADR/RID: 6.1/II
UN: 2821
HS-Nr: 29071100
EINECS: 203-632-7
Risk: R24/25, R34
Safety: S28A, S45

T

Assay: 77 to 81.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Sodium (Na)	<10 ppm
Calcium (Ca)	<5 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<0.5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<1 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<0.5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<0.5 ppm	Zinc (Zn)	<0.5 ppm
Potassium (K)	<5 ppm	Other IMP.	No reaction

Lot analysis on the label.

Phenol liquified 80% w/w in water
pure

packaging		product code
2.5 L	Coated Glass Bottle	P/2315/PB17

C_6H_6O
CAS: 108-95-2
MW: 94.11
Density at 20°C: 1.055 to 1.06
Boiling point: 182°C
Melting point: 41°C
Flash point: 79°C

ADR/RID: 6.1/II
UN: 2821
HS-Nr: 29071100
EINECS: 203-632-7
Risk: R24/25, R34
Safety: S28A, S45

T

Phenol detached crystals
for analysis — Certified AR, Eur.Ph.,BP,USP

packaging		product code
500 g	Plastic jar	P/2360/53
1 kg	Plastic jar	P/2360/60
2 kg	Plastic jar	P/2360/61
25 kg	Fibre Keg	P/2360/70

C_6H_6O
CAS: 108-95-2
MW: 94.11
Density at 20°C: 1.07
Boiling point: 182°C
Boiling pressure: 760 mmHg
Melting point: 39 to 41°C
Flash point: 79°C

ADR/RID: 6.1/II
UN: 1671
HS-Nr: 29071100
EINECS: 203-632-7
Risk: R23/24/25, R34, R48/20/21/22, R68
Safety: S24/25, S26, S28A, S36/37/39, S45

T C

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Sodium (Na)	<10 ppm
Water-insoluble	<0.005%	Total chloride (Cl)	<0.0005 %
Calcium (Ca)	<5 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<0.5 ppm	Total silicon (Si)	<5 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<0.5 ppm	Zinc (Zn)	<0.5 ppm
Magnesium (Mg)	<0.5 ppm	Other IMP.	No reaction
Potassium (K)	<5 ppm		

Lot analysis on the label.

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Phenol detached crystals
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/2320/53
1 kg	Plastic jar	P/2320/60

C_6H_6O
CAS: 108-95-2
MW: 94.11
Density at 20°C: 1.07
Boiling point: 182°C
Boiling pressure: 760 mmHg
Melting point: 39 to 41°C
Flash point: 79°C

ADR/RID: 6.1/II
UN: 1671
HS-Nr: 29071100
EINECS: 203-632-7
Risk: R23/24/25, R34, R48/20/21/22, R68
Safety: S24/25, S26, S28A, S36/37/39, S45

T C

Assay (GC): >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<2 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<20 ppm	Zinc (Zn)	<2 ppm

Phenol red
pure, indicator grade

packaging		product code
5 g	Glass packaging	P/2420/44
25 g	Glass packaging	P/2420/46

$C_{19}H_{14}O_5S$
CAS: 143-74-8
MW: 354.38
Melting point: >300°C

HS-Nr: 29349090
EINECS: 205-609-7
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

pH 6.8-8.4 yellow to red.

Phenol red solution 0.02% in water
pure, indicator grade

packaging		product code
500 mL	Glass bottle	P/2420L/08

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S7, S16

F

pH 6.8-8.4 yellow to red.
In solution 75% water and 25% ethanol.

Phenol disulfonic acid solution 25%w/v in sulfuric acid
pure

packaging		product code
500 mL	Coated Glass Bottle	J/5900/PB08

Density at 20°C: 1.822 to 1.826
ADR/RID: 8/II
UN: 1803

HS-Nr: 29089910
Risk: R35
Safety: S36/37/39, S26

C

Phenol-indo-2.6-dichlorophenol sodium salt
pure

packaging		product code
1 g	Glass Jar	P/2390/43
5 g	Glass Jar	P/2390/44

$C_{12}H_6Cl_2NNaO_2$
CAS: 620-45-1
MW: 290.08
Boiling pressure: 760 mmHg

HS-Nr: 29089990
EINECS: 210-640-4
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Phenol-indo-2.6-dichlorophenol sodium salt
pure, tablets

packaging		product code
20 PC	Glass bottle	P/2392/82

$C_{12}H_6Cl_2NNaO_2$
CAS: 620-45-1
MW: 290.07
Boiling pressure: 760 mmHg

HS-Nr: 29089990
EINECS: 210-640-4
Safety: S24/25

Phenolphthalein solid
pure, indicator grade

packaging		product code
100 g	Plastic jar	P/2400/48
500 g	Plastic jar	P/2400/53
10 kg	Plastic screw top Keg	P/2400/68

$C_{20}H_{14}O_4$
CAS: 77-09-8
MW: 318.33
Density at 20°C: 1.3
Melting point: 258 to 263°C

HS-Nr: 29322910
EINECS: 201-004-7
Risk: R22, R40
Safety: S36/37, S45

Xn

Guaranteed analysis

IR Analysis ..... Conform

pH 8.3-10.0 colourless to red.

Phenolphthalein solution 0.2% in water
pure, indicator grade

packaging		product code
500 mL	Glass bottle	P/2400L/08
2.5 L	Glass bottle	P/2400L/17

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

Risk: R11, R20/21/22, R40
Safety: S7, S16, S36/37, S45

F Xn

For non-aqueous titration.

Phenolphthalein solution 1% in water
pure, indicator grade

packaging		product code
500 mL	Glass bottle	P/2401L/08

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

F Xn

For non-aqueous titration.

Phenosafranine C.I. 50200
pure

packaging		product code
5 g	Glass packaging	P/2450/44

$C_{18}H_{15}ClN_4$
CAS: 81-93-6
MW: 322.8
Melting point: >300°C

HS-Nr: 32041300
EINECS: 201-387-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266

L-beta-Phenylalanine SLR
extra pure for chromatography

packaging		product code
25 g	Plastic jar	P/2459/46

$C_9H_{11}NO_2$
CAS: 63-91-2
MW: 165.19
Melting point: 270-275°C

HS-Nr: 29224990
EINECS: 200-568-1
Risk: R36/37/38
Safety: S24/25, S37/39, S45

Assay: >99%

Guaranteed analysis

Loss on drying	<0.5%	Iron (Fe)	<10 ppm
Residue after ignition	<0.1%	Lead (Pb)	<10 ppm
Specific rotation (α 20/D)	-+35° to -33°		

DL-beta-Phenylalanine SLR
extra pure

packaging		product code
100 g	Plastic jar	P/2461/48

$C_9H_{11}NO_2$
CAS: 150-30-1
MW: 165.19
Melting point: 266 °C

HS-Nr: 29224990
EINECS: 205-756-7
Safety: S24/25

Assay: >98.5%

Guaranteed analysis

Loss on drying	<0.5%	Iron (Fe)	<10 ppm
Melting Point tested	265 to 275°C	Lead (Pb)	<10 ppm
Residue after ignition	<0.1%		

Phenylamine *See Aniline, page 31*

N-Phenylanthranilic acid
pure

packaging		product code
5 g	Plastic jar	P/2460/44

$C_{13}H_{11}NO_2$
CAS: 91-40-7
HS-Nr: 29163900
EINECS: 202-066-8

Guaranteed analysis

IR Analysis ..... Conform

Phenylbromide *See Bromobenzene, page 42*

p-Phenylenediamine SLR
extra pure

Specified LR

packaging		product code
100 g	Glass packaging	P/2520/48

$C_6H_8N_2$
CAS: 106-50-3
MW: 108.14
Boiling point: 267°C
Boiling pressure: 760 mmHg
Melting point: 138 to 143°C
Flash point: 156°C
ADR/RID: 6.1/III

UN: 1673
HS-Nr: 29215110
EINECS: 203-404-7
Risk: R23/24/25, R36, R43, R50/53
Safety: S28A, S36/37, S45, S60, S61

T N

Assay: >97%

Phenylhydrazine SLR
extra pure

Specified LR

packaging		product code
250 mL	Coated Glass Bottle	P/2560/PB07

$C_6H_8N_2$
CAS: 100-63-0
MW: 108.15
Density at 20°C: 1.09
Boiling point: 238 to 241°C
Boiling pressure: 760 mmHg
Freezing point: >18°C
Melting point: 19°C

Flash point: 89°C
ADR/RID: 6.1/II
UN: 2572
HS-Nr: 29280000
EINECS: 202-873-5
Risk: R45, R23/24/25, R36/38, R43, R48/23/24/25, R50, R68
Safety: S53, S45, S61

T N

Phenylhydrazinium chloride SLR
extra pure

Specified LR

packaging		product code
250 g	Glass packaging	P/2600/50

$C_6H_8N_2.HCl$
CAS: 59-88-1
MW: 144.61
Melting point: 250-254°C
ADR/RID: 6.1/III
UN: 2811

HS-Nr: 29280000
EINECS: 200-444-7
Risk: R45, R23/24/25, R36/38, R43, R48/23/24/25, R50, R68
Safety: S53, S45, S61

T N

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<50 ppm	Total phosphorus (P)	<500 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<200 ppm
Potassium (K)	<500 ppm		

Phenylmethylsulphonyl fluoride SLR
extra pure

Specified LR

packaging		product code
5 g	Glass packaging	P/2805/44

$C_7H_7FO_2S$
CAS: 329-98-6
MW: 174.19
Melting point: 90 to 94°C
ADR/RID: 8(6.1)/II
UN: 2923

HS-Nr: 29049020
EINECS: 206-350-2
Risk: R25, R34
Safety: S26, S28A, S36/37/39, S45

T

Assay: >99%

Guaranteed analysis

IR Analysis ..... Conform

3-Phenyl-2-propenal *See Cinnamaldehyde, page 69*

Phenyl salicylate SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	P/2840/50

$C_{13}H_{10}O_3$
CAS: 118-55-8
MW: 214.22
Boiling point: 172 to 173°C
Boiling pressure: 12 mmHg

Melting point: 40 to 44°C
Flash point: >110°C
HS-Nr: 29215110
EINECS: 204-259-2
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Phloroglucinol dihydrate — Certified AR
for analysis

packaging		product code
25 g	Plastic jar	P/2922/46

$C_6H_6O_3.2H_2O$
CAS: 6099-90-7
MW: 162.14
Melting point: 218 to 221°C

HS-Nr: 29072900
EINECS: 203-611-2
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

Acidity / Alkalinity	<0.01 meq/g	Potassium (K)	<10 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Phloroglucinol dihydrate — SLR
extra pure

packaging		product code
25 g	Plastic jar	P/2920/46

$C_6H_6O_3.2H_2O$
CAS: 6099-90-7
MW: 162.14
Melting point: 218 to 221°C

HS-Nr: 29072908
EINECS: 203-611-2
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<50 ppm		

Phosphate standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4558/05

HS-Nr: 38220000

Manufactured to a tolerance of ± 1%.

Phosphate standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASPO492Y
500 mL	Plastic bottle	SPASPO492X

Manufactured to a tolerance of ± 0.3%.

Phosphate-phosphorus standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPASPO4P92Y
500 mL	Plastic bottle	SPASPO4P92X

Manufactured to a tolerance of ± 0.3%.

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Phosphorous acid — SLR
extra pure, crystalline

packaging		product code
500 g	Plastic jar	P/3040/53

H_3PO_3
CAS: 13598-36-2
MW: 82
Density at 20°C: 1.65
Boiling point: 200°C
Boiling pressure: 760 mmHg
Melting point: 73°C

ADR/RID: 8/III
UN: 2834
HS-Nr: 28111900
EINECS: 237-066-7
Risk: R22, R35
Safety: S26, S36/37/39, S45

C

Assay: >98%

Guaranteed analysis

Iron (Fe)	<50 ppm	Total chloride (Cl)	<0.005%
Sulfate (SO_4)	<0.03%		

Phosphorus standard metal solution 1000 ppm
for ICP, solution aqueous

packaging		product code
500 mL	Plastic bottle	J/8299/08

HS-Nr: 28429080

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Phosphorus standard metal solution 10 000 ppm
for ICP, aqueous solution

packaging		product code
100 mL	Plastic bottle	J/8298/05

HS-Nr: 28429080

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Phosphorus standard metal solution 1000 ppm
for ICP solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLP92Y
250 mL	Plastic bottle	SPPLP92T

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Phosphorus standard metal solution 10 000 ppm
for ICP solution in H_2O, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLP93Y
500 mL	Plastic bottle	SPPLP93X

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Phosphorus
extra pure, red amorphous — SLR

Specified

packaging		product code
100 g	Glass packaging	P/3080/48

P
CAS: 7723-14-0
MW: 30.96
Melting point: 590°C
ADR/RID: 4.1/III

UN: 1338
HS-Nr: 28047000
EINECS: 231-768-7
Risk: R11, R16, R52/53
Safety: S7, S43C, S61

F

Phosphorus pentachloride
extra pure — SLR

Specified

packaging		product code
250 g	Glass bottle	P/3160/50
500 g	Glass bottle	P/3160/53

PCl_5
CAS: 10026-13-8
MW: 208.24
Density at 20°C: 1.6
Boiling point: 160°C
Boiling pressure: 760 mmHg
Melting point: 167°C

ADR/RID: 8/II
UN: 1806
HS-Nr: 38220000
EINECS: 233-060-3
Risk: R14, R22, R26, R34, R48/20
Safety: S7/8, S26, S36/37/39, S45

T+

Assay: >98%

Guaranteed analysis

Residue after ignition	<0.1%

Phosphorus pentoxide
for analysis — Certified AR

Certified

packaging		product code
250 g	Plastic jar	P/3000/50
500 g	Plastic jar	P/3000/53

P_2O_5
CAS: 1314-56-3
MW: 141.94
Density at 20°C: 2.39
Melting point: 340-360°C
ADR/RID: 8/II

UN: 1807
HS-Nr: 38220000
EINECS: 215-236-1
Risk: R35
Safety: S22, S26, S45

C

Assay: >99%

Guaranteed analysis

Oxides low	<0.01%	Potassium (K)	<20 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<10 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Cobalt (Co)	<2 ppm	Strontium (Sr)	<2 ppm
Lithium (Li)	<2 ppm	Titanium (Ti)	<2 ppm
Manganese (Mn)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Phosphorus pentoxide
extra pure — SLR

Specified

packaging		product code
250 g	Plastic jar	P/2960/50
500 g	Plastic jar	P/2960/53

P_2O_5
CAS: 1314-56-3
MW: 141.94
Density at 20°C: 2.39
Melting point: 340-360°C
ADR/RID: 8/II

UN: 1807
HS-Nr: 38220000
EINECS: 215-236-1
Risk: R35
Safety: S22, S26, S45

C

Assay: >98%

Guaranteed analysis

Oxides low	<0.05%	Potassium (K)	<100 ppm
Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<50 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<50 ppm		

Phosphorus tribromide
extra pure — SLR

Specified

packaging		product code
100 mL	Coated Glass Bottle	P/3200/PB05

PBr_3
CAS: 7789-60-8
MW: 270.69
Density at 20°C: 2.88
Boiling point: 175°C
Boiling pressure: 760 mmHg
Melting point: -40°C

ADR/RID: 8/II
UN: 1808
HS-Nr: 28129000
EINECS: 232-178-2
Risk: R14, R34, R37
Safety: S26, S45

C

Assay: >99%

Phosphorus trichloride
extra pure — SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	P/3240/PB08

PCl_3
CAS: 7719-12-2
MW: 137.33
Density at 20°C: 1.57
Boiling point: 74 to 78°C
Boiling pressure: 760 mmHg
Melting point: -112°C

ADR/RID: 6.1(8)/I
UN: 1809
HS-Nr: 38220000
EINECS: 231-749-3
Risk: R14, R26/28, R35, R48/20
Safety: S7/8, S26, S36/37/39, S45

T+ C

Assay: >98%

Phosphoryl chloride
extra pure — SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	P/3280/PB08
2.5 L	Coated Glass Bottle	P/3280/PB17

$POCL_3$
CAS: 10025-87-3
MW: 153.33
Density at 20°C: 1.62 to 1.72
Boiling point: 105°C
Boiling pressure: 760 mmHg
Melting point: 1.2°C

ADR/RID: 8/II
UN: 1810
HS-Nr: 38220000
EINECS: 233-046-7
Risk: R14, R22, R26, R35, R48/23
Safety: S7/8, S26, S36/37/39, S45

T+ C

Save money!
Order 4 bottles in a box

o-Phthalaldehyde SLR
extra pure

packaging		product code
5 g	Glass packaging	P/3298/44

$C_8H_6O_2$
CAS: 643-79-8
MW: 134.14
Density at 20°C: 1.13
Boiling point: 83 to 84°C
Boiling pressure: 1 hPa
Melting point: 54 to 57°C

Flash point: 132°C
ADR/RID: 6.1(8)/II
UN: 2928
HS-Nr: 29122900
EINECS: 211-402-2
Risk: R25, R34, R43
Safety: S26, S36/37/39, S45

T

Guaranteed analysis
IR Analysis ..... Conform

For the automated fluorescence analysis of amino acids and peptides.

Phthalein Complexon
See o-Cresolphthaleindi-(methyliminodi-acetic acid), page 76

Phthalic anhydride SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	P/3360/53
1 kg	Plastic jar	P/3360/60

$C_8H_4O_3$
CAS: 85-44-9
MW: 148.12
Boiling point: 284°C
Boiling pressure: 760 mmHg
Melting point: 129 to 132°C
Flash point: 152°C

ADR/RID: 8/III
UN: 2214
HS-Nr: 29173500
EINECS: 201-607-5
Risk: R22, R37/38, R41, R42/43
Safety: S22, S24/25, S26, S37/39, S46

Xn

Assay: >99%

Guaranteed analysis
Residue after ignition ..... <0.005%

Piperazine hexahydrate SLR
extra pure

Specified

packaging		product code
250 g	Plastic jar	P/3500/50

$C_4H_{10}N_2.6H_2O$
CAS: 142-63-2
MW: 194.24
Boiling point: 145 to 156°C
Boiling pressure: 760 mmHg
Melting point: 41 to 45°C
Flash point: 87°C

ADR/RID: 8/III
UN: 2579
HS-Nr: 29335990
EINECS: 203-808-3
Risk: R34, R42/43, R52/53
Safety: S22, S26, S36/37/39, S45, S61

C

Assay: >98%

Platinum standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLPT32Y
500 mL	Plastic bottle	SPPLPT32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Platinum SLR
extra pure, metal wire 0.127mm

Specified

packaging		product code
10 cm	Plastic jar	P/3610/88

Pt
CAS: 7440-06-4
MW: 195.09
Density at 20°C: 21.45

Boiling point: 3827°C
Melting point: 1772°C
HS-Nr: 71101910
EINECS: 231-116-1

Assay: 99.9%

The prices applied to platinum and derivatives vary with the price of the raw material.

Platinum
pure, metal wire 0.3 mm

packaging		product code
10 cm	Plastic jar	P/3600/88
50 cm	Plastic jar	P/3600/89

Pt
CAS: 7440-06-4
MW: 195.09
Density at 20°C: 21.45

Boiling point: 3827°C
Melting point: 1772°C
HS-Nr: 71101910
EINECS: 231-116-1

Assay: 99.9%

Platinum SLR
extra pure, metal wire 0.5mm

Specified

packaging		product code
10 cm	Plastic jar	P/3640/88
50 cm	Plastic jar	P/3640/89

Pt
CAS: 7440-06-4
MW: 195.09
Density at 20°C: 21.45

Boiling point: 3827°C
Melting point: 1772°C
HS-Nr: 71101910
EINECS: 231-116-1

Assay: 99.9%

The prices applied to platinum and derivatives vary with the price of the raw material.

Platinum(IV) dioxide
pure

packaging		product code
1 g	Glass tube	P/3652/43

PtO_2
CAS: 1314-15-4
MW: 227.09
Melting point: 450°C
ADR/RID: 5.1/II
UN: 3085

HS-Nr: 28439090
EINECS: 215-223-0
Risk: R8, R38, R41
Safety: S17, S22, S26, S28A, S36/37/39

O
Xi

Polyethylene glycol 6000 grade SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	P/3681/53
25 kg	Fibre Keg	P/3681/70

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.21

Melting point: -65°C
Flash point: 270°C
HS-Nr: 39072011

Grade number indicates approximate molecular weight.

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Polyethylene glycol 4000 grade SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	P/3680/53

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.21
Melting point: -65°C
Flash point: 270°C
HS-Nr: 39072011

Guaranteed analysis
Acidity ..... <0.008 meq/g

Grade number indicates approximate molecular weight

Polyethylene glycol 1500 grade SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	P/3679/53
25 kg	Fibre Keg	P/3679/70

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.21
Melting point: -65°C
Flash point: 270°C
HS-Nr: 39072011

Guaranteed analysis
Acidity ..... <0.008 meq/g

Grade number indicates approximate molecular weight

Polyethylene glycol 1000 grade SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	P/3678/53
25 kg	Metal drum	P/3678/70

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.21
Melting point: -65°C
Flash point: 270°C
HS-Nr: 39072011

Guaranteed analysis
Acidity ..... <0.008 meq/g

Grade number indicates approximate molecular weight

Polyethylene glycol 600 grade SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	P/3677/08

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.11 to 1.13
Melting point: -65°C
Flash point: 270°C
HS-Nr: 39072011

Guaranteed analysis
Acidity ..... <0.008 meq/g

Grade number indicates approximate molecular weight.

Polyethylene glycol 400 grade SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	P/3676/08

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.12 to 1.13
Melting point: -65°C
Flash point: 270°C
HS-Nr: 38220000

Guaranteed analysis
Acidity ..... <0.008 meq/g

Grade number indicates approximate molecular weight

Polyethylene glycol 200 grade SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	P/3675/08

$HO(C_2H_4O)nH$
CAS: 25322-68-3
Density at 20°C: 1.11 to 1.13
Melting point: -65°C
Flash point: 270°C
HS-Nr: 39072011

Guaranteed analysis
Acidity ..... <0.008 meq/g

Grade number indicates approximate molecular weight

Polyethylene glycol mono ether
See Triton X-100®, page 298

Polypropylene glycol 2000 grade SLR
extra pure

Specified

packaging		product code
1 L	Glass bottle	P/3694/15

CAS: 25322-69-4
Density at 20°C: 1
Melting point: -40°C
Flash point: 230°C
HS-Nr: 38220000

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Refractive index ..... 1.45 to 1.452

The value of the grade indicates the molecular weight of approximately.

Polyvinyl pyrrolidone
pure

packaging		product code
100 g	Plastic jar	P/3700/48

$(C_6H_9NO)n$
CAS: 9003-39-8
MW: approx. 44.000
Melting point: 225 °C
Flash point: >215°C
HS-Nr: 39059000

Guaranteed analysis
IR Analysis ..... Conform

Potassium standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4560/05

HS-Nr: 38220000
Risk: R34

Guaranteed analysis
Value between ..... 0.995 to 1.005

Manufactured to a tolerance of ± 1%.

Potassium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8060/05
500 mL	Plastic bottle	J/8060/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8301/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8300/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLK22Y
250 mL	Plastic bottle	SPPLK22T
500 mL	Plastic bottle	SPPLK22X

Risk: R34
Safety: S23, S26, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLK12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLK23Y
500 mL	Plastic bottle	SPPLK23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 10 000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLK13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLK22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Potassium metal in liquid paraffin
pure

packaging		product code
100 g	Box	P/3720/48

K
CAS: 7440-09-7
MW: 39.1
Boiling point: 770°C
Boiling pressure: 760 mmHg
Melting point: 63°C

ADR/RID: 4.3/I
UN: 2257
HS-Nr: 28051990
EINECS: 231-119-8
Risk: R14/15, R34
Safety: S5B, S8, S45

Potassium acetate
for analysis

Certified AR

CertiFied AR

packaging		product code
500 g	Plastic Jar	P/3761/53
1 kg	Plastic Jar	P/3761/60
2.5 kg	Plastic Keg	P/3761/62

$KC_2H_3O_2$
CAS: 127-08-2
MW: 98.14
Melting point: 292°C

Flash point: >250°C
HS-Nr: 29152900
EINECS: 204-822-2
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 9	Total chloride (Cl)	<0.001 %
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<5 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<2 ppm
Sodium (Na)	<500 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Molybdenum (Mo)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<1 ppm
Chromium (Cr)	<1 ppm	Silver (Ag)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Potassium acetate
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic Jar	P/3760/53
1 kg	Plastic Jar	P/3760/60
2.5 kg	Plastic Keg	P/3760/62
5 kg	Plastic Keg	P/3760/65

$KC_2H_3O_2$
CAS: 127-08-2
MW: 98.14
Melting point: 292°C
Flash point: >250°C
HS-Nr: 29152900
EINECS: 204-822-2
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 9	Sodium (Na)	<2000 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<10 ppm

Potassium bicarbonate
See Potassium hydrogen carbonate, page 209

Potassium biphthalate
See Potassium hydrogen phthalate, page 210

Potassium bitartrate
See Potassium hydrogen tartrate, page 211

Potassium bromate
for analysis Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	P/3920/50
500 g	Plastic jar	P/3920/53
1 kg	Plastic jar	P/3920/60

$KBrO_3$
CAS: 7758-01-2
MW: 167.01
Density at 20°C: 3.27
Melting point: 350°C
ADR/RID: 5.1/II
UN: 1484
HS-Nr: 28299090
EINECS: 231-829-8
Risk: R45, R9, R25
Safety: S53, S45

O T

Assay: >99.9%

Guaranteed analysis

Loss on drying	<0.05%	Magnesium (Mg)	<5 ppm
pH (aqueous solution 5%)	5 to 9	Sodium (Na)	<100 ppm
Bromide (Br)	<0.01 %	Total phosphorus (P)	<20 ppm
Calcium (Ca)	<20 ppm	Total silicon (Si)	<10 ppm
Copper (Cu)	<5 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<5 ppm
Lead (Pb)	<5 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Potassium bromate
extra pure SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/3880/53

$KBrO_3$
CAS: 7758-01-2
MW: 167.01
Density at 20°C: 3.27
Melting point: 350°C
ADR/RID: 5.1/II
UN: 1484
HS-Nr: 28299090
EINECS: 231-829-8
Risk: R45, R9, R25
Safety: S53, S45

O T

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 9	Magnesium (Mg)	<20 ppm
Bromide (Br)	<0.05%	Sodium (Na)	<500 ppm
Calcium (Ca)	<100 ppm	Total phosphorus (P)	<100 ppm
Copper (Cu)	<20 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<20 ppm

Potassium bromate-bromide solution 0.0167 M (0.1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/6100/15
2.5 L	Glass bottle	J/6100/17

HS-Nr: 28220000
Risk: R45
Safety: S53, S45

T

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium bromate-bromide solution 0.0167 M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/6100C/05
6	ampoule	J/6100C/90

HS-Nr: 28220000

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Potassium bromide
For IR Spectroscopy

packaging		product code
100 g	Plastic jar	P/4020/48

KBr
CAS: 7758-02-3
MW: 119.01
Boiling point: 1435°C
Boiling pressure: 760 mmHg
Melting point: 734°C
HS-Nr: 28275100
EINECS: 231-830-3
Risk: R36
Safety: S26, S39

Xi

Guaranteed analysis

IR Analysis ..... Conform

Lot analysis on the label.

Use best before information on the label

Potassium bromide
for analysis
Certified AR

packaging		product code
250 g	Plastic jar	P/4000/50
500 g	Plastic jar	P/4000/53
1 kg	Plastic jar	P/4000/60

KBr
CAS: 7758-02-3
MW: 119.01
Boiling point: 1435°C
Boiling pressure: 760 mmHg

Melting point: 734°C
HS-Nr: 28275100
EINECS: 231-830-3
Risk: R36
Safety: S26, S39

Xi

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.5%	Sodium (Na)	<1000 ppm
pH (aqueous solution 5%)	5 to 8	Total chloride (Cl)	<0.2 %
Bromate (BrO_3)	<0.0005 %	Total nitrogen (N)	<10 ppm
Calcium (Ca)	<10 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<5 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Potassium bromide
extra pure
SLR

packaging		product code
500 g	Plastic jar	P/3960/53
1 kg	Plastic jar	P/3960/60

KBr
CAS: 7758-02-3
MW: 119.01
Boiling point: 1435°C
Boiling pressure: 760 mmHg

Melting point: 734°C
HS-Nr: 28275100
EINECS: 231-830-3
Risk: R36
Safety: S26, S39

Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Sodium (Na)	<5000 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.5%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Potassium carbonate anhydrous
for analysis
Certified AR, Eur.Ph.

packaging		product code
250 g	Plastic jar	P/4120/50
500 g	Plastic jar	P/4120/53
1 kg	Plastic jar	P/4120/60
2.5 kg	Plastic jar	P/4120/62

K_2CO_3
CAS: 584-08-7
MW: 138.21
Melting point: 891°C

HS-Nr: 28364000
EINECS: 209-529-3
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >99.9%

Guaranteed analysis

Loss on drying 300°C	<1%	Sodium (Na)	<1000 ppm
Cadmium (Cd)	<1 ppm	Total chloride (Cl)	<0.002 %
Calcium (Ca)	<10 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Chromium (Cr)	<1 ppm	Silver (Ag)	<1 ppm
Cobalt (Co)	<1 ppm	Strontium (Sr)	<5 ppm
Lithium (Li)	<1 ppm	Titanium (Ti)	<1 ppm
Manganese (Mn)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Potassium carbonate anhydrous
extra pure
SLR

packaging		product code
500 g	Plastic jar	P/4080/53
1 kg	Plastic jar	P/4080/60
2.5 kg	Plastic jar	P/4080/62
5 kg	Plastic drum	P/4080/65

K_2CO_3
CAS: 584-08-7
MW: 138.21
Melting point: 891°C

HS-Nr: 28364000
EINECS: 209-529-3
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >99%

Guaranteed analysis

Loss on drying 300°C	<2%	Sodium (Na)	<5000 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Potassium chlorate
extra pure
SLR

packaging		product code
500 g	Plastic jar	P/4160/53

$KClO_3$
CAS: 3811-04-9
MW: 122.55
Melting point: 356 to 368°C
ADR/RID: 5.1/II

UN: 1485
HS-Nr: 28291900
EINECS: 223-289-7
Risk: R9, R20/22, R51/53
Safety: S13, S16, S27, S61

O
Xn
N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Sodium (Na)	<500 ppm		

Potassium chloride
for analysis
Certified AR

packaging		product code
500 g	Plastic jar	P/4280/53
1 kg	Plastic jar	P/4280/60
5 kg	Plastic drum	P/4280/65
10 kg	Plastic drum	P/4280/68
25 kg	Plastic screw top Keg	P/4280/70

KCl
CAS: 7447-40-7
MW: 74.56
Boiling point: 1420°C
Boiling pressure: 760 mmHg

Melting point: 770°C
HS-Nr: 31042090
EINECS: 231-211-8
Risk: R36
Safety: S26, S39

Xi

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.5%	Manganese (Mn)	<1 ppm
pH (aqueous solution 5%)	5 to 8	Sodium (Na)	<500 ppm
Calcium (Ca)	<10 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Potassium chloride
extra pure — SLR, Eur. Ph.

Specified LR

packaging		product code
500 g	Plastic jar	P/4240/53
1 kg	Plastic jar	P/4240/60
2.5 kg	Plastic jar	P/4240/62
5 kg	Plastic jar	P/4240/65

KCl
CAS: 7447-40-7
MW: 74.56
Boiling point: 1420°C
Boiling pressure: 760 mmHg

Melting point: 770°C
HS-Nr: 31042090
EINECS: 231-211-8
Risk: R36
Safety: S26, S39

Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Sodium (Na)	<2000 ppm
Calcium (Ca)	<50 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<10 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm		

Potassium chloride solution 4M
pure, Electrode filling solution

packaging		product code
100 mL	Glass bottle	J/2986/05

Density at 20°C: 1.1684 to 1.177
HS-Nr: 38220000

Potassium chloride solution 4M
pure, Electrode filling solution with silver chloride

packaging		product code
100 mL	Glass bottle	J/2984/05

HS-Nr: 38220000

Potassium chloride satured solution
pure, Electrode filling solution

packaging		product code
100 mL	Glass bottle	J/2983/05

HS-Nr: 38220000

Potassium Chloride solution 3M
pure

packaging		product code
1 L	Plastic drum	J/2892/15

HS-Nr: 38220000
Risk: R22, R36/38

Guaranteed analysis

Value between ..... 2.99 to 3.01

Potassium chromate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	P/4400/50
500 g	Plastic jar	P/4400/53
1 kg	Plastic jar	P/4400/60
25 kg	Fibre Keg	P/4400/70

K_2CrO_4
CAS: 7789-00-6
MW: 194.2
Melting point: 975°C
ADR/RID: 5.1(6.1)/III
UN: 3087

HS-Nr: 38220000
EINECS: 232-140-5
Risk: R49, R46, R8, R22, R36/37/38, R43, R50/53
Safety: S53, S45, S60, S61

T O N

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	9 to 10	Sodium (Na)	<2000 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<0.002 %	Manganese (Mn)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Vanadium (V)	<2 ppm
Lithium (Li)	<2 ppm		

Lot analysis on the label.

Potassium chromate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/4360/53
1 kg	Plastic jar	P/4360/60

K_2CrO_4
CAS: 7789-00-6
MW: 194.2
Melting point: 975°C
ADR/RID: 5.1(6.1)/III
UN: 3087

HS-Nr: 28415000
EINECS: 232-140-5
Risk: R49, R46, R8, R22, R36/37/38, R43, R50/53
Safety: S53, S45, S60, S61

T O N

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	9 to 10	Sodium (Na)	<5000 ppm
Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<500 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

tri-Potassium citrate
for analysis — Certified AR, Eur.Ph.,BP,USP

Certified AR

packaging		product code
500 g	Plastic jar	P/4442/53

$C_6H_5K_3O_7.H_2O$
CAS: 6100-05-6
MW: 324.42
Melting point: 230°C

HS-Nr: 29181500
EINECS: 212-755-5
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	8 to 9	Sodium (Na)	<500 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<20 ppm
Oxalate (C_2O_4)	<0.01 %	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

tri-Potassium citrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/4440/53

$C_6H_5K_3O_7.H_2O$
CAS: 6100-05-6
MW: 324.42
Melting point: 230°C

HS-Nr: 29181500
EINECS: 212-755-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	pH > 8	Sodium (Na)	<2000 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

Potassium cyanate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/4520/53

KOCN
CAS: 590-28-3
MW: 81.12
Melting point: 315°C

HS-Nr: 28429080
EINECS: 209-676-3
Risk: R22
Safety: S24/25

Xn

Assay: >98%

Guaranteed analysis

Loss on drying	<2%	Potassium cyanide (KCN)	<0.5%

Potassium cyanide
for analysis — Certified AR

AR

packaging		product code
250 g	Plastic jar	P/4600/50
25 kg	Metal drum	P/4600/70

KCN
CAS: 151-50-8
MW: 65.12
Boiling point: 1625°C
Melting point: 634°C
ADR/RID: 6.1/I

UN: 1680
HS-Nr: 38220000
EINECS: 205-792-3
Risk: R26/27/28, R32, R50/53
Safety: S7, S28A, S29, S45, S60, S61

T+ N

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<2 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<5000 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<1 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<10 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<20 ppm

Lot analysis on the label.

Acids, Bases and Water for Trace Metal analysis

The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.

Read more page 9

Potassium cyanide
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	P/4560/50

KCN
CAS: 151-50-8
MW: 65.12
Boiling point: 1625°C
Melting point: 634°C
ADR/RID: 6.1/I

UN: 1680
HS-Nr: 28371900
EINECS: 205-792-3
Risk: R26/27/28, R32, R50/53
Safety: S7, S28A, S29, S45, S60, S61

T+ N

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<10 000 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<500 ppm
Iron (Fe)	<200 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Potassium dichromate
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic jar	P/4720/50
500 g	Plastic jar	P/4720/53
1 kg	Plastic jar	P/4720/60
25 kg	Plastic screw top Keg	P/4720/70

$K_2Cr_2O_7$
CAS: 7778-50-9
MW: 294.19
Boiling point: 500°C
Boiling pressure: 760 mmHg
Melting point: 398°C
ADR/RID: 5.1(6.1)/II

UN: 3086
HS-Nr: 28415000
EINECS: 231-906-6
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

T+ N O

Assay: >99.9%

Guaranteed analysis

Loss on drying	<0.05%	Sodium (Na)	<100 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm		

Lot analysis on the label.

Potassium dichromate
extra pure, powder — SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/4690/53

$K_2Cr_2O_7$
CAS: 7778-50-9
MW: 294.19
Boiling point: 500°C
Boiling pressure: 760 mmHg
Melting point: 398°C
ADR/RID: 5.1(6.1)/II

UN: 3086
HS-Nr: 28415000
EINECS: 231-906-6
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

T+ N O

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.1%	Sodium (Na)	<500 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<500 ppm
Iron (Fe)	<100 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Potassium dichromate SLR
extra pure, crystals

Specified LR

packaging		product code
500 g	Plastic jar	P/4680/53
1 kg	Plastic jar	P/4680/60
5 kg	Plastic jar	P/4680/65

$K_2Cr_2O_7$
CAS: 7778-50-9
MW: 294.19
Boiling point: 500°C
Boiling pressure: 760 mmHg
Melting point: 398°C
ADR/RID: 5.1(6.1)/II

UN: 3086
HS-Nr: 28415000
EINECS: 231-906-6
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

T+ N O

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.1%	Sodium (Na)	<500 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<500 ppm
Iron (Fe)	<100 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Potassium dichromate
pure

packaging		product code
1 kg	Plastic jar	P/4640/60
3 kg	Plastic jar	P/4640/63

$K_2Cr_2O_7$
CAS: 7778-50-9
MW: 294.19
Boiling point: 500°C
Boiling pressure: 760 mmHg
Melting point: 398°C
ADR/RID: 5.1(6.1)/II

UN: 3086
HS-Nr: 28415000
EINECS: 231-906-6
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

T+ N O

Potassium dichromate solution 0.0167M (0.1N)
NEW SPEC. Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/6212/15
2.5 L	Glass bottle	J/6212/17

Density at 20°C: 1
ADR/RID: /II
HS-Nr: 28414000

Risk: R49, R46, R43, R41, R37/38, R50/53
Safety: S53, S45, S60, S61

T N

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium dichromate solution 0.0167M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/6212C/05
6	ampoule	J/6212C/90

HS-Nr: 38220000
Risk: R49, R46, R43, R51/53
Safety: S53, S45, S60, S61

T N

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Potassium dichromate solution 0.021 M (0.125N) NEW SPEC.
NIST For COD and volumetric analysis

packaging		product code
1 L	Glass bottle	J/6220/15
2.5 L	Glass bottle	J/6220/17

HS-Nr: 38220000
Risk: R49, R46, R43, R51/53
Safety: S53, S45, S60, S61

T

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Potassium dihydrogen orthophosphate Certified
for HPLC

HPLC

packaging		product code
250 g	Plastic jar	P/4806/50
1 kg	Plastic jar	P/4806/60
25 kg	Plastic screw top Keg	P/4806/70

KH_2PO_4
CAS: 7778-77-0
MW: 136.09
Melting point: 252.6°C

HS-Nr: 28352400
EINECS: 231-913-4
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (solution 5%) 25°C	4.1 to 4.5	Lead (Pb)	<5 ppm
Iron (Fe)	<5 ppm	Total chloride (Cl)	<0.0005%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm <0.05 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Potassium dihydrogen orthophosphate Certified
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
250 g	Plastic jar	P/4810/50

KH_2PO_4
CAS: 7778-77-0
MW: 136.09
Melting point: 252.6°C

HS-Nr: 28352400
EINECS: 231-913-4
Safety: S24/25

Assay: >99%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<5 ppm
pH (solution 5%) 25°C	4.1 to 4.5	Total chloride (Cl)	<0.0005%
Iron (Fe)	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm <0.05 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Potassium dihydrogen orthophosphate — Certified AR
for analysis

packaging		product code
250 g	Plastic jar	P/4800/50
500 g	Plastic jar	P/4800/53
1 kg	Plastic jar	P/4800/60
3 kg	Plastic jar	P/4800/63
25 kg	Plastic screw top Keg	P/4800/70

KH_2PO_4
CAS: 7778-77-0
MW: 136.09
Melting point: 252.6°C
HS-Nr: 28352400
EINECS: 231-913-4
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.05%	Sodium (Na)	<200 ppm
pH (aqueous solution 5%)	4.3 to 4.4	Total chloride (Cl)	<0.0005 %
Calcium (Ca)	<50 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Potassium dihydrogen orthophosphate — SLR
extra pure

packaging		product code
500 g	Plastic jar	P/4760/53
1 kg	Plastic jar	P/4760/60
3 kg	Plastic jar	P/4760/63
25 kg	Plastic screw top Keg	P/4760/70

KH_2PO_4
CAS: 7778-77-0
MW: 136.09
Melting point: 252.6°C
HS-Nr: 28352400
EINECS: 231-913-4
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.1%	Magnesium (Mg)	<100 ppm
pH (aqueous solution 5%)	4.2 to 4.5	Sodium (Na)	<1000 ppm
Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total silicon (Si)	<200 ppm
Iron (Fe)	<50 ppm	Total sulphur (S)	<500 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<50 ppm

Potassium dihydrogen phosphate
See Potassium dihydrogen orthophosphate, page 207

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Potassium fluoride anhydrous — SLR
extra pure

packaging		product code
500 g	Plastic Jar	P/5000/53

KF
CAS: 7789-23-3
MW: 58.09
Density at 20°C: 2.48
Boiling point: 1505°C
Boiling pressure: 760 mmHg
Melting point: 860°C
ADR/RID: 6.1/III
UN: 1812
HS-Nr: 28372000
EINECS: 232-151-5
Risk: R23/24/25
Safety: S26, S45

T

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<200 ppm	Total phosphorus (P)	<500 ppm
Iron (Fe)	<100 ppm	Total silicon (Si)	<5000 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<200 ppm
Sodium (Na)	<5000 ppm		

Potassium fluoride dihydrate — SLR
extra pure

packaging		product code
500 g	Plastic Jar	P/4980/53

$KF.2H_2O$
CAS: 13455-21-5
MW: 94.13
Density at 20°C: 2.45
Boiling point: 156°C
Boiling pressure: 760 mmHg
Melting point: 41°C
ADR/RID: 6.1/III
UN: 1812
HS-Nr: 28372000
Risk: R23/24/25
Safety: S26, S45

T

Assay: 99 to 102%

Guaranteed analysis

Iron (Fe)	<200 ppm	Sulfate (SO_4)	<0.2%
Lead (Pb)	<50 ppm	Total chloride (Cl)	<0.02%
Sodium (Na)	<5000 ppm		

Potassium hexachloroplatinate(IV) — SLR
extra pure

packaging		product code
1 g	Glass tube	P/4320/43

K_2PtCl_6
CAS: 16921-30-5
MW: 486.01
ADR/RID: 6.1(8)/II
UN: 3290
HS-Nr: 28439090
EINECS: 240-979-3
Risk: R25, R41, R37, R42/43
Safety: S22, S24, S26, S36/37/39, S45, S45

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Potassium hexacyanoferrate(II) — Certified AR
for analysis

packaging		product code
500 g	Plastic jar	P/4960/53
1 kg	Plastic jar	P/4960/60
25 kg	Plastic screw top Keg	P/4960/70

$K_4Fe(CN)_6.3H_2O$
CAS: 14459-95-1
MW: 422.41
Density at 20°C: 1.85
Melting point: 70°C
HS-Nr: 28372000
EINECS: 237-722-2
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Nickel (Ni)	<5 ppm
Barium (Ba)	<5 ppm	Silver (Ag)	<5 ppm
Cadmium (Cd)	<5 ppm	Sodium (Na)	<200 ppm
Calcium (Ca)	<50 ppm	Strontium (Sr)	<5 ppm
Chromium (Cr)	<5 ppm	Titanium (Ti)	<5 ppm
Cobalt (Co)	<5 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<20 ppm
Molybdenum (Mo)	<5 ppm		

Potassium hexacyanoferrate(II) — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/4920/53
25 kg	Plastic screw top Keg	P/4920/70

$C_6FeK_4N_6.3H_2O$
CAS: 14459-95-1
MW: 422.41
Density at 20°C: 1.85
Melting point: 70°C
HS-Nr: 28372000
EINECS: 237-722-2
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.2%
Copper (Cu)	<200 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<500 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm
Sodium (Na)	<2000 ppm	Zinc (Zn)	<200 ppm

Potassium hexacyanoferrate(III) — Certified AR
for analysis

AR

packaging		product code
250 g	Plastic jar	P/4880/50
500 g	Plastic jar	P/4880/53
1 kg	Plastic jar	P/4880/60
25 kg	Plastic screw top Keg	P/4880/70

$K_3Fe(CN)_6$
CAS: 13746-66-2
MW: 329.26
Density at 20°C: 1.85
HS-Nr: 28372000
EINECS: 237-323-3
Risk: R32
Safety: S50A

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.02%
Iron cyanide	<0.02%	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<50 ppm

Lot analysis on the label.

Potassium hexacyanoferrate(III) — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	P/4840/50
500 g	Plastic jar	P/4840/53

$C_6FeK_3N_6$
CAS: 13746-66-2
MW: 329.26
Density at 20°C: 1.85
HS-Nr: 28372000
EINECS: 237-323-3
Risk: R32
Safety: S50A

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.2%
Copper (Cu)	<200 ppm	Total phosphorus (P)	<500 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<500 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm
Sodium (Na)	<2000 ppm	Zinc (Zn)	<200 ppm

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Potassium hydrogen carbonate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	P/5120/53
1 kg	Plastic jar	P/5120/60

$KHCO_3$
CAS: 298-14-6
MW: 100.12
Melting point: 292°C
HS-Nr: 28364000
EINECS: 206-059-0
Safety: S24/25

Assay: >99.8%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<50 ppm
Sodium (Na)	<200 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Potassium hydrogen carbonate — SLR, Eur.Ph., BP, USP
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/5080/53
2.5 kg	Plastic jar	P/5080/62

$KHCO_3$
CAS: 298-14-6
MW: 100.12
Melting point: 292°C
HS-Nr: 28364000
EINECS: 206-059-0
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<2000 ppm		

di-Potassium hydrogen orthophosphate anhydrous — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	P/5245/53
1 kg	Plastic jar	P/5245/60
25 kg	Fibre Keg	P/5245/70

K_2HPO_4
CAS: 7758-11-4
MW: 174.18
Melting point: 340°C
HS-Nr: 28352400
EINECS: 231-834-5
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	9 to 9.2	Sodium (Na)	<500 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

di-Potassium hydrogen orthophosphate anhydrous — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/5240/53
1 kg	Plastic jar	P/5240/60
5 kg	Plastic drum	P/5240/65
10 kg	Plastic drum	P/5240/68

K_2HPO_4
CAS: 7758-11-4
MW: 174.18
Melting point: 340°C
HS-Nr: 28352400
EINECS: 231-834-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.5%	Magnesium (Mg)	<200 ppm
Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total silicon (Si)	<200 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<100 ppm

di-Potassium hydrogen orthophosphate trihydrate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	P/5250/53
1 kg	Plastic jar	P/5250/60
25 kg	Plastic screw top Keg	P/5250/70

$K_2HPO_4.3H_2O$
CAS: 16788-57-1
MW: 228.22
HS-Nr: 28352400
EINECS: 231-834-5
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	9 to 9.2	Sodium (Na)	<500 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

di-Potassium hydrogen orthophosphate trihydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/5248/53
1 kg	Plastic jar	P/5248/60

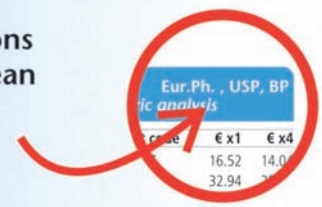
$K_2HPO_4.3H_2O$
CAS: 16788-57-1
MW: 228.22
HS-Nr: 28352400
EINECS: 231-834-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total silicon (Si)	<200 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<100 ppm
Magnesium (Mg)	<200 ppm		

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Potassium hydrogen phthalate — Certified AR
for analysis

Certified AR

packaging		product code
100 g	Plastic jar	P/5320/48
250 g	Plastic jar	P/5320/50
500 g	Plastic jar	P/5320/53
1 kg	Plastic jar	P/5320/60

$C_8H_5KO_4$
CAS: 877-24-7
MW: 204.23
Melting point: 295-300°C
HS-Nr: 29173990
EINECS: 212-889-4
Safety: S24/25

Assay: 99.9 to 100.1%

Guaranteed analysis

Loss on drying	<0.1%	Sodium (Na)	<200 ppm
pH (M solution /20) 15°C	3.999 to 4.001	Total chloride (Cl)	<0.002 %
Calcium (Ca)	<20 ppm	Total phosphorus (P)	<50 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Potassium hydrogen sulfate — Certified AR
for analysis

Certified AR

packaging		product code
250 g	Plastic Jar	P/5440/50
500 g	Plastic Jar	P/5440/53
1 kg	Plastic Jar	P/5440/60

$KHSO_4$
CAS: 7646-93-7
MW: 136.17
Density at 20°C: 2.32
Melting point: 214°C
ADR/RID: 8/II
UN: 2509
HS-Nr: 28332990
EINECS: 231-594-1
Risk: R34, R37
Safety: S26, S36/37/39, S45

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Sodium (Na)	<100 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Use best before information on the label

Potassium hydrogen sulfate
extra pure SLR

Specified

packaging		product code
500 g	Plastic Jar	P/5420/53

$KHSO_4$
CAS: 7646-93-7
MW: 136.17
Density at 20°C: 2.32
Melting point: 214°C
ADR/RID: 8/II

UN: 2509
HS-Nr: 28332990
EINECS: 231-594-1
Risk: R34, R37
Safety: S26, S36/37/39, S45

C

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<5000 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm

Potassium hydrogen tartrate
extra pure SLR

Specified

packaging		product code
1 kg	Plastic jar	P/5480/60

$C_4H_5KO_6$
CAS: 868-14-4
MW: 188.18
Density at 20°C: 1.95

HS-Nr: 29181300
EINECS: 212-769-1
Safety: S24/25

Potassium hydroxide
for analysis, pellets Certified AR, Eur.Ph., BP

Certified

packaging		product code
500 g	Plastic jar	P/5640/53
1 kg	Plastic jar	P/5640/60
5 kg	Plastic jar	P/5640/65
10 kg	Plastic drum	P/5640/68
25 kg	Metal drum	P/5640/70

KOH
CAS: 1310-58-3
MW: 56.11
Boiling point: 1320°C
Boiling pressure: 760 mmHg
Melting point: 360°C

ADR/RID: 8/II
UN: 1813
HS-Nr: 28152010
EINECS: 215-181-3
Risk: R22, R35
Safety: S26, S36/37/39, S45

C

Assay: >86%

Guaranteed analysis

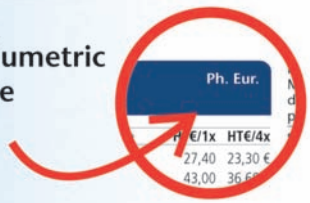
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.002 %
Carbonate (Na_2CO_3)	<1 %	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<10 ppm
Sodium (Na)	<5000 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<5 ppm
Arsenic (As)	<0.5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191



Potassium hydroxide pellets
extra pure SLR

Specified

packaging		product code
500 g	Plastic jar	P/5600/53
1 kg	Plastic jar	P/5600/60
5 kg	Plastic jar	P/5600/65
10 kg	Plastic drum	P/5600/68

KOH
CAS: 1310-58-3
MW: 56.11
Boiling point: 1320°C
Boiling pressure: 760 mmHg
Melting point: 360°C

ADR/RID: 8/II
UN: 1813
HS-Nr: 28020000
EINECS: 215-181-3
Risk: R22, R35
Safety: S26, S36/37/39, S45

C

Assay: >85%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<10 000 ppm
Carbonate (Na_2CO_3)	<2%	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm

Potassium hydroxide flake
extra pure SLR

Specified

packaging		product code
1 kg	Plastic jar	P/5560/60

KOH
CAS: 1310-58-3
MW: 56.11
Boiling point: 1320°C
Boiling pressure: 760 mmHg
Melting point: 360°C

ADR/RID: 8/II
UN: 1813
HS-Nr: 28020000
EINECS: 215-181-3
Risk: R22, R35
Safety: S26, S36/37/39, S45

C

Assay: >85%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<10 000 ppm
Carbonate (Na_2CO_3)	<2%	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm

Potassium hydroxide solution 48-50 % liquor
pure

packaging		product code
2.5 L	Plastic bottle	P/5645/17

KOH
CAS: 1310-58-3
MW: 56.11
ADR/RID: 8/II

UN: 1814
HS-Nr: 28152090
Risk: R22, R35
Safety: S26, S36/37/39, S45

C

Assay: 48 to 50%

Potassium hydroxide solution 0.1M (0.1N), (in methanol) NEW SPEC.
Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/6625/15

ADR/RID: /II
UN: 3286
HS-Nr: 28152090

Risk: R11, R20/21/22, R40/20/21/22, R36, R38
Safety: S16, S26, S36/37/39, S45

F Xn

Manufactured to a tolerance of ± 0.5%.
See the full range of Standard Volumetric solution page 266.

Potassium hydroxide solution 0.1M (0.1N), (in ethanol) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/6620/15
2.5 L	Plastic bottle	J/6620/17

ADR/RID: 3(8)/II
UN: 2924
HS-Nr: 28152090

Risk: R11, R20/21/22, R40/20/21/22, R36/38
Safety: S16, S26, S36/37/39, S45

F Xn

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Potassium hydroxide solution 1M (1N), (alcoholic) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/6610/15
2.5 L	Plastic bottle	J/6610/17

ADR/RID: 3(8)/II
UN: 2924
HS-Nr: 28152090

Risk: R11, R35, R20/21/22, R40/20/21/22
Safety: S16, S26, S36/37/39, S45

C F

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium hydroxide solution 0.1M (0.1N)
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/6640C/05
6	ampoule	J/6640C/90

ADR/RID: /II
UN: 1814
HS-Nr: 28152090

Risk: R35
Safety: S26, S36/37/39, S45

C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Potassium hydroxide solution 0.5M (0.5N), (in ethanol) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/6612/15
2.5 L	Plastic bottle	J/6612/17

ADR/RID: 3(8)/II
UN: 2924
HS-Nr: 28152090

Risk: R11, R34, R20/21/22, R40/20/21/22
Safety: S16, S26, S36/37/39, S45

C F

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Potassium hydroxide solution 1M (1N) NEW SPEC. Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/6630/PB15
2.5 L	Plastic bottle	J/6630/17

Density at 20°C: 1.05
ADR/RID: /II
UN: 1814

HS-Nr: 28152090
Risk: R34
Safety: S26, S36/37/39, S45

C

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium hydroxide solution 1M (1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/6630C/05
6	ampoule	J/6630C/90

ADR/RID: /II
UN: 1814
HS-Nr: 28152090

Risk: R22, R35
Safety: S26, S36/37/39, S45

C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Save money!
Order 4 bottles in a box

Potassium iodate Certified AR
for analysis

CertiFied

packaging		product code
100 g	Plastic jar	P/5800/48
250 g	Plastic jar	P/5800/50
500 g	Plastic jar	P/5800/53
1 kg	Plastic jar	P/5800/60

KIO_3
CAS: 7758-05-6
MW: 214
Density at 20°C: 3.93
Melting point: 560°C
ADR/RID: 5.1/II

UN: 1479
HS-Nr: 28299090
EINECS: 231-831-9
Risk: R8, R22, R36/37/38
Safety: S17, S26, S37/39

O Xn

Assay: >99.9%

Guaranteed analysis

Loss on drying	<0.05%	Lead (Pb)	<10 ppm
pH (aqueous solution 5%)	5 to 7	Magnesium (Mg)	<5 ppm
Bromate, bromide, chlorate and chloride	<0.02 %	Sodium (Na)	<100 ppm
		Total nitrogen (N)	<20 ppm
Calcium (Ca)	<200 ppm	Total silicon (Si)	<10 ppm
Copper (Cu)	<10 ppm	Total sulphur (S)	<100 ppm
Iodide	<0.001 %	Zinc (Zn)	<10 ppm
Iron (Fe)	<10 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Potassium iodate SLR
extra pure

SpeciFied

packaging		product code
100 g	Plastic jar	P/5760/48
500 g	Plastic jar	P/5760/53

KIO_3
CAS: 7758-05-6
MW: 214
Density at 20°C: 3.93
Melting point: 560°C
ADR/RID: 5.1/II

UN: 1479
HS-Nr: 28299090
EINECS: 231-831-9
Risk: R8, R22, R36/37/38
Safety: S17, S26, S37/39

O Xn

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.2%	Lead (Pb)	<50 ppm
Bromate, bromide, chlorate and chloride	<0.1%	Magnesium (Mg)	<20 ppm
		Sodium (Na)	<500 ppm
Calcium (Ca)	<500 ppm	Total silicon (Si)	<50 ppm
Copper (Cu)	<50 ppm	Total sulphur (S)	<500 ppm
Iodide	<0.005%	Zinc (Zn)	<50 ppm
Iron (Fe)	<50 ppm		

Potassium iodate 0.025M solution stabilized with 10 ppm mercury(II) chloride NEW SPEC.

NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
2.5 L	Glass bottle	J/6700/17

HS-Nr: 28299090

Guaranteed analysis

Value between ..... 0.024 to 0.026

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium iodate 0.05M solution stabilized with 10 ppm mercury(II) chloride NEW SPEC. Eur.Ph. , USP, BP

NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/6690/15
2.5 L	Glass bottle	J/6690/17

HS-Nr: 28299090

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium iodide *for analysis* Certified AR

Certified AR

packaging		product code
100 g	Plastic jar	P/5880/48
250 g	Plastic jar	P/5880/50
500 g	Plastic jar	P/5880/53
1 kg	Plastic jar	P/5880/60
3 kg	Plastic jar	P/5880/63
25 kg	Plastic screw top Keg	P/5880/70

KI
CAS: 7681-11-0
MW: 166.01
Density at 20°C: 3.13
Boiling point: 1330°C

Boiling pressure: 760 mmHg
Melting point: 680°C
HS-Nr: 28276000
Safety: S24/25

Assay: >99.9%

Guaranteed analysis

Loss on drying	<0.2%	Lead (Pb)	<2 ppm
pH (aqueous solution 5%)	6 to 8	Magnesium (Mg)	<5 ppm
Substance reducing iodine	<0.001%	Sodium (Na)	<500 ppm
Water-insoluble	<0.005%	Total chloride (Cl)	<0.1 %
Calcium (Ca)	<5 ppm	Total nitrogen (N)	<10 ppm
Chloride and Bromide	<0.01 %	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<10 ppm
Iodate (IO_3)	<2 ppm	Total sulphur (S)	<20 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<0.1 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Potassium iodide *extra pure* SLR

Specified LR

packaging		product code
250 g	Plastic jar	P/5840/50
500 g	Plastic jar	P/5840/53
1 kg	Plastic jar	P/5840/60
5 kg	Plastic jar	P/5840/65
10 kg	Plastic drum	P/5840/68

KI
CAS: 7681-11-0
MW: 166.01
Density at 20°C: 3.13
Boiling point: 1330°C

Boiling pressure: 760 mmHg
Melting point: 680°C
HS-Nr: 28276000
EINECS: 231-659-4
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.5%	Magnesium (Mg)	<20 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<2000 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<50 ppm
Iodate (IO_3)	<10 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<50 ppm

Potassium iron(III)cyanide

See Potassium hexacyanoferrate(III), page 209

Potassium metabisulfite *for analysis* Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	P/5960/53
1 kg	Plastic jar	P/5960/60

$K_2O_5S_2$
CAS: 16731-55-8
MW: 222.33
Melting point: 190 °C

HS-Nr: 28322000
EINECS: 240-795-3
Risk: R31, R37, R41
Safety: S26, S39, S50A

Xi

Assay: >96%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.02 %
Iron (Fe)	<10 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<10 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<5 ppm
Arsenic (As)	<0.2 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Potassium metabisulfite *extra pure* SLR

Specified LR

packaging		product code
500 g	Plastic jar	P/5920/53
1 kg	Plastic jar	P/5920/60

$K_2O_5S_2$
CAS: 16731-55-8
MW: 222.33
Melting point: 190 °C

HS-Nr: 28322000
EINECS: 240-795-3
Risk: R31, R37, R41
Safety: S26, S39, S50A

Xi

Assay: >95%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<5000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.1%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

Potassium nitrate
for analysis — Certified AR, Eur.Ph., BP

packaging		product code
500 g	Plastic jar	P/6120/53
1 kg	Plastic jar	P/6120/60
5 kg	Plastic jar	P/6120/65

KNO_3
CAS: 7757-79-1
MW: 101.11
Density at 20°C: 2.1
Boiling point: 400°C
Boiling pressure: 760 mmHg
Melting point: 334°C

ADR/RID: 5.1/III
UN: 1486
HS-Nr: 28342100
EINECS: 231-818-8
Risk: R8
Safety: S17

O

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 8	Nitrite (NO_2)	<0.0001 %
Ammonium (NH_4)	<0.001 %	Sodium (Na)	<500 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<5 ppm
Iodate (IO_3)	<0.5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Potassium nitrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	P/6080/53
1 kg	Plastic jar	P/6080/60
5 kg	Plastic jar	P/6080/65

KNO_3
CAS: 7757-79-1
MW: 101.11
Density at 20°C: 2.1
Boiling point: 400°C
Boiling pressure: 760 mmHg
Melting point: 334°C

ADR/RID: 5.1/III
UN: 1486
HS-Nr: 28342100
EINECS: 231-818-8
Risk: R8
Safety: S17

O

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Sodium (Na)	<2000 ppm		

Potassium nitrate
Technical

packaging		product code
1 kg	Plastic jar	P/6040/60
3 kg	Plastic jar	P/6040/63

KNO_3
CAS: 7757-79-1
MW: 101.11
Density at 20°C: 2.1
Boiling point: 400°C
Boiling pressure: 760 mmHg
Melting point: 334°C

ADR/RID: 5.1/III
UN: 1486
HS-Nr: 28342100
EINECS: 231-818-8
Risk: R8
Safety: S17

O

Potassium nitrite
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	P/6162/50
1 kg	Plastic jar	P/6162/60

KNO_2
CAS: 7758-09-0
MW: 85.11
Melting point: 387°C
ADR/RID: 5.1/II

UN: 1488
HS-Nr: 28341000
EINECS: 231-832-4
Risk: R8, R25, R50
Safety: S45, S61

O T N

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<5000 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Potassium nitrite
extra pure — SLR

packaging		product code
500 g	Plastic jar	P/6160/53

KNO_2
CAS: 7758-09-0
MW: 85.11
Melting point: 387°C
ADR/RID: 5.1/II

UN: 1488
HS-Nr: 28341000
EINECS: 231-832-4
Risk: R8, R25, R50
Safety: S45, S61

O T N

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<10 000 ppm		

tri-Potassium orthophosphate monohydrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	P/6280/53

$K_3PO_4.H_2O$
CAS: 7778-53-2
MW: 230.29
Density at 20°C: 2.56
Melting point: 1340°C

UN: 3262
HS-Nr: 28352400
EINECS: 231-907-1
Risk: R35
Safety: S26, S36/37/39, S45

C

Assay: >95%

Guaranteed analysis

Lead (Pb)	<50 ppm	Total chloride (Cl)	<0.005%
Sulfate (SO_4)	<0.005%		

Potassium oxalate monohydrate
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	P/6360/50
500 g	Plastic jar	P/6360/53
25 kg	Fibre Keg	P/6360/70

$C_2K_2O_4.H_2O$
CAS: 6487-48-5
MW: 184.23
Melting point: 356°C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29171100
EINECS: 209-506-8
Risk: R21/22
Safety: S24/25

Xn

Assay: 99.5 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 8.5	Molybdenum (Mo)	<5 ppm
Aluminium (Al)	<5 ppm	Nickel (Ni)	<5 ppm
Barium (Ba)	<5 ppm	Silver (Ag)	<5 ppm
Cadmium (Cd)	<5 ppm	Sodium (Na)	<200 ppm
Calcium (Ca)	<50 ppm	Strontium (Sr)	<5 ppm
Chromium (Cr)	<5 ppm	Titanium (Ti)	<5 ppm
Cobalt (Co)	<5 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<5 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<20 ppm

Lot analysis on the label.

Potassium oxalate monohydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/6320/53
1 kg	Plastic jar	P/6320/60

$C_2K_2O_4.H_2O$
CAS: 6487-48-5
MW: 184.23
Melting point: 356°C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29171100
EINECS: 209-506-8
Risk: R21/22
Safety: S24/25

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm
Sodium (Na)	<1000 ppm		

Potassium perchlorate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/6400/53

$KClO_4$
CAS: 7778-74-7
MW: 138.55
Melting point: 400 °C
ADR/RID: 5.1/II

UN: 1489
HS-Nr: 28299010
EINECS: 231-912-9
Risk: R9, R22
Safety: S13, S22, S27

O
Xn

Assay: >99%

Guaranteed analysis

Sodium (Na)	<100 ppm	Total chloride (Cl)	<0.054%
Sulfate (SO_4)	<0.005%		

Potassium periodate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	P/6440/53

KIO_4
CAS: 7790-21-8
MW: 230
Melting point: 582°C
ADR/RID: 5.1/II

UN: 1479
HS-Nr: 28299090
EINECS: 232-196-0
Risk: R8, R36/37/38
Safety: S17, S26, S37/39

O
Xi

Assay: >99%

Guaranteed analysis

Loss on drying	<0.5%	Magnesium (Mg)	<50 ppm
Calcium (Ca)	<100 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<20 ppm	Total silicon (Si)	<100 ppm
Iodide	<0.005%	Total sulphur (S)	<500 ppm
Iron (Fe)	<54 ppm	Zinc (Zn)	<50 ppm
Lead (Pb)	<20 ppm		

Potassium permanganate — Certified AR, Eur.Ph., USP, BP
for analysis

Certified AR

packaging		product code
250 g	Glass packaging	P/6560/50
500 g	Glass packaging	P/6560/53
5 kg	Plastic screw top Keg	P/6560/65
25 kg	Metal drum	P/6560/70

$KMnO_4$
CAS: 7722-64-7
MW: 158.04
Density at 20°C: 2.7
Melting point: 240 °C
ADR/RID: 5.1/II

UN: 1490
HS-Nr: 28416100
EINECS: 231-760-3
Risk: R8, R22, R50/53
Safety: S60, S61

O
Xn
N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005 %
Iron (Fe)	<20 ppm	Total nitrogen (N)	<50 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Arsenic (As)	<2 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<0.001 %	Strontium (Sr)	<5 ppm
Cadmium (Cd)	<5 ppm	Titanium (Ti)	<5 ppm
Cobalt (Co)	<5 ppm	Vanadium (V)	<5 ppm
Lithium (Li)	<5 ppm		

Lot analysis on the label.

Potassium permanganate — SLR
extra pure

Specified LR

packaging		product code
500 g	Glass packaging	P/6520/53

$KMnO_4$
CAS: 7722-64-7
MW: 158.04
Density at 20°C: 2.7
Melting point: 240 °C
ADR/RID: 5.1/II

UN: 1490
HS-Nr: 28416010
EINECS: 231-760-3
Risk: R8, R22, R50/53
Safety: S60, S61

O
Xn
N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<100 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<100 ppm	Total sulphur (S)	<500 ppm
Lead (Pb)	<100 ppm	Zinc (Zn)	<500 ppm
Magnesium (Mg)	<100 ppm		

Potassium permanganate solution 0.02M (0.1N) — NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/6900/15
2.5 L	Coated Glass Bottle	J/6900/PB17

Density at 20°C: 1
HS-Nr: 28416000
Safety: S24/25

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Potassium permanganate solution 0.02M (0.1N) — NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/6900C/05
6	ampoule	J/6900C/90

Density at 20°C: 1
HS-Nr: 28416100
Safety: S24, S25

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Potassium persulfate
for analysis
Certified AR

packaging		product code
250 g	Plastic jar	P/6640/50
500 g	Plastic jar	P/6640/53

$K_2S_2O_8$
CAS: 7727-21-1
MW: 270.31
Density at 20°C: 2.47
Melting point: 100 °C
ADR/RID: 5.1/III

UN: 1492
HS-Nr: 28334000
EINECS: 231-781-8
Risk: R8, R22, R36/37/38, R42/43
Safety: S22, S24, S26, S37

O Xn

Assay: >99%

Guaranteed analysis

Acidity	<0.01 meq/g	Sodium (Na)	<100 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.002 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Potassium persulfate
extra pure
SLR

packaging		product code
500 g	Plastic jar	P/6600/53

$K_2S_2O_8$
CAS: 7727-21-1
MW: 270.31
Density at 20°C: 2.47
Melting point: 100 °C
ADR/RID: 5.1/III

UN: 1492
HS-Nr: 28334000
EINECS: 231-781-8
Risk: R8, R22, R36/37/38, R42/43
Safety: S22, S24, S26, S37

O Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.05%
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<100 ppm		

Potassium pyrogallate solution
pure

packaging		product code
2.5 L	Coated Glass Bottle	J/7000/PB17

ADR/RID: 8/II
UN: 1760
HS-Nr: 29072990

Risk: R35
Safety: S2, S26, S27, S37/39

C

Potassium pyrosulfate
extra pure
SLR

packaging		product code
500 g	Plastic jar	P/6720/53

$K_2S_2O_7$
CAS: 7790-62-7
MW: 254.31
Density at 20°C: 2.51
Melting point: 325°C
ADR/RID: 8/III

UN: 1759
HS-Nr: 28332990
EINECS: 232-216-8
Risk: R41
Safety: S26, S28A

Xi

Assay: >97%

Guaranteed analysis

Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.003%
Lead (Pb)	<10 ppm		

Potassium sodium tartrate tetrahydrate
for analysis, crystals
Certified AR

packaging		product code
500 g	Plastic jar	P/6880/53
1 kg	Plastic jar	P/6880/60
2.5 kg	Plastic jar	P/6880/62

$C_4H_4KNaO_6.4H_2O$
CAS: 6381-59-5
MW: 282.23
Melting point: 70 to 80°C

HS-Nr: 29181300
EINECS: 206-156-8
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 8.5	Total chloride (Cl)	<0.005 %
Reducing substance	Conform	Total nitrogen (N)	<50 ppm
Calcium (Ca)	<20 ppm	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Potassium sodium tartrate tetrahydrate
extra pure, crystals
SLR

packaging		product code
500 g	Plastic jar	P/6800/53
25 kg	Fibre Keg	P/6800/70

$C_4H_4KNaO_6.4H_2O$
CAS: 6381-59-5
MW: 282.23
Melting point: 70 to 80°C

HS-Nr: 29181300
EINECS: 206-156-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 9	Total chloride (Cl)	<0.02%
Calcium (Ca)	<100 ppm	Total phosphorus (P)	<500 ppm
Copper (Cu)	<10 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<50 ppm		

Potassium sodium tartrate tetrahydrate
extra pure, powder
SLR

packaging		product code
500 g	Plastic jar	P/6840/53

$C_4H_4KNaO_6.4H_2O$
CAS: 6381-59-5
MW: 282.23
Melting point: 70 to 80°C

HS-Nr: 29181300
EINECS: 206-156-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 9	Magnesium (Mg)	<50 ppm
Water-insoluble	<0.05%	Total chloride (Cl)	<0.02%
Calcium (Ca)	<100 ppm	Total phosphorus (P)	<50 ppm
Copper (Cu)	<10 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<10 ppm

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Potassium sulfate
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	P/7000/53
1 kg	Plastic jar	P/7000/60
5 kg	Plastic jar	P/7000/65

K_2SO_4
CAS: 7778-80-5
MW: 174.27
Density at 20°C: 2.66
Boiling point: 1689°C

Boiling pressure: 760 mmHg
Melting point: 1067°C
HS-Nr: 31043000
EINECS: 231-915-5
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	5.5 to 7.5	Sodium (Na)	<500 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Molybdenum (Mo)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<1 ppm
Chromium (Cr)	<1 ppm	Silver (Ag)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Potassium sulfate
extra pure — SLR

packaging		product code
500 g	Plastic jar	P/6960/53
1 kg	Plastic jar	P/6960/60
5 kg	Plastic jar	P/6960/65

K_2SO_4
CAS: 7778-80-5
MW: 174.27
Density at 20°C: 2.66
Boiling point: 1689°C

Boiling pressure: 760 mmHg
Melting point: 1067°C
HS-Nr: 31043000
EINECS: 231-915-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<2000 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<100 ppm		

Potassium (+)-tartrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	P/7080/53

$C_4H_4K_2O_6$
CAS: 921-53-9
MW: 235.28

HS-Nr: 29181300
EINECS: 213-067-8

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<5000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<50 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<50 ppm		

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Potassium tetraborate tetrahydrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	P/7140/53

$K_2B_4O_7.4H_2O$
CAS: 12045-78-2
MW: 305.51
Melting point: 850°C

HS-Nr: 28402090
EINECS: 215-575-5
Risk: R62
Safety: S36/37

Xn

Assay: >98.5%

Guaranteed analysis

Sulfate (SO_4) ..... <0.02% Total chloride (Cl) ..... <0.005%

Potassium tetrachloroplatinate(II)
extra pure — SLR

packaging		product code
1 g	Glass tube	P/7170/43

K_2PtCl_4
CAS: 10025-99-7
MW: 415.11
ADR/RID: 8(6.1)/III
UN: 2923

HS-Nr: 28439090
EINECS: 233-050-9
Risk: R25, R38, R41, R42/43
Safety: S22, S26, S36/37/39, S45

T

Potassium tetraoxalate dihydrate
for analysis — Certified AR

packaging		product code
250 g	Plastic Jar	P/7200/50

$C_4H_3KO_8.2H_2O$
CAS: 6100-20-5
MW: 254.2
ADR/RID: 6.1/III
UN: 2811

HS-Nr: 29171100
EINECS: 204-874-6
Risk: R21/22
Safety: S24/25

Xn

Assay: 99.5 to 100.2%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<100 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.0005%
Iron (Fe)	<10 ppm	Total nitrogen (N)	<100 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<20 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<5 ppm

Lot analysis on the label.

NIST Certified
Standard from SPEX
A full range of Mono
& Multi-elemental standard
and Calibration solution
for ICP & ICP-MS
Discover them on page 258

Potassium thiocyanate
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	P/7280/50
500 g	Plastic jar	P/7280/53

KSCN
CAS: 333-20-0
MW: 97.18
Density at 20°C: 1.89
Boiling point: D500°C

Melting point: 170 to 179°C
HS-Nr: 28429080
EINECS: 206-370-1
Risk: R20/21/22, R32, R52/53
Safety: S13, S61

Xn

Assay: >99.5%

Guaranteed analysis

Substance consuming iodine	<0.01%	Magnesium (Mg)	<10 ppm
Ammonium (NH_4)	<0.002 %	Sodium (Na)	<100 ppm
Cadmium (Cd)	<5 ppm	Sulfate (SO_4)	<0.002 %
Calcium (Ca)	<20 ppm	Sulfide (S)	<0.001 %
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.005 %
Iron (Fe)	<1 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Chromium (Cr)	<5 ppm	Silver (Ag)	<5 ppm
Cobalt (Co)	<5 ppm	Strontium (Sr)	<5 ppm
Lithium (Li)	<5 ppm	Titanium (Ti)	<5 ppm
Manganese (Mn)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Potassium thiocyanate
extra pure — SLR

packaging		product code
250 g	Plastic jar	P/7240/50
500 g	Plastic jar	P/7240/53

KSCN
CAS: 333-20-0
MW: 97.18
Density at 20°C: 1.89
Boiling point: D500°C

Melting point: 170 to 179°C
HS-Nr: 28429080
EINECS: 206-370-1
Risk: R20/21/22, R32, R52/53
Safety: S13, S61

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<2000 ppm
Copper (Cu)	<20 ppm	Sulfate (SO_4)	<0.05%
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.01%
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Potassium thiocyanate solution 0.1M (0.1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/7050/15
2.5 L	Plastic bottle	J/7050/PB17

HS-Nr: 28429080
Risk: R21/22, R32
Safety: S2, S13

Xn

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Praseodymium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLPR22Y
500 mL	Plastic bottle	SPPLPR22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Preservative
For microscopy, odourless

packaging		product code
500 mL	Coated Glass Bottle	P/7300/PB08

Density at 20°C: 1.11
HS-Nr: 38220000
Risk: R22
Safety: S23D, S24/25

Xn

L-Proline
pure

packaging		product code
100 g	Glass packaging	P/7425/48

$C_5H_9NO_2$
CAS: 147-85-3
MW: 115.13
Melting point: 228-233°C

HS-Nr: 29339090
EINECS: 205-702-2
Safety: S24/25

Assay: >99%

Guaranteed analysis

Residue after ignition	<0.1%	Iron (Fe)	<10 ppm
Specific rotation (α 20/D)	-+85.5° to -84°	Lead (Pb)	<10 ppm
Water	<0.5%		

Propane-1.2-diol
extra pure — SLR, Eur.Ph., BP, USP

packaging		product code
500 mL	Glass bottle	P/7440/08
2.5 L	Glass bottle	P/7440/17
25 L	Metal drum	P/7440/25
200 L	Metal drum	P/7440/27

$C_3H_8O_2$
CAS: 57-55-6
MW: 76.09
Density at 20°C: 1.03
Boiling point: 187°C
Boiling pressure: 760 mmHg

Melting point: -60°C
Flash point: 99°C
HS-Nr: 29053200
EINECS: 200-338-0
Safety: S24/25

Assay (GC): >99%

Guaranteed analysis

Acidity	<0.0005 meq/g

see page 279 for suitable Tap & accessories.

Propane-1.3-diol
pure

packaging		product code
500 mL	Glass bottle	P/7450/08

$C_3H_8O_2$
CAS: 504-63-2
MW: 76.09
Density at 20°C: 1.04 to 1.06
Boiling point: 214°C
Boiling pressure: 760 mmHg

Melting point: -32°C
Flash point: 140°C
HS-Nr: 29053985
EINECS: 207-997-3
Safety: S24/25

Propan-1-ol
for HPLC — Certified

packaging		product code
1 L	Glass bottle	P/7486/15
2.5 L	Glass bottle	P/7486/17

C_3H_8O
CAS: 71-23-8
MW: 60.1
Density at 20°C: 0.8
Boiling point: 97°C
Boiling pressure: 760 mmHg
Melting point: -127°C

Flash point: 15°C
ADR/RID: 3/II
UN: 1274
HS-Nr: 29051200
EINECS: 200-746-9
Risk: R11, R41, R67
Safety: S7, S16, S24, S26, S39

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Water	<0.05%
Residue after evaporation	<10 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

220 nm	<0.7 A.U.	250 nm	<0.05 A.U.
230 nm	<0.25 A.U.	260 nm	<0.05 A.U.
240 nm	<0.1 A.U.	270 nm	<0.01 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.

Propan-1-ol *for analysis* — Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	**P/7481/15**
1 L	Coated Glass Bottle	**P/7481/PB15**
2.5 L	Glass bottle	**P/7481/17**
5 L	Metal can	**P/7481/21**
25 L	Metal drum	**P/7481/25**
200 L	Metal drum	**P/7481/27**

C_3H_8O
CAS: 71-23-8
MW: 60.1
Density at 20°C: 0.8
Boiling point: 97°C
Boiling pressure: 760 mmHg
Melting point: -127°C

Flash point: 15°C
ADR/RID: 3/II
UN: 1274
HS-Nr: 29051200
EINECS: 200-746-9
Risk: R11, R41, R67
Safety: S7, S16, S24, S26, S39

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Lead (Pb)	<0.02 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.1 ppm
Residue after evaporation	<10 ppm	Potassium (K)	<0.2 ppm
Substances darkened by (H_2SO_4)	<10 APHA	Sodium (Na)	<1 ppm
		Total phosphorus (P)	<0.1 ppm
Substances reducing $KMnO_4$	<0.0005%	Total silicon (Si)	<0.05 ppm
		Total sulphur (S)	<0.5 ppm
Water	<0.1%	Zinc (Zn)	<0.1 ppm
Calcium (Ca)	<0.2 ppm	Ethanol	<0.001 %
Copper (Cu)	<0.02 ppm	Methanol	<0.005 %
Iron (Fe)	<0.1 ppm	Propan--2-ol	<0.005 %

Typical analysis

Aluminium (Al)	<0.02 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Propan-1-ol *extra pure* — SLR

Specified LR

packaging		product code
500 mL	Glass bottle	**P/7480/08**
2.5 L	Glass bottle	**P/7480/17**
5 L	Metal can	**P/7480/21**
25 L	Metal drum	**P/7480/25**
200 L	Metal drum	**P/7480/27**

C_3H_8O
CAS: 71-23-8
MW: 60.1
Density at 20°C: 0.8
Boiling point: 97°C
Boiling pressure: 760 mmHg
Melting point: -127°C

Flash point: 15°C
ADR/RID: 3/II
UN: 1274
HS-Nr: 29051200
EINECS: 200-746-9
Risk: R11, R41, R67
Safety: S7, S16, S24, S26, S39

F Xi

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<5 ppm
Colour	<10 APHA	Lead (Pb)	<2 ppm
Residue after evaporation	<50 ppm	Magnesium (Mg)	<2 ppm
Substances darkened by (H_2SO_4)	<20 APHA	Potassium (K)	<2 ppm
		Sodium (Na)	<5 ppm
		Total phosphorus (P)	<2 ppm
Substances reducing $KMnO_4$	<0.01%	Total silicon (Si)	<2 ppm
Water	<0.5%	Total sulphur (S)	<2 ppm
Calcium (Ca)	<5 ppm	Zinc (Zn)	<2 ppm
Copper (Cu)	<2 ppm		

see page 279 for suitable Tap & accessories.

Propan-2-ol *See Isopropanol, page 136*

2-Propanone *See Acetone, page 3*

Propionaldehyde *extra pure* — SLR

Specified LR

packaging		product code
250 mL	Coated Glass Bottle	**P/7520/PB07**

C_3H_6O
CAS: 123-38-6
MW: 58.08
Density at 20°C: <0.8
Boiling point: 48°C
Boiling pressure: 760 mmHg
Melting point: -81°C

Flash point: -40°C
ADR/RID: 3/II
UN: 1275
HS-Nr: 29121900
EINECS: 204-623-0
Risk: R11, R36/37/38
Safety: S9, S16, S29

F Xi

Assay (GC): >95%

Guaranteed analysis

Acidity	<0.1 meq/g

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

Refractive index	1.361 to 1.365

Propionic acid *for analysis* — Certified AR

AR F

packaging		product code
500 mL	Plastic bottle	**P/7564/PB08**

$C_3H_6O_2$
CAS: 79-09-4
MW: 74.08
Density at 20°C: 0.99
Boiling point: 141°C
Boiling pressure: 760 mmHg
Melting point: -22°C

Flash point: 51°C
ADR/RID: 8(3)/II
UN: 3463
HS-Nr: 29155000
EINECS: 201-176-3
Risk: R34
Safety: S23, S36, S45

C

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<0.5 ppm	Molybdenum (Mo)	<0.2 ppm
Barium (Ba)	<0.5 ppm	Nickel (Ni)	<0.2 ppm
Cadmium (Cd)	<0.2 ppm	Potassium (K)	<1 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<5 ppm
Chromium (Cr)	<0.5 ppm	Strontium (Sr)	<0.2 ppm
Cobalt (Co)	<0.2 ppm	Titanium (Ti)	<0.2 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<1 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<5 ppm
Lithium (Li)	<0.2 ppm	Vanadium (V)	<0.2 ppm
Magnesium (Mg)	<2 ppm	Zinc (Zn)	<0.2 ppm
Manganese (Mn)	<0.2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

280 nm	<0.1 A.U.

Lot analysis on the label.

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Propionic acid
extra pure SLR

Specified

packaging		product code
500 mL	Plastic bottle	P/7560/PB08
2.5 L	Plastic bottle	P/7560/PB17
25 L	Metal drum	P/7560/25

$C_3H_6O_2$
CAS: 79-09-4
MW: 74.08
Density at 20°C: 0.99
Boiling point: 141°C
Boiling pressure: 760 mmHg
Melting point: -22°C
Flash point: 51°C
ADR/RID: 8(3)/II
HS-Nr: 29155000
Risk: R34
Safety: S23, S36, S45

C

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<20 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<10 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<10 ppm		

see page 279 for suitable Tap & accessories.

iso-Propyl acetate
pure

packaging		product code
500 mL	Glass bottle	P/7640/08
2.5 L	Glass bottle	P/7640/17
2.5 L	Coated Glass Bottle	P/7640/PB17

$C_5H_{10}O_2$
CAS: 108-21-4
MW: 102.13
Density at 20°C: 0.87
Boiling point: 88.8°C
Boiling pressure: 760 mmHg
Melting point: -73°C
Flash point: 11°C
ADR/RID: 3/II
UN: 1220
HS-Nr: 29153910
EINECS: 203-561-1
Risk: R11, R36, R66, R67
Safety: S16, S26, S29, S33

F Xi

Assay (GC): >98%

Guaranteed analysis

Acidity	<0.002 meq/g	Residue after evaporation	<100 ppm

n-Propyl acetate
extra pure SLR

Specified

packaging		product code
500 mL	Glass bottle	P/7600/08
2.5 L	Glass bottle	P/7600/17

$C_5H_{10}O_2$
CAS: 109-60-4
MW: 102.13
Density at 20°C: 0.88
Boiling point: 102°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 10°C
ADR/RID: 3/II
UN: 1276
HS-Nr: 29153910
EINECS: 203-686-1
Risk: R11, R36, R66, R67
Safety: S16, S26, S29, S33

F Xi

Assay (GC): >98%

Guaranteed analysis

Residue after evaporation ..... <100 ppm

Propyl alcohol
See Propan-1-ol, page 218

Propylene glycol
See Propane-1.2-diol, page 218

Pumice stone
Technical, granular about 7-9mm

packaging		product code
500 g	Plastic jar	P/7800/53

HS-Nr: 38220000

Pumice stone
Technical, powder 240 mesh

packaging		product code
3 kg	Plastic jar	P/7760/63

HS-Nr: 38220000

Pyridine
For IR Spectroscopy

packaging		product code
100 mL	Coated Glass Bottle	P/7965/PB05
500 mL	Coated Glass Bottle	P/7965/PB08

C_5H_5N
CAS: 110-86-1
MW: 79.1
Density at 20°C: 0.98
Boiling point: 115 to 116°C
Boiling pressure: 760 mmHg
Melting point: -42°C
Flash point: 17°C
ADR/RID: 3/II
UN: 1282
HS-Nr: 29333100
EINECS: 203-809-9
Risk: R11, R20/21/22
Safety: S26, S28A

F Xn

Guaranteed analysis

IR Analysis ..... Conform

Lot analysis on the label.

Pyridine NEW SPEC.
for analysis Certified AR

Certified

packaging		product code
500 mL	Glass bottle	P/7960/08
500 mL	Coated Glass Bottle	P/7960/PB08
1 L	Glass bottle	P/7960/15
1 L	Coated Glass Bottle	P/7960/PB15
2.5 L	Coated Glass Bottle	P/7960/PB17
25 L	Metal drum	P/7960/25

C_5H_5N
CAS: 110-86-1
MW: 79.1
Density at 20°C: 0.98
Boiling point: 115-116°C
Boiling pressure: 760 mmHg
Melting point: -42°C
Flash point: 17°C
ADR/RID: 3/II
UN: 1282
HS-Nr: 29333100
EINECS: 203-809-9
Risk: R11, R20/21/22
Safety: S26, S28A

F Xn

Assay: >99.5%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.1 ppm
Water	<0.05 %	Sodium (Na)	<1 ppm
Ammonium (NH_4)	<0.002 %	Total phosphorus (P)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.2 ppm
Lead (Pb)	<0.05 ppm	Chlorine	<5 ppm
Magnesium (Mg)	<0.1 ppm	Residue after evaporation	<20 ppm

Typical analysis

Aluminium (Al)	0.02 ppm	Manganese (Mn)	0.02 ppm
Barium (Ba)	0.02 ppm	Molybdenum (Mo)	0.02 ppm
Cadmium (Cd)	0.02 ppm	Nickel (Ni)	0.02 ppm
Chromium (Cr)	0.02 ppm	Strontium (Sr)	0.02 ppm
Cobalt (Co)	0.02 ppm	Titanium (Ti)	0.02 ppm
Lithium (Li)	0.02 ppm	Vanadium (V)	0.02 ppm

see page 279 for suitable Tap & accessories.

Pyridine, anhydrous
extra pure SLR

Specified

packaging		product code
500 mL	Coated Glass Bottle	P/7940/PB08
2.5 L	Coated Glass Bottle	P/7940/PB17

C_5H_5N
CAS: 110-86-1
MW: 79.1
Density at 20°C: 0.98
Boiling point: 115 to 116°C
Boiling pressure: 760 mmHg
Melting point: -42°C
Flash point: 17°C
ADR/RID: 3/II
UN: 1282
HS-Nr: 29333100
EINECS: 203-809-9
Risk: R11, R20/21/22
Safety: S26, S28A

F Xn

For the analysis by Karl Fischer titration in non-aqueous.

Pyridine NEW SPEC. SLR
extra pure

Specified

packaging		product code
500 mL	Glass bottle	P/7920/08
2.5 L	Coated Glass Bottle	P/7920/PB17
5 L	Metal can	P/7920/21
25 L	Metal drum	P/7920/25

C_5H_5N
CAS: 110-86-1
MW: 79.1
Density at 20°C: 0.98
Boiling point: 115-116°C
Boiling pressure: 760 mmHg
Melting point: -42°C

Flash point: 17°C
ADR/RID: 3/II
UN: 1282
HS-Nr: 29333100
EINECS: 203-809-9
Risk: R11, R20/21/22
Safety: S26, S28A

F Xn

Assay: >99%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<2 ppm
Water	<0.1 %	Residue after evaporation	<200 ppm
Calcium (Ca)	<5 ppm	Sodium (Na)	<5 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<2 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<2 ppm
Magnesium (Mg)	<2 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

3-Pyridinecarboxylic acid
See Nicotinic acid, page 173

Pyridinium chloride SLR
extra pure

Specified

packaging		product code
100 g	Glass packaging	P/7980/48

$C_5H_5N.HCl$
CAS: 628-13-7
MW: 115.56
Boiling point: 222 to 224°C
Boiling pressure: 760 mmHg
Melting point: 140 to 146°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29333100
EINECS: 211-027-4
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >97%

1-(2-Pyridylazo)-2-naphthol
pure

packaging		product code
1 g	Glass tube	P/8000/43
5 g	Glass packaging	P/8000/44

$C_{15}H_{11}N_3O$
CAS: 85-85-8
MW: 249.27
Melting point: 138 to 141°C

HS-Nr: 29333990
EINECS: 201-637-9
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis

IR Analysis ..... Conform

4-(2-Pyridylazo)-resorcinol mono sodium salt
pure

packaging		product code
1 g	Glass tube	P/8040/43

$C_{11}H_8N_3NaO_2.H_2O$
CAS: 16593-81-0
Melting point: 188°C
HS-Nr: 29333990

EINECS: 214-528-6
Risk: R36/37/38
Safety: S26, S37/39

Xi

Pyrocatechol
See Catechol, page 60

Pyrogallol Certified AR
for analysis

AR

packaging		product code
100 g	Glass packaging	P/8122/48

$C_6H_6O_3$
CAS: 87-66-1
MW: 126.11
Boiling point: 309°C
Boiling pressure: 760 mmHg
Melting point: 131 to 135°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29072990
EINECS: 201-762-9
Risk: R20/21/22, R52/53, R68
Safety: S36/37, S61

Xn

Assay (GC): >99%

Guaranteed analysis

pH (aqueous solution 5%)	4 to 5	Sodium (Na)	<200 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<20 ppm		

Lot analysis on the label.

Pyrogallol SLR
extra pure

Specified

packaging		product code
100 g	Glass packaging	P/8120/48

$C_6H_6O_3$
CAS: 87-66-1
MW: 126.11
Boiling point: 309°C
Boiling pressure: 760 mmHg
Melting point: 131 to 135°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29072990
EINECS: 201-762-9
Risk: R20/21/22, R52/53, R68
Safety: S36/37, S61

Xn

Assay (GC): >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<100 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

Pyrogallol
pure

packaging		product code
100 g	Glass packaging	P/8080/48

$C_6H_6O_3$
CAS: 87-66-1
MW: 126.11
Boiling point: 309°C
Boiling pressure: 760 mmHg
Melting point: 131 to 135°C

ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29072900
EINECS: 201-762-9
Risk: R20/21/22, R52/53, R68
Safety: S36/37, S61

Xn

Assay (GC): >98%

Pyrrolidine SLR
extra pure

Specified

packaging		product code
100 mL	Coated Glass Bottle	P/8140/PB05

C_4H_9N
CAS: 123-75-1
MW: 71.12
Density at 20°C: 0.87
Boiling point: 86 to 88°C
Boiling pressure: 760 mmHg
Melting point: -63°C

Flash point: 3°C
ADR/RID: 3(8)/II
UN: 1922
HS-Nr: 29339990
EINECS: 204-648-7
Risk: R11, R20/21/22, R35
Safety: S16, S26, S36/37/39, S45

F C

Assay (GC): >97%

Guaranteed analysis

Water ..... <3%

Quinhydrone
extra pure — SLR

packaging		product code
100 g	Plastic jar	Q/0120/48

$C_{12}H_{10}O_4$
CAS: 106-34-3
MW: 218.21
Melting point: 168 to 172°C
ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29420000
EINECS: 203-387-6
Risk: R22, R36/37/38, R50
Safety: S26, S29, S37/39, S61
Xn N

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<50 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<500 ppm
IR Analysis	Conform	Total phosphorus (P)	<50 ppm
Iron (Fe)	<100 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<20 ppm

Quinine sulfate dihydrate
pure

packaging		product code
25 g	Glass packaging	Q/0136/46

$C_{40}H_{48}N_4O_4 \cdot H_2SO_4 \cdot 2H_2O$
CAS: 6119-70-6
MW: 782.96
Boiling pressure: 760 mmHg
Melting point: 233-235°C
ADR/RID: 6.1/III
UN: 1544
HS-Nr: 29392000
EINECS: 212-359-2
Risk: R22, R42/43
Safety: S24, S37, S45
Xn

Guaranteed analysis

IR Analysis ..... Conform

Quinol
for analysis — Certified AR

packaging		product code
500 g	Plastic Jar	Q/0152/53

$C_6H_6O_2$
CAS: 123-31-9
MW: 110.11
Density at 20°C: 1.32
Boiling point: 285 to 287°C
Boiling pressure: 760 mmHg
Melting point: 170 to 174°C
Flash point: 165°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 29072200
EINECS: 204-617-8
Risk: R22, R40, R41, R43, R50, R68
Safety: S26, S36/37/39, S61
Xn N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<50 ppm	Catechol	<0.02%

Quinol
extra pure — SLR

packaging		product code
250 g	Plastic Jar	Q/0150/50
500 g	Plastic Jar	Q/0150/53

$C_6H_6O_2$
CAS: 123-31-9
MW: 110.11
Density at 20°C: 1.32
Boiling point: 285 to 287°C
Boiling pressure: 760 mmHg
Melting point: 170 to 174°C
Flash point: 165°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 29072200
EINECS: 204-617-8
Risk: R22, R40, R41, R43, R50, R68
Safety: S26, S36/37/39, S61
Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<50 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

Quinone
See p-Benzoquinone, page 39

Raffinose hydrate
extra pure — SLR

packaging		product code
25 g	Plastic jar	R/0020/46

$C_{18}H_{32}O_{16} \cdot 5H_2O$
CAS: 512-69-6
MW: 594.52
Density at 20°C: 1.47
Melting point: 80°C
HS-Nr: 29400000
EINECS: 208-146-9

Guaranteed analysis

Melting Point tested	78 to 82°C	Sugar reducer	<0.3%
Residue after ignition	<0.1%	Water	15 to 15.5%
Specific rotation (α 20/D)	+103° to +106°	Lead (Pb)	<10 ppm

Rennet
pure

packaging		product code
25 g	Glass packaging	R/0030/46

HS-Nr: 38220000

Resazurin tablets
pure

packaging		product code
10 PC	Glass packaging	R/0040/99
100 PC	Glass packaging	R/0040/79

HS-Nr: 38220000

Guaranteed analysis

IR Analysis ..... Conform

Resorcinol
for analysis — Certified AR

packaging		product code
100 g	Glass packaging	R/0200/48
250 g	Glass packaging	R/0200/50

$C_6H_6O_2$
CAS: 108-46-3
MW: 110.11
Boiling point: 281°C
Boiling pressure: 760 mmHg
Melting point: 109 to 111°C
Flash point: 127°C
ADR/RID: 6.1/III
UN: 2876
HS-Nr: 38220000
EINECS: 203-585-2
Risk: R22, R36/38, R50
Safety: S26, S61
Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity	< 0.0005 Wednesday / g	Potassium (K)	<20 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Resorcinol
extra pure — SLR

packaging		product code
100 g	Glass packaging	R/0150/48
250 g	Glass packaging	R/0150/50

$C_6H_6O_2$
CAS: 108-46-3
MW: 110.11
Boiling point: 281°C
Boiling pressure: 760 mmHg
Melting point: 109 to 111°C
Flash point: 127°C
ADR/RID: 6.1/III
UN: 2876
HS-Nr: 29072100
EINECS: 203-585-2
Risk: R22, R36/38, R50
Safety: S26, S61
Xn N

Assay (GC): >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Sodium (Na)	<500 ppm
Copper (Cu)	<50 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<100 ppm		

Rhenium standard metal solution 1000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLRE92Y
500 mL	Plastic bottle	SPPLRE92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Rhodamine B C.I. 45170
pure

packaging		product code
100 g	Glass packaging	R/0250/48

$C_{28}H_{31}ClN_2O_3$
CAS: 81-88-9
MW: 479.02
Melting point: 210-211°C
HS-Nr: 32041300
EINECS: 201-383-9
Risk: R22, R40
Safety: S36/37, S45
Xn

Guaranteed analysis
IR Analysis ..... Conform

Conforming to the IR spectrum of reference.

Rhodium standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLRH32Y
500 mL	Plastic bottle	SPPLRH32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Rhodium standard metal solution 10 ppm
for ICP-MS solution in HCl 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLRH11AY

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Rhodizonic acid sodium salt
pure

packaging		product code
5 g	Glass packaging	R/0300/44

$C_6Na_2O_6$
CAS: 523-21-7
MW: 214.04
Boiling pressure: 760 mmHg
Melting point: >300°C
HS-Nr: 29144900
EINECS: 208-340-3
Safety: S24/25

Ricinus oil *See Castor oil, page 60*

Ringer's solution
pure, tablets

packaging		product code
100	Plastic jar	R/0350/79

HS-Nr: 38220000

Guaranteed analysis
IR Analysis ..... Conform

Quarter strength for milk testing.One tablet dissolved in 500mL of glass distilled water yields quarter strength solution.

Rose Bengal C.I. 45440
pure

packaging		product code
25 g	Glass packaging	R/0400/46

$C_{20}H_2Cl_4I_4Na_2O_5$
CAS: 632-69-9
MW: 101.65
Flash point: >92°C
HS-Nr: 32041200
EINECS: 211-183-3
Risk: R36
Safety: S26, S37/39
Xi

Guaranteed analysis
IR Analysis ..... Conform

Rose water
pure

packaging		product code
100 mL	Glass bottle	R/0370/05

HS-Nr: 38220000
Risk: R20/22, R40

Rubidium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLRB22Y
500 mL	Plastic bottle	SPPLRB22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Rubidium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLRB23Y
500 mL	Plastic bottle	SPPLRB23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Rubidium chloride SLR
extra pure

Specified LR

packaging		product code
5 g	Plastic jar	R/0500/44

RbCl
CAS: 7791-11-9
MW: 120.92
Density at 20°C: 2.8
Boiling point: 1390°C

Boiling pressure: 760 mmHg
Melting point: 718°C
HS-Nr: 28273985
EINECS: 232-240-9
Safety: S24/25

Ruthenium standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLRU32Y
500 mL	Plastic bottle	SPPLRU32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Ruthenium trichloride
pure, powder

packaging		product code
1 g	Glass tube	R/0600/43

$RuCl_3$
CAS: 10049-08-8
MW: 207.43
Density at 20°C: 3.11
Melting point: >500 °C
ADR/RID: 6.1/III

UN: 3288
HS-Nr: 28439090
EINECS: 233-167-5
Risk: R22, R34
Safety: S26, S28A, S37/39

C

Saccharin SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	S/0040/48

$C_7H_5NO_3S$
CAS: 81-07-2
MW: 183.19
Melting point: 226 to 230°C

HS-Nr: 29251100
EINECS: 201-321-0
Risk: R40
Safety: S36/37, S45

Xn

Assay: >98%

Guaranteed analysis

Residue after ignition	<0.2%	Arsenic (As)	<2 ppm
Water	<1%	Lead (Pb)	<10 ppm

Saccharin sodium dihydrate SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	S/0080/48

$C_7H_4NNaO_3S.2H_2O$
CAS: 6155-57-3
MW: 241.21

HS-Nr: 29251100
EINECS: 204-886-1
Risk: R22

Assay: >98%

Guaranteed analysis

Loss on drying	12 to 16%	Lead (Pb)	<10 ppm
Arsenic (As)	<2 ppm		

Safranine C.I 50240
pure

packaging		product code
25 g	Glass packaging	S/0120/46

$C_{20}H_{19}ClN_4$
CAS: 477-73-6
MW: 350.84
Boiling pressure: 760 mmHg

HS-Nr: 32041300
Risk: R36/38
Safety: S24/25

Xi

Guaranteed analysis

IR Analysis ..... Conform

Salicylaldehyde SLR
extra pure

Specified LR

packaging		product code
100 mL	Coated Glass Bottle	S/0200/PB05

$C_7H_6O_2$
CAS: 90-02-8
MW: 122.12
Density at 20°C: 1.164 to 1.167
Boiling point: 197°C
Boiling pressure: 760 mmHg

Melting point: -7°C
Flash point: 76°C
HS-Nr: 29142900
EINECS: 201-961-0
Risk: R21/22, R36/38
Safety: S26, S36/37/39

Xn

Salicylic acid NEW SPEC. SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/0280/53
1 kg	Plastic jar	S/0280/60

$C_7H_6O_3$
CAS: 69-72-7
MW: 138.12
Boiling point: 211°C
Boiling pressure: 20 mmHg
Melting point: 158 to 161°C

Flash point: 157°C
HS-Nr: 29182100
EINECS: 200-712-3
Risk: R22, R36/37/38, R41
Safety: S26, S37/39

Xn

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<20 ppm

Samarium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSM22Y
500 mL	Plastic bottle	SPPLSM22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sand Ottawa SLR
extra pure, 20-30 mesh

Specified LR

packaging		product code
1 kg	Plastic jar	S/0365/60
3 kg	Plastic jar	S/0365/63

HS-Nr: 25051000

Sand low iron
extra pure, 40-100 mesh
SLR

packaging		product code
1 kg	Plastic jar	S/0360/60
3 kg	Plastic jar	S/0360/63

HS-Nr: 25051000

Sand
extra pure, fine
SLR

packaging		product code
3 kg	Plastic jar	S/0320/63
5 kg	Plastic jar	S/0320/65

HS-Nr: 25051000

Sand sea, acid washed
extra pure
SLR

packaging		product code
1 kg	Plastic Jar	S/0330/60
5 kg	Plastic Jar	S/0330/65

HS-Nr: 38220000

Sand silver
pure

packaging		product code
3 kg	Plastic jar	S/0370/63

HS-Nr: 25051000

Saponin
extra pure
SLR

packaging		product code
100 g	Plastic jar	S/0380/48

CAS: 8047-15-2
HS-Nr: 29389090
EINECS: 232-462-6
Risk: R36/37/38
Safety: S26, S37/39
Xi

Guaranteed analysis
IR Analysis ..... Conform

Scandium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLSC22Y
250 mL	Plastic bottle	SPPLSC22T
500 mL	Plastic bottle	SPPLSC22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Scandium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLSC23Y
500 mL	Plastic bottle	SPPLSC23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Scandium standard metal solution 10 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLSC21AY

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Schiff's reagent
pure, for determination of aldehydes

packaging		product code
500 mL	Coated Glass Bottle	J/7300/PB08
1 L	Coated Glass Bottle	J/7300/PB15

HS-Nr: 38220000
Risk: R36/37/38
Safety: S26, S36
Xi

SDS See Sodium dodecyl sulfate, page 240

Sebacoyl chloride
extra pure
SLR

packaging		product code
5 mL	Glass bottle	S/0420/99

$C_{10}H_{16}Cl_2O_2$
CAS: 111-19-3
MW: 239.14
Density at 20°C: 1.12
Boiling point: 220°C
Boiling pressure: 75 mmHg
Melting point: -2.5°C
Flash point: >112°C
UN: 2922
HS-Nr: 29171990
EINECS: 203-843-4
Risk: R22, R34
Safety: S26, S36/37/39, S45
C

Conforming to the IR spectrum of reference.
This product can be brown.

Sebacoyl chloride solution
extra pure, 5% solution in trichloroethylene
SLR

packaging		product code
100 mL	Coated Glass Bottle	S/0423/PB05

ADR/RID: 6.1/III
UN: 1710
HS-Nr: 29032300
Risk: R40, R36/37/38, R52/53
Safety: S23, S36/37, S61
Xn

Selenium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8061/05
500 mL	Plastic bottle	J/8061/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S26, S23, S36, S45

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Selenium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8306/08

UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S26, S23, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Selenium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8305/05

UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S26, S23, S36, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Selenium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSE22Y
250 mL	Plastic bottle	SPPLSE22T
500 mL	Plastic bottle	SPPLSE22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Selenium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSE23Y
500 mL	Plastic bottle	SPPLSE23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Selenium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLSE22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Selenium
extra pure — SLR

Specified LR

packaging		product code
25 g	Plastic jar	S/0441/46

Se
CAS: 7782-49-2
MW: 78.96
Density at 20°C: 4.81
Boiling point: 685°C
Boiling pressure: 760 mmHg
Melting point: 217°C
ADR/RID: 6.1/III
UN: 3283
HS-Nr: 28049000
EINECS: 231-957-4
Risk: R23/25, R33, R53
Safety: S20/21, S28A, S45, S61

Assay: >99.5%

Guaranteed analysis

Copper (Cu)	<100 ppm	Tellurium (Te)	<0.05%
Iron (Fe)	<60 ppm	Total sulphur (S)	<100 ppm

Selenous acid
pure

packaging		product code
100 g	Plastic jar	S/0520/48

H_2SeO_3
CAS: 7783-00-8
MW: 128.97
Melting point: 70 °C
ADR/RID: 6.1/II
UN: 3283
HS-Nr: 28111900
EINECS: 231-974-7
Risk: R23/25, R33, R50/53
Safety: S20/21, S28A, S45, S60, S61

Semicarbazide hydrochloride
extra pure — SLR

Specified LR

packaging		product code
100 g	Plastic jar	S/0560/48
25 kg	Plastic screw top Keg	S/0560/70

$CH_5N_3O.HCl$
CAS: 563-41-7
MW: 111.53
Melting point: 175-177°C
ADR/RID: 6.1/III
UN: 2811
HS-Nr: 29280000
EINECS: 209-247-0
Risk: R25, R36/38, R40
Safety: S22, S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<50 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<100 ppm	Hydrazine	<0.5%

Shellac orange
pure, flake

packaging		product code
500 g	Plastic jar	S/0600/53

CAS: 9000-59-3
HS-Nr: 38220000
EINECS: 232-549-9

Guaranteed analysis

IR Analysis ..... Conform

Silica gel incorporating 12-13% calcium sulfate as a binder
For Thin layer chromatography

packaging		product code
500 g	Plastic jar	S/0790/53

SiO_2
HS-Nr: 28112200
Safety: S24/25

Silica gel 40 Angstrom pore size, 0.2-0.5mm
For chromatography column

packaging		product code
500 g	Plastic jar	S/0780/53
1 kg	Plastic jar	S/0780/60

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 60 Angstrom pore size, 6-35 micron
For chromatography column, Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0691/53
1 kg	Plastic jar	S/0691/60
25 kg	Plastic screw top Keg	S/0691/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 60 Angstrom pore size, 20-45 micron
For chromatography column, Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0692/53
1 kg	Plastic jar	S/0692/60
25 kg	Plastic screw top Keg	S/0692/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 60 Angstrom pore size, 40-63 micron
For chromatography column, Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0698/53
1 kg	Plastic jar	S/0698/60
25 kg	Plastic screw top Keg	S/0698/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 60 Angstrom pore size, 60-200 micron
For chromatography column, Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0694/53
1 kg	Plastic jar	S/0694/60
25 kg	Plastic screw top Keg	S/0694/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 60 Angstrom pore size, 35-70 micron
For chromatography column, Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0693/53
1 kg	Plastic jar	S/0693/60
25 kg	Plastic screw top Keg	S/0693/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 60 Angstrom pore size, 70-200 micron
For chromatography column, Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0695/53
1 kg	Plastic jar	S/0695/60
25 kg	Plastic screw top Keg	S/0695/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel 100 Angstrom pore size, 35-70 micron
For chromatography column,Davisil® Silicagel

packaging		product code
500 g	Plastic jar	S/0696/53
1 kg	Plastic jar	S/0696/60
25 kg	Plastic screw top Keg	S/0696/70

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Safety: S24/25

Silica gel grade 923 Davisil®
For chromatography column

packaging		product code
100 g	Plastic jar	S/0697/48
250 g	Plastic jar	S/0697/50
500 g	Plastic jar	S/0697/53

SiO_2
CAS: 7631-86-9
MW: 60.08
Density at 20°C: 2.2
Boiling point: 2230°C
Boiling pressure: 760 mmHg
Melting point: 1710°C
HS-Nr: 38220000
Safety: S24/25

Silica precipitated
pure

packaging		product code
500 g	Plastic jar	S/0680/53

SiO_2
CAS: 7631-86-9
MW: 60.09
HS-Nr: 28112200
EINECS: 231-545-4
Safety: S24/25

Silica gel (2.5-6.0 mm)
pure, Desiccating agent

packaging		product code
500 g	Plastic jar	S/0720/53
1 kg	Plastic jar	S/0720/60

SiO_2
CAS: 7631-86-9
MW: 60.08
HS-Nr: 28112200
Risk: R36/37
Safety: S26, S37/39
Xi

Silica gel (1.0-3.0 mm)
pure, Desiccating agent

packaging		product code
500 g	Plastic jar	S/0730/53

SiO_2
CAS: 7631-86-9
MW: 60.08

HS-Nr: 28112200
Risk: R36/37
Safety: S26, S37/39

Xi

Silica gel (2.5-6.0 mm) self indicating (iron salt)
pure, Desiccating agent

packaging		product code
500 g	Plastic jar	S/0761/53
1 kg	Plastic jar	S/0761/60
5 kg	Plastic drum	S/0761/65

SiO_2
CAS: 7631-86-9
MW: 60.08

HS-Nr: 38220000
Risk: R36/37
Safety: S26, S37/39

Xi

Contains iron salts.

Silicon standard metal solution 1000 ppm
for AAS, solution aqueous

packaging		product code
100 mL	Plastic bottle	J/8062/05
500 mL	Plastic bottle	J/8062/08

Density at 20°C: 1
HS-Nr: 28391900

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silicon standard metal solution 1000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSI92Y
250 mL	Plastic bottle	SPPLSI92T
500 mL	Plastic bottle	SPPLSI92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silicon standard metal solution 10 000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLSI9A3X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silicon standard metal solution 10 000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSI93Y
500 mL	Plastic bottle	SPPLSI93X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silicone antifoaming agent
extra pure, oil in water emulsion SLR

Specified LR

packaging		product code
100 g	Bidon	S/0820/48

HS-Nr: 39100000

Silicon tetrachloride
extra pure SLR

Specified LR

packaging		product code
500 mL	Coated Glass Bottle	S/0844/PB08

$SiCl_4$
CAS: 10026-04-7
MW: 169.9
Density at 20°C: 1.48
Boiling point: 58°C
Boiling pressure: 760 mmHg
Melting point: -70°C

ADR/RID: 8/II
UN: 1818
HS-Nr: 28121090
EINECS: 233-054-0
Risk: R14, R36/37/38
Safety: S7/8, S26

Xi

Assay: >97%

Silver standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8064/05
500 mL	Plastic bottle	J/8064/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silver standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8310/08

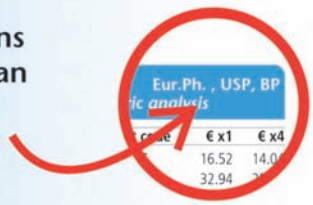
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Silver standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8309/05

UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silver standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLAG22Y
250 mL	Plastic bottle	SPPLAG22T
500 mL	Plastic bottle	SPPLAG22X

Density at 20°C: 1.02
Risk: R36/38
Safety: S26

Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silver standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLAG23Y
500 mL	Plastic bottle	SPPLAG23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silver standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLAG22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Silver metal powder SLR
extra pure

Specified LR

packaging		product code
10 g	Glass tube	S/0960/45

Ag
CAS: 7440-22-4
MW: 107.87
Boiling point: 2212°C
Boiling pressure: 760 mmHg

Melting point: 961°C
HS-Nr: 71061000
EINECS: 231-131-3
Safety: S24/25

The prices apply to the money and derivatives vary with the price of the raw material.

Silver metal foil SLR
extra pure, 0.1 mm thick, approx 10 g

Specified LR

packaging		product code
10 g	Leaf	S/0880/90

Ag
CAS: 7440-22-4
MW: 107.87
Boiling point: 2212°C
Boiling pressure: 760 mmHg

Melting point: 961°C
HS-Nr: 71069280
EINECS: 231-131-3
Safety: S24/25

The prices apply to the money and derivatives vary with the price of the raw material.

Silver metal wire 1.2 mm SLR
extra pure

Specified LR

packaging		product code
10 g	Glass packaging	S/1010/45

Ag
CAS: 7440-22-4
MW: 107.87
Boiling point: 2212°C
Boiling pressure: 760 mmHg

Melting point: 961°C
HS-Nr: 71069220
EINECS: 231-131-3
Safety: S24/25

The prices apply to the money and derivatives vary with the price of the raw material.

Silver chloride SLR
extra pure

Specified LR

packaging		product code
25 g	Glass packaging	S/1120/46

AgCl
CAS: 7783-90-6
MW: 143.32
Density at 20°C: 5.56
Boiling point: 1550°C

Boiling pressure: 760 mmHg
Melting point: 455°C
HS-Nr: 28432900
EINECS: 232-033-3
Safety: S24/25

Assay: >99%

Silver diethyldithiocarbamate SLR
extra pure

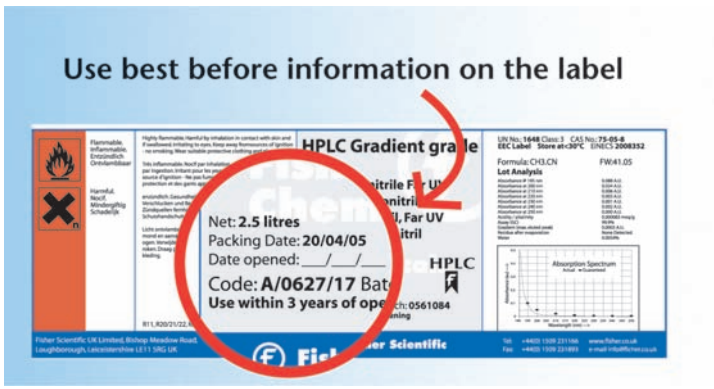
Specified LR

packaging		product code
5 g	Glass Jar	S/1200/44

$C_5H_{10}AgNS_2$
CAS: 1470-61-7
MW: 256.14
Boiling pressure: 760 mmHg

Melting point: 172 to 175°C
HS-Nr: 29302000
EINECS: 216-003-7
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform



Silver nitrate
for analysis — Certified AR

packaging		product code
25 g	Glass packaging	**S/1280/46**
100 g	Glass packaging	**S/1280/48**
250 g	Glass packaging	**S/1280/50**
500 g	Glass packaging	**S/1280/53**
10 kg	Plastic screw top Keg	**S/1280/68**

$AgNO_3$
CAS: 7761-88-8
MW: 169.87
Density at 20°C: 4.35
Boiling point: 444°C
Boiling pressure: 760 mmHg
Melting point: 212°C

ADR/RID: 5.1/II
UN: 1493
HS-Nr: 28432100
EINECS: 231-853-9
Risk: R8, R34, R50/53
Safety: S26, S45, S60, S61

O C N

Assay: >99.9%

Guaranteed analysis

Not precipitated by HCl	<0.01%	Potassium (K)	<20 ppm
Water-insoluble	<0.005%	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.0002 %
Copper (Cu)	<2 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<1 ppm	Molybdenum (Mo)	<1 ppm
Cadmium (Cd)	<1 ppm	Nickel (Ni)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Silver nitrate
extra pure — SLR

packaging		product code
25 g	Glass packaging	**S/1240/46**
100 g	Glass packaging	**S/1240/48**
500 g	Glass packaging	**S/1240/53**

$AgNO_3$
CAS: 7761-88-8
MW: 169.87
Density at 20°C: 4.35
Boiling point: 444°C
Boiling pressure: 760 mmHg
Melting point: 212°C

ADR/RID: 5.1/II
UN: 1493
HS-Nr: 28432100
EINECS: 231-853-9
Risk: R8, R34, R50/53
Safety: S26, S45, S60, S61

O C N

Assay: >99.8%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<100 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<50 ppm

Silver nitrate solution 1000 g/l
For COD

packaging		product code
500 mL	Coated Glass Bottle	**J/7380/PB08**

ADR/RID: 8/II
UN: 1760
HS-Nr: 28432100

Risk: R34
Safety: S26, S45

C

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Silver nitrate solution 1M (1N)
Standard solution ready to use for volumetric analysis

packaging		product code
1 L	Plastic bottle	**J/7320/PB15**
2.5 L	Plastic bottle	**J/7320/PB17**

ADR/RID: 8/II
UN: 1760
HS-Nr: 28432100

Risk: R34, R51/53
Safety: S26, S36/37/39, S45, S61

C N

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Silver nitrate solution 0.1M (0.1N) NEW SPEC. — Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	**J/7330/15**
2.5 L	Plastic bottle	**J/7330/17**
10 L	Cubitainer	**J/7330/24**

HS-Nr: 28432100
Risk: R52/53
Safety: S61

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Silver nitrate solution 0.1M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	**J/7330C/05**
6	ampoule	**J/7330C/90**

ADR/RID: 8/II
UN: 1760
HS-Nr: 28432100

Risk: R34, R50/53
Safety: S26, S45, S60, S61

C N

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Silver nitrate solution 0.05M (0.05N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	**J/7340/15**
2.5 L	Plastic bottle	**J/7340/17**

HS-Nr: 28432100
Risk: R52/53
Safety: S61

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Silver nitrate solution 0.0282M (0.0282N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
250 mL	Glass bottle	**J/7370/07**
1 L	Plastic bottle	**J/7370/15**
2.5 L	Plastic bottle	**J/7370/17**

HS-Nr: 28432100
Risk: R52/53
Safety: S61

Manufactured to a tolerance of ± 0.3%.
See the full range of Standard Volumetric solution page 266.

Silver nitrate solution 0.025M (0.025N) NEW SPEC.
Standard solution ready to use, For volumetric analysis

packaging		product code
1 L	Glass bottle	J/7310/15
2.5 L	Plastic bottle	J/7310/17

ADR/RID: /II
HS-Nr: 28432100
Risk: R52/53
Safety: S61

Guaranteed analysis
Molarity ..... 0.024 to 0.026 M

See the full range of Standard Volumetric solution page 266.
Manufactured to a tolerance of ± 0.1%

Silver nitrate solution 0.02M (0.02N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7350/15
2.5 L	Plastic bottle	J/7350/17

HS-Nr: 28432100
Risk: R52/53
Safety: S61

Manufactured to a tolerance of ± 0.3%.
See the full range of Standard Volumetric solution page 266.

Silver oxide SLR
extra pure

Specified LR

packaging		product code
25 g	Glass packaging	S/1320/46

Ag_2O
CAS: 20667-12-3
MW: 231.74
ADR/RID: 5.1(8)/II
UN: 3085

HS-Nr: 28432900
EINECS: 243-957-1
Risk: R8, R34
Safety: S17, S26, S36/37/39, S45

O C

Silver sulfate Certified AR
for analysis

Certified AR

packaging		product code
25 g	Glass packaging	S/1400/46
100 g	Glass packaging	S/1400/48

Ag_2O_4S
CAS: 10294-26-5
MW: 311.79
Density at 20°C: 5.45
Boiling point: 1085°C
Boiling pressure: 760 mmHg

Melting point: 652°C
HS-Nr: 28432100
EINECS: 233-653-7
Risk: R36
Safety: S26, S39

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total Nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Zinc (Zn)	<10 ppm
Iron (Fe)	<5 ppm	Copper (Cu)	<5 ppm
Lead (Pb)	<5 ppm	Iron (Fe)	<5 ppm
Magnesium (Mg)	<20 ppm	Lead (Pb)	<5 ppm
Potassium (K)	<50 ppm	Total chloride (Cl)	<0.001%
Sodium (Na)	<50 ppm	Total nitrogen (N)	<20 ppm
Total chloride (Cl)	<0.001 %		

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<5 ppm
Barium (Ba)	<5 ppm	Molybdenum (Mo)	<5 ppm
Cadmium (Cd)	<5 ppm	Nickel (Ni)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
CO	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Silver sulfate SLR
extra pure

Specified LR

packaging		product code
25 g	Glass packaging	S/1360/46
100 g	Glass packaging	S/1360/48

Ag_2SO_4
CAS: 10294-26-5
MW: 311.79
Density at 20°C: 5.45
Boiling point: 1085°C
Boiling pressure: 760 mmHg

Melting point: 652°C
HS-Nr: 28432900
EINECS: 233-653-7
Risk: R36
Safety: S26, S39

Xi

Assay: >98.5%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.002%
Lead (Pb)	<20 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm

Silver sulfate solution 1%w/v (d = 1.84) in sulfuric acid
For COD

packaging		product code
2.5 L	Coated Glass Bottle	J/7410/PB17

Ag_2SO_4
ADR/RID: 8/II
UN: 1830

HS-Nr: 28432900
Risk: R35
Safety: S26, S30, S45

C

Assay: 4.99 to 5.01%

Guaranteed analysis
Dichromate demand (ml FeSO) ..... <2mL

Silver sulfate solution 1%w/v (d = 1.84) in sulfuric acid
For COD

packaging		product code
2.5 L	Coated Glass Bottle	J/7400/PB17

ADR/RID: 8/II
UN: 1830
HS-Nr: 28432900

Risk: R35
Safety: S26, S30, S45

C

Assay: 0.9 to 1.1%

Guaranteed analysis
Dichromate demand (ml FeSO) ..... <2 mL

Soap powder
pure, hard

packaging		product code
500 g	Plastic jar	S/1450/53

HS-Nr: 29161500

Soap solution Clarks'
pure

packaging		product code
2.5 L	Glass bottle	J/7490/17

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S25

F

Soap solution Wanklyn
pure

packaging		product code
2.5 L	Glass bottle	J/7500/17

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S7, S16

F

Guaranteed analysis
Value between ..... 0.95 to 1.05

Soda lime, granules
extra pure, 1.0-2.5mm not hygroscopic self indicating SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/1700/53

ADR/RID: 8/III
UN: 1907
HS-Nr: 28151100

Risk: R34
Safety: S26, S37/39

C

Virage from green to brown.

Soda lime
extra pure, 1.0-2.5mm not hygroscopic granules SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/1600/53

ADR/RID: 8/III
UN: 1907
HS-Nr: 38220000

Risk: R34
Safety: S26, S37/39

C

Soda lime
extra pure, 2.5-5mm not hygroscopic granules SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/1560/53
500 g	Plastic jar	S/1560/65

ADR/RID: 8/III
UN: 1907
HS-Nr: 38220000

Risk: R34
Safety: S26, S37/39

C

Sodium standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4562/05

HS-Nr: 38220000
Safety: S24/25

Guaranteed analysis
Value between ..... 0.995 to 1.005

Manufactured to a tolerance of ± 1%.

Sodium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8065/05
500 mL	Plastic bottle	J/8065/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8316/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8315/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 31025090

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLNA22Y
250 mL	Plastic bottle	SPPLNA22T
500 mL	Plastic bottle	SPPLNA22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLNA12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLNA23Y
500 mL	Plastic bottle	SPPLNA23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLNA13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLNA22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sodium
extra pure, metal sticks in liquid paraffin — SLR

Specified LR

packaging		product code
100 g	Plastic jar	S/1920/48

Na
CAS: 7440-23-5
MW: 23.99
Boiling point: 883°C
Boiling pressure: 760 mmHg
Melting point: 98°C

ADR/RID: 4.3/I
UN: 1428
HS-Nr: 28051100
EINECS: 231-132-9
Risk: R14/15, R34
Safety: S5A, S8, S43D, S45

Guaranteed analysis

Calcium (Ca)	<1000 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<10 ppm		

Sodium acetate anhydrous
for analysis — Certified AR

Certified AR

packaging		product code
250 g	Plastic Jar	S/2120/50
500 g	Plastic Jar	S/2120/53
1 kg	Plastic Jar	S/2120/60
25 kg	Fibre Keg	S/2120/70

$C_2H_3NaO_2$
CAS: 127-09-3
MW: 82.04
Melting point: 324°C

Flash point: >250°C
HS-Nr: 29152900
EINECS: 204-823-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

Acidity	<0.0005 meq/g	Potassium (K)	<50 ppm
Alkalinity	<0.001 meq/g	Total chloride (Cl)	<0.0005 %
Calcium (Ca)	<50 ppm	Total nitrogen (N)	<20 ppm
Carbonate (Na_2CO_3)	<0.02 %	Total phosphorus (P)	<5 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<5 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Sodium acetate anhydrous
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic Jar	S/2080/53
1 kg	Plastic Jar	S/2080/60
5 kg	Plastic Keg	S/2080/65

$C_2H_3NaO_2$
CAS: 127-09-3
MW: 82.04
Melting point: 324°C

Flash point: >250°C
HS-Nr: 29152900
EINECS: 204-823-8
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<1000 ppm		

Sodium acetate trihydrate
for HPLC — Certified

HPLC

packaging		product code
250 g	Plastic Jar	S/2046/50
1 kg	Plastic Jar	S/2046/60

$C_2H_3NaO_2.3H_2O$
CAS: 6131-90-4
MW: 136.08
Melting point: 58°C

HS-Nr: 29152900
EINECS: 204-814-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (solution 5%) 25°C	7.5 to 9.2	Lead (Pb)	<5 ppm
Iron (Fe)	<3 ppm	Total chloride (Cl)	<0.0005%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm <0.02 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Sodium acetate trihydrate
HPLC for electrochemical detection — Certified

HPLC electrochemical

packaging		product code
250 g	Plastic Jar	S/2052/50

$C_2H_3NaO_2.3H_2O$
CAS: 6131-90-4
MW: 136.08
Melting point: 58°C

HS-Nr: 29152900
EINECS: 204-814-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<5 ppm
pH (solution 5%) 25°C	7.5 to 9.2	Total chloride (Cl)	<0.0005%
Iron (Fe)	<3 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm <0.02 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Electrode- Graphite.
Lot analysis on the label.
Filtered to 0.2 µm.

Save money!
Order 4 bottles in a box

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Sodium acetate trihydrate — Certified AR
for analysis, crystals

packaging		product code
500 g	Plastic Jar	S/2040/53
1 kg	Plastic Jar	S/2040/60
2.5 kg	Plastic Jar	S/2040/62
5 kg	Plastic Keg	S/2040/65

$C_2H_3NaO_2.3H_2O$
CAS: 6131-90-4
MW: 136.08
Melting point: 58°C
HS-Nr: 29152900
EINECS: 204-814-9
Safety: S24/25

Assay: 99-101%

Guaranteed analysis

pH (aqueous solution 5%)	8 to 9	Potassium (K)	<50 ppm
Substances reducing $KMnO_4$	<0.005%	Total chloride (Cl)	<0.0005 %
Calcium (Ca)	<10 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium acetate trihydrate — SLR, Eur.Ph.,BP
extra pure, crystals

packaging		product code
500 g	Plastic Jar	S/2000/53
1 kg	Plastic Jar	S/2000/60
2.5 kg	Plastic Jar	S/2000/62
5 kg	Plastic Keg	S/2000/65

$C_2H_3NaO_2.3H_2O$
CAS: 6131-90-4
MW: 136.08
Melting point: 58°C
HS-Nr: 29152900
EINECS: 204-814-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<200 ppm		

Sodium alginate — SLR
extra pure

packaging		product code
500 g	Plastic Jar	S/2160/53

CAS: 9005-38-3
HS-Nr: 39131000
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Sodium aluminate
Technical

packaging		product code
1 kg	Plastic jar	S/2200/60

CAS: 1302-42-7
ADR/RID: 8/III
UN: 1759
HS-Nr: 38220000
EINECS: 215-100-1
Risk: R36/37/38
Xi

Sodium arsenate hydrate — Certified AR
for analysis

packaging		product code
250 g	Plastic jar	S/2272/50

$Na_2HAsO_4.7H_2O$
CAS: 10048-95-0
MW: 312.01
ADR/RID: 6.1/II
UN: 1685
HS-Nr: 28429080
Risk: R45, R23/25, R50/5
Safety: S53, S45, S60, S61
T N

Assay: 99 to 102%

Guaranteed analysis

pH (aqueous solution 5%)	8.5 to 9	Potassium (K)	<100 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<100 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<20 ppm	Arsénite	<0.002%

Lot analysis on the label.

Sodium arsenite — SLR
extra pure

packaging		product code
100 g	Plastic jar	S/2320/48

$NaAsO_2$
CAS: 7784-46-5
MW: 129.91
Density at 20°C: 1.87
Melting point: 615°C
ADR/RID: 6.1/II
UN: 2027
HS-Nr: 28429080
EINECS: 232-070-5
Risk: R23/25, R50/53
Safety: S20/21, S28, S45, S60, S61
T N

Assay: >98%

Guaranteed analysis

Sulfate (SO_4)	<0.1%	Total chloride (Cl)	<0.04%

Sodium arsenite solution 0.05M (0.1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7510/PB15
2.5 L	Plastic bottle	J/7510/PB17

ADR/RID: 6.1/III
UN: 1686
HS-Nr: 28429080
Risk: R23/25
Safety: S20/21, S28, S45
T

Guaranteed analysis

Value between ..... 0.998 to 1.002

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Sodium azide — Certified AR
for analysis

packaging		product code
100 g	Plastic jar	S/2380/48
500 g	Plastic jar	S/2380/53

NaN_3
CAS: 26628-22-8
MW: 65.01
Density at 20°C: 1.85
Boiling point: 300°C
Boiling pressure: 760 mmHg
Melting point: 275 °C
ADR/RID: 6.1/II
UN: 1687
HS-Nr: 28500050
Risk: R28, R32, R50/53
Safety: S28A, S45, S60, S61
T+ N

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Sodium azide
extra pure — SLR

Specified

packaging		product code
100 g	Plastic jar	S/2360/48
500 g	Plastic jar	S/2360/53

NaN_3
CAS: 26628-22-8
MW: 65.01
Density at 20°C: 1.85
Boiling point: 300°C
Boiling pressure: 760 mmHg

Melting point: 275 °C
ADR/RID: 6.1/II
UN: 1687
HS-Nr: 28500050
Risk: R28, R32, R50/53
Safety: S28A, S45, S60, S61

T+ N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Sodium benzoate
for analysis — Certified AR

AR

packaging		product code
500 g	Plastic Jar	S/2441/53

$C_7H_5NaO_2$
CAS: 532-32-1
MW: 144.11
Melting point: >300°C

HS-Nr: 29163100
EINECS: 208-534-8
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Loss on drying	<1%	Manganese (Mn)	<2 ppm
pH (aqueous solution 5%)	7 to 8	Molybdenum (Mo)	<2 ppm
Aluminium (Al)	<2 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Potassium (K)	<500 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Calcium (Ca)	<100 ppm	Strontium (Sr)	<2 ppm
Chlorine (Cl) compounds	<0.01%	Titanium (Ti)	<2 ppm
Chromium (Cr)	<2 ppm	Total chloride (Cl)	<0.005%
Cobalt (Co)	<2 ppm	Total phosphorus (P)	<50 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<1 ppm	Vanadium (V)	<2 ppm
Lithium (Li)	<2 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<50 ppm		

Lot analysis on the label.

Sodium benzoate
extra pure — SLR, Eur.Ph., BP

Specified

packaging		product code
500 g	Plastic Jar	S/2440/53
1 kg	Plastic Jar	S/2440/60

$C_7H_5NaO_2$
CAS: 532-32-1
MW: 144.11
Melting point: >300°C

HS-Nr: 29163100
EINECS: 208-534-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<2%	Potassium (K)	<1000 ppm
Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm

Sodium bichromate

See Sodium dichromate dihydrate, page 239

Sodium bismuthate
extra pure — SLR

Specified

packaging		product code
100 g	Plastic Jar	S/2480/48

$NaBiO_3$
CAS: 12232-99-4
MW: 279.96

HS-Nr: 28419090
EINECS: 235-455-6
Risk: R22

Xn

Sodium borate decahydrate

See di-Sodium tetraborate decahydrate, page 254

Sodium borohydride
extra pure — SLR

Specified

packaging		product code
10 g	Plastic jar	S/2560/45
25 g	Plastic jar	S/2560/46
100 g	Plastic jar	S/2560/48

$NaBH_4$
CAS: 16940-66-2
MW: 37.83
Density at 20°C: 1.07
Melting point: 400°C
Flash point: 69°C
ADR/RID: 4.3/I

UN: 1426
HS-Nr: 28500010
EINECS: 241-004-4
Risk: R15, R23/24/25, R34
Safety: S22, S26, S36/37/39, S43A, S45

F T

Sodium bromate
extra pure — SLR

Specified

packaging		product code
500 g	Plastic jar	S/2600/53

$NaBrO_3$
CAS: 7789-38-0
MW: 150.9
Density at 20°C: 3.33
Melting point: 381 °C
ADR/RID: 5.1/II

UN: 1494
HS-Nr: 28299090
EINECS: 232-160-4
Risk: R9, R36/37
Safety: S17, S26, S37/39

O Xi

Assay: >95%

Sodium bromide
extra pure — SLR

Specified

packaging		product code
500 g	Plastic jar	S/2640/53
3 kg	Plastic jar	S/2640/63

NaBr
CAS: 7647-15-6
MW: 102.89
Boiling point: 1390°C
Boiling pressure: 760 mmHg

Melting point: 755°C
HS-Nr: 28275100
EINECS: 231-599-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

Alkalinity	<0.002 meq/g	Lead (Pb)	<5 ppm
Loss on drying	<3%	Sulfate (SO_4)	<0.02%
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.4%

Standard Certified
for AAS, ICP & ICP-MS
A full range of Mono
& Multi-elemental standard
solution to discover on page 256

Sodium cacodylate trihydrate — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	S/2660/48

$Na(CH_3)_2AsO_2.3H_2O$
CAS: 124-65-2
MW: 214.03
ADR/RID: 6.1/II
UN: 1688

HS-Nr: 29310000
EINECS: 204-708-2
Risk: R23/25, R40
Safety: S20/21, S28, S45

T

Assay: >97%

Guaranteed analysis

Acidity	<0.07 meq/g	Sulfate (SO_4)	<0.3%
Alkalinity	<0.025 meq/g	Total chloride (Cl)	<0.1%

Sodium carbonate anhydrous — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/2920/53
1 kg	Plastic jar	S/2920/60
2.5 kg	Plastic jar	S/2920/62
5 kg	Plastic drum	S/2920/65

CNa_2O_3
CAS: 497-19-8
MW: 105.99
Density at 20°C: 2.53
Boiling point: 1600°C
Boiling pressure: 760 mmHg

Melting point: 851°C
HS-Nr: 28362000
EINECS: 207-838-8
Risk: R36
Safety: S22, S26

Xi

Assay: >99.9%

Guaranteed analysis

Loss on drying 300°C	<1%	Potassium (K)	<100 ppm
Water-insoluble	<0.005%	Total chloride (Cl)	<0.002 %
Calcium (Ca)	<100 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium carbonate anhydrous — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/2880/53
1 kg	Plastic jar	S/2880/60
2.5 kg	Plastic jar	S/2880/62
5 kg	Plastic drum	S/2880/65
25 kg	Fibre Keg	S/2880/70

Na_2CO_3
CAS: 497-19-8
MW: 105.99
Density at 20°C: 2.53
Boiling point: 1600°C
Boiling pressure: 760 mmHg

Melting point: 851°C
HS-Nr: 28362000
EINECS: 207-838-8
Risk: R36
Safety: S22, S26

Xi

Assay: >99.5%

Guaranteed analysis

Loss on drying	<2%	Potassium (K)	<200 ppm
Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm

Sodium carbonate anhydrous
Technical

packaging		product code
2.5 kg	Plastic jar	S/2840/62
25 kg	Fibre Keg	S/2840/70

Na_2CO_3
CAS: 497-19-8
MW: 105.99
Density at 20°C: 2.53
Boiling point: 1600°C
Boiling pressure: 760 mmHg

Melting point: 851°C
HS-Nr: 28362000
EINECS: 207-838-8
Risk: R36
Safety: S22, S26

Xi

Sodium carbonate decahydrate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/2760/53
1 kg	Plastic jar	S/2760/60
5 kg	Plastic drum	S/2760/65

$Na_2CO_3.10H_2O$
CAS: 6132-02-1
MW: 286.14
Density at 20°C: 1.46
Melting point: 34°C

HS-Nr: 28362000
EINECS: 207-838-8
Risk: R36
Safety: S22, S26

Xi

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Total chloride (Cl)	<0.0015 %
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<2 ppm	Total phosphorus (P)	<5 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<2 ppm	Total sulphur (S)	<20 ppm
Potassium (K)	<50 ppm		

Typical analysis

Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Sodium carbonate decahydrate — SLR
extra pure

Specified LR

packaging		product code
1 kg	Plastic jar	S/2720/60
2.5 kg	Plastic jar	S/2720/62
5 kg	Plastic drum	S/2720/65

$Na_2CO_3.10H_2O$
CAS: 6132-02-1
MW: 286.14
Density at 20°C: 1.46
Melting point: 34°C

HS-Nr: 28362000
EINECS: 207-838-8
Risk: R36
Safety: S22, S26

Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<100 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<200 ppm		

Sodium carbonate solution 0.05M (0.1N) — NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7580/PB15
2.5 L	Plastic bottle	J/7580/17

HS-Nr: 28362000

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium carbonate solution 0.05M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7580C/05
6	ampoule	J/7580C/90

HS-Nr: 38220000

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sodium carbonate solution 0.5M (1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7520/PB15
2.5 L	Plastic bottle	J/7520/17

HS-Nr: 28362000

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium chlorate — Certified AR
for analysis

AR

packaging		product code
250 g	Plastic jar	S/3045/50

$NaClO_3$
CAS: 7775-09-9
MW: 106.44
Density at 20°C: 2.49
Melting point: 248 to 261°C
ADR/RID: 5.1/II

UN: 1495
HS-Nr: 28291100
EINECS: 231-887-4
Risk: R9, R22, R51/53
Safety: S13, S17, S46, S61

O Xn N

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Nickel (Ni)	<5 ppm
Barium (Ba)	<5 ppm	Potassium (K)	<100 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Calcium (Ca)	<20 ppm	Strontium (Sr)	<5 ppm
Chromium (Cr)	<5 ppm	Titanium (Ti)	<5 ppm
Cobalt (Co)	<5 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<5 ppm	Total nitrogen (N)	<100 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm	Zinc (Zn)	<20 ppm
Molybdenum (Mo)	<5 ppm		

Sodium chlorate — SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	S/3040/53
1 kg	Plastic jar	S/3040/60

$NaClO_3$
CAS: 7775-09-9
MW: 106.44
Density at 20°C: 2.49
Melting point: 248 to 261°C
ADR/RID: 5.1/II

UN: 1495
HS-Nr: 28291100
EINECS: 231-887-4
Risk: R9, R22, R51/53
Safety: S13, S17, S46, S61

O Xn N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<50 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<200 ppm

Sodium chlorate
Technical

packaging		product code
1 kg	Plastic jar	S/3000/60
3 kg	Plastic jar	S/3000/63

$NaClO_3$
CAS: 7775-09-9
MW: 106.44
Density at 20°C: 2.49
Melting point: 248 to 261°C
ADR/RID: 5.1/II

UN: 1495
HS-Nr: 28291100
EINECS: 231-887-4
Risk: R9, R22, R51/53
Safety: S13, S17, S46, S61

O Xn N

Sodium chloride — Certified
for HPLC

HPLC

packaging		product code
500 g	Plastic jar	S/3165/53

NaCl
CAS: 7647-14-5
MW: 58.44
Boiling point: 1461°C
Boiling pressure: 760 mmHg

Melting point: 801°C
HS-Nr: 25010091
EINECS: 231-598-3
Safety: S24/25

Assay: 0 to 150%

Guaranteed analysis

Bromide and iodide	<0.005%	Potassium (K)	<50 ppm
Iron (Fe)	<1 ppm	Total phosphorus (P)	<2 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<10 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.02 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Sodium chloride — Certified AR, Eur.Ph.
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/3160/53
1 kg	Plastic jar	S/3160/60
3 kg	Plastic jar	S/3160/63
5 kg	Plastic jar	S/3160/65
10 kg	Plastic screw top Keg	S/3160/68
25 kg	Plastic screw top Keg	S/3160/70

ClNa
CAS: 7647-14-5
MW: 58.44
Boiling point: 1461°C
Boiling pressure: 760 mmHg

Melting point: 801°C
HS-Nr: 38220000
EINECS: 231-598-3
Safety: S24/25

Assay: >99.9%

Guaranteed analysis

Water-insoluble	<0.005%	Magnesium (Mg)	<5 ppm
Bromide and iodide	<0.005 %	Potassium (K)	<100 ppm
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<5 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<20 ppm
Iron cyanide	<0.0001 %	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium chloride
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/3120/53
1 kg	Plastic jar	S/3120/60
3 kg	Plastic jar	S/3120/63
5 kg	Plastic jar	S/3120/65
25 kg	Plastic screw top Keg	S/3120/70

NaCl
CAS: 7647-14-5
MW: 58.44
Boiling point: 1461°C
Boiling pressure: 760 mmHg

Melting point: 801°C
HS-Nr: 38220000
EINECS: 231-598-3
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Bromide (Br)	<0.005%	Potassium (K)	<200 ppm
Calcium (Ca)	<100 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<10 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<20 ppm		

Sodium chloride (rock salt)
Technical

packaging		product code
3 kg	Plastic jar	S/3100/63

NaCl
CAS: 7647-14-5
MW: 58.44
Boiling point: 1461°C
Boiling pressure: 760 mmHg

Melting point: 801°C
HS-Nr: 25010099
EINECS: 231-598-3
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Sodium chloride
Technical

packaging		product code
3 kg	Plastic jar	S/3105/63
25 kg	Plastic drum	S/3105/70

NaCl
CAS: 7647-14-5
MW: 58.44
Boiling point: 1461°C
Boiling pressure: 760 mmHg

Melting point: 801°C
HS-Nr: 25010099
EINECS: 231-598-3
Safety: S24/25

Sodium chloride solution 0.1M (0.1N)
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7590C/05
6	ampoule	J/7590C/90

HS-Nr: 38220000

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sodium chloroacetate
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic Jar	S/3200/50

$C_2H_2ClNaO_2$
CAS: 3926-62-3
MW: 116.48
Melting point: 0.1°C
ADR/RID: 6.1/III

UN: 2659
HS-Nr: 29154000
EINECS: 223-498-3
Risk: R25, R38, R50
Safety: S22, S37, S45, S61

T N

Guaranteed analysis

IR Analysis ..... Conform

Sodium chromate anhydrous
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/3240/53

Na_2CrO_4
CAS: 7775-11-3
MW: 161.97
Melting point: 792°C
ADR/RID: 6.1/II
UN: 3288

HS-Nr: 28415000
EINECS: 231-889-5
Risk: R49, R46, R36/37/38, R43, R50/53
Safety: S53, S45, S60

T N

Guaranteed analysis

IR Analysis ..... Conform

tri-Sodium citrate dihydrate
HPLC for electrochemical detection — Certified

HPLC electrochemical

packaging		product code
500 g	Plastic Jar	S/3380/53

$C_6H_5Na_3O_7.2H_2O$
CAS: 6132-04-3
MW: 294.09
Density at 20°C: 1.76

Melting point: >300°C
HS-Nr: 29181500
EINECS: 200-675-3
Safety: S24/25

Assay: 99.5 to 100.5%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<5 ppm
pH (solution 5%) 25°C	8 to 9	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

254 nm	<0.1 A.U.	270 nm	<0.05 A.U.

Purifed then tested by HPLC-EC to show low electrochemical response.
Detector - ESA Coulochem II
Mode-oxydative
Electrode- Graphite.
Lot analysis on the label.
Filtered to 0.2 µm.

tri-Sodium citrate dihydrate
for analysis — Certified AR, Eur.Ph., BP, USP

CertiFied AR

packaging		product code
500 g	Plastic Jar	S/3320/53
1 kg	Plastic Jar	S/3320/60
5 kg	Plastic Keg	S/3320/65
25 kg	Fibre Keg	S/3320/70

$C_6H_5Na_3O_7.2H_2O$
CAS: 6132-04-3
MW: 294.09
Density at 20°C: 1.76

Melting point: >300°C
HS-Nr: 29181500
EINECS: 200-675-3
Safety: S24/25

Assay: 99.5 to 100.5%

Guaranteed analysis

Carbonisable substance (standard Ph.Eur USP)	Conform	Potassium (K)	<100 ppm
pH (aqueous solution 5%)	8 to 9	Total chloride (Cl)	<0.005 %
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

tri-Sodium citrate dihydrate SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	S/3280/53
1 kg	Plastic jar	S/3280/60
5 kg	Plastic drum	S/3280/65

$C_6H_5Na_3O_7.2H_2O$
CAS: 6132-04-3
MW: 294.09
Density at 20°C: 1.76
Melting point: >300°C
HS-Nr: 29181500
EINECS: 200-675-3
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	8 to 9	Potassium (K)	<200 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Sodium cyanide SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	S/3480/53

NaCN
CAS: 143-33-9
MW: 49.01
Boiling point: 1497°C
Boiling pressure: 760 mmHg
Melting point: 562°C
ADR/RID: 6.1/I
UN: 1689
HS-Nr: 28371100
EINECS: 205-599-4
Risk: R26/27/28, R32, R50/53
Safety: S7, S28A, S29, S45, S60, S61

T+ N

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<200 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<1000 ppm		

Sodium dichromate dihydrate Certified AR
for analysis

AR

packaging		product code
500 g	Plastic jar	S/3561/53

$Na_2Cr_2O_7.2H_2O$
CAS: 7789-12-0
MW: 298
Boiling point: 400°C
Boiling pressure: 760 mmHg
Melting point: 357°C
ADR/RID: 5.1(6.1)/II
UN: 3087
HS-Nr: 28413000
EINECS: 234-190-3
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

O T+ N

Assay: 99.5 to 101%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Magnesium (Mg)	<20 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<200 ppm
Calcium (Ca)	<20 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<10 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<20 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm	Zinc (Zn)	<20 ppm

Lot analysis on the label.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Sodium dichromate dihydrate SLR
extra pure

Specified

packaging		product code
500 g	Plastic jar	S/3560/53
1 kg	Plastic jar	S/3560/60
3 kg	Plastic jar	S/3560/63

$Na_2Cr_2O_7.2H_2O$
CAS: 7789-12-0
MW: 298
Boiling point: 400°C
Boiling pressure: 760 mmHg
Melting point: 357°C
ADR/RID: 5.1(6.1)/II
UN: 3087
HS-Nr: 28413000
EINECS: 234-190-3
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

O T+ N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<1000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<100 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<100 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm

Sodium dichromate dihydrate
Technical

packaging		product code
1 kg	Plastic jar	S/3520/60
3 kg	Plastic jar	S/3520/63

$Na_2Cr_2O_7.2H_2O$
CAS: 7789-12-0
MW: 298
Boiling point: 400°C
Boiling pressure: 760 mmHg
Melting point: 357°C
ADR/RID: 5.1(6.1)/II
UN: 3087
HS-Nr: 28413000
EINECS: 234-190-3
Risk: R45, R46, R60, R61, R8, R21, R25, R26, R34, R42/43, R48/23, R50/53
Safety: S53, S45, S60, S61

O T+ N

Assay: >98%

Sodium diethyldithiocarbamate trihydrate SLR
extra pure

Specified

packaging		product code
25 g	Plastic Jar	S/3640/46
100 g	Plastic Jar	S/3640/48

$C_5H_{10}NNaS_2.3H_2O$
CAS: 20624-25-3
MW: 225.31
Boiling pressure: 760 mmHg
Melting point: 95 to 98.5°C
HS-Nr: 29302000
EINECS: 205-710-6
Risk: R22

Xn

Assay: >98.5%

Guaranteed analysis

Cooper absorption ..... >12000

Sodium dihydrogen orthophosphate dihydrate Certified
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
500 g	Plastic jar	S/3770/53

$NaH_2PO_4.2H_2O$
CAS: 13472-35-0
MW: 156.01
Melting point: 60°C
HS-Nr: 38220000
EINECS: 231-449-2
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<2 ppm
pH (solution 5%) 25°C	4.3 to 4.5	Total chloride (Cl)	<0.001%
Iron (Fe)	<10 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.05 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

Sodium dihydrogen orthophosphate 0.25M solution — Certified
HPLC for gradient analysis

HPLC

packaging		product code
500 mL	Coated Glass Bottle	J/7600/PB08

HS-Nr: 28352200

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Drift in the baseline ..... <40 mA.U. Gradient (max eluted peak)<0.005 mA.U.

Conditions:
Column: C18 Reverse Phase
Flow Rate: 3ml/min
Wavelength: 254nm
Solvent A: Water + 10%Buffer
Solvent B: Acetonitrile + 10% Buffer
Gradient: 10 min. At 5% solvent B followed by a linear gradient to 95% solvent B over 15min.
Sodium phosphate buffers should be adjusted to the appropriate pH with 1M Orthophosphoric acid

Sodium dihydrogen orthophosphate dihydrate — Certified AR, Eur.Ph., BP
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/3760/53
1 kg	Plastic jar	S/3760/60
5 kg	Plastic drum	S/3760/65
25 kg	Plastic drum	S/3760/70

$NaH_2PO_4.2H_2O$
CAS: 13472-35-0
MW: 156.01
Melting point: 60°C
HS-Nr: 28352200
EINECS: 231-449-2
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	4.3 to 4.5	Potassium (K)	<100 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<2 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<0.001 %
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

Sodium dihydrogen orthophosphate dihydrate — SLR
extra pure, crystals

Specified LR

packaging		product code
500 g	Plastic jar	S/3720/53
1 kg	Plastic jar	S/3720/60
5 kg	Plastic drum	S/3720/65

$NaH_2PO_4.2H_2O$
CAS: 13472-35-0
MW: 156.01
Melting point: 60°C
HS-Nr: 28352200
EINECS: 231-449-2
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<10 ppm

Sodium diphenylamine-4-sulfonate
pure

packaging		product code
5 g	Glass Jar	S/3780/44

$C_{12}H_{10}NNaO_3S$
CAS: 6152-67-6
MW: 271.26
HS-Nr: 38220000
EINECS: 228-165-6
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Sodium dithionite — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/3800/53
3 kg	Plastic jar	S/3800/63

$Na_2S_2O_4$
CAS: 7775-14-6
MW: 174.1
Boiling pressure: 760 mmHg
Melting point: >300 °C
ADR/RID: 4.2/II
UN: 1384
HS-Nr: 28311000
EINECS: 231-890-0
Risk: R7, R22, R31
Safety: S7/8, S26, S28A, S43E

Xn

Assay: >85%

Sodium dodecyl sulfate
Technical

packaging		product code
500 g	Plastic Jar	S/5200/53

$C_{12}H_{25}NaO_4S$
CAS: 151-21-3
MW: 288.38
Melting point: 206°C
Flash point: >100°C
ADR/RID: 4.1/III
UN: 1325
HS-Nr: 38220000
EINECS: 205-788-1
Risk: R11, R22, R36/38
Safety: S26, S36/37/39

F Xn

Assay (GC): >97.5%

Sodium sulfate alkyl contains mainly sodium lauryl sulfate.

Sodium fluoride — Certified AR
for analysis

Certified AR

packaging		product code
250 g	Plastic jar	S/3920/50
500 g	Plastic jar	S/3920/53
1 kg	Plastic jar	S/3920/60
25 kg	Plastic screw top Keg	S/3920/70

NaF
CAS: 7681-49-4
MW: 41.99
Boiling point: 1700°C
Boiling pressure: 760 mmHg
Melting point: 993°C
ADR/RID: 6.1/III
UN: 1690
HS-Nr: 28261910
EINECS: 231-667-8
Risk: R25, R32, R36/38
Safety: S22, S36, S45

T

Assay: >99%

Guaranteed analysis

Acidity	<0.05 meq/g	Magnesium (Mg)	<20 ppm
Alkalinity	<0.01 meq/g	Potassium (K)	<200 ppm
Loss on drying	<0.2%	Total chloride (Cl)	<0.002 %
Calcium (Ca)	<50 ppm	Total phosphorus (P)	<50 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<200 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm		

Lot analysis on the label.

Sodium fluoride
extra pure SLR

Specified

packaging		product code
250 g	Plastic jar	S/3880/50
500 g	Plastic jar	S/3880/53

NaF
CAS: 7681-49-4
MW: 41.99
Boiling point: 1700°C
Boiling pressure: 760 mmHg
Melting point: 993°C

ADR/RID: 6.1/III
UN: 1690
HS-Nr: 28261910
EINECS: 231-667-8
Risk: R25, R32, R36/38
Safety: S22, S36, S45

T

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<1000 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<500 ppm		

Sodium fluorosilicate
Technical

packaging		product code
1 kg	Plastic jar	S/4000/60

approx.Na_2SiF_6
CAS: 16893-85-9
ADR/RID: 6.1/III
UN: 2674

HS-Nr: 28262000
EINECS: 240-934-8
Risk: R23/24/25
Safety: S26, S45

T

Sodium formaldehydesulfoxylate dihydrate
pure

packaging		product code
500 g	Plastic jar	S/4040/53
25 kg	Fibre Keg	S/4040/70

$CH_3NaO_3S.2H_2O$
CAS: 6035-47-8
MW: 154.12

Melting point: 63 to 64°C
HS-Nr: 28311000
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Sodium formate
for HPLC Certified

HPLC

packaging		product code
250 g	Plastic jar	S/4086/50

$CHNaO_2$
CAS: 141-53-7
MW: 68.01
Boiling point: 360°C
Boiling pressure: 760 mmHg

Melting point: 258 to 261°C
HS-Nr: 29171990
EINECS: 205-488-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.02 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Sodium formate
for analysis Certified AR

AR

packaging		product code
500 g	Plastic jar	S/4082/53

$CHNaO_2$
CAS: 141-53-7
MW: 68.01
Boiling point: 360°C
Boiling pressure: 760 mmHg

Melting point: 258 to 261°C
HS-Nr: 29171990
EINECS: 205-488-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<1 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Potassium (K)	<100 ppm
Calcium (Ca)	<50 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Titanium (Ti)	<1 ppm
Cobalt (Co)	<1 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<10 ppm	Vanadium (V)	<1 ppm
Lithium (Li)	<1 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<5 ppm		

Lot analysis on the label.

Sodium formate
extra pure SLR

Specified

packaging		product code
500 g	Plastic jar	S/4080/53

$CHNaO_2$
CAS: 141-53-7
MW: 68.01
Boiling point: 360°C
Boiling pressure: 760 mmHg

Melting point: 258 to 261°C
HS-Nr: 29171990
EINECS: 205-488-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<50 ppm

Sodium gluconate
extra pure SLR

Specified

packaging		product code
500 g	Plastic jar	S/4100/53

$C_6H_{11}NaO_7$
CAS: 527-07-1
MW: 218.14
Melting point: 206-209°C

HS-Nr: 29181600
EINECS: 208-407-7
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5.5 to 7.5	Sulfate (SO_4)	<0.02%
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<20 ppm		

Sodium β-glycerophosphate pentahydrate
extra pure SLR

Specified

packaging		product code
100 g	Plastic jar	S/4110/48

$C_3H_7Na_2O_6P.51/2H_2O$
CAS: 819-83-0
MW: 315.11
Melting point: 102 to 104°C

HS-Nr: 29190091
EINECS: 212-464-3
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >97%

Guaranteed analysis

pH (aqueous solution 2%)	8 to 10.5	Lead (Pb)	<20 ppm
Inorganic Phosphate	<0.2%		

Sodium hexacyanoferrate(II) decahydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/3840/53

$Na_4Fe(CN)_6.10H_2O$
CAS: 13601-19-9
MW: 484.07
HS-Nr: 29041000
EINECS: 237-081-9

Sodium hexametaphosphate — SLR
extra pure, powder mainly $(NaPO_3)_6$

Specified LR

packaging		product code
500 g	Plastic jar	S/4160/53
1 kg	Plastic jar	S/4160/60

$Na_6O_{18}P_6$
CAS: 10124-56-8
MW: 611.52
Density at 20°C: 2.18
HS-Nr: 38220000
EINECS: 233-343-1
Safety: S24/25

Sodium hexametaphosphate
pure, Flake, mainly $(NaPO_3)_6$

packaging		product code
500 g	Plastic jar	S/4120/53
1 kg	Plastic jar	S/4120/60

$Na_6O_{18}P_6$
CAS: 10124-56-8
MW: 611.52
Density at 20°C: 2.18
HS-Nr: 38220000
EINECS: 233-343-1
Safety: S24/25

Sodium hydrogen carbonate — NEW — Certified
for HPLC

HPLC

packaging		product code
250 g	Plastic Jar	S/4246/50

$NaHCO_3$
CAS: 144-55-8
MW: 84.01
Melting point: 270°C
HS-Nr: 28363000
EINECS: 205-633-8
Safety: S24/25

Guaranteed analysis

Iron (Fe)	<5 ppm	<0.03 A,U,	
Lead (Pb)	<2 ppm	Ammonium (NH_4)	<0.0005 %
Absorbance at 254 nm (Sol.aq. 1 M)		pH (aqueous solution 1%)	<8.4

Sodium hydrogen carbonate — Certified AR, Eur.Ph.
for analysis

Certified AR

packaging		product code
500 g	Plastic Jar	S/4240/53
1 kg	Plastic Jar	S/4240/60
3 kg	Plastic Jar	S/4240/63
5 kg	Plastic Keg	S/4240/65

$NaHCO_3$
CAS: 144-55-8
MW: 84.01
Melting point: 270°C
HS-Nr: 28363000
EINECS: 205-633-8
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 1%)	8 to 8.5	Total chloride (Cl)	<0.005 %
Calcium (Ca)	<50 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<200 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium hydrogen carbonate — SLR
extra pure

Specified LR

packaging		product code
1 kg	Plastic Jar	S/4200/60
3 kg	Plastic Jar	S/4200/63
5 kg	Plastic Keg	S/4200/65

$NaHCO_4$
CAS: 144-55-8
MW: 84.01
Melting point: 270°C
HS-Nr: 28363000
EINECS: 205-633-8
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.02%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<500 ppm		

di-Sodium hydrogen citrate sesquihydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic Jar	S/4280/53

$C_6H_6Na_2O_7.1.5H_2O$
CAS: 6132-05-4
MW: 263.11
Melting point: 149 °C
HS-Nr: 29181500
EINECS: 205-623-3
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (solution 3%)	4.9 to 5.2	Sulfate (SO_4)	<0.02%
Lead (Pb)	<10 ppm	Total chloride (Cl)	<0.01%
Potassium (K)	<200 ppm		

di-Sodium hydrogen orthophosphate anhydrous — Certified
AR, Eur.Ph., BP
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/4520/53
1 kg	Plastic jar	S/4520/60
3 kg	Plastic jar	S/4520/63
5 kg	Plastic drum	S/4520/65
25 kg	Fibre Keg	S/4520/70

Na_2HPO_4
CAS: 7558-79-4
MW: 141.96
HS-Nr: 28352200
EINECS: 231-448-7
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.2%	Potassium (K)	<200 ppm
pH (aqueous solution 2%)	9 to 9.3	Total chloride (Cl)	<0.002 %
Calcium (Ca)	<20 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<10 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

di-Sodium hydrogen orthophosphate anhydrous SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/4480/53
1 kg	Plastic jar	S/4480/60
5 kg	Plastic drum	S/4480/65

Na_2HPO_4
CAS: 7558-79-4
MW: 141.96
HS-Nr: 28352200
EINECS: 231-448-7
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.5%	Potassium (K)	<500 ppm
Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<50 ppm	Total silicon (Si)	<200 ppm
Iron (Fe)	<50 ppm	Total sulphur (S)	<100 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<200 ppm
Magnesium (Mg)	<50 ppm		

di-Sodium hydrogen orthophosphate dihydrate Certified
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
500 g	Plastic jar	S/4460/53

$Na_2HPO_4.2H_2O$
CAS: 10028-24-7
MW: 177.99
Melting point: 243 to 245°C
HS-Nr: 38220000
EINECS: 231-448-7
Safety: S24/25

Assay: >99%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<5 ppm
pH (solution 5%) 25°C	7.5 to 9.2	Total chloride (Cl)	<0.0005%
Iron (Fe)	<10 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.5 M) <0.05 A.U.

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
Lot analysis on the label.
Filtered to 0.2 µm.

di-Sodium hydrogen orthophosphate 0.25M solution Certified
for HPLC

HPLC

packaging		product code
500 mL	Coated Glass Bottle	J/7650/PB08

HS-Nr: 28352200

Guaranteed analysis
Molarity 0.24 to 0.26 M

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Drift in the baseline <40 mA.U. Gradient (max eluted peak)<0.005 mA.U.

di-Sodium hydrogen orthophosphate dihydrate Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/4450/53
1 kg	Plastic jar	S/4450/60
5 kg	Plastic drum	S/4450/65
10 kg	Plastic screw top Keg	S/4450/68

$Na_2HPO_4.2H_2O$
CAS: 10028-24-7
MW: 177.99
Melting point: 243 to 245°C
HS-Nr: 28352200
EINECS: 231-448-7
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 2%)	9 to 9.3	Potassium (K)	<100 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.002 %
Copper (Cu)	<5 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

di-Sodium hydrogen orthophosphate dihydrate SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/4440/53
1 kg	Plastic jar	S/4440/60
5 kg	Plastic drum	S/4440/65

$Na_2HPO_4.2H_2O$
CAS: 10028-24-7
MW: 177.99
Melting point: 243 to 245°C
HS-Nr: 28352200
EINECS: 231-448-7
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<500 ppm		

di-Sodium hydrogen orthophosphate dodecahydrate
Certified AR, Eur.Ph., BP
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/4400/53
1 kg	Plastic jar	S/4400/60
10 kg	Plastic screw top Keg	S/4400/68

$Na_2HPO_4.12H_2O$
CAS: 10039-32-4
MW: 358.14
Melting point: 35°C
HS-Nr: 28352200
EINECS: 231-448-7
Safety: S24/25

Assay: 99 to 102%

Guaranteed analysis

pH (aqueous solution 5%)	9.1 to 9.4	Potassium (K)	<50 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.002 %
Copper (Cu)	<2 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<5 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<1 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<1 ppm
Barium (Ba)	<1 ppm	Silver (Ag)	<1 ppm
Cadmium (Cd)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm
Manganese (Mn)	<1 ppm		

Lot analysis on the label.

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266

di-Sodium hydrogen orthophosphate dodecahydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/4360/53
1 kg	Plastic jar	S/4360/60
2.5 kg	Plastic jar	S/4360/62

$Na_2HPO_4.12H_2O$
CAS: 10039-32-4
MW: 358.14
Melting point: 35°C

HS-Nr: 28352200
EINECS: 231-448-7
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<20 ppm

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005 %
Carbonate (Na_2CO_3)	<1 %	Total nitrogen (N)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<5 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<200 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<10 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium hydrogen sulfate monohydrate — Certified AR
for analysis

AR

packaging		product code
500 g	Plastic Jar	S/4690/53

Xi

$NaHSO_4.H_2O$
CAS: 10034-88-5
MW: 138.08
Melting point: 58°C
ADR/RID: 8/III

UN: 3260
HS-Nr: 28331900
EINECS: 231-665-7
Risk: R41
Safety: S24, S26

Assay: >99%

Guaranteed analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<5 ppm
Barium (Ba)	<5 ppm	Molybdenum (Mo)	<5 ppm
Cadmium (Cd)	<5 ppm	Nickel (Ni)	<5 ppm
Calcium (Ca)	<20 ppm	Potassium (K)	<20 ppm
Chromium (Cr)	<5 ppm	Silver (Ag)	<5 ppm
Cobalt (Co)	<5 ppm	Strontium (Sr)	<5 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<5 ppm	Total nitrogen (N)	<10 ppm
Lead (Pb)	<5 ppm	Total phosphorus (P)	<5 ppm
Lithium (Li)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Sodium hydroxide pellets — SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	S/4880/50
500 g	Plastic jar	S/4880/53
1 kg	Plastic jar	S/4880/60
3 kg	Plastic jar	S/4880/63
5 kg	Plastic jar	S/4880/65
10 kg	Plastic drum	S/4880/68

C

NaOH
CAS: 1310-73-2
MW: 40
Density at 20°C: 2.13
Boiling point: 1390°C
Boiling pressure: 760 mmHg
Melting point: 318°C

ADR/RID: 8/II
UN: 1823
HS-Nr: 38220000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<2000 ppm
Carbonate (Na_2CO_3)	<2%	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<500 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<500 ppm

Sodium hydrogen tartrate monohydrate — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/4720/53

$NaHCH_4O_6.H_2O$
CAS: 6131-98-2
MW: 190.08

HS-Nr: 29181300
EINECS: 208-400-9

Assay: >98%

Sodium hydroxide pellets — Certified AR, Eur.Ph., BP
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/4920/53
1 kg	Plastic jar	S/4920/60
3 kg	Plastic jar	S/4920/63
5 kg	Plastic jar	S/4920/65
10 kg	Plastic drum	S/4920/68
25 kg	Metal can	S/4920/70

C

NaOH
CAS: 1310-73-2
MW: 40
Density at 20°C: 2.13
Boiling point: 1390°C
Boiling pressure: 760 mmHg
Melting point: 318°C

ADR/RID: 8/II
UN: 1823
HS-Nr: 28092000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: >98%

Sodium hydroxide pearl — Certified AR
for analysis

Certified AR

packaging		product code
1 kg	Plastic jar	S/4845/60
25 kg	Metal drum	S/4845/70

C

HNaO
CAS: 1310-73-2
MW: 40
Density at 20°C: 2.13
Boiling point: 1390°C
Boiling pressure: 760 mmHg
Melting point: 318°C

ADR/RID: 8/II
UN: 1823
HS-Nr: 28092000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.005 %
Carbonate (Na_2CO_3)	<1 %	Total nitrogen (N)	<5 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<500 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<10 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Sodium hydroxide pearl SLR
extra pure

Specified LR

packaging		product code
1 kg	Plastic jar	S/4840/60
3 kg	Plastic jar	S/4840/63

NaOH
CAS: 1310-73-2
MW: 40
Density at 20°C: 2.13
Boiling point: 1390°C
Boiling pressure: 760 mmHg
Melting point: 318°C

ADR/RID: 8/II
UN: 1823
HS-Nr: 28092000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<2000 ppm
Carbonate (Na_2CO_3)	<2%	Total chloride (Cl)	<0.02%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<500 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm

Sodium hydroxide pearl
Technical

packaging		product code
1 kg	Plastic jar	S/4800/60
3 kg	Plastic jar	S/4800/63
5 kg	Plastic jar	S/4800/65
10 kg	Plastic drum	S/4800/68
25 kg	Metal can	S/4800/70

NaOH
CAS: 1310-73-2
MW: 40
Density at 20°C: 2.13
Boiling point: 1390°C
Boiling pressure: 760 mmHg
Melting point: 318°C

ADR/RID: 8/II
UN: 1823
HS-Nr: 28092000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Sodium hydroxide 46-48% solution Certified
HPLC for electrochemical detection

HPLC electrochemical

packaging		product code
2.5 L	Plastic bottle	S/4940/17

NaOH
CAS: 1310-73-2
MW: 40
Density at 20°C: 1.5
Boiling point: 145°C
Boiling pressure: 760 mmHg
Melting point: 12°C

ADR/RID: 8/II
UN: 1824
HS-Nr: 28151200
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: 46 to 48%

Guaranteed analysis

Electrochemical test	Conform	Lead (Pb)	<5 ppm
Iron (Fe)	<5 ppm	Total chloride (Cl)	<0.01%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm ..... <0.05 A.U.

Purifed then tested by HPLC-EC to show low electrochemical response.
Detector - ESA Coulochem II
Mode-oxydative
Graphite Electrode.
The concentration of a solution of sodium hydroxide 46/48% is 17.6 M (17.6 N).
Lot analysis on the label.
Filtered to 0.2 µm.

Sodium hydroxide 46-48% solution d=1.50 Certified AR
for analysis

Certified AR

packaging		product code
100 mL	Plastic bottle	S/4930/05
1 L	Plastic bottle	S/4930/15
2.5 L	Plastic bottle	S/4930/17
5 L	Plastic bottle	S/4930/21
25 L	Metal drum	S/4930/25
200 L	Metal drum	S/4930/27

NaOH
CAS: 1310-73-2
MW: 40
Density at 20°C: 1.5
Boiling point: 145°C
Boiling pressure: 760 mmHg
Melting point: 12°C

ADR/RID: 8/II
UN: 1824
HS-Nr: 28151200
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: 46 to 48%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.01 %
Carbonate (Na_2CO_3)	<0.1 %	Total nitrogen (N)	<10 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<200 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<10 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Advantages:
(I) The use of a solution ready to use saving the time required for preparation and to limit the risks arising from manipulation of solid sodium hydroxide.
(II) An extremely low carbonate content for the preparation of carbonate-free sodium hydroxide solutions.
(III) Low nitrogen content of the solution permitting use in the determination of nitrogen by Kjeldahl method.
The concentration of a solution of sodium hydroxide 46/48% is 17.6 M (17.6 N).
Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Sodium hydroxide 30% solution Certified AR
for analysis

Certified AR

packaging		product code
1 L	Plastic bottle	S/4950/PB15
2.5 L	Plastic bottle	S/4950/PB17

HNaO
CAS: 1310-73-2
MW: 40
Density at 20°C: 1.33
Boiling point: 145°C
Boiling pressure: 760 mmHg
Melting point: 12°C

ADR/RID: 8/II
UN: 1824
HS-Nr: 38220000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

Assay: >30%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<200 ppm
Carbonate (Na_2CO_3)	<0.1 %	Total chloride (Cl)	<0.1 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<2 ppm
Lead (Pb)	<1 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<10 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<5 ppm
Nickel (Ni)	<1 ppm		

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191
Ph. Eur.
€/1x HT€/4x
27,40 23,30 €
43,00 36,6

Save money!
Order 4 bottles in a box

Sodium hydroxide 30% solution SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	S/4945/PB15
5 L	Plastic bottle	S/4945/PB21
20 L	Plastic drum	S/4945/31

HNaO
CAS: 1310-73-2
MW: 40
Density at 20°C: 1.33
Boiling point: 145°C
Boiling pressure: 760 mmHg
Melting point: 12°C

ADR/RID: 8/II
UN: 1824
HS-Nr: 38220000
EINECS: 215-185-5
Risk: R35
Safety: S26, S37/39, S45

C

Assay: >30%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Potassium (K)	<200 ppm
Carbonate (Na_2CO_3)	<0.1%	Total chloride (Cl)	<0.1%
Copper (Cu)	<2 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<2 ppm
Lead (Pb)	<1 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<5 ppm	Total sulphur (S)	<10 ppm
Manganese (Mn)	<1 ppm	Zinc (Zn)	<5 ppm
Nickel (Ni)	<1 ppm		

Sodium hydroxide solution 2M
pure, Bench Reagent

packaging		product code
2.5 L	Plastic bottle	J/7810/17

ADR/RID: 8/II
UN: 1824
HS-Nr: 38220000

Risk: R35
Safety: S26, S37/39, S45

C

Sodium hydroxide solution 10M (10N) ca. 40w/v
Standard solution ready to use, For volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7800/15
2.5 L	Plastic bottle	J/7800/17
5 L	Plastic bottle	J/7800/21
10 L	Cubitainer	J/7800/24
25 L	Metal drum	J/7800/25

Density at 20°C: 1.32 to 1.34
Boiling point: 120°C
Boiling pressure: 760 mmHg
Melting point: 8°C
ADR/RID: 8/II

UN: 1824
HS-Nr: 38220000
Risk: R35
Safety: S26, S36/37/39, S45

C

Assay: 39.8 to 40.2%

Guaranteed analysis

Total nitrogen (N) ..... <10 ppm

Manufactured to a tolerance of ± 0.5%.
See the full range of Standard Volumetric solution page 266.
see page for suitable Tap & accessories.

Sodium hydroxide solution 2M (2N) NEW SPEC.
BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7610/PB15
2.5 L	Plastic bottle	J/7610/17
5 L	Plastic bottle	J/7610/21

Density at 20°C: 1.36
Boiling point: 120°C
Boiling pressure: 760 mmHg
Melting point: 8°C
ADR/RID: 8/II

UN: 1824
HS-Nr: 28151200
Risk: R35
Safety: S26, S36/37/39, S45

C

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 1M (1N) NEW SPEC.
Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7620/15
2.5 L	Plastic bottle	J/7620/17
5 L	Plastic bottle	J/7620/21
10 L	Cubitainer	J/7620/24

Density at 20°C: 1.04
ADR/RID: 8/III
UN: 1824

HS-Nr: 28151200
Risk: R34
Safety: S26, S37/39, S45

C

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 1M (1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7620C/05
6	ampoule	J/7620C/90

ADR/RID: 8/III
UN: 1824
HS-Nr: 28151200

Risk: R35
Safety: S26, S37/39, S45

C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution methanolic 1M (1N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7625/PB15
2.5 L	Plastic bottle	J/7625/17

ADR/RID: 3(6.1)/II
UN: 3286
HS-Nr: 38220000

Risk: R11, R23/25, R34
Safety: S16, S24, S26, S37/39, S45

F T

Manufactured to a tolerance of ± 0.2%.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 0.5M (0.5N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7630/15
2.5 L	Plastic bottle	J/7630/17
5 L	Plastic bottle	J/7630/21
10 L	Cubitainer	J/7630/24
200 L	Metal drum	J/7630/27

Density at 20°C: 1.02
ADR/RID: 8/III
UN: 1824

HS-Nr: 28151200
Risk: R34
Safety: S26, S36/37/39, S45

C

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 0.5M (0.5N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7630C/05
6	ampoule	J/7630C/90

ADR/RID: 8/III
UN: 1824
HS-Nr: 28151200

Risk: R35
Safety: S26, S37/39, S45

C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 0.2M (0.2N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7640/15
2.5 L	Plastic bottle	J/7640/17
5 L	Plastic bottle	J/7640/21
10 L	Cubitainer	J/7640/24

Density at 20°C: 1.01
ADR/RID: 8/III
UN: 1824
HS-Nr: 38220000
Risk: R36/38
Safety: S26, S37/39, S45
Xi

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 0.1M (0.1N) NEW SPEC. Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7660/15
2.5 L	Plastic bottle	J/7660/17
5 L	Plastic bottle	J/7660/21
10 L	Cubitainer	J/7660/24

Density at 20°C: 1.0
ADR/RID: 8/III
UN: 1824
HS-Nr: 28151200
Safety: S24/26

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium hydroxide solution 0.1M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7660C/05
6	ampoule	J/7660C/90

ADR/RID: 8/III
UN: 1824
HS-Nr: 28151200
Risk: R34
Safety: S26, S37/39, S45
C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sodium hypochlorite solution
Technical, min. 14% free chlorine

packaging		product code
1 L	Plastic bottle	S/5042/15

NaOCl
CAS: 7681-52-9
MW: 74.44
Density at 20°C: 1.2
Melting point: -16°C
ADR/RID: 8/III
UN: 1791
HS-Nr: 38220000
EINECS: 231-668-3
Risk: R31, R34
Safety: S28A, S45, S50A
C

Guaranteed analysis
Chlorine ..... >14%

Sodium hypochlorite solution self indicating
Technical

packaging		product code
5 L	Plastic bottle	S/5041/21

NaClO
CAS: 7681-52-9
MW: 74.44
Density at 20°C: 1.2
Melting point: -16°C
ADR/RID: 8/III
UN: 1791
HS-Nr: 28289000
EINECS: 231-668-3
Risk: R31, R34
Safety: S28, S50, S45
C

Guaranteed analysis
Chlorine ..... >10%

Contains about 20 ppm Potassium permanganate.

Sodium hypochlorite solution
Technical

packaging		product code
5 L	Plastic bottle	S/5040/21

NaClO
CAS: 7681-52-9
MW: 74.44
Density at 20°C: 1.24 to 1.26
Melting point: -16°C
ADR/RID: 8/III
UN: 1791
HS-Nr: 28289000
EINECS: 231-668-3
Risk: R31, R34
Safety: S28, S50, S45
C

Guaranteed analysis
Alkalinity ..... <2% Chlorine ..... >13.5%

Sodium hypophosphite monohydrate Certified AR
for analysis

AR

packaging		product code
500 g	Plastic jar	S/5081/53

$NaH_2PO_2.H_2O$
CAS: 10039-56-2
MW: 105.99
Melting point: 90°C
HS-Nr: 28351000
EINECS: 216-948-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Magnesium (Mg)	<5 ppm
Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Ammonia (NH_3)	<0.0005%	Molybdenum (Mo)	<2 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Potassium (K)	<100 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Calcium (Ca)	<100 ppm	Strontium (Sr)	<2 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Total chloride (Cl)	<0.05%
Copper (Cu)	<5 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<5 ppm	Vanadium (V)	<2 ppm
Lithium (Li)	<2 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Sodium iodate SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	S/5100/48

$NaIO_3$
CAS: 7681-55-2
MW: 197.89
ADR/RID: 5.1/II
UN: 1479
HS-Nr: 28276000
EINECS: 231-672-5
Risk: R8, R22, R36/37/38
Safety: S17, S26, S37/39
O Xn

Assay: >99.5%

Guaranteed analysis
Chloride and chlorate ..... <0.04% Sulfate (SO_4) ..... <0.03%
Iodide ..... <0.002%

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

Sodium iodide
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	S/5130/48
500 g	Plastic jar	S/5130/53

NaI
CAS: 7681-82-5
MW: 149.89
Density at 20°C: 3.66
Boiling point: 1300°C

Boiling pressure: 760 mmHg
Melting point: 661°C
HS-Nr: 28276000
EINECS: 231-679-3
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Lead (Pb)	<2 ppm
Loss on drying	<0.5%	Magnesium (Mg)	<5 ppm
Substance reducing iodine	<0.005%	Potassium (K)	<100 ppm
Calcium (Ca)	<10 ppm	Total nitrogen (N)	<10 ppm
Chloride and Bromide	<0.01 %	Total phosphorus (P)	<10 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<20 ppm
Iodate (IO_3)	<2 ppm	Total sulphur (S)	<100 ppm
Iron (Fe)	<2 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<0.1 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Sodium iodide
extra pure — SLR

packaging		product code
100 g	Plastic jar	S/5120/48
250 g	Plastic jar	S/5120/50
500 g	Plastic jar	S/5120/53

NaI
CAS: 7681-82-5
MW: 149.89
Density at 20°C: 3.66
Boiling point: 1300°C

Boiling pressure: 760 mmHg
Melting point: 661°C
HS-Nr: 28276000
EINECS: 231-679-3
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<1%	Magnesium (Mg)	<20 ppm
Calcium (Ca)	<50 ppm	Potassium (K)	<500 ppm
Chloride and Bromide	<0.05%	Total phosphorus (P)	<50 ppm
Copper (Cu)	<20 ppm	Total silicon (Si)	<100 ppm
Iodate (IO_3)	<10 ppm	Total sulphur (S)	<100 ppm
Iron (Fe)	<20 ppm	Zinc (Zn)	<50 ppm
Lead (Pb)	<20 ppm		

Sodium lactate solution about 60% w/w
extra pure — SLR

packaging		product code
500 mL	Glass bottle	S/5161/08

$C_3H_5NaO_3$
CAS: 72-17-3
MW: 112.06
Density at 20°C: 1.32 to 1.34

HS-Nr: 29181100
EINECS: 200-772-0
Safety: S24/25

Sodium lauryl sulfate
See Sodium dodecyl sulfate, page 240

Sodium metabisulfite
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	S/5250/53
1 kg	Plastic jar	S/5250/60
5 kg	Plastic jar	S/5250/65

$Na_2S_2O_7$
CAS: 7681-57-4
MW: 190.1
Melting point: 150 °C

HS-Nr: 28321000
EINECS: 231-673-0
Risk: R22, R31, R41
Safety: S26, S39, S46

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005 %
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<5 ppm
Magnesium (Mg)	<20 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Arsenic (As)	<0.5 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Silver (Ag)	<2 ppm
Cadmium (Cd)	<2 ppm	Strontium (Sr)	<2 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Vanadium (V)	<2 ppm
Lithium (Li)	<2 ppm		

Lot analysis on the label.

Sodium metabisulfite
extra pure — SLR, Eur.Ph., BP

packaging		product code
500 g	Plastic jar	S/5240/53
1 kg	Plastic jar	S/5240/60
2.5 kg	Plastic jar	S/5240/62

$Na_2S_2O_7$
CAS: 7681-57-4
MW: 190.1
Melting point: 150 °C

HS-Nr: 28321000
EINECS: 231-673-0
Risk: R22, R31, R41
Safety: S26, S39, S46

Xn

Assay: >93%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.5%
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<100 ppm		

Sodium metaborate
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/5280/53

$NaBO_2.4H_2O$
CAS: 10555-76-7
MW: 137.87
Melting point: 57°C

HS-Nr: 28402090
EINECS: 231-891-6
Safety: S24/25

Assay: >98%

Guaranteed analysis

Sulfate (SO_4)	<0.03%	Total chloride (Cl)	<0.01%

Sodium metasilicate pentahydrate
Technical

packaging		product code
1 kg	Plastic jar	S/5360/60
3 kg	Plastic jar	S/5360/63

$Na_2O_3Si.5H_2O$
CAS: 10213-79-3
MW: 212.14
ADR/RID: 8/III
UN: 3253

HS-Nr: 28391100
EINECS: 229-912-9
Risk: R22, R36/38
Safety: S26

Xn

Sodium molybdate dihydrate
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	S/5480/48
250 g	Plastic jar	S/5480/50

$Na_2MoO_4.2H_2O$
CAS: 10102-40-6
MW: 241.95
Density at 20°C: 3.28

HS-Nr: 28417000
EINECS: 231-551-7
Risk: R36/37/38
Safety: S24/25

Xi

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	7 to 10	Magnesium (Mg)	<20 ppm
Calcium (Ca)	<50 ppm	Potassium (K)	<500 ppm
Chorure total (Cl)	< 0.001 %	Total nitrogen (N)	<50 ppm
Copper (Cu)	<20 ppm	Total sulphur (S)	<200 ppm
Iron (Fe)	<20 ppm	Zinc (Zn)	<10 ppm
Lead (Pb)	<20 ppm	Total chloride (Cl)	<0.001%

Typical analysis

Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Chromium (Cr)	<2 ppm	Silver (Ag)	<2 ppm
Cobalt (Co)	<2 ppm	Strontium (Sr)	<2 ppm
Lithium (Li)	<2 ppm	Titanium (Ti)	<2 ppm
Manganese (Mn)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Sodium molybdate dihydrate
extra pure — SLR

packaging		product code
250 g	Plastic jar	S/5440/50
500 g	Plastic jar	S/5440/53

$Na_2MoO_4.2H_2O$
CAS: 10102-40-6
MW: 241.95
Density at 20°C: 3.28

HS-Nr: 28417000
EINECS: 231-551-7
Risk: R36/37/38
Safety: S24/25

Xi

Assay: >95%

Sodium nitrate
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	S/5560/53
3 kg	Plastic jar	S/5560/63

$NaNO_3$
CAS: 7631-99-4
MW: 84.99
Boiling point: 380°C
Boiling pressure: 760 mmHg
Melting point: 306°C

ADR/RID: 5.1/III
UN: 1498
HS-Nr: 31025090
EINECS: 231-554-3
Risk: R8, R22, R36/37/38
Safety: S17, S26, S37/39

O Xn

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Nitrite (NO_2)	<0.001 %
Calcium (Ca)	<20 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.0005 %
Iodate (IO_3)	<5 ppm	Total phosphorus (P)	<2 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium nitrate
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/5520/53
1 kg	Plastic jar	S/5520/60
3 kg	Plastic jar	S/5520/63

$NaNO_3$
CAS: 7631-99-4
MW: 84.99
Boiling point: 380°C
Boiling pressure: 760 mmHg
Melting point: 306°C

ADR/RID: 5.1/III
UN: 1498
HS-Nr: 31025090
EINECS: 231-554-3
Risk: R8, R22, R36/37/38
Safety: S17, S26, S37/39

O Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<20 ppm
Potassium (K)	<500 ppm		

Sodium nitrite
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	S/5640/53
2.5 kg	Plastic jar	S/5640/62

$NaNO_2$
CAS: 7632-00-0
MW: 69
Boiling point: 320°C
Boiling pressure: 760 mmHg
Melting point: 271°C

ADR/RID: 5.1(6.1)/III
UN: 1500
HS-Nr: 28341000
EINECS: 231-555-9
Risk: R8, R25, R50
Safety: S45, S61

O T N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.002 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<100 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<0.5 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Sodium nitrite
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/5600/53
1 kg	Plastic jar	S/5600/60
2.5 kg	Plastic jar	S/5600/62

$NaNO_2$
CAS: 7632-00-0
MW: 69
Boiling point: 320°C
Boiling pressure: 760 mmHg
Melting point: 271°C

ADR/RID: 5.1(6.1)/III
UN: 1500
HS-Nr: 28341000
EINECS: 231-555-9
Risk: R8, R25, R50
Safety: S45, S61

O T N

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<500 ppm		

Sodium nitrite solution 0.5M (0.5N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Glass bottle	J/7900/15

HS-Nr: 38220000
Risk: R22
Safety: S45

Xn

Manufactured to a tolerance of ± 0.3%.
See the full range of Standard Volumetric solution page 266.

Sodium oxalate
pure

packaging		product code
500 g	Plastic jar	S/5800/53

$C_2Na_2O_4$
CAS: 62-76-0
MW: 134
Melting point: 250-270°C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29171100
EINECS: 200-549-8
Risk: R21/22
Safety: S24/25

Xn

Sodium nitroprusside SLR
extra pure

packaging		product code
100 g	Plastic jar	S/5680/48

$C_5FeN_6Na_2O.2H_2O$
CAS: 13755-38-9
MW: 297.94
Density at 20°C: 1.72
ADR/RID: 4.1(6.1)/II
UN: 1588

HS-Nr: 28372000
EINECS: 238-373-9
Risk: R23/24/25
Safety: S28A, S36/37/39, S38, S45

T

Guaranteed analysis

Ferricyanide	<0.02 %	Sulfate (SO_4)	<0.05 %
Ferrocyanide	<0.1 %		

Sodium perborate trihydrate SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/5880/53

$NaBO_3.4H_2O$
CAS: 10486-00-7
MW: 153.87
Melting point: 60°C
ADR/RID: 5.1/III

UN: 1479
HS-Nr: 29171100
EINECS: 231-556-4
Risk: R8, R22, R36/37/38
Safety: S17, S26, S37/39

O
Xn

tri-Sodium orthophosphate dodecahydrate Certified AR
for analysis

AR

packaging		product code
500 g	Plastic jar	S/5761/53

$Na_3PO_4.12H_2O$
CAS: 10101-89-0
MW: 380.12
Density at 20°C: 1.62
Melting point: 75°C
ADR/RID: 8/II

UN: 3262
HS-Nr: 28352300
EINECS: 231-509-8
Risk: R35
Safety: S26, S36/37/39, S45

C

Assay: 99 to 101%

Guaranteed analysis

Alkalinity	<0.7 meq/g	Manganese (Mn)	<2 ppm
Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Arsenic (As)	<2 ppm	Nickel (Ni)	<2 ppm
Barium (Ba)	<2 ppm	Potassium (K)	<50 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Calcium (Ca)	<50 ppm	Strontium (Sr)	<2 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<5 ppm	Total nitrogen (N)	<10 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Sodium perchlorate Certified
for HPLC

HPLC

packaging		product code
250 g	Plastic jar	S/5966/50

$NaClO_4.H_2O$
CAS: 7791-07-3
MW: 140.46
ADR/RID: 5.1/II
UN: 1502

HS-Nr: 28299010
EINECS: 231-511-9
Risk: R9, R22
Safety: S13, S22, S27

Xn
O

Assay: >99%

Guaranteed analysis

Iron (Fe)	<2 ppm	Phosphate (PO_4)	<5 ppm
Lead (Pb)	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

254 nm	<0.02 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

tri-Sodium orthophosphate dodecahydrate SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	S/5760/50
500 g	Plastic jar	S/5760/53
1 kg	Plastic jar	S/5760/60
5 kg	Plastic drum	S/5760/65

$Na_3PO_4.12H_2O$
CAS: 10101-89-0
MW: 380.13
Density at 20°C: 1.62
Melting point: 75°C
ADR/RID: 8/II

UN: 3262
HS-Nr: 28352300
EINECS: 231-509-8
Risk: R35
Safety: S26, S36/37/39, S45

C

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm

Sodium perchlorate Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/5965/53

$NaClO_4.H_2O$
CAS: 7791-07-3
MW: 140.46
ADR/RID: 5.1/II
UN: 1502

HS-Nr: 28299010
EINECS: 231-511-9
Risk: R9, R22
Safety: S13, S22, S27

Xn
O

Assay: >99%

Guaranteed analysis

pH (aqueous solution 5%)	4.5 to 7	Magnesium (Mg)	<10 ppm
Calcium (Ca)	<20 ppm	Potassium (K)	<50 ppm
Chloride and chlorate	<0.002 %	Total phosphorus (P)	<10 ppm
Copper (Cu)	<5 ppm	Total silicon (Si)	<10 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Cadmium (Cd)	<2 ppm	Nickel (Ni)	<2 ppm
Chromium (Cr)	<2 ppm	Silver (Ag)	<2 ppm
Cobalt (Co)	<2 ppm	Strontium (Sr)	<2 ppm
Lithium (Li)	<2 ppm	Titanium (Ti)	<2 ppm
Manganese (Mn)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

Sodium perchlorate SLR
extra pure

Specified LR

packaging		product code
250 g	Plastic jar	S/5960/50
500 g	Plastic jar	S/5960/53

$NaClO_4.H_2O$
CAS: 7791-07-3
ADR/RID: 5.1/II
UN: 1502

HS-Nr: 28299010
EINECS: 231-511-9
Risk: R9, R22
Safety: S13, S22, S27

Xn O

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<500 ppm
Chloride and chlorate	<0.02%	Total phosphorus (P)	<100 ppm
Copper (Cu)	<50 ppm	Total silicon (Si)	<100 ppm
Iron (Fe)	<50 ppm	Total sulphur (S)	<200 ppm
Lead (Pb)	<50 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<100 ppm		

Sodium peroxide Certified AR
for analysis

Certified AR

packaging		product code
500 g	Metal packaging	S/6041/53

Na_2O_2
CAS: 1313-60-6
MW: 77.98
Density at 20°C: 2.8
Melting point: 460 °C
ADR/RID: 5.1/I

UN: 1504
HS-Nr: 38220000
EINECS: 215-209-4
Risk: R8, R35
Safety: S8, S27, S39, S45

O C

Assay: >95%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Total chloride (Cl)	<0.005 %
Copper (Cu)	<20 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<500 ppm	Zinc (Zn)	<50 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Cadmium (Cd)	<5 ppm	Nickel (Ni)	<5 ppm
Chromium (Cr)	<5 ppm	Silver (Ag)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Sodium peroxide SLR
extra pure, granulated

Specified LR

packaging		product code
500 g	Metal packaging	S/6040/53

Na_2O_2
CAS: 1313-60-6
MW: 77.98
Density at 20°C: 2.8
Melting point: 460 °C
ADR/RID: 5.1/I

UN: 1504
HS-Nr: 28153000
EINECS: 215-209-4
Risk: R8, R35
Safety: S8, S27, S39, S45

O C

Assay: >93%

Sodium peroxydisulfate
See Sodium persulfate, page 251

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Sodium persulfate SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/6080/53

$Na_2S_2O_8$
CAS: 7775-27-1
MW: 238.09
Melting point: 100 °C
ADR/RID: 5.1/III

UN: 1505
HS-Nr: 28334000
EINECS: 231-892-1
Risk: R8, R22, R42/43
Safety: S8, S17, S26

O Xn

Assay: >96%

Guaranteed analysis

Ammonia (NH_3)	<0.2%	Total chloride (Cl)	<0.005%

Sodium propionate SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/6100/53

$C_3H_5NaO_2$
CAS: 137-40-6
MW: 96.06
Melting point: 285 to 286°C
Flash point: >250°C

HS-Nr: 29155000
EINECS: 205-290-4
Risk: R21, R38
Safety: S26, S36/37/39

Xn

Assay: >99%

tetra-Sodium pyrophosphate decahydrate Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/6140/53

$Na_4P_2O_7.12H_2O$
CAS: 13472-36-1
MW: 446.05
Density at 20°C: 1.82
Boiling point: 93.8°C

Boiling pressure: 760 mmHg
Melting point: 80°C
HS-Nr: 28352900
EINECS: 205-290-4
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	10.2 to 10.7	Magnesium (Mg)	<10 ppm
Cadmium (Cd)	<5 ppm	Potassium (K)	<50 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.002 %
Copper (Cu)	<2 ppm	Total silicon (Si)	<50 ppm
Iron (Fe)	<2 ppm	Total sulphur (S)	<50 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Chromium (Cr)	<5 ppm	Silver (Ag)	<5 ppm
Cobalt (Co)	<5 ppm	Strontium (Sr)	<5 ppm
Lithium (Li)	<5 ppm	Titanium (Ti)	<5 ppm
Manganese (Mn)	<5 ppm	Vanadium (V)	<5 ppm

tetra-Sodium pyrophosphate decahydrate SLR
extra pure

Specified LR

packaging		product code
1 kg	Plastic jar	S/6120/60

$Na_4P_2O_7.12H_2O$
CAS: 13472-36-1
MW: 446.05
Density at 20°C: 1.82
Boiling point: 93.8°C

Boiling pressure: 760 mmHg
Melting point: 80°C
HS-Nr: 28352900
EINECS: 205-290-4
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<10 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Sodium pyrosulfite *See Sodium metabisulfite, page 248*

Sodium salicylate
extra pure — SLR

packaging		product code
500 g	Plastic Jar	S/6200/53
25 kg	Fibre Keg	S/6200/70

$C_7H_5NaO_3$
CAS: 54-21-7
MW: 160.11
Melting point: 200°C

HS-Nr: 29182100
EINECS: 200-198-0
Risk: R22

Xn

Assay: >99.5%

Guaranteed analysis

Water	<1%	Sulfate (SO_4)	<0.1%
Arsenic (As)	<2 ppm	Total chloride (Cl)	<0.04%
Lead (Pb)	<10 ppm		

Sodium selenite
extra pure — SLR

packaging		product code
25 g	Plastic jar	S/6280/46

Na_2SeO_3
CAS: 10102-18-8
MW: 172.94
Melting point: 350°C
ADR/RID: 6.1/I

UN: 2630
HS-Nr: 28429010
EINECS: 233-267-9
Risk: R23, R28, R31, R43, R51/53
Safety: S28A, S36/37, S45, S61

T+ N

Assay: >99%

Guaranteed analysis

pH (aqueous solution 2%) ..... 9 to 11

Sodium sesquicarbonate dihydrate
pure

packaging		product code
3 kg	Plastic jar	S/6310/63

$Na_2CO_3.NaHCO_3.2H_2O$
CAS: 6106-20-3
MW: 226.03
HS-Nr: 28369919

Sodium silicate powder
Technical

packaging		product code
1 kg	Plastic jar	S/6400/60

Na_2SiO_3
CAS: 6834-92-0
ADR/RID: 8/III
UN: 1759

HS-Nr: 28391900
Risk: R36/38
Safety: S26, S28

Xi

Ratio SiO_2Na_2O approx.

Sodium silicate solution d=1.5
Technical

packaging		product code
2.5 L	Plastic bottle	S/6340/17
25 L	Metal drum	S/6340/25

$SiO_2,Na_2O_7Si_3$
CAS: 1344-09-8
ADR/RID: 8/II
UN: 1760

HS-Nr: 28391900
Risk: R36/38
Safety: S26, S28

Xi

Wt ratio SiO2: Na2 O approx. 2:1
see page 279 for suitable Tap & accessories.

Sodium succinate disodium salt hexahydrate
extra pure — SLR

packaging		product code
500 g	Plastic Jar	S/6480/53

$C_4H_4Na_2O_4.6H_2O$
CAS: 6106-21-4
MW: 270.15
Melting point: >300°C

HS-Nr: 29171990
EINECS: 205-778-7
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Sodium sulfate anhydrous
for residue and pesticide analysis — Distol

packaging		product code
1 kg	Plastic jar	S/6660/60

Na_2SO_4
CAS: 7757-82-6
MW: 142.04
Density at 20°C: 2.68
Boiling point: >1700°C

Boiling pressure: 760 mmHg
Melting point: 884°C
HS-Nr: 28331100
EINECS: 231-820-9
Safety: S24/25

Assay (GC): 99.0 - 101.0%

Sodium sulfate anhydrous
for analysis, granular — Certified AR

packaging		product code
500 g	Plastic jar	S/6640/53
1 kg	Plastic jar	S/6640/60
3 kg	Plastic jar	S/6640/63
5 kg	Plastic jar	S/6640/65
10 kg	Plastic drum	S/6640/68

Na_2SO_4
CAS: 7757-82-6
MW: 142.04
Density at 20°C: 2.68
Boiling point: >1700°C

Boiling pressure: 760 mmHg
Melting point: 884°C
HS-Nr: 28331100
EINECS: 231-820-9
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.2%	Magnesium (Mg)	<20 ppm
pH (aqueous solution 5%)	5 to 7	Potassium (K)	<100 ppm
Reducing substance	<0.002%	Total chloride (Cl)	<0.001 %
Substance oxidizing	Conform	Total nitrogen (N)	<10 ppm
Calcium (Ca)	<50 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<20 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<10 ppm
Lead (Pb)	<2 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono & Multi-elemental standard solution to discover on page 256

Sodium sulfate anhydrous — Certified AR
for analysis, fine powder

Certified AR

packaging		product code
500 g	Plastic jar	S/6650/53
1 kg	Plastic jar	S/6650/60
5 kg	Plastic jar	S/6650/65

Na_2SO_4
CAS: 7757-82-6
MW: 142.04
Density at 20°C: 2.68
Boiling point: >1700°C

Boiling pressure: 760 mmHg
Melting point: 884°C
HS-Nr: 28331100
EINECS: 231-820-9
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Loss on drying	<0.2%	Magnesium (Mg)	<20 ppm
Reducing substance	<0.002%	Potassium (K)	<100 ppm
Substance oxidizing	Conform	Total chloride (Cl)	<0.001 %
Calcium (Ca)	<50 ppm	Total nitrogen (N)	<10 ppm
Copper (Cu)	<2 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium sulfate anhydrous — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/6600/53
1 kg	Plastic jar	S/6600/60
3 kg	Plastic jar	S/6600/63
5 kg	Plastic jar	S/6600/65
25 kg	Plastic jar	S/6600/70

Na_2SO_4
CAS: 7757-82-6
MW: 142.04
Density at 20°C: 2.68
Boiling point: >1700°C

Boiling pressure: 760 mmHg
Melting point: 884°C
HS-Nr: 28331100
EINECS: 231-820-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.5%	Potassium (K)	<500 ppm
Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<10 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<100 ppm		

Sodium sulfate decahydrate — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/6560/53
1 kg	Plastic jar	S/6560/60

$Na_2SO_4.10H_2O$
CAS: 7727-73-3
MW: 322.19
Melting point: 32°C

HS-Nr: 28331100
EINECS: 231-820-9
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	6 to 7	Magnesium (Mg)	<5 ppm
Reducing substance	<0.001%	Potassium (K)	<50 ppm
Substance oxidizing	Conform	Total chloride (Cl)	<0.0005 %
Calcium (Ca)	<50 ppm	Total nitrogen (N)	<5 ppm
Copper (Cu)	<1 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Lot analysis on the label.

Sodium sulfate decahydrate — SLR
extra pure

Specified LR

packaging		product code
1 kg	Plastic jar	S/6520/60

$Na_2SO_4.10H_2O$
CAS: 7727-73-3
MW: 322.19
Melting point: 32°C

HS-Nr: 28331100
EINECS: 231-820-9
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<20 ppm

Sodium sulfite anhydrous — Certified AR
for analysis

Certified AR

packaging		product code
500 g	Plastic jar	S/6850/53
1 kg	Plastic jar	S/6850/60

Na_2SO_3
CAS: 7757-83-7
MW: 126.05
Density at 20°C: 2.63

HS-Nr: 28321000
EINECS: 231-821-4
Risk: R22, R36/37/38
Safety: S24/25

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.05 %
Iron (Fe)	<10 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Manganese (Mn)	<5 ppm
Arsenic (As)	<0.5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Sodium sulfite anhydrous — SLR
extra pure

Specified LR

packaging		product code
500 g	Plastic jar	S/6840/53
1 kg	Plastic jar	S/6840/60
3 kg	Plastic jar	S/6840/63

Na_2SO_3
CAS: 7757-83-7
MW: 126.05
Density at 20°C: 2.63

HS-Nr: 28321000
EINECS: 231-821-4
Risk: R22, R36/37/38
Safety: S24/25

Xn

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<1000 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.1%
Iron (Fe)	<50 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<50 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<100 ppm		

di-Sodium tetraborate decahydrate — Certified AR
for analysis

packaging		product code
250 g	Plastic jar	S/7040/50
500 g	Plastic jar	S/7040/53
1 kg	Plastic jar	S/7040/60
5 kg	Plastic drum	S/7040/65

$Na_2B_4O_7.10H_2O$
CAS: 1303-96-4
MW: 381.37
Melting point: 75°C

HS-Nr: 38220000
EINECS: 215-540-4
Risk: R62
Safety: S36/37

Xn

Assay: 99.5 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	9.1 to 9.3	Potassium (K)	<100 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<5 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm

Lot analysis on the label.

di-Sodium tetraborate decahydrate — SLR
extra pure, crystals

packaging		product code
3 kg	Plastic jar	S/7000/63

$Na_2B_4O_7.10H_2O$
CAS: 1303-96-4
MW: 381.37
Melting point: 75°C

HS-Nr: 38220000
EINECS: 215-540-4
Risk: R62
Safety: S36/37

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm

di-Sodium tetraborate decahydrate — SLR, Eur. Ph.
extra pure

packaging		product code
1 kg	Plastic jar	S/7010/60
3 kg	Plastic jar	S/7010/63

$Na_2B_4O_7.10H_2O$
CAS: 1303-96-4
MW: 381.37
Melting point: 75°C

HS-Nr: 38220000
EINECS: 215-540-4
Risk: R62
Safety: S36/37

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<50 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<50 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<500 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<100 ppm

Sodium tetrahydroborate
See Sodium borohydride, page 235

Sodium thiocyanate, anhydrous — SLR
extra pure

packaging		product code
500 g	Plastic jar	S/7120/53

NaSCN
CAS: 540-72-7
MW: 81.07
Melting point: 287°C

HS-Nr: 28429080
EINECS: 208-754-4
Risk: R20/21/22, R32
Safety: S13, S2

Xn

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Magnesium (Mg)	<50 ppm
Copper (Cu)	<10 ppm	Potassium (K)	<500 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.05%
Lead (Pb)	<10 ppm	Zinc (Zn)	<100 ppm

Sodium thiosulfate anhydrous — SLR
extra pure

packaging		product code
500 g	Plastic jar	S/7250/53
3 kg	Plastic jar	S/7250/63

$Na_2S_2O_3$
CAS: 7772-98-7
MW: 158.11
Density at 20°C: 1.66
Boiling point: 100°C

Melting point: 48°C
HS-Nr: 28323000
EINECS: 231-867-5
Safety: S24/25

Sodium thiosulfate pentahydrate — Certified AR
for analysis

packaging		product code
500 g	Plastic jar	S/7240/53
1 kg	Plastic jar	S/7240/60
3 kg	Plastic jar	S/7240/63
5 kg	Plastic drum	S/7240/65
25 kg	Plastic screw top Keg	S/7240/70

$Na_2S_2O_3.5H_2O$
CAS: 10102-17-7
MW: 248.18
Density at 20°C: 1.72

Melting point: 48.5°C
HS-Nr: 28323000
EINECS: 231-867-5
Safety: S24/25

Assay: 99.5 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	5.5 to 7.5	Sulfide (S)	<0.0002 %
Calcium (Ca)	<20 ppm	Sulphate and sulphite	>0.02 %
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.02 %
Iron (Fe)	<5 ppm	Total nitrogen (N)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm
Potassium (K)	<50 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Sodium thiosulfate pentahydrate SLR
extra pure

Specified

packaging		product code
1 kg	Plastic jar	S/7200/60
3 kg	Plastic jar	S/7200/63

$Na_2S_2O_3.5H_2O$
CAS: 10102-17-7
MW: 248.18
Density at 20°C: 1.72

Melting point: 48.5°C
HS-Nr: 28323000
EINECS: 231-867-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<500 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.1%
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<50 ppm		

Sodium thiosulfate pentahydrate
Technical

packaging		product code
3 kg	Plastic jar	S/7160/63

$Na_2S_2O_3.5H_2O$
CAS: 10102-17-7
MW: 248.18
Density at 20°C: 1.72

Melting point: 48.5°C
HS-Nr: 28323000
EINECS: 231-867-5
Safety: S24/25

Sodium thiosulfate solution 0.1M (0.1N) NEW SPEC. Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/7950/15
2.5 L	Plastic bottle	J/7950/17
5 L	Plastic bottle	J/7950/21
10 L	Cubitainer	J/7950/24

HS-Nr: 38220000
Safety: S24/25

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sodium thiosulfate solution 0.1M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7950C/05
6	ampoule	J/7950C/90

HS-Nr: 38220000

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sodium thiosulfate solution 0.5M (0.5N)
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/7951C/05
6	ampoule	J/7951C/90

HS-Nr: 38220000

Each ampoule makes 500 mL of solution.
See the full range of Standard Volumetric solution page 266.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Sodium tungstate dihydrate SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	S/7320/48

$Na_2WO_4.2H_2O$
CAS: 10213-10-2
MW: 329.86
Density at 20°C: 4.18

HS-Nr: 28418000
EINECS: 236-743-4
Risk: R22, R36/38
Safety: S26, S37/39

Xn

Assay: 98 to 102%

Guaranteed analysis

pH (aqueous solution 2%)	7 to 10	Potassium (K)	<500 ppm
Calcium (Ca)	<50 ppm	Total chloride (Cl)	<0.01%
Copper (Cu)	<20 ppm	Total silicon (Si)	<500 ppm
Iron (Fe)	<20 ppm	Total sulphur (S)	<500 ppm
Lead (Pb)	<20 ppm	Zinc (Zn)	<20 ppm
Magnesium (Mg)	<20 ppm		

Sorbic acid SLR
extra pure

Specified

packaging		product code
100 g	Plastic Jar	S/7390/48

$C_6H_8O_2$
CAS: 110-44-1
MW: 112.13
Melting point: 132 to 135°C
Flash point: 127°C

HS-Nr: 29161930
EINECS: 203-768-7
Risk: R36/38
Safety: S24/25

Xi

Assay: >98.5%

Sorbitol SLR, Eur.Ph., USP
extra pure

Specified

packaging		product code
500 g	Plastic jar	S/7400/53
3 kg	Plastic jar	S/7400/63

$C_6H_{14}O_6$
CAS: 50-70-4
MW: 182.18
Boiling pressure: 760 mmHg

Melting point: 95 to 99°C
HS-Nr: 29054491
EINECS: 200-061-5
Safety: S24/25

Guaranteed analysis

Melting Point tested	95 to 100°C	Water	<2%
Residue after ignition	<0.1%		

Fisher Chemical products takes care of the environment!
Our packaging used for shipping is 100% recyclable and complies with UN regulations for your safety. Choosing for Fisher Chemical products therefore reduces your waste management cost without compromising safety and contributing to a cleaner environment.

Fisher Chemical Standard mono-element solution for AAS

Manufactured to a tolerance of ± 0.5%
See alphabetical entry in the main body of this catalogue for full details

designation	matrix	packsize	package type	product code
Aluminium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8000/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8000/08
Antimony standard metal solution 1000 ppm	HCl 1 mol/l	100 mL	Plastic bottle	J/8002/05
	HCl 1 mol/l	500 mL	Plastic bottle	J/8002/08
Arsenic standard metal solution 1000 ppm	HCl 1 mol/l	100 mL	Plastic bottle	J/8003/05
	HCl 1 mol/l	500 mL	Plastic bottle	J/8003/08
Barium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8004/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8004/08
Boron standard metal solution 1000 ppm	H_2O	100 mL	Plastic bottle	J/8006/05
	H_2O	500 mL	Plastic bottle	J/8006/08
Cadmium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8005/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8005/08
Calcium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8010/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8010/08
Chromium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8015/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8015/08
Cobalt standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8020/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8020/08
Copper standard metal solution 1000 ppm	HNO_3 1 mol/l	1 L	Plastic bottle	J/8025/15
	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8025/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8025/08
Gold standard metal solution 1000 ppm	HCl 1 mol/l	500 mL	Plastic bottle	J/8028/08
Iron standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8030/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8030/08
Lead standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8035/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8035/08
Lithium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8037/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8037/08
Magnesium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8040/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8040/08
Manganese standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8045/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8045/08
Mercury standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8047/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8047/08
Molybdenum standard metal solution 1000 ppm	HNO_3 0.1 mol/l	100 mL	Plastic bottle	J/8050/05
	HNO_3 0.1 mol/l	500 mL	Plastic bottle	J/8050/08
Nickel standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8055/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8055/08
Potassium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8060/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8060/08
Selenium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8061/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8061/08
Silicon standard metal solution 1000 ppm	H_2O	100 mL	Plastic bottle	J/8062/05
	H_2O	500 mL	Plastic bottle	J/8062/08
Silver standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8064/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8064/08
Sodium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8065/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8065/08
Strontium standard metal solution 1000 ppm	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8166/08
Tellurium standard metal solution 1000 ppm	HCl 20%	100 mL	Plastic bottle	J/8100/05
	HCl 20%	500 mL	Plastic bottle	J/8100/08
Tin standard metal solution 1000 ppm	HCl 1 mol/l	100 mL	Plastic bottle	J/8067/05
	HCl 1 mol/l	500 mL	Plastic bottle	J/8067/08
Titanium standard metal solution 1000 ppm	HCl 2 mol/l	100 mL	Plastic bottle	J/8110/05
	HCl 2 mol/l	500 mL	Plastic bottle	J/8110/08
Tungsten standard metal solution 1000 ppm	NH3 0.1 mol/l	100 mL	Plastic bottle	J/8120/05
	NH3 0.1 mol/l	500 mL	Plastic bottle	J/8120/08
Vanadium standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8150/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8150/08
Zinc standard metal solution 1000 ppm	HNO_3 1 mol/l	100 mL	Plastic bottle	J/8070/05
	HNO_3 1 mol/l	500 mL	Plastic bottle	J/8070/08
Zirconium standard metal solution 1000 ppm	HCl 1 mol/l	500 mL	Plastic bottle	J/8200/08

Fisher Chemical Standard mono-element solution for ICP

Primar

Manufactured to a tolerance of ± 0.5%
All standards are manufactured from Ultra-pure metals/acids
All standards are guaranteed to contain <10 ppm total metal impurites
See alphabetical entry in the main body of this catalogue for full details

designation	packsize	package type	product code	page
Aluminium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8206/08	12
Aluminium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8205/05	12
Antimony standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8215/08	32
Antimony standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8210/05	32
Barium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8221/08	35
Barium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8220/05	35
Boron standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8231/08	41
Boron standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8230/05	41
Cadmium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8236/08	53
Cadmium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8235/05	53
Calcium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8241/08	55
Calcium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8240/05	55
Chromium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8246/08	68
Chromium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8245/05	68
Cobalt standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8251/08	70
Cobalt standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8250/05	71
Copper standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8256/08	72
Copper standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8255/05	73
Iron standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8271/08	131
Iron standard metal solution 10000 ppm	100 mL	Plastic bottle	J/8270/05	131
Lead standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8276/08	143
Lead standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8275/05	143
Lithium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8281/08	147
Lithium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8280/05	147
Magnesium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8286/08	150
Magnesium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8285/05	150
Manganese standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8291/08	155
Manganese standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8290/05	155
Mercury standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8293/08	157
Mercury standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8292/05	157
Molybdenum standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8296/08	169
Molybdenum standard metal solution 10000 ppm	100 mL	Plastic bottle	J/8294/05	169
Nickel standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8297/08	171
Nickel standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8295/05	172
Phosphorus standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8299/08	198
Phosphorus standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8298/05	198
Potassium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8301/08	202
Potassium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8300/05	202
Selenium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8306/08	226
Selenium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8305/05	226
Silver standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8310/08	228
Silver standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8309/05	229
Sodium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8316/08	232
Sodium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8315/05	232
Strontium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8321/08	270
Strontium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8320/05	270
Sulfur standard standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8324/08	274
Sulfur standard standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8323/05	274
Tellurium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8327/08	281
Tin standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8326/08	287
Tin standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8325/05	287
Titanium standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8331/08	289
Titanium standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8330/05	289
Tungsten standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8336/08	298
Zinc standard metal solution 1000 ppm	500 mL	Plastic bottle	J/8341/08	306
Zinc standard metal solution 10 000 ppm	100 mL	Plastic bottle	J/8340/05	306

SPEX Standard mono-element solution for ICP & ICP-MS

SPEX CertiPrep

NIST Certified, manufactured to a tolerance of ± 0.5%
All standards are manufactured from Ultra-pure metals/salts
Actual measured impurities of up to 30 elements
See alphabetical entry in the main body of this catalogue for full details

designation	matrix	packsize	package type	product code
Aluminium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLAL22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLAL22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLAL22X
Aluminium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLAL12X
Aluminium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLAL23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLAL23X
Aluminium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLAL13X
Aluminium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLAL22Y
Antimony standard metal solution 1000 ppm	for ICP-MS solution in H_2O/0.6% Tartaric Acid/HNO_3 trace	100 mL	Plastic bottle	SPCLSB72Y
Antimony standard metal solution 1000 ppm	for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace	100 mL	Plastic bottle	SPPLSB72Y
	for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace	250 mL	Plastic bottle	SPPLSB72T
	for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace	500 mL	Plastic bottle	SPPLSB72X
Antimony standard metal solution 10 000 ppm	for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace	100 mL	Plastic bottle	SPPLSB73Y
	for ICP solution in H_2O/0.6% Tartaric Acid/HNO_3 trace	500 mL	Plastic bottle	SPPLSB73X
Antimony standard metal solution 10 000 ppm	for ICP solution in HCL 20%	500 mL	Plastic bottle	SPPLSB53X
Arsenic standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLAS22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLAS22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLAS22X
Arsenic standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLAS12X
Arsenic standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLAS23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLAS23X
Arsenic standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLAS22Y
Barium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLBA22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLBA22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLBA22X
Barium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLBA12X
Barium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLBA23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLBA23X
Barium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLBA22Y
Beryllium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLBE22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLBE22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLBE22X
Beryllium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLBE23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLBE23X
Beryllium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLBE22Y
Bismuth standard metal solution 1000 ppm	for ICP solution in HNO_3 10%	100 mL	Plastic bottle	SPPLBI42Y
	for ICP solution in HNO_3 10%	500 mL	Plastic bottle	SPPLBI42X
Bismuth standard metal solution 10 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLBI21AY
Boron standard metal solution 1000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLB92Y
	for ICP solution in H_2O	250 mL	Plastic bottle	SPPLB92T
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLB92X
Boron standard metal solution 10 000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLB93Y
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLB93X
Cadmium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCD22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLCD22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLCD22X
Cadmium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLCD12X
Cadmium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLCD23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCD23X
Cadmium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLCD22Y
Calcium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCA22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLCA22T
Calcium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLCA12X
Calcium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLCA23Y
	for ICP solution in HNO_3 5%	250 mL	Plastic bottle	SPPLCA23T
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCA23X
Calcium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLCA13X
Calcium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLCA22Y
Carbon standard solution 1000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLC92Y
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLC92X
Cerium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCE22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLCE22X
Cerium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLCE23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCE23X

SPEX Standard mono-element solution for ICP & ICP-MS

designation	matrix	packsize	package type	product code
Cesium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCS22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLCS22X
Cesium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLCS23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCS23X
Chromium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCR22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLCR22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLCR22X
Chromium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLCR12X
Chromium standard metal solution 1000 ppm	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLCR92X
Chromium standard metal solution 10 000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCR23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCR23X
Chromium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLCR13X
Chromium standard metal solution 10 000 ppm	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLCR93X
Chromium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLCR22Y
Cobalt standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCO22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLCO22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLCO22X
Cobalt standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLCO12X
Cobalt standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLCO23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCO23X
Cobalt standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLCO22Y
Copper standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLCU22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLCU22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLCU22X
Copper standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLCU12X
Copper standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLCU23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLCU23X
Copper standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLCU13X
Copper standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLCU22Y
Dysprosium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLDY22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLDY22X
Erbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLER22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLER22X
Erbium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLER23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLER23X
Europium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLEU22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLEU22X
Gadolinium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLGD22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLGD22X
Gadolinium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLGD23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLGD23X
Gallium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLGA22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLGA22X
Germanium standard metal solution 1000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLGE92Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLGE92X
Germanium standard metal solution 10 ppm	for ICP-MS solution in H_2O/HF trace	100 mL	Plastic bottle	SPCLGE91AY
Gold standard metal solution 1000 ppm	for ICP solution in HCL 10%	100 mL	Plastic bottle	SPPLAU32Y
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLAU32X
Gold standard metal solution 1000 ppm	for ICP-MS solution in HCl 2%	100 mL	Plastic bottle	SPCLAU11Y
Hafnium standard metal solution 1000 ppm	for ICP solution in HCL 2%	100 mL	Plastic bottle	SPPLHF12Y
	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLHF12X
Hafnium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	100 mL	Plastic bottle	SPPLHF13Y
	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLHF13X
Holmium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLHO22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLHO22X
Indium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLIN22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLIN22X
Indium standard metal solution 10 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLIN21AY
Iridium standard metal solution 1000 ppm	for ICP solution in HCL 10%	100 mL	Plastic bottle	SPPLIR32Y
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLIR32X
Iron standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLFE22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLFE22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLFE22X
Iron standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLFE12X
Iron standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLFE23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLFE23X
Iron standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLFE13X
Iron standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLFE22Y

SPEX Standard mono-element solution for ICP & ICP-MS

designation	matrix	packsize	package type	product code
Lanthanum standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLLA22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLLA22X
Lanthanum standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLLA23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLLA23X
Lead standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLPB22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLPB22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLPB22X
Lead standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLPB23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLPB23X
Lead standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLPB22Y
Lithium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLLI22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLLI22X
Lithium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLLI12X
Lithium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLLI23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLLI23X
Lithium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLLI13X
Lutetium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLLU22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLLU22X
Magnesium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLMG22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLMG22T
Magnesium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLMG12X
Magnesium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLMG23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLMG23X
Magnesium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLMG13X
Magnesium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLMG22Y
Manganese standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLMN22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLMN22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLMN22X
Manganese standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLMN23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLMN23X
Manganese standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLMN22Y
Mercury standard metal solution 10 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLHG21AY
Mercury standard metal solution 1000 ppm	for ICP solution in HNO_3 10%	100 mL	Plastic bottle	SPPLHG42Y
	for ICP solution in HNO_3 10%	250 mL	Plastic bottle	SPPLHG42T
Mercury standard metal solution 10 ppm	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLHG21AX
Mercury standard metal solution 100 ppm	for ICP solution in HNO_3 2%		Plastic bottle	SPPLHG21X
Mercury standard metal solution 1000 ppm	for ICP solution in HNO_3 10%	500 mL	Plastic bottle	SPPLHG42X
Mercury standard metal solution 10 000 ppm	for ICP solution in HNO_3 10%	100 mL	Plastic bottle	SPPLHG43Y
	for ICP solution in HNO_3 10%	500 mL	Plastic bottle	SPPLHG43X
Mercury standard metal solution 10 ppm	for ICP-MS solution in HNO_3 5%	100 mL	Plastic bottle	SPCLHG21AY
Molybdenum standard metal solution 1000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLMO92Y
	for ICP solution in H_2O	250 mL	Plastic bottle	SPPLMO92T
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLMO92X
Molybdenum standard metal solution 10 000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLMO93Y
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLMO93X
Molybdenum standard metal solution 1000 ppm	for ICP-MS solution in H_2O	100 mL	Plastic bottle	SPCLMO92Y
Neodymium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLND22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLND22X
Nickel standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLNI22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLNI22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLNI22X
Nickel standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLNI23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLNI23X
Nickel standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLNI22Y
Niobium standard metal solution 1000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLNB92Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLNB92X
Niobium standard metal solution 10 000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLNB93Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLNB93X
Palladium standard metal solution 1000 ppm	for ICP solution in HCL 10%	100 mL	Plastic bottle	SPPLPD32Y
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLPD32X
Phosphorus standard metal solution 1000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLP92Y
	for ICP solution in H_2O	250 mL	Plastic bottle	SPPLP92T
Phosphorus standard metal solution 10 000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLP93Y
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLP93X
Platinum standard metal solution 1000 ppm	for ICP solution in HCL 10%	100 mL	Plastic bottle	SPPLPT32Y
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLPT32X
Potassium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLK22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLK22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLK22X

SPEX Standard mono-element solution for ICP & ICP-MS

designation	matrix	packsize	package type	product code
Potassium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLK12X
Potassium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLK23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLK23X
Potassium standard metal solution 10 000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLK13X
Potassium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLK22Y
Praseodymium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLPR22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLPR22X
Rhenium standard metal solution 1000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLRE92Y
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLRE92X
Rhodium standard metal solution 1000 ppm	for ICP solution in HCL 10%	100 mL	Plastic bottle	SPPLRH32Y
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLRH32X
Rhodium standard metal solution 10 ppm	for ICP-MS solution in HCl 2%	100 mL	Plastic bottle	SPCLRH11AY
Rubidium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLRB22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLRB22X
Rubidium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLRB23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLRB23X
Ruthenium standard metal solution 1000 ppm	for ICP solution in HCL 10%	100 mL	Plastic bottle	SPPLRU32Y
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLRU32X
Samarium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLSM22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLSM22X
Scandium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLSC22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLSC22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLSC22X
Scandium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLSC23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLSC23X
Scandium standard metal solution 10 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLSC21AY
Selenium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLSE22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLSE22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLSE22X
Selenium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLSE23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLSE23X
Selenium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLSE22Y
Silicon standard metal solution 1000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLSI92Y
	for ICP solution in H_2O/HF trace	250 mL	Plastic bottle	SPPLSI92T
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLSI92X
Silicon standard metal solution 10 000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLSI93Y
Silicon standard metal solution 10 000 ppm	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLSI9A3X
Silicon standard metal solution 10 000 ppm	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLSI93X
Silver standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLAG22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLAG22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLAG22X
Silver standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLAG23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLAG23X
Silver standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLAG22Y
Sodium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLNA22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLNA22T
	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLNA22X
Sodium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLNA12X
Sodium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLNA23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLNA23X
Sodium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLNA13X
Sodium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLNA22Y
Strontium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLSR22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLSR22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLSR22X
Strontium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLSR12X
Strontium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLSR23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLSR23X
Strontium standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLSR13X
Sulfur standard metal solution 1000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLS92Y
	for ICP solution in H_2O	250 mL	Plastic bottle	SPPLS92T
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLS92X
Sulfur standard metal solution 10 000 ppm	for ICP solution in H_2O	100 mL	Plastic bottle	SPPLS93Y
	for ICP solution in H_2O	500 mL	Plastic bottle	SPPLS93X
Tantalum standard metal solution 1000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLTA92Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLTA92X
Tantalum standard metal solution 10 000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLTA93Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLTA93X

SPEX Standard mono-element solution for ICP & ICP-MS

designation	matrix	packsize	package type	product code
Tellurium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLTE22Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLTE22X
Tellurium standard metal solution 1000 ppm	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLTE32X
Tellurium standard metal solution 10 000 ppm	for ICP solution in HCL 40%	500 mL	Plastic bottle	SPPLTE53X
Terbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLTB22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLTB22X
Terbium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLTB23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLTB23X
Terbium standard metal solution 10 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLTB21AY
Thallium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLTL22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLTL22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLTL22X
Thallium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLTL23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLTL23X
Thallium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLTL22Y
Thorium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLTH22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLTH22X
Thorium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLTH22Y
Thullium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLTM22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLTM22X
Tin standard metal solution 1000 ppm	for ICP solution in HNO_3 1%/HF 1%	500 mL	Plastic bottle	SPPLSN22X
Tin standard metal solution 1000 ppm	for ICP solution in HCL 20%	100 mL	Plastic bottle	SPPLSN52Y
	for ICP solution in HCL 20%	250 mL	Plastic bottle	SPPLSN52T
	for ICP solution in HCL 20%	500 mL	Plastic bottle	SPPLSN52X
Tin standard metal solution 10 000 ppm	for ICP solution in HNO_3 2%/HF 2%	500 mL	Plastic bottle	SPPLSN23X
Tin standard metal solution 10 000 ppm	for ICP solution in HCL 20%	100 mL	Plastic bottle	SPPLSN53Y
	for ICP solution in HCL 20%	500 mL	Plastic bottle	SPPLSN53X
Tin standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 1%/HF 1%	100 mL	Plastic bottle	SPCLSN22Y
Titanium standard metal solution 1000 ppm	for ICP solution in HCL 20%	500 mL	Plastic bottle	SPPLTI52X
Titanium standard metal solution 1000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLTI92Y
	for ICP solution in H_2O/HF trace	250 mL	Plastic bottle	SPPLTI92T
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLTI92X
Titanium standard metal solution 10 000 ppm	for ICP solution in HCL 40%	500 mL	Plastic bottle	SPPLTI53X
Titanium standard metal solution 10 000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLTI93Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLTI93X
Titanium standard metal solution 1000 ppm	for ICP-MS solution in H_2O/HF trace	100 mL	Plastic bottle	SPCLTI92Y
Tungsten standard metal solution 1000 ppm	for ICP solution in HNO_3 1%/HF 2%	500 mL	Plastic bottle	SPPLW22X
Tungsten standard metal solution 1000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLW92Y
Tungsten standard metal solution 10 000 ppm	for ICP solution in HNO_3 2%/HF 5%	500 mL	Plastic bottle	SPPLW23X
Tungsten standard metal solution 10 000 ppm	for ICP solution in H_2O/HF trace	100 mL	Plastic bottle	SPPLW93Y
	for ICP solution in H_2O/HF trace	500 mL	Plastic bottle	SPPLW93X
Uranium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLU22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLU22X
Uranium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLU23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLU23X
Uranium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLU22Y
Vanadium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLV22Y
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLV22X
Vanadium standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLV12X
Vanadium standard metal solution 10 000 ppm	for ICP solution in HNO_3 15%	100 mL	Plastic bottle	SPPLV43Y
	for ICP solution in HNO_3 15%	500 mL	Plastic bottle	SPPLV43X
Vanadium standard metal solution 10 000 ppm	for ICP solution in HCL 15%	500 mL	Plastic bottle	SPPLV33X
Vanadium standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLV22Y
Water Blank	for ICP-MS	100 mL	Plastic bottle	SPCLBLKH2O
Water blank in HCl 2%	for ICP-MS	100 mL	Plastic bottle	SPCLBLKHCL
Water blank in HNO_3 2%	for ICP-MS	100 mL	Plastic bottle	SPCLBLKHNO3
Water blank in HCl 5%	for ICP	500 mL	Plastic bottle	SPPLBLKHCL
Water blank in HNO_3 5%	for ICP	500 mL	Plastic bottle	SPPLBLKHNO3
Ytterbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLY22Y
Ytterbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLYB22Y
Ytterbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLY22T
Ytterbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLYB22X
Ytterbium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLY22X
Ytterbium standard metal solution 10 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLY21AY
Yttrium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLY23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLY23X
Zinc standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLZN22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLZN22T

SPEX Standard mono-element solution for ICP & ICP-MS

designation	matrix	packsize	package type	product code
Zinc standard metal solution 1000 ppm	for ICP solution in HCL 2%	500 mL	Plastic bottle	SPPLZN12X
Zinc standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLZN23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLZN23X
Zinc standard metal solution 10 000 ppm	for ICP solution in HCL 5%	500 mL	Plastic bottle	SPPLZN13X
Zinc standard metal solution 1000 ppm	for ICP-MS solution in HNO_3 2%	100 mL	Plastic bottle	SPCLZN22Y
Zirconium standard metal solution 1000 ppm	for ICP solution in HNO_3 2%	100 mL	Plastic bottle	SPPLZR22Y
	for ICP solution in HNO_3 2%	250 mL	Plastic bottle	SPPLZR22T
	for ICP solution in HNO_3 2%	500 mL	Plastic bottle	SPPLZR22X
Zirconium standard metal solution 1000 ppm	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLZR32X
Zirconium standard metal solution 10 000 ppm	for ICP solution in HNO_3 5%	100 mL	Plastic bottle	SPPLZR23Y
	for ICP solution in HNO_3 5%	500 mL	Plastic bottle	SPPLZR23X
Zirconium standard metal solution 10 000 ppm	for ICP solution in HCL 10%	500 mL	Plastic bottle	SPPLZR33X

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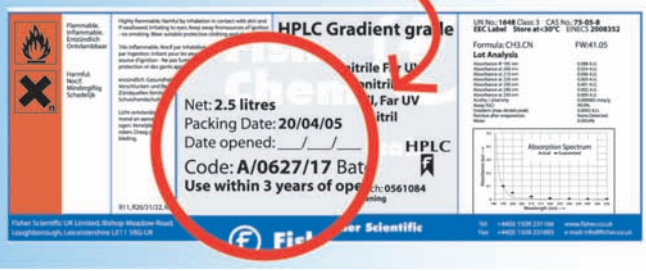

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SPEX Standard Instrument check, Calibration & Multi-element solution for ICP & ICP-MS

SPEX CertiPrep NIST Certified

designation	Content	Matrix	Application	packsize	Product code	HT€/1
Standard Instrument check 3	100µg/mℓ K, P & S; 20µg/mℓ As, La, Li, Mn, Mo, Na, Ni & Sc	5% HCl	for ICP	100 mℓ	SPCALMIX3100	
				500 mℓ	SPCALMIX3500	
Standard Instrument check 4	50µg/mℓ K; 10µg/mℓ Al, As, Cu, Mn, Na, Ni, P, Pb, Sc & Zn; 1µg/mℓ Ba	2% HNO3	for ICP	100 mℓ	SPCALMIX4100	
				500 mℓ	SPCALMIX4500	
Standard Instrument check 7	600µg/mℓ Y; 100µg/mℓ Al, As, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb & Zn	2% HNO3	for ICP	100 mℓ	SPCALMIX7100	
				500 mℓ	SPCALMIX7500	
Standard Instrument check 8	50µg/mℓ Al, As, Co, Cr, Cu, K, Na, P & Pb	2% HNO3	for ICP	100 mℓ	SPCALMIX8100	
				500 mℓ	SPCALMIX8500	
Standard Instrument check 10	500µg/mℓ K; 50µg/mℓ Al, Ba, Cd, Cu, Mn & Zn	2% HNO3	for ICP	100 mℓ	SPCALMIX10100	
				500 mℓ	SPCALMIX10500	
Standard Plasma emission Kit 1 (38 elements)	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Na, Ni, Pb, Sc, Se, Sr, Tl, V, Y, Zn & Zr	2% HNO3	for ICP	kit contains 100 mℓ of each element listed at 1000µg/mℓ in the matrix specified	SPICPKIT1	
	Bi & Hg	10% HNO3				
	Sn	20% HCl				
	B, Mo, P, S & W	H2O				
	Sb	H2O / 0,6% Tartric acid/ Tr.HNO3				
	Nb, Si & Ti	H2O / F-				
Standard Plasma emission Kit 2 (13 elements)	Ag, As, Be, Cd, Cr, Cu, Ni, Pb, Se, Tl & Zn	2% HNO3	for ICP	kit contains 100 mℓ of each element listed at 1000µg/mℓ in the matrix specified	SPICPKIT2	
	Hg	10% HNO3				
	Sb	H2O / 0,6% Tartric acid/ Tr.HNO3				
Standard Plasma emission Kit 3 (10 elements)	Al, Ba, Ca, Co, Fe, K, Mg, Mn, Na & V	2% HNO3	for ICP	kit contains 100 mℓ of each element listed at 1000µg/mℓ in the matrix specified	SPICPKIT3	
Standard Plasma emission Kit 4 (15 elements)	Li, Sc, Sr, Y & Zr	2% HNO3	for ICP	kit contains 100 mℓ of each element listed at 1000µg/mℓ in the matrix specified	SPICPKIT4	
	Bi	10% HNO3				
	Sn	20% HCl				
	B, Mo, P, S & W	H2O				
	Nb, Si & Ti	H2O / F-				
Standard 1 Mixed Multi-element calibration	500µg/mℓ Pb ;200µg/mℓ Se ; 150µg/mℓ Cd & Zn; 100µg/mℓ Mn ; 50µg/mℓ Be	2% HNO3	for ICP	100 mℓ	SPMIXSTD1100	
				500 mℓ	SPMIXSTD1500	
Standard 1A Mixed Multi-element calibration	100µg/mℓ As &Ca; 50µg/mℓ Sb & Se; 20µg/mℓ Cd, Cu & Mn; 10µg/mℓ Ba &B; 5 µg/mℓ Ag	5% HNO3	for ICP	100 mℓ	SPMIXSTD1A100	
				500 mℓ	SPMIXSTD1A500	
Standard 2 Mixed Multi-element calibration	10 000µg/mℓ Fe; 100 µg/mℓ Ba,Co,Cu & V	5% HNO3	for ICP	100 mℓ	SPMIXSTD2100	
				500 mℓ	SPMIXSTD2500	
Standard 2A Mixed Multi-element calibration	200µg/mℓ K; 100µg/mℓ Mo & Na; 50µg/mℓ Li; 10µg/mℓ Sr	5% HNO3	for ICP	100 mℓ	SPMIXSTD2A100	
				500 mℓ	SPMIXSTD2A500	
Standard 3 Mixed Multi-element calibration	500µg/mℓ As; 100µg/mℓ Mo & Si	2% HNO3 /Tr. HF	for ICP	100 mℓ	SPMIXSTD3100	
				500 mℓ	SPMIXSTD3500	
Standard 3A Mixed Multi-element calibration	100µg/mℓ P; 20µg/mℓ Co,V & Ce	5% HNO3	for ICP	100 mℓ	SPMIXSTD3A100	
				500 mℓ	SPMIXSTD3A500	
Standard 4 Mixed Multi-element calibration	1000µg/mℓ Ca; 400µg/mℓ K; 200µg/mℓ Al & Na; 20µg/mℓ Cr & Ni	5% HNO3	for ICP	100 mℓ	SPMIXSTD4100	
				500 mℓ	SPMIXSTD4500	
Standard 4A Mixed Multi-element calibration	100µg/mℓ Al, Hg, SiO2 & Ti; 50µg/mℓ Cr & Zn; 40µg/mℓ Sn	5% HNO3 /Tr. HF	for ICP	100 mℓ	SPMIXSTD4A100	
				500 mℓ	SPMIXSTD4A500	
Standard 5 Mixed Multi-element calibration	1000µg/mℓ Mg; 200µg/mℓ Sb & Tl; 100µg/mℓ B; 50µg/mℓ Ag	5% HNO3 /Tr. Tartric acid/Tr. HF	for ICP	100 mℓ	SPMIXSTD5100	
				500 mℓ	SPMIXSTD5500	
Standard 5A Mixed Multi-element calibration	100µg/mℓ Se,Mg & Pb; 50µg/mℓ Tl; 20µg/mℓ Ni; 10µg/mℓ Be	5% HNO3	for ICP	100 mℓ	SPMIXSTD5A100	
				500 mℓ	SPMIXSTD5A500	
Standard Instrument Calibration 1	20µg/mℓ :Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Ce, Th, Tl, U, V & Zn	5% HNO3 /Tr. Tartric acid	for ICP-MS	100 mℓ	SPCLCAL1	

SPEX Standard Instrument check, Calibration & Multi-element solution for ICP & ICP-MS

SPEX CertiPrep NIST Certified

designation	Content	Matrix	Application	packsize	Product code	HT€/1
Standard Instrument Calibration 2	100µg/mℓ : Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V & Zn	5% HNO3 /Tr. Tartric acid/Tr. HF	for ICP-MS	100 mℓ	SPCLCAL2	
Standard Instrument Calibration 3	1000µg/mℓ : Fe, K, Ca, Na & Mg	5% HNO3 /Tr. Tartric acid	for ICP-MS	100 mℓ	SPCLCAL3	
Standard 1 solution Multi-element	10µg/mℓ : Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y & Yb	5% HNO3	for ICP-MS	100 mℓ	SPCLMS1	
Standard 2 solution Multi-element	10µg/mℓ : Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V & Zn	5% HNO3	for ICP-MS	100 mℓ	SPCLMS2	
Standard 2 solution Multi-element (no Hg)	10µg/mℓ : Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V & Zn	5% HNO3	for ICP-MS	100 mℓ	SPCLMS2N	
Standard 2A solution Multi-element	10µg/mℓ : Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V & Zn	5% HNO3	for ICP-MS	100 mℓ	SPCLMS2A	
Standard 2A solution Multi-element (no Hg)	10µg/mℓ : Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V & Zn	5% HNO3	for ICP-MS	100 mℓ	SPCLMS2AN	
Standard 3 solution Multi-element	10µg/mℓ : Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn & Te	10% HCl / 1 HNO3	for ICP-MS	100 mℓ	SPCLMS3	
Standard 4 solution Multi-element	10µg/mℓ : B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W & Zr	H2O / Tr.HF	for ICP-MS	100 mℓ	SPCLMS4	
Standard 5 solution Multi-element	10µg/mℓ : Be, Bi, Ce, Co, In, Mg, Ni, Pb & U	2% HNO3	for ICP-MS	100 mℓ	SPCLMS5	
Standard Set of 7 Multi-element solution	SPCLMS1, SPCLMS2, SPCLMS3, SPCLMS4, SPCLBLKHNO3, SPCLBLKHCl & SPCLBLKH2O		for ICP-MS		SPCLMSSET	
Standard Set of 7 Multi-element solution (no Hg)	SPCLMS1, SPCLMS2N, SPCLMS3, SPCLMS4, SPCLBLKHNO3, SPCLBLKHCl & SPCLBLKH2O		for ICP-MS		SPCLMSSETN	
Standard Tuning solution 1	10µg/mℓ Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U & Y	2% HNO3/ 5% HCl	for ICP-MS	100 mℓ	SPCLTUNE1	

Standard solutions Ready to use for volumetric analysis NEW SPEC.

designation	comment	NIST	tolerance	packsize	package type	product code	page
Ammonium iron (II) sulfate solution 0.1M (0.1N)		●	± 0.005	1 L	Glass bottle	J/1101/15	27
		●	± 0.005	2.5 L	Plastic bottle	J/1101/PB17	27
Ammonium iron(II) sulfate solution 0.025M			± 0.005	2.5 L	Glass bottle	J/1100/17	27
Ammonium thiocyanate solution 0.1M (0.1N)	Eur.Ph. , USP, BP	●	± 0.002	1 L	Plastic bottle	J/1500/PB15	30
	Eur.Ph. , USP, BP	●	± 0.002	2.5 L	Plastic bottle	J/1500/PB17	30
Cerium(IV) sulfate solution 0.1, (0.1N)	Eur.Ph. , BP	●	± 0.002	1 L	Glass bottle	J/3000/15	61
Cerium(IV) sulfate solution 0.1M (0.1N)	Eur.Ph. , BP	●	± 0.002	2.5 L	Glass bottle	J/3000/17	61
Ethylenediaminetetraacetic acid disodium salt solution 0.01M (0.02N)			± 0.003	1 L	Plastic bottle	J/3720/PB15	101
		●	± 0.003	2.5 L	Plastic bottle	J/3720/17	101
Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N)	Eur.Ph. , BP	●	± 0.001	1 L	Plastic bottle	J/3700/15	101
	Eur.Ph. , BP	●	± 0.001	2.5 L	Plastic bottle	J/3700/17	101
	Eur.Ph. , BP	●	± 0.001	10 L	Cubitainer	J/3700/24	101
Hydrochloric acid solution 0.02M (0.02N)		●	± 0.003	1 L	Plastic bottle	J/4360/PB15	120
		●	± 0.003	2.5 L	Plastic bottle	J/4360/17	120
Hydrochloric acid solution 0.1M (0.1N)	Eur.Ph. , BP	●	± 0.001	1 L	Plastic bottle	J/4350/15	120
	Eur.Ph. , BP	●	± 0.001	2.5 L	Plastic bottle	J/4350/17	120
	Eur.Ph. , BP	●	± 0.001	5 L	Plastic bottle	J/4350/21	120
	Eur.Ph. , BP	●	± 0.001	10 L	Cubitainer	J/4350/24	120
Hydrochloric acid solution 0.2M (0.2N)		●	± 0.001	1 L	Plastic bottle	J/4340/15	121
		●	± 0.001	2.5 L	Plastic bottle	J/4340/17	121
Hydrochloric acid solution 0.5M (0.5N)		●	± 0.001	1 L	Plastic bottle	J/4330/15	121
		●	± 0.001	2.5 L	Plastic bottle	J/4330/17	121
		●	± 0.001	25 L	Metal drum	J/4330/25	121
Hydrochloric acid solution 1M (1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Plastic bottle	J/4320/15	121
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Plastic bottle	J/4320/17	121
	Eur.Ph. , USP, BP	●	± 0.001	5 L	Plastic bottle	J/4320/21	121
	Eur.Ph. , USP, BP	●	± 0.001	10 L	Cubitainer	J/4320/24	121
Hydrochloric acid solution 2M (2N)	Eur.Ph. , BP	●	± 0.001	1 L	Plastic bottle	J/4315/15	121
	Eur.Ph. , BP	●	± 0.001	2.5 L	Plastic bottle	J/4315/17	121
Hydrochloric acid solution 5M (5N)			± 0.005	1 L	Plastic bottle	J/4310/15	121
			± 0.005	2.5 L	Plastic bottle	J/4310/17	121
Iodine solution 0.05M (0.1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Glass bottle	J/4410/15	130
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Glass bottle	J/4410/17	130
Iodine solution 0.5M (1N)	Eur.Ph. , BP	●	± 0.002	1 L	Coated Glass Bottle	J/4400/PB15	130
	Eur.Ph. , BP	●	± 0.002	2.5 L	Coated Glass Bottle	J/4400/PB17	130
	Eur.Ph. , BP	●	± 0.002	500 mL	Coated Glass Bottle	J/4400/PB08	130
Nitric acid solution 2M (2N)		●	± 0.005	2.5 L	Plastic bottle	J/5545/PB17	177
Nitric acid solution 0.1M (0.1N)		●	± 0.001	1 L	Plastic bottle	J/5600/PB15	177
		●	± 0.001	2.5 L	Plastic bottle	J/5600/17	177
Nitric acid solution 1M (1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Plastic bottle	J/5550/PB15	177
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Plastic bottle	J/5550/PB17	177
	Eur.Ph. , USP, BP	●	± 0.001	10 L	Cubitainer	J/5550/24	177
Perchloric acid solution 0.1M (0.1N)		●	± 0.002	1 L	Plastic bottle	J/5820/PB15	187
		●	± 0.002	2.5 L	Plastic bottle	J/5820/PB17	187
Potassium bromate-bromide solution 0.0167 M (0.1N)		●	± 0.001	1 L	Glass bottle	J/6100/15	203
		●	± 0.001	2.5 L	Glass bottle	J/6100/17	203
Potassium dichromate solution 0.0167M (0.1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Glass bottle	J/6212/15	207
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Glass bottle	J/6212/17	207
Potassium hydroxide solution 0.1M (0.1N), (in methanol)	Eur.Ph. , BP	●	± 0.005	1 L	Glass bottle	J/6625/15	211
Potassium hydroxide solution 0.1M (0.1N), (in ethanol)		●	± 0.002	1 L	Plastic bottle	J/6620/15	212
		●	± 0.002	2.5 L	Plastic bottle	J/6620/17	212
Potassium hydroxide solution 0.5M (0.5N), (in ethanol)		●	± 0.002	1 L	Plastic bottle	J/6612/15	212
		●	± 0.002	2.5 L	Plastic bottle	J/6612/17	212
Potassium hydroxide solution 1M (1N)	Eur.Ph. , BP	●	± 0.001	1 L	Plastic bottle	J/6630/PB15	212
	Eur.Ph. , BP	●	± 0.001	2.5 L	Plastic bottle	J/6630/17	212
Potassium hydroxide solution 1M (1N), (alcoholic)		●	± 0.001	1 L	Plastic bottle	J/6610/15	212
		●	± 0.001	2.5 L	Plastic bottle	J/6610/17	212
Potassium iodate 0.025M solution stabilized with 10 ppm mercury(II) chloride		●	± 0.001	2.5 L	Glass bottle	J/6700/17	213
Potassium iodate 0.05M solution stabilized with 10 ppm mercury(II) chloride	Eur.Ph. , USP, BP	●	± 0.001	1 L	Glass bottle	J/6690/15	213
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Glass bottle	J/6690/17	213
Potassium permanganate solution 0.02M (0.1N)		●	± 0.001	1 L	Glass bottle	J/6900/15	215
		●	± 0.001	2.5 L	Coated Glass Bottle	J/6900/PB17	215

Standard solutions Ready to use for volumetric analysis NEW SPEC.

designation	comment	NIST	tolerance	packsize	package type	product code	page
Potassium thiocyanate solution 0.1M (0.1N)		●	± 0.002	1 L	Glass bottle	J/7050/15	218
		●	± 0.002	2.5 L	Plastic bottle	J/7050/PB17	218
Silver nitrate solution 1M (1N)			± 0.001	1 L	Plastic bottle	J/7320/PB15	230
			± 0.001	2.5 L	Plastic bottle	J/7320/PB17	230
Silver nitrate solution 0.1M (0.1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Plastic bottle	J/7330/15	230
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Plastic bottle	J/7330/17	230
	Eur.Ph. , USP, BP	●	± 0.001	10 L	Cubitainer	J/7330/24	230
Silver nitrate solution 0.05M (0.05N)		●	± 0.002	1 L	Plastic bottle	J/7340/15	230
		●	± 0.002	2.5 L	Plastic bottle	J/7340/17	230
Silver nitrate solution 0.0282M (0.0282N)		●	± 0.003	1 L	Plastic bottle	J/7370/15	230
		●	± 0.003	2.5 L	Plastic bottle	J/7370/17	230
		●	± 0.003	250 mL	Glass bottle	J/7370/07	230
Silver nitrate solution 0.02M (0.02N)		●	± 0.003	1 L	Plastic bottle	J/7350/15	231
		●	± 0.003	2.5 L	Plastic bottle	J/7350/17	231
Sodium arsenite solution 0.05M (0.1N)		●	± 0.002	1 L	Plastic bottle	J/7510/PB15	234
		●	± 0.002	2.5 L	Plastic bottle	J/7510/PB17	234
Sodium carbonate solution 0.05M (0.1N)		●	± 0.001	1 L	Plastic bottle	J/7580/PB15	236
		●	± 0.001	2.5 L	Plastic bottle	J/7580/17	236
Sodium carbonate solution 0.5M (1N)		●	± 0.001	1 L	Plastic bottle	J/7520/PB15	237
		●	± 0.001	2.5 L	Plastic bottle	J/7520/17	237
Sodium hydroxide solution 10M (10N) ca. 40w/v			± 0.005	1 L	Plastic bottle	J/7800/15	246
			± 0.005	2.5 L	Plastic bottle	J/7800/17	246
			± 0.005	5 L	Plastic bottle	J/7800/21	246
			± 0.005	10 L	Cubitainer	J/7800/24	246
			± 0.005	25 L	Metal drum	J/7800/25	246
Sodium hydroxide solution 2M (2N)	BP	●	± 0.001	1 L	Plastic bottle	J/7610/PB15	246
	BP	●	± 0.001	2.5 L	Plastic bottle	J/7610/17	246
	BP	●	± 0.001	5 L	Plastic bottle	J/7610/21	246
Sodium hydroxide solution 1M (1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Plastic bottle	J/7620/15	246
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Plastic bottle	J/7620/17	246
	Eur.Ph. , USP, BP	●	± 0.001	5 L	Plastic bottle	J/7620/21	246
	Eur.Ph. , USP, BP	●	± 0.001	10 L	Cubitainer	J/7620/24	246
Sodium hydroxide solution methanolic 1M (1N)		●	± 0.002	1 L	Plastic bottle	J/7625/PB15	246
		●	± 0.002	2.5 L	Plastic bottle	J/7625/17	246
Sodium hydroxide solution 0.5M (0.5N)		●	± 0.001	1 L	Plastic bottle	J/7630/15	246
		●	± 0.001	2.5 L	Plastic bottle	J/7630/17	246
		●	± 0.001	5 L	Plastic bottle	J/7630/21	246
		●	± 0.001	10 L	Cubitainer	J/7630/24	246
		●	± 0.001	200 L	Metal drum	J/7630/27	246
Sodium hydroxide solution 0.2M (0.2N)		●	± 0.001	1 L	Plastic bottle	J/7640/15	247
		●	± 0.001	2.5 L	Plastic bottle	J/7640/17	247
		●	± 0.001	5 L	Plastic bottle	J/7640/21	247
		●	± 0.001	10 L	Cubitainer	J/7640/24	247
Sodium hydroxide solution 0.1M (0.1N)	Eur.Ph. , BP	●	± 0.001	1 L	Plastic bottle	J/7660/15	247
	Eur.Ph. , BP	●	± 0.001	2.5 L	Plastic bottle	J/7660/17	247
	Eur.Ph. , BP	●	± 0.001	5 L	Plastic bottle	J/7660/21	247
	Eur.Ph. , BP	●	± 0.001	10 L	Cubitainer	J/7660/24	247
Sodium nitrite solution 0.5M (0.5N)		●	± 0.003	1 L	Glass bottle	J/7900/15	250
Sodium thiosulfate solution 0.1M (0.1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Plastic bottle	J/7950/15	255
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Plastic bottle	J/7950/17	255
	Eur.Ph. , USP, BP	●	± 0.001	5 L	Plastic bottle	J/7950/21	255
	Eur.Ph. , USP, BP	●	± 0.001	10 L	Cubitainer	J/7950/24	255
Sulfuric acid solution 1M (2N)		●	± 0.001	1 L	Plastic bottle	J/8420/PB15	277
		●	± 0.001	2.5 L	Plastic bottle	J/8420/17	277
Sulfuric acid solution 0.5M (1N)	Eur.Ph. , USP, BP	●	± 0.001	1 L	Plastic bottle	J/8430/15	277
	Eur.Ph. , USP, BP	●	± 0.001	2.5 L	Plastic bottle	J/8430/17	277
	Eur.Ph. , USP, BP	●	± 0.001	10 L	Cubitainer	J/8430/24	277
Sulfuric acid solution 0.25M (0.5N)		●	± 0.001	1 L	Plastic bottle	J/8440/PB15	277
		●	± 0.001	2.5 L	Plastic bottle	J/8440/17	277
Sulfuric acid solution 0.1M (0.2N)		●	± 0.001	1 L	Plastic bottle	J/8450/15	277
		●	± 0.001	2.5 L	Plastic bottle	J/8450/17	277
		●	± 0.001	10 L	Cubitainer	J/8450/24	277
Sulfuric acid solution 0.05M (0.1N)	Eur.Ph. , BP	●	± 0.001	1 L	Plastic bottle	J/8460/15	277
	Eur.Ph. , BP	●	± 0.001	2.5 L	Plastic bottle	J/8460/17	277
	Eur.Ph. , BP	●	± 0.001	10 L	Cubitainer	J/8460/24	277
Sulfuric acid solution 0.01M (0.2N)		●	± 0.003	1 L	Plastic bottle	J/8470/PB15	277
		●	± 0.003	2.5 L	Plastic bottle	J/8470/17	277
		●	± 0.003	10 L	Cubitainer	J/8470/24	277

Standard solutions Ready to use for volumetric analysis NEW SPEC.

designation		packsize	package type	product code	page
Tetra-n-butyl ammonium hydroxide solution 0.1 M (0.1N) in toluene/methanol	± 0.05	1 L	Glass bottle	J/8750/15	282
	± 0.05	2.5 L	Glass bottle	J/8750/17	282
	± 0.05	500 mL	Glass bottle	J/8750/08	282
Titanium(III) chloride solution 0.2M (0.2N)	± 0.1	2.5 L	Glass bottle	J/8780/17	290

NIST Certified Standard from SPEX

A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS

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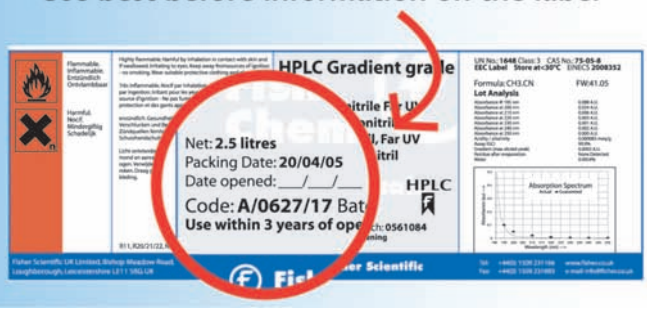
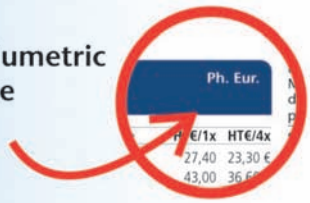


Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia

Read more on page 191



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Standard solutions concentrated for volumetric analysis NEW SPEC.

Solutrate

designation	making up volume by ampoule	packsize	product code	page
Acetic acid solution 0.1M (0.1N)	1L	1	J/0551C/05	3
		6	J/0551C/90	3
Ammonium thiocyanate solution 0.1M (0.1N)	1L	1	J/1500C/05	30
		6	J/1500C/90	30
Ethylenediaminetetraacetic acid disodium salt solution 0.01M (0.02N)	1L	1	J/3720C/05	101
		6	J/3720C/90	101
Ethylenediaminetetraacetic acid disodium salt solution 0.1M (0.2N)	500 mL	1	J/3700C/05	101
		6	J/3700C/90	101
Hydrochloric acid solution 0.1M (0.1N)	1L	1	J/4350C/05	120
		6	J/4350C/90	120
Hydrochloric acid solution 0.5M (0.5N)	1L	1	J/4330C/05	121
		6	J/4330C/90	121
Hydrochloric acid solution 1M (1N)	1L	1	J/4320C/05	121
		6	J/4320C/90	121
Iodine solution 0.05M (0.1N)	1L	1	J/4410C/05	130
		6	J/4410C/90	130
Nitric acid solution 1M (1N)	1L	1	J/5550C/05	177
		6	J/5550C/90	177
Oxalic acid solution 0.05M (0.1N)	1L	1	J/5650C/05	181
		6	J/5650C/90	181
Potassium bromate-bromide solution 0.0167 M (0.1N)	1L	1	J/6100C/05	203
		6	J/6100C/90	203
Potassium dichromate solution 0.0167M (0.1N)	1L	1	J/6212C/05	207
		6	J/6212C/90	207
Potassium hydroxide solution 0.1M (0.1N)	1L	1	J/6640C/05	212
		6	J/6640C/90	212
Potassium hydroxide solution 1M (1N)	1L	1	J/6630C/05	212
		6	J/6630C/90	212
Potassium permanganate solution 0.02M (0.1N)	1L	1	J/6900C/05	215
		6	J/6900C/90	215
Silver nitrate solution 0.1M (0.1N)	1L	1	J/7330C/05	230
		6	J/7330C/90	230
Sodium carbonate solution 0.05M (0.1N)	1L	1	J/7580C/05	237
		6	J/7580C/90	237
Sodium chloride solution 0.1M (0.1N)	1L	1	J/7590C/05	238
		6	J/7590C/90	238
Sodium hydroxide solution 1M (1N)	1L	1	J/7620C/05	246
		6	J/7620C/90	246
Sodium hydroxide solution 0.5M (0.5N)	1L	1	J/7630C/05	246
		6	J/7630C/90	246
Sodium hydroxide solution 0.1M (0.1N)	1L	1	J/7660C/05	247
		6	J/7660C/90	247
Sodium thiosulfate solution 0.1M (0.1N)	1L	1	J/7950C/05	255
		6	J/7950C/90	255
Sodium thiosulfate solution 0.5M (0.5N)	500 mL	1	J/7951C/05	255
		6	J/7951C/90	255
Sulfuric acid solution 0.05M (0.1N)	1L	1	J/8460C/05	277
		6	J/8460C/90	277
Sulfuric acid solution 0.5M (1N)	1L	1	J/8430C/05	277
		6	J/8430C/90	277
Zinc sulfate solution 0.05M (0.05N)	1L	1	J/8490C/05	309
		6	J/8490C/90	309

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page

Stannic chloride See Tin(IV) chloride anhydrous, page 289

Starch
for analysis, soluble — Certified AR

packaging		product code
250 g	Plastic jar	S/8000/50
500 g	Plastic jar	S/8000/53
1 kg	Plastic jar	S/8000/60

$(C_6H_{10}O_5)_n$
CAS: 9005-25-8
HS-Nr: 35051090
EINECS: 232-679-6
Safety: S24/25

Guaranteed analysis

Acidity	<0.01 meq/g	dard ACS)	Conform
Loss on drying	<15%	Sulfated ash	<0.5%
Reducing substance	<0.2%	Total chloride (Cl)	<0.005 %
Sensitivity to iodine (according to stan-			

Lot analysis on the label.

Starch, soluble
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/7960/53
1 kg	Plastic jar	S/7960/60

$(C_6H_{10}O_5)_n$
CAS: 9005-25-8
HS-Nr: 35051090
EINECS: 232-679-6
Safety: S24/25

Starch, maize
extra pure — SLR

packaging		product code
1 kg	Plastic jar	S/7880/60

$(C_6H_{10}O_5)_n$
CAS: 9005-25-8
HS-Nr: 35051090
EINECS: 232-679-6
Safety: S24/25

Starch, potato
extra pure — SLR

packaging		product code
1 kg	Plastic jar	S/7920/60

$(C_6H_{10}O_5)_n$
CAS: 9005-25-8
HS-Nr: 35051090
EINECS: 232-679-6
Safety: S24/25

Guaranteed analysis

Loss on drying	<20%	Residue after ignition	<0.5%

Starch, wheat NEW SPEC.
extra pure — SLR

packaging		product code
1 kg	Plastic jar	S/8040/60

$(C_6H_{10}O_5)_n$
CAS: 9005-25-8
HS-Nr: 35051090
EINECS: 232-679-6
Risk: R20/21/22

Guaranteed analysis

Residue after ignition	<0.3%	Lead (Pb)	<10 ppm

Stearic acid
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/8130/53

$C_{18}H_{36}O_2$
CAS: 57-11-4
MW: 284.49
Density at 20°C: 0.84
Boiling point: 361°C
Boiling pressure: 760 mmHg
Melting point: 67 to 69°C
Flash point: 196°C
ADR/RID: 4.1/III
UN: 1325
HS-Nr: 38220000
EINECS: 200-313-4
Risk: R11, R36/37/38
Safety: S16, S26, S37/39

F Xi

Assay: >99%

Stearic anhydride
extra pure — SLR

packaging		product code
100 g	Plastic jar	S/8144/48

$C_{36}H_{70}O_3$
CAS: 638-08-4
MW: 550.95
Density at 20°C: 0.84
Melting point: 69 to 71°C
HS-Nr: 29159000
EINECS: 211-318-6
Safety: S24/25

Assay: >97%

In determining the hydroxyl groups in the alcohol and phenols.
Sully, Analyst, 1962.87.

Strontium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8166/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342980
Risk: R34
Safety: S23, S26, S36

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8321/08

UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8320/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 28342980
Risk: R34
Safety: S23, S26, S36

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSR22Y
250 mL	Plastic bottle	SPPLSR22T
500 mL	Plastic bottle	SPPLSR22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLSR12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSR23Y
500 mL	Plastic bottle	SPPLSR23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLSR13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Strontium chloride hexahydrate
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/8280/53

$Cl_2Sr.6H_2O$
CAS: 10025-70-4
MW: 266.62
Melting point: 115°C

HS-Nr: 28273985
EINECS: 233-971-6
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<1000 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<10 ppm	Sodium (Na)	<500 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm

Strontium nitrate anhydrous
for analysis — Certified AR

AR

packaging		product code
500 g	Plastic jar	S/8402/53

N_2O_6Sr
CAS: 10042-76-9
MW: 211.63
Density at 20°C: 2.99
Boiling point: 645°C
Boiling pressure: 760 mmHg
Melting point: 570°C

ADR/RID: 5.1/III
UN: 1507
HS-Nr: 28342980
EINECS: 233-131-9
Risk: R8, R22
Safety: S17

O
Xn

Assay: >99.5%

Guaranteed analysis

pH (aqueous solution 5%)	5 to 7	Manganese (Mn)	<5 ppm
Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<0.2%	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Potassium (K)	<54 ppm
Calcium (Ca)	<500 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Sodium (Na)	<50 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<5 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<2.4 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<20 ppm

Strontium nitrate anhydrous
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/8400/53

N_2O_6Sr
CAS: 10042-76-9
MW: 211.63
Density at 20°C: 2.99
Boiling point: 645°C
Boiling pressure: 760 mmHg
Melting point: 570°C

ADR/RID: 5.1/III
UN: 1507
HS-Nr: 28342980
EINECS: 233-131-9
Risk: R8, R22
Safety: S17

O
Xn

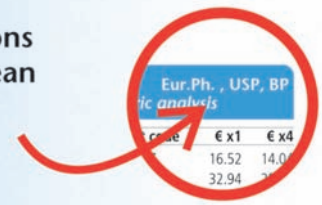
Assay: >99%

Guaranteed analysis

Calcium (Ca)	<1000 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.01%
Iron (Fe)	<20 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<10 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<100 ppm
Potassium (K)	<200 ppm		

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Styrene stabilized with 10-15 ppm tert-butylcatechol
pure

packaging		product code
1 L	Glass bottle	S/8480/15
2.5 L	Glass bottle	S/8480/17

C_8H_8
CAS: 100-42-5
MW: 104.15
Density at 20°C: 0.904 to 0.906
Boiling point: 145 to 146°C
Boiling pressure: 760 mmHg
Melting point: -31°C

Flash point: 31°C
ADR/RID: 3/III
UN: 2055
HS-Nr: 29025000
EINECS: 202-851-5
Risk: R10, R20, R36/38
Safety: S23

Xn

Succinic acid
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	S/8522/50
10 kg	Plastic drum	S/8522/68

$C_4H_6O_4$
CAS: 110-15-6
MW: 118.09
Boiling point: 235°C
Boiling pressure: 760 mmHg
Melting point: 185 to 190°C

Flash point: 206°C
HS-Nr: 29171990
EINECS: 203-740-4
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99.5%

Guaranteed analysis

Aluminium (Al)	<2 ppm	Manganese (Mn)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Potassium (K)	<50 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<50 ppm
Chromium (Cr)	<2 ppm	Titanium (Ti)	<2 ppm
Cobalt (Co)	<2 ppm	Total chloride (Cl)	<0.001%
Copper (Cu)	<5 ppm	Total nitrogen (N)	<20 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Succinic acid
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/8520/53

$C_4H_6O_4$
CAS: 110-15-6
MW: 118.09
Boiling point: 235°C
Boiling pressure: 760 mmHg
Melting point: 185 to 190°C

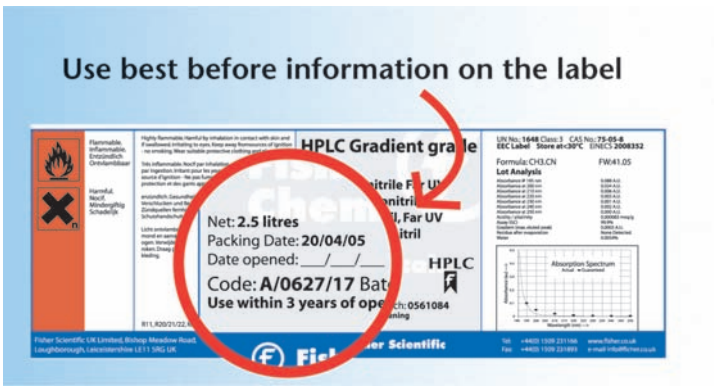
Flash point: 206°C
HS-Nr: 29171990
EINECS: 203-740-4
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		



Sucrose
for analysis — Certified AR, Eur.Ph., BP

packaging		product code
500 g	Plastic jar	S/8600/53
1 kg	Plastic jar	S/8600/60
3 kg	Plastic jar	S/8600/63
5 kg	Plastic drum	S/8600/65
10 kg	Plastic drum	S/8600/68
25 kg	Fibre Keg	S/8600/70

$C_{12}H_{22}O_{11}$
CAS: 57-50-1
MW: 342.3
Melting point: 190-192°C

HS-Nr: 17019910
EINECS: 200-334-9
Safety: S24/25

Guaranteed analysis

Loss on drying	<0.05%	Potassium (K)	<20 ppm
Specific rotation (α 20/D)	+66.4° to +66.6°	Sodium (Na)	<50 ppm
		Total chloride (Cl)	<0.001 %
Sugar reducer	<0.005%	Total nitrogen (N)	<20 ppm
Calcium (Ca)	<10 ppm	Total phosphorus (P)	<20 ppm
Copper (Cu)	<1 ppm	Total silicon (Si)	<5 ppm
Iron (Fe)	<1 ppm	Total sulphur (S)	<20 ppm
Lead (Pb)	<1 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<5 ppm		

Typical analysis

Aluminium (Al)	<2 ppm	Lithium (Li)	<2 ppm
Arsenic (As)	<2 ppm	Manganese (Mn)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Titanium (Ti)	<2 ppm
Chromium (Cr)	<2 ppm	Vanadium (V)	<2 ppm
Cobalt (Co)	<2 ppm		

Lot analysis on the label.

Sucrose
extra pure — SLR

packaging		product code
500 g	Plastic jar	S/8560/53
1 kg	Plastic jar	S/8560/60
3 kg	Plastic jar	S/8560/63
5 kg	Plastic drum	S/8560/65

$C_{12}H_{22}O_{11}$
CAS: 57-50-1
MW: 342.3
Melting point: 190-192°C

HS-Nr: 17019910
EINECS: 200-334-9
Safety: S24/25

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<20 ppm	Total sulphur (S)	<100 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<500 ppm

Sudan black B C.I. 26150
pure

packaging		product code
25 g	Glass packaging	S/8630/46

$C_{29}H_{24}N_6$
CAS: 4197-25-5
MW: 456.54
Melting point: 120-124°C

HS-Nr: 32041900
Risk: R11
Safety: S16, S24/25

F

Guaranteed analysis

IR Analysis ..... Conform

Sulfate standard solution 1000 ppm (1 mg/ml)
for Ion pair chromatography, Ready-to-use

packaging		product code
100 mL	Plastic bottle	J/4564/05

HS-Nr: 38220000

Manufactured to a tolerance of ± 1%.

Sulfate standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASSO492Y
500 mL	Plastic bottle	SPASSO492X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Sulfate-sulfur standard 1000 ppm
For Ion chromatography in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPASSO4S92Y
500 mL	Plastic bottle	SPASSO4S92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.3%.

Sulfamic acid
for analysis — Certified AR

Certified AR

packaging		product code
500 g	Plastic jar	S/8641/53
10 kg	Plastic screw top Keg	S/8641/68

H_3SO_3N
CAS: 5329-14-6
MW: 97.09
Melting point: 205 °C
ADR/RID: 8/III

UN: 2967
HS-Nr: 28111900
EINECS: 226-218-8
Risk: R36/38, R52/53
Safety: S26, S28A, S61

Xi

Assay: >99.9%

Guaranteed analysis

Cadmium (Cd)	<5 ppm	Potassium (K)	<50 ppm
Calcium (Ca)	<20 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Sulfate (SO_4)	<0.02 %
Iron (Fe)	<5 ppm	Total chloride (Cl)	<0.001 %
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<10 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Chromium (Cr)	<5 ppm	Silver (Ag)	<5 ppm
Cobalt (Co)	<5 ppm	Strontium (Sr)	<5 ppm
Lithium (Li)	<5 ppm	Titanium (Ti)	<5 ppm
Manganese (Mn)	<5 ppm	Vanadium (V)	<5 ppm

Lot analysis on the label.

Sulfamic acid
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/8640/53
12.5 kg	Plastic screw top Keg	S/8640/69
25 kg	Fibre Keg	S/8640/70

H_3SO_3N
CAS: 5329-14-6
MW: 97.09
Melting point: 205 °C
ADR/RID: 8/III

UN: 2967
HS-Nr: 28111900
EINECS: 226-218-8
Risk: R36/38, R52/53
Safety: S26, S28A, S61

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<20 ppm	Sulfate (SO_4)	<0.05%
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Sulfanilamide
extra pure — SLR

Specified LR

packaging		product code
250 g	Plastic jar	S/8660/50
20 kg	Fibre Keg	S/8660/73

$C_6H_8N_2O_2S$
CAS: 63-74-1
MW: 172.21
Melting point: 164 to 167°C

HS-Nr: 29350000
EINECS: 200-563-4
Safety: S24/25

Assay: >99%

Guaranteed analysis

Loss on drying	<0.5%	Iron (Fe)	<40 ppm
Melting Point tested	164.5 to 166.5°C	Lead (Pb)	<10 ppm
Residue after ignition	<0.1%	Total chloride (Cl)	<0.04%

Sulfanilic acid
for analysis — Certified AR

AR

packaging		product code
100 g	Plastic jar	S/8720/48

$C_6H_7NO_3S$
CAS: 121-57-3
MW: 173.19
Melting point: 365°C

HS-Nr: 38220000
EINECS: 204-482-5
Risk: R36/38, R43
Safety: S24, S37

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Potassium (K)	<50 ppm
Copper (Cu)	<5 ppm	Sodium (Na)	<50 ppm
Iron (Fe)	<5 ppm	Sulfate (SO_4)	<0.005%
Lead (Pb)	<5 ppm	Total chloride (Cl)	<0.002%
Magnesium (Mg)	<10 ppm	Total silicon (Si)	<20 ppm
Nitrite (NO_2)	<0.00005%	Zinc (Zn)	<10 ppm

Lot analysis on the label.

Sulfanilic acid
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/8680/53

$C_6H_7NO_3S$
CAS: 121-57-3
MW: 173.19
Melting point: 365°C

HS-Nr: 38220000
EINECS: 204-482-5
Risk: R36/38, R43
Safety: S24, S37

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Sulfate (SO_4)	<0.05%
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.02%
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<200 ppm		

5-Sulfosalicylic acid dihydrate
for analysis — Certified AR

AR

packaging		product code
100 g	Plastic Jar	S/8850/48
500 g	Plastic Jar	S/8850/53

$C_7H_6O_6S.2H_2O$
CAS: 5965-83-3
MW: 254.21
Melting point: 106 to 110°C
ADR/RID: 8/III

UN: 2585
HS-Nr: 29182910
EINECS: 202-555-6
Risk: R22, R34
Safety: S26, S36/37/39, S45

C

Assay: 99.5 to 100.5%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.001%
Iron (Fe)	<10 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<10 ppm	Zinc (Zn)	<10 ppm
Magnesium (Mg)	<20 ppm	Salicylic acid	<0.01%
Potassium (K)	<50 ppm		

Sulfur standard standard metal solution 1000 ppm
for ICP, solution aqueous

packaging		product code
500 mL	Plastic bottle	J/8324/08

HS-Nr: 28429080

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sulfur standard standard metal solution 10 000 ppm
for ICP, solution aqueous

packaging		product code
100 mL	Plastic bottle	J/8323/05

HS-Nr: 28429080

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sulfur standard metal solution 1000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLS92Y
250 mL	Plastic bottle	SPPLS92T
500 mL	Plastic bottle	SPPLS92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sulfur standard metal solution 10 000 ppm
for ICP solution in H_2O, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLS93Y
500 mL	Plastic bottle	SPPLS93X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Sulfur precipitated
extra pure — SLR

Specified LR

packaging		product code
500 g	Plastic jar	S/8990/53

S
CAS: 7704-34-9
MW: 32.05
Density at 20°C: 2.36
Boiling point: 445°C
Melting point: 114°C

Flash point: 168°C
ADR/RID: 4.1/III
UN: 1350
HS-Nr: 38220000
EINECS: 231-722-6

Guaranteed analysis

Acidity	<0.01 meq/g	Water	<0.2%
Sulfated ash	<0.025%	Arsenic (As)	<2 ppm

Sulfur flowers
extra pure — SLR

Specified LR

packaging		product code
1 kg	Plastic jar	S/8920/60
3 kg	Plastic jar	S/8920/63

S
CAS: 7704-34-9
MW: 32.05
Density at 20°C: 2.36
Boiling point: 445°C
Melting point: 114°C

Flash point: 168°C
ADR/RID: 4.1/III
UN: 1350
HS-Nr: 38220000
EINECS: 231-722-6

Sulfur roll
pure

packaging		product code
1 kg	Plastic jar	S/8970/60

S
CAS: 7704-34-9
MW: 32.05
Density at 20°C: 2.36
Boiling point: 445°C
Melting point: 114°C

Flash point: 168°C
ADR/RID: 4.1/III
UN: 1350
HS-Nr: 38220000
EINECS: 231-722-6

Sulfuric acid 25% w/v
pure

packaging		product code
5 L	Plastic bottle	H/0564/21

Density at 20°C: 1.26 to 1.28
ADR/RID: 8/II
UN: 2796

HS-Nr: 28070010
Risk: R35, R36/37
Safety: S26, S30, S45

C

Sulfuric acid 50% w/v
pure, for formaldehyde determination

packaging		product code
2.5 L	Plastic bottle	S/8350/PB17

Density at 20°C: 1.286 to 1.297
ADR/RID: 8/II
UN: 2796

HS-Nr: 28070010
Risk: R35, R36/37
Safety: S26, S30, S45

C

Sulfuric acid 93-98% NEW SPEC.
for ultra trace analysis — OPTIMA

Optima

packaging		product code
250 mL	Bottle Teflon FEP	S/9225/07
500 mL	Bottle Teflon FEP	S/9225/08
1 L	Bottle Teflon FEP	S/9225/15

H_2SO_4
CAS: 7664-93-9
MW: 98.08
Density at 20°C: 1.84
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

C

Assay (H_2SO_4): 95%

Guaranteed analysis

Aluminium (Al)	<50 ppt	Erbium (Er)	<10 ppt
Antimony (Sb)	<500 ppt	Europium (Eu)	<10 ppt
Arsenic (As)	<10 ppt	Gadolinium (Gd)	<10 ppt
Barium (Ba)	<10 ppt	Gallium (Ga)	<100 ppt
Beryllium (Be)	<10 ppt	Germanium (Ge)	<10 ppt
Bismuth (Bi)	<10 ppt	Hafnium (Hf)	<10 ppt
Cadmium (Cd)	<100 ppt	Holmium (Ho)	<10 ppt
Calcium (Ca)	<10 ppt	Indium (In)	<50 ppt
Cerium (Ce)	<10 ppt	Iron (Fe)	<10 ppt
Cesium (Cs)	<10 ppt	Lanthanum (La)	<10 ppt
Chromium (Cr)	<10 ppt	Lead (Pb)	<10 ppt
Cobalt (Co)	<10 ppt	Lithium (Li)	<10 ppt
Copper (Cu)	<10 ppt	Lutetium (Lu)	<50 ppt
Dysprosium (Dy)	<10 ppt		

Magnesium (Mg)	<10 ppt	Sodium (Na)	<10 ppt
Manganese (Mn)	<100 ppt	Tantalum (Ta)	<100 ppt
Mercury (Hg)	<10 ppt	Tellurium (Te)	<10 ppt
Molybdenum (Mo)	<10 ppt	Terbium (Tb)	<10 ppt
Neodymium (Nd)	<50 ppt	Thallium (Tl)	<10 ppt
Nickel (Ni)	<10 ppt	Thorium (Th)	<10 ppt
Platinum (Pt)	<50 ppt	Thulium (Tm)	<50 ppt
Potassium (K)	<10 ppt	Tin (Sn)	<50 ppt
Praseodymium (Pr)	<50 ppt	Titanium (Ti)	<10 ppt
Rhodium (Rh)	<10 ppt	Tungsten (W)	<10 ppt
Rubidium (Rb)	<10 ppt	Uranium (U)	<10 ppt
Samarium (Sm)	<10 ppt	Vanadium (V)	<10 ppt
Scandium (Sc)	<500 ppt	Ytterbium (Yb)	<10 ppt
Selenium (Se)	<50 ppt	Yttrium (Y)	<50 ppt
Silver (Ag)	<50 ppt	Zinc (Zn)	<10 ppt

Sulfuric acid 94-98% NEW — Trace metal grade
for trace metal analysis

TraceMetal

packaging		product code
500 mL	Coated Glass Bottle	S/9232/PB08
1 L	Coated Glass Bottle	S/9232/PB15

H_2SO_4
CAS: 7664-93-9
MW: 98.07
Density at 20°C: 1.84
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

C

Assay: 94 to 98%

Guaranteed analysis

Colour	<10 APHA	Niobium (Nb)	<0.5 ppm
Aluminium (Al)	<0.5 ppm	Nitrate (NO_3)	<0.2 ppm
Antimony (Sb)	<0.1 ppm	Palladium (Pd)	<0.5 ppm
Arsenic (As)	<1 ppm	Platinum (Pt)	<0.5 ppm
Barium (Ba)	<0.1 ppm	Potassium (K)	<0.5 ppm
Beryllium (Be)	<0.1 ppm	Praséodymium (Pr)	<0.1 ppm
Bismuth (Bi)	<0.1 ppm	Rhodium (Rh)	<0.5 ppm
Cadmium (Cd)	<0.1 ppm	Rubidium (Rb)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Samarium (Sm)	<0.1 ppm
Cerium (Ce)	<0.5 ppm	Scandium (Sc)	<0.1 ppm
Cesium (Cs)	<0.5 ppm	Selenium (Se)	<5 ppm
Chromium (Cr)	<0.1 ppm	Silver (Ag)	<0.1 ppm
Cobalt (Co)	<0.1 ppm	Sodium (Na)	<0.5 ppm
Copper (Cu)	<0.1 ppm	Strontium (Sr)	<0.1 ppm
Dysprosium (Dy)	<0.1 ppm	Substances	
Erbium (Er)	<0.1 ppm	reducing permanganate	<20 ppm
Europium (Eu)	<0.1 ppm	Tantalum (Ta)	<0.5 ppm
Gadolinium (Gd)	<0.1 ppm	Tellurium (Te)	<0.1 ppm
Gallium (Ga)	<0.1 ppm	Terbium (Tb)	<0.1 ppm
Germanium (Ge)	<0.1 ppm	Thallium (Tl)	<0.5 ppm
Hafnium (Hf)	<0.1 ppm	Thorium (Th)	<0.1 ppm
Holmium (Ho)	<0.1 ppm	Thulium (Tm)	<0.1 ppm
Indium (In)	<0.5 ppm	Tin (Sn)	<0.1 ppm
Iron (Fe)	<0.5 ppm	Titanium (Ti)	<0.5 ppm
Lanthanum (La)	<0.1 ppm	Total chloride (Cl)	<0.7 ppm
Lead (Pb)	<0.1 ppm	Total phosphorus (P)	<0.05 ppm
Lithium (Li)	<0.1 ppm	Tungsten (W)	<0.5 ppm
Lutetium (Lu)	<0.1 ppm	Uranium (U)	<0.1 ppm
Magnesium (Mg)	<0.5 ppm	Vanadium (V)	<0.1 ppm
Manganese (Mn)	<0.1 ppm	Ytterbium (Yb)	<0.5 ppm
Mercury (Hg)	<1 ppm	Yttrium (Y)	<0.5 ppm
Molybdenum (Mo)	<0.1 ppm	Zinc (Zn)	<0.2 ppm
Neodymium (Nd)	<0.1 ppm	Zirconium (Zr)	<0.1 ppm
Nickel (Ni)	<0.1 ppm		

Sulfuric acid 94-98% d=1.83 NEW SPEC. — Primar plus
for trace metal analysis

PrimarPlus

packaging		product code
250 mL	Coated Glass Bottle	S/9231/PB07
500 mL	Coated Glass Bottle	S/9231/PB08
1 L	Coated Glass Bottle	S/9231/PB15
2.5 L	Coated Glass Bottle	S/9231/PB17

H_2SO_4
CAS: 7664-93-9
MW: 98.07
Density at 20°C: 1.83
Boiling point: 290°C
Boiling pressure: 760 mmHg

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

C

Assay: 94 to 98%

Guaranteed analysis

Aluminium (Al)	<0.02 ppm	Mercury (Hg)	<0.005 ppm
Antimony (Sb)	<0.005 ppm	Molybdenum (Mo)	<0.002 ppm
Arsenic (As)	<0.005 ppm	Nickel (Ni)	<0.002 ppm
Barium (Ba)	<0.02 ppm	Potassium (K)	<0.02 ppm
Beryllium (Be)	<0.005 ppm	Selenium (Se)	<0.005 ppm
Bismuth (Bi)	<0.005 ppm	Silver (Ag)	<0.002 ppm
Boron (B)	<0.005 ppm	Sodium (Na)	<0.2 ppm
Cadmium (Cd)	<0.002 ppm	Strontium (Sr)	<0.002 ppm
Calcium (Ca)	<0.05 ppm	Thallium (Tl)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Tin (Sn)	<0.005 ppm
Cobalt (Co)	<0.002 ppm	Titanium (Ti)	<0.002 ppm
Copper (Cu)	<0.005 ppm	Total chloride (Cl)	<0.1 ppm
Gallium (Ga)	<0.005 ppm	Total nitrogen (N)	<5 ppm
Germanium (Ge)	<0.005 ppm	Total phosphorus (P)	<0.05 ppm
Indium (In)	<0.005 ppm	Vanadium (V)	<0.002 ppm
Iron (Fe)	<0.05 ppm	Zinc (Zn)	<0.01 ppm
Lead (Pb)	<0.002 ppm	Zirconium (Zr)	<0.005 ppm
Lithium (Li)	<0.002 ppm	Residue after Ignition	<0.0002 %
Magnesium (Mg)	<0.02 ppm	Substances	
Manganese (Mn)	<0.002 ppm	reducing permanganate	<1 %

Sulfuric acid min 95% NEW SPEC.
for electronic use (MOS)

packaging		product code
2.5 L	Plastic bottle	S/9222/PB17

H_2SO_4
CAS: 7664-93-9
MW: 98.08
Density at 20°C: 1.84
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 38220000
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

C

Assay: >95%

Guaranteed analysis

Colour	<10 APHA	Manganese (Mn)	<0.02 ppm
Substances		Molybdenum (Mo)	<0.02 ppm
reducing $KMnO_4$	<0.0001%	Nickel (Ni)	<0.1 ppm
Aluminium (Al)	<0.1 ppm	Nitrate (NO_3)	<0.00002%
Barium (Ba)	<0.05 ppm	Potassium (K)	<1 ppm
Cadmium (Cd)	<0.02 ppm	Sodium (Na)	<5 ppm
Calcium (Ca)	<1 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.1 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total chloride (Cl)	<0.00002%
Copper (Cu)	<0.1 ppm	Total nitrogen (N)	<5 ppm
Iron (Fe)	<0.5 ppm	Total silicon (Si)	<0.5 ppm
Lead (Pb)	<0.1 ppm	Vanadium (V)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Zinc (Zn)	<0.5 ppm
Magnesium (Mg)	<0.5 ppm		

Filtered to 10 µm.

Sulfuric acid 95% NEW SPEC.
For foodstuffs analysis, low in lead

packaging		product code
500 mL	Plastic bottle	S/9220/PB08

H_2SO_4
CAS: 7664-93-9
MW: 98.08
Density at 20°C: 1.84
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

C

Assay: >98%

Guaranteed analysis

Lead (Pb) <0.005 ppm

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Sulfuric acid min 95% d=1.83 NEW SPEC. Certified AR
for analysis

Certified AR

packaging		product code
1 L	Plastic bottle	S/9240/PB15
2.5 L	Plastic bottle	S/9240/PB17
2.5 L	Coated Glass Bottle	S/9240/PC17
25 L	Metal drum	S/9240/25
45 L	Plastic drum	S/9240/26

H_2SO_4
CAS: 7664-93-9
MW: 98.07
Density at 20°C: 1.83
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

Assay: >95%

Guaranteed analysis

Colour	<10 APHA	Magnesium (Mg)	<0.2 ppm
Residue after ignition	< 0.0005%	Manganese (Mn)	<0.01 ppm
Substances reducing $KMnO_4$	<0.0001%	Molybdenum (Mo)	<0.02 ppm
Aluminium (Al)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Arsenic (As)	<0.01 ppm	Nitrate (NO_3)	<0.00002 %
Barium (Ba)	<0.02 ppm	Potassium (K)	<0.5 ppm
Cadmium (Cd)	<0.01 ppm	Selenium (Se)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Sodium (Na)	<1 ppm
Chromium (Cr)	<0.1 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.01 ppm	Titanium (Ti)	<0.02 ppm
Copper (Cu)	<0.1 ppm	Total chloride (Cl)	<0.00002 %
Iron (Fe)	<0.5 ppm	Total nitrogen (N)	<5 ppm
Lead (Pb)	<0.05 ppm	Total silicon (Si)	<0.5 ppm
Lithium (Li)	<0.01 ppm	Vanadium (V)	<0.01 ppm
		Zinc (Zn)	<0.2 ppm

Sulfuric acid 95% is equivalent to a strength of 18.0 M (36.80N).
Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Sulfuric acid min 95% d=1.83 NEW SPEC. SLR
extra pure , low in nitrogen

Specified LR

packaging		product code
500 mL	Plastic bottle	S/9200/PB08
2.5 L	Plastic bottle	S/9200/PB17

H_2SO_4
CAS: 7664-93-9
MW: 98.08
Density at 20°C: 1.83
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

Assay: >95%

Guaranteed analysis

Colour	<20 APHA	Nitrate (NO_3)	<0.00002%
Calcium (Ca)	<10 ppm	Potassium (K)	<10 ppm
Copper (Cu)	<5 ppm	Sodium (Na)	<50 ppm
Iron (Fe)	<10 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<5 ppm	Total nitrogen (N)	<2 ppm
Magnesium (Mg)	<5 ppm	Zinc (Zn)	<2 ppm

Sulfuric acid 95% is equivalent to a strength of 18.0 M (36.80N).

Sulfuric acid min 95% d=1.83 NEW SPEC. SLR
extra pure

Specified LR

packaging		product code
1 L	Plastic bottle	S/9160/PB15
2.5 L	Plastic bottle	S/9160/PB17
45 L	Plastic drum	S/9160/26

H_2SO_4
CAS: 7664-93-9
MW: 98.07
Density at 20°C: 1.83
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

Assay: >95%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<10 ppm	Total nitrogen (N)	<20 ppm
Lead (Pb)	<5 ppm	Zinc (Zn)	<2 ppm
Magnesium (Mg)	<5 ppm		

Sulfuric acid 95% is equivalent to a strength of 18.0 M (36.80N).

Sulfuric acid min 95% d=1.83 SLR
extra pure, for milk testing, (Gerber test)

Specified LR

packaging		product code
2.5 L	Plastic bottle	S/9360/PB17

H_2SO_4
CAS: 7664-93-9
MW: 98.08
Density at 20°C: 1.81 to 1.82
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

Assay: 89.5 to 91%

Guaranteed analysis

Colour ..... <20 APHA

Sulfuric acid
pure, d=1.25 for batteries and accumulators

packaging		product code
2.5 L	Plastic bottle	S/9500/PB17
50 L	Plastic drum	S/9500/33

H_2SO_4
CAS: 7664-93-9
MW: 98.07
Density at 20°C: 1.24 to 1.26
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 2796
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

Sulfuric acid min 95% d=1.83 NEW SPEC.
Technical

packaging		product code
2.5 L	Plastic bottle	S/9120/PB17

H_2SO_4
CAS: 7664-93-9
MW: 98.08
Density at 20°C: 1.84
Boiling point: 290°C
Boiling pressure: 760 mmHg
Melting point: 10°C

ADR/RID: 8/II
UN: 1830
HS-Nr: 28070010
EINECS: 231-639-5
Risk: R35
Safety: S26, S30, S45

Assay: >95%

Sulfuric acid 95% is equivalent to a strength of 18.0 M (36.80N).

Sulfuric acid fuming
pure

packaging		product code
500 mL	Coated Glass Bottle	S/9440/PB08

$H_2SO_4.SO_3$
CAS: 8014-95-7
MW: 178.14
Density at 20°C: 1.91 to 1.93
Boiling point: 138°C
Boiling pressure: 760 mmHg

Melting point: 2°C
ADR/RID: 8/II
UN: 1831
HS-Nr: 28070010
Risk: R14, R35, R37
Safety: S26, S30, S45

Assay: >104.5%

Sulfuric acid solution 5M approx. (10N) NEW SPEC.
pure

packaging		product code
1 L	Plastic bottle	J/8400/PB15
2.5 L	Plastic bottle	J/8400/PB17

H_2SO_4
Density at 20°C: 1.286 to 1.297
ADR/RID: 8/II
UN: 2796
HS-Nr: 28070010
Risk: R35
Safety: S26, S30, S45
C

Guaranteed analysis
Molarity ..... 4.7 to 5.3 M

Sulfuric acid solution 2M (4N) NEW SPEC.
pure, Bench Reagent

packaging		product code
1 L	Plastic bottle	J/8410/PB15
2.5 L	Plastic bottle	J/8410/17

H_2SO_4
ADR/RID: 8/II
UN: 2796
HS-Nr: 38220000
Risk: R35
Safety: S26, S30, S45
C

Guaranteed analysis
Molarity ..... 1.9 to 2.1 M

Sulfuric acid solution 1M (2N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/8420/PB15
2.5 L	Plastic bottle	J/8420/17

ADR/RID: 8/II
UN: 2796
HS-Nr: 28070010
Risk: R36/38
Safety: S26, S45
Xi

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sulfuric acid solution 0.5M (1N) NEW SPEC. Eur.Ph. , USP, BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/8430/15
2.5 L	Plastic bottle	J/8430/17
10 L	Cubitainer	J/8430/24

ADR/RID: 8/II
UN: 2796
HS-Nr: 38220000
Risk: R36/38
Safety: S26, S45
Xi

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sulfuric acid solution 0.25M (0.5N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/8440/PB15
2.5 L	Plastic bottle	J/8440/17

HS-Nr: 28070010
Risk: R36/38
Safety: S26

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Save money!
Order 4 bottles in a box

Sulfuric acid solution 0.1M (0.2N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/8450/15
2.5 L	Plastic bottle	J/8450/17
10 L	Cubitainer	J/8450/24

HS-Nr: 28070010
Risk: R36/38
Safety: S26

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sulfuric acid solution 0.05M (0.1N) NEW SPEC. Eur.Ph. , BP
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/8460/15
2.5 L	Plastic bottle	J/8460/17
10 L	Cubitainer	J/8460/24

HS-Nr: 28070010

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Sulfuric acid solution 0.05M (0.1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/8460C/05
6	ampoule	J/8460C/90

ADR/RID: 8/II
UN: 2796
HS-Nr: 28070010
Risk: R36/38
Safety: S26, S45
Xi

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sulfuric acid solution 0.01M (0.2N) NEW SPEC.
NIST Standard solution ready to use, For Volumetric analysis

packaging		product code
1 L	Plastic bottle	J/8470/PB15
2.5 L	Plastic bottle	J/8470/17
10 L	Cubitainer	J/8470/24

HS-Nr: 28070010

Manufactured to a tolerance of ± 0.3%.
See the full range of Standard Volumetric solution page 266.

Sulfuric acid solution 0.5M (1N) NEW SPEC.
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/8430C/05
6	ampoule	J/8430C/90

ADR/RID: 8/II
UN: 2796
HS-Nr: 28070010
Risk: R35
Safety: S26, S30, S45
C

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Sulfurous Acid
pure, approx.6% w/v SO2

packaging		product code
2.5 L	Glass bottle	J/8500/17

Density at 20°C: 1.03
ADR/RID: 8/II
UN: 1833
HS-Nr: 28112300
Risk: R36/37
Safety: S26
Xi

Assay: 5.8 to 6.2%

Sulfuryl chloride
Technical

packaging		product code
500 mL	Coated Glass Bottle	**S/9560/PB08**

SO_2Cl_2
CAS: 7791-25-5
MW: 134.97
Density at 20°C: 1.62 to 1.72
Boiling point: 69.1°C
Boiling pressure: 760 mmHg
Melting point: -54.1°C

ADR/RID: 8/I
UN: 1834
HS-Nr: 28121090
EINECS: 232-245-6
Risk: R14, R34, R37
Safety: S26, S45

Talc fine powder
pure

packaging		product code
1 kg	Plastic jar	**T/0050/60**
2.5 kg	Plastic jar	**T/0050/62**
10 kg	Plastic screw top Keg	**T/0050/68**

CAS: 14807-96-6
MW: 379.28
Melting point: 800°C

HS-Nr: 25262000
EINECS: 238-877-9
Safety: S24/25

Talc fine powder purified by acids
pure

packaging		product code
500 g	Plastic jar	**T/0100/53**

CAS: 14807-96-6
MW: 379.28
Melting point: 800°C

HS-Nr: 25262000
EINECS: 238-877-9
Safety: S24/25

Tannic acid
extra pure SLR

packaging		product code
500 g	Plastic jar	**T/0150/53**

$C_{76}H_{52}O_{46}$
CAS: 1401-55-4
MW: 170.22
Melting point: 218 °C

Flash point: 198°C
HS-Nr: 32019090
EINECS: 215-753-2
Safety: S24/25

Guaranteed analysis
Loss on drying ..... <9% Residue after ignition ..... <0.2%

Tantalum standard metal solution 1000 ppm
for ICP solution in H_2O/HF trace, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLTA92Y**
500 mL	Plastic bottle	**SPPLTA92X**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tantalum standard metal solution 10 000 ppm
for ICP solution in H_2O/HF trace, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLTA93Y**
500 mL	Plastic bottle	**SPPLTA93X**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Compatible tap materials for Fisher Chemical 25L drums

Designation	Polypropylene	Brass	Designation	Polypropylene	Brass
acetone	X	X	methanol	X	X
acetonitrile	X	X	2-methoxythanol	X	X
Benzyl alcohol	X	X	methylated spirits, Industrial	X	X
Butan-1-ol	X	X	4-methyl pentan-2-one	X	X
butanone		X	naphtha solvent		X
chlorobenzene		X	nitric acid	X	
chloroform		X	orthophosphoric acid	X	
cyclohexane		X	paraffin liquid	X	X
cyclohexanone		X	*n*-pentane		X
1,2-dichloroethane		X	pentan-1-ol	X	X
dicloromethane		X	petroleum spirit		X
diethylamine		X	propane-1,2-diol	X	X
diethyl ether		X	propan-1-ol	X	X
dimethylformamide	X	X	propan-2-ol	X	X
di-*is*-propyl ether		X	pyridine		X
ethanediol	X	X	sodium hydroxide solution	X	
ethanol	X	X	tetrachloroethylene		X
ethyl acetate		X	tetrahydrofuran		X
formaldehyde solution	X		toluene		X
formal saline	X	X	trichloroethylene		X
glycerol	X	X	triethanolamine	X	X
n-heptane		X	2,2,4-trimethylpentane		X
hexane		X	water	X	X
hexan-1-ol	X	X	xylene		X
hydrochloric acid	X				

One Trisure® Key For Bungs
to remove bungs from Trisure fitted drums

packaging		product code	€ x1	€ x4
1	part	T/KEY		

HS-Nr: 38220000

Tap, nickel plated brass for 25L metal drum
3/4" BSP, nickel plated brasss body, chrome ball valve PTFE seat

packaging		product code	€ x1	€ x4
1	Unit	TAP-105-K		

HS-Nr: 38220000

Tap, polypropylene NEW
Tap adapter T/002/90 is required if this tap is to be used on 25L po lythene drums

packaging		product code	€ x1	€ x4
1	part	T/0001/90		

HS-Nr: 84818099

Tap, adapter NEW
Female tap adapter for fitting to 25L polyethene drums

packaging		product code	€ x1	€ x4
1	part	T/0002/90		

HS-Nr: 84818099

(+)-Tartaric acid
for analysis
Certified AR, Eur.Ph.

packaging		product code
500 g	Plastic jar	T/0250/53
1 kg	Plastic jar	T/0250/60

$C_4H_6O_6$
CAS: 87-69-4
MW: 150.09
Melting point: 168-172°C
Flash point: 210°C

HS-Nr: 29181200
EINECS: 201-766-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<20 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<2 ppm	Total chloride (Cl)	<0.0005 %
Iron (Fe)	<2 ppm	Total phosphorus (P)	<20 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<100 ppm
Oxalate (C_2O_4)	<0.01 %	Zinc (Zn)	<10 ppm
Potassium (K)	<20 ppm		

Typical analysis

Arsenic (As)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

(+)-Tartaric acid
extra pure, powder
SLR

packaging		product code
500 g	Plastic jar	T/0210/53
1 kg	Plastic jar	T/0210/60
5 kg	Plastic drum	T/0210/65

$C_4H_6O_6$
CAS: 87-69-4
MW: 150.09
Melting point: 168-172°C
Flash point: 210°C

HS-Nr: 29181200
EINECS: 201-766-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

(+)-Tartaric acid
extra pure, crystals
SLR

packaging		product code
500 g	Plastic jar	T/0200/53
1 kg	Plastic jar	T/0200/60

$C_4H_6O_6$
CAS: 87-69-4
MW: 150.09
Melting point: 168-172°C
Flash point: 210°C

HS-Nr: 29181200
EINECS: 201-766-0
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<100 ppm	Zinc (Zn)	<50 ppm

(+)-Tartaric acid diammonium salt
extra pure
SLR

packaging		product code
500 g	Plastic jar	A/6590/53

$(NH_4)_2C_4H_4O_6$
CAS: 3164-29-2
MW: 184.15
Density at 20°C: 1.6

HS-Nr: 28323000
EINECS: 221-618-9
Safety: S24/25

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<50 ppm	Sodium (Na)	<100 ppm
Iron (Fe)	<50 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<50 ppm	Zinc (Zn)	<50 ppm
Magnesium (Mg)	<100 ppm		

Sodium tartrate dihydrate
for analysis
Certified AR

packaging		product code
500 g	Plastic jar	S/6922/53

$C_4H_4Na_2O_6.2H_2O$
CAS: 6106-24-7
MW: 230.08

HS-Nr: 29181300
EINECS: 212-773-2
Safety: S24/25

Assay: 99 to 101%

Guaranteed analysis

pH (aqueous solution 5%)	7.5 to 8.5	Molybdenum (Mo)	<5 ppm
Aluminium (Al)	<5 ppm	Nickel (Ni)	<5 ppm
Arsenic (As)	<5 ppm	Potassium (K)	<20 ppm
Barium (Ba)	<5 ppm	Silver (Ag)	<5 ppm
Cadmium (Cd)	<5 ppm	Strontium (Sr)	<5 ppm
Calcium (Ca)	<50 ppm	Titanium (Ti)	<5 ppm
Chromium (Cr)	<5 ppm	Total chloride (Cl)	<0.0005%
Cobalt (Co)	<5 ppm	Total nitrogen (N)	<20 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<20 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<50 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Magnesium (Mg)	<20 ppm	Zinc (Zn)	<10 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Sodium tartrate dihydrate
extra pure
SLR

packaging		product code
500 g	Plastic jar	S/6920/53

$C_4H_4Na_2O_6.2H_2O$
CAS: 6106-24-7
MW: 230.08

HS-Nr: 29181300
EINECS: 212-773-2
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Total chloride (Cl)	<0.005%
Copper (Cu)	<20 ppm	Total phosphorus (P)	<200 ppm
Iron (Fe)	<20 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<100 ppm	Zinc (Zn)	<50 ppm
Potassium (K)	<100 ppm		

Tartaric acid monopotassium salt
See Potassium hydrogen tartrate, page 211

Taurine
pure

packaging		product code
500 g	Plastic jar	T/0300/53

$C_2H_7NO_3S$
CAS: 107-35-7
MW: 125.15
Boiling pressure: 760 mmHg

Melting point: 300 °C
HS-Nr: 29211990
EINECS: 203-483-8
Safety: S24/25

Assay: >99%

Tellurium standard metal solution 1000 ppm
for AAS, solution HCl 20%

packaging		product code
100 mL	Plastic bottle	J/8100/05
500 mL	Plastic bottle	J/8100/08

ADR/RID: 8/II
UN: 3264
HS-Nr: 28111900
Risk: R36/37/38
Safety: S26, S45
Xi

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tellurium standard metal solution 1000 ppm
for ICP, solution HCl 20%

packaging		product code
500 mL	Plastic bottle	J/8327/08

UN: 3264
HS-Nr: 38220000
Risk: R36/37/38
Safety: S26, S45
Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tellurium standard metal solution 1000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTE22Y
500 mL	Plastic bottle	SPPLTE22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tellurium standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLTE32X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tellurium standard metal solution 10 000 ppm
for ICP solution in HCL 40%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLTE53X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Terbium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTB22Y
500 mL	Plastic bottle	SPPLTB22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Terbium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTB23Y
500 mL	Plastic bottle	SPPLTB23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Terbium standard metal solution 10 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLTB21AY

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

ter-Butyl alcohol *See ter-Butanol, page 50*

Terpineol
pure, Mixed Isomers

packaging		product code
500 mL	Glass bottle	T/0420/08

$C_{10}H_{18}O$
CAS: 8000-41-7
MW: 154.25
Density at 20°C: 0.925 to 0.935
HS-Nr: 29061900
EINECS: 232-268-1
Risk: R36/37/38

Tetrabromo (R) fluorescein C.I. 45380
pure

packaging		product code
10 g	Glass Jar	T/0470/45

$C_{20}H_6Br_4Na_2O_5$
CAS: 17372-87-1
MW: 691.85
Density at 20°C: 1.02
Melting point: >300 °C
HS-Nr: 32041200
EINECS: 241-409-6
Risk: R36
Safety: S26, S37/39
Xi

Guaranteed analysis
IR Analysis ..... Conform

Tetrabutyl ammonium bromide — Certified
for HPLC

HPLC

packaging		product code
25 g	Plastic jar	T/0476/46

$C_{16}H_{36}BrN$
CAS: 1643-19-2
MW: 322.38
Melting point: 100 to 104°C

HS-Nr: 29239000
EINECS: 216-699-2
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.1 M) ..... <0.05 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Tetrabutylammonium dihydrogen phosphate
See Tetrabutyl ammonium phosphate, page 282

Tetra-n-butyl ammonium fluoride — SLR
extra pure

Specified

packaging		product code
25 g	Plastic jar	T/0478/46

$(CH_3.CH_2.CH_2.CH_2)_4NF.3H_2O$
CAS: 429-41-4
MW: 315.52

HS-Nr: 29239000
EINECS: 207-057-2
Risk: R22
Safety: S24/25

Xn

Assay: >98%

Tetrabutylammonium hydrogen sulfate — SLR
extra pure

Specified

packaging		product code
25 g	Plastic jar	T/0479/46
100 g	Plastic jar	T/0479/48

$C_{16}H_{37}NSO_4$
CAS: 32503-27-8
MW: 339.54
Melting point: 168 to 172°C

HS-Nr: 29239000
EINECS: 251-068-5
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Guaranteed analysis
Melting Point tested ..... 169 to 171°C

Tetra-n-butyl ammonium hydroxide — Certified
for HPLC, solution 0.1M (phosphate buffered)

HPLC

packaging		product code
250 mL	Plastic bottle	T/0486/07

HS-Nr: 29239000
Risk: R34
Safety: S26, S28

C

Guaranteed analysis
At pH 20°C ..... 7 - 7.5 Value between ..... 0.995 to 1.005

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.005 M) .. <0.02 A.U.

Filtered to 0.2 µm.

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Tetra-n-butyl ammonium hydroxide — Certified
for HPLC, solution 0.5M

HPLC

packaging		product code
250 mL	Plastic bottle	T/0481/07

ADR/RID: 8/II
UN: 1760
HS-Nr: 29239000

Risk: R34
Safety: S26, S28

F Xn

Manufactured to a tolerance of ± 0.2%.
Filtered to 0.2 µm.

Tetra-n-butyl ammonium hydroxide solution — SLR
extra pure

Specified

packaging		product code
100 mL	Plastic bottle	T/0480/05
250 mL	Plastic bottle	T/0480/07

$C_{16}H_{37}NO$
CAS: 2052-49-5
MW: 259.46
Density at 20°C: >1
Boiling point: >100°C
Boiling pressure: 760 mmHg

ADR/RID: 8/II
UN: 3267
HS-Nr: 29239000
EINECS: 218-147-6
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: 39.5 to 41%

Guaranteed analysis
Residue after ignition ..... <0.05% Sulfate (SO_4) ..... <0.02%
Bromide (Br) ..... <0.1%

Tetra-n-butyl ammonium hydroxide solution 0.1 M (0.1N) in toluene/methanol
Standard solution ready to use, For volumetric analysis

packaging		product code
500 mL	Glass bottle	J/8750/08
1 L	Glass bottle	J/8750/15
2.5 L	Glass bottle	J/8750/17

ADR/RID: 3(6.1)/II
UN: 1992
HS-Nr: 38220000

Risk: R34
Safety: S26, S28

C

Manufactured to a tolerance of 5%.
See the full range of Standard Volumetric solution page 266.

Tetra-n-butylammonium iodide — SLR
extra pure

Specified

packaging		product code
100 g	Plastic jar	T/0490/48

$C_{16}H_{36}IN$
CAS: 311-28-4
MW: 369.38
Melting point: 141 to 150°C

HS-Nr: 29239000
EINECS: 206-220-5
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >98%

Guaranteed analysis
Residue after ignition ..... <0.05%

Tetrabutyl ammonium phosphate — SLR
extra pure

Specified

packaging		product code
5 g	Glass packaging	T/0505/44

$C_{16}H_{38}NPO_4$
CAS: 5574-97-0
MW: 339.46
Melting point: 148 to 151°C

HS-Nr: 29239000
EINECS: 226-947-1
Risk: R22, R36/37/38
Safety: S26, S37/39

Xn

Assay: >97%

Tetrachloroethylene
for UV spectroscopy — Certified

packaging		product code
2.5 L	Coated Glass Bottle	T/0605/PB17

C_2Cl_4
CAS: 127-18-4
MW: 165.83
Density at 20°C: 1.63
Boiling point: 120 to 122°C
Boiling pressure: 760 mmHg
Melting point: -22°C

ADR/RID: 6.1/III
UN: 1897
HS-Nr: 29032300
EINECS: 204-825-9
Risk: R40, R51/53
Safety: S23, S36/37, S61

Xn N

Assay (GC): >99.9%

Guaranteed analysis

Acidity	<0.0003 meq/g	Residue after evaporation	<5 ppm
Alkalinity	<0.00006 meq/g	Water	<0.01%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

300 nm	<0.125 A.U.	340 nm	<0.05 A.U.
310 nm	<0.08 A.U.	360 nm	<0.05 A.U.
320 nm	<0.05 A.U.	400 nm	<0.01 A.U.

Tetrachloroethylene
for analysis — Certified AR

packaging		product code
2.5 L	Glass bottle	T/0601/17
2.5 L	Coated Glass Bottle	T/0601/PB17

C_2Cl_4
CAS: 127-18-4
MW: 165.83
Density at 20°C: 1.63
Boiling point: 120 to 122°C
Boiling pressure: 760 mmHg
Melting point: -22°C

ADR/RID: 6.1/III
UN: 1897
HS-Nr: 29032300
EINECS: 204-825-9
Risk: R40, R51/53
Safety: S23, S36/37, S61

Xn N

Assay (GC): >99.5%

Guaranteed analysis

Acetone	<0.02%	Iron (Fe)	<0.1 ppm
Acidity / Alkalinity	<0.0003 meq/g	Lead (Pb)	<0.05 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.2 ppm
Residue after evaporation	<20 ppm	Potassium (K)	<0.5 ppm
Water	<0.01%	Sodium (Na)	<0.5 ppm
Calcium (Ca)	<0.5 ppm	Total phosphorus (P)	<0.1 ppm
Chloride (Cl)	<0.0001 %	Total sulphur (S)	<0.5 ppm
Chlorine	<0.3 ppm	Zinc (Zn)	<0.1 ppm
Copper (Cu)	<0.05 ppm		

Typical analysis

Aluminium (Al)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total silicon (Si)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Manganese (Mn)	<0.02 ppm		

Lot analysis on the label.

Tetrachloroethylene
extra pure — SLR

packaging		product code
2.5 L	Glass bottle	T/0600/17
2.5 L	Coated Glass Bottle	T/0600/PB17
5 L	Metal can	T/0600/21
25 L	Metal drum	T/0600/25

C_2Cl_4
CAS: 127-18-4
MW: 165.83
Density at 20°C: 1.63
Boiling point: 120 to 122°C
Boiling pressure: 760 mmHg
Melting point: -22°C

ADR/RID: 6.1/III
UN: 1897
HS-Nr: 29032300
EINECS: 204-825-9
Risk: R40, R51/53
Safety: S23, S36/37, S61

Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.003 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<5 ppm
Water	<0.1%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm		

see page 279 for suitable Tap & accessories.

Tetrachloroethylene
Technical

packaging		product code
2.5 L	Glass bottle	T/0550/17
2.5 L	Coated Glass Bottle	T/0550/PB17
25 L	Metal drum	T/0550/25

C_2Cl_4
CAS: 127-18-4
MW: 165.83
Density at 20°C: 1.61 to 1.63
Boiling point: 120 to 122°C
Boiling pressure: 760 mmHg
Melting point: -22°C

ADR/RID: 6.1/III
UN: 1897
HS-Nr: 29032300
EINECS: 204-825-9
Risk: R40, R51/53
Safety: S23, S36/37, S61

Xn N

see page 279 for suitable Tap & accessories.

Tetrachlorosilane
See Silicon tetrachloride, page 228

Tetradecyltrimethylammonium bromide
for HPLC — Certified

packaging		product code
25 g	Plastic Jar	T/0611/46

$C_{17}H_{38}NBr$
CAS: 1119-97-7
MW: 336.39
Melting point: 245 to 250°C
ADR/RID: 8/III

UN: 1759
HS-Nr: 29239000
EINECS: 214-291-9
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm <0.05 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Tetraethylammonium bromide
for HPLC — Certified

packaging		product code
25 g	Plastic jar	T/0621/46

$C_8H_{20}NBr$
CAS: 71-91-0
MW: 210.16
Melting point: 285 °C

HS-Nr: 29239000
EINECS: 200-769-4
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.1 M) <0.05 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Tetraethylammonium bromide — SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	T/0620/48

$C_8H_{20}NBr$
CAS: 71-91-0
MW: 210.16
Melting point: 285 °C

HS-Nr: 29239000
EINECS: 200-769-4
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >98%

Tetrahydrofuran unstabilized — Certified
for HPLC

HPLC

packaging		product code
1 L	Coated Glass Bottle	T/0706/PB15
2.5 L	Coated Glass Bottle	T/0706/PB17
25 L	Stainless steel drum	T/0706/25SS
200 L	Stainless steel drum	T/0706/27SS

C_4H_8O
CAS: 109-99-9
MW: 72.11
Density at 20°C: 0.88
Boiling point: 66°C
Boiling pressure: 760 mmHg
Melting point: -108.4°C

Flash point: -21°C
ADR/RID: 3/II
UN: 2056
HS-Nr: 29321100
EINECS: 203-726-8
Risk: R11, R19, R36/37
Safety: S16, S29, S33

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity	<0.0002 meq/g	Water	<0.03%
Alkalinity	<0.0006 meq/g	Peroxide	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

230 nm	<0.5 A.U.	260 nm	<0.05 A.U.
240 nm	<0.26 A.U.	270 nm	<0.04 A.U.
250 nm	<0.1 A.U.	280 nm	<0.02 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Tetrahydrofuran stabilized with 0.025% BHT
for Gel Permeation Chromatography (GPC)

GPC

packaging		product code
2.5 L	Coated Glass Bottle	T/0709/PB17

C_4H_8O
CAS: 109-99-9
MW: 72.11
Density at 20°C: 0.88
Boiling point: 66°C
Boiling pressure: 760 mmHg
Melting point: -108.4°C

Flash point: -21°C
ADR/RID: 3/II
UN: 2056
HS-Nr: 29321100
EINECS: 203-726-8
Risk: R11, R19, R36/37
Safety: S16, S29, S33

F Xi

Guaranteed analysis

Colour	<10 APHA	Water	<0.03%
Residue after evaporation	<20 ppm		

Stabilised with 0.025% BHT.

Tetrahydrofuran unstabilized
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Coated Glass Bottle	T/0702/PB15
2.5 L	Coated Glass Bottle	T/0702/PB17

C_4H_8O
CAS: 109-99-9
MW: 72.11
Density at 20°C: 0.88
Boiling point: 66°C
Boiling pressure: 760 mmHg
Melting point: -108.4°C

Flash point: -21°C
ADR/RID: 3/II
UN: 2056
HS-Nr: 29321100
EINECS: 203-726-8
Risk: R11, R19, R36/37
Safety: S16, S29, S33

F Xi

Assay (GC): >99.8

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Recommended for the synthesis of DNA and peptide sequencing.

Tetrahydrofuran stabilized with 0.025% BHT — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	T/0701/15
1 L	Coated Glass Bottle	T/0701/PB15
2.5 L	Glass bottle	T/0701/17
2.5 L	Coated Glass Bottle	T/0701/PB17
5 L	Metal can	T/0701/21
25 L	Metal drum	T/0701/25

C_4H_8O
CAS: 109-99-9
MW: 72.11
Density at 20°C: 0.88
Boiling point: 66°C
Boiling pressure: 760 mmHg
Melting point: -108.4°C

Flash point: -21°C
ADR/RID: 3/II
UN: 2056
HS-Nr: 29321100
EINECS: 203-726-8
Risk: R11, R19, R36/37
Safety: S16, S29, S33

F Xi

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Magnesium (Mg)	<0.1 ppm
Colour	<10 APHA	Potassium (K)	<0.5 ppm
Residue after ignition	<0.002%	Sodium (Na)	<1 ppm
Water	<0.03%	Total phosphorus (P)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Zinc (Zn)	<0.2 ppm
Iron (Fe)	<0.1 ppm	Methyl tétrahydrofuranne	<0.1 %
Lead (Pb)	<0.05 ppm	Peroxide	<0.005 %

Typical analysis

Aluminium (Al)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Total silicon (Si)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Manganese (Mn)	<0.02 ppm		

Lot analysis on the label.
Stabilised with 0.025% BHT.
see page 279 for suitable Tap & accessories.

Tetrahydrofuran stabilized with 0.025% BHT — SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	T/0700/08
2.5 L	Glass bottle	T/0700/17
2.5 L	Coated Glass Bottle	T/0700/PB17
5 L	Metal can	T/0700/21
25 L	Metal drum	T/0700/25
200 L	Metal drum	T/0700/27

C_4H_8O
CAS: 109-99-9
MW: 72.11
Density at 20°C: 0.88
Boiling point: 66°C
Boiling pressure: 760 mmHg
Melting point: -108.4°C

Flash point: -21°C
ADR/RID: 3/II
UN: 2056
HS-Nr: 29321100
EINECS: 203-726-8
Risk: R11, R19, R36/37
Safety: S16, S29, S33

F Xi

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after ignition	<0.005%	Sodium (Na)	<5 ppm
Water	<0.05%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm	Peroxide	<0.01%

Stabilised with 0.025% BHT.
see page 279 for suitable Tap & accessories.

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono & Multi-elemental standard solution to discover on page 256

Tetrahydronaphthalene SLR
extra pure

Specified LR

packaging		product code
500 mL	Glass bottle	T/0850/08

$C_{10}H_{12}$
CAS: 119-64-2
MW: 132.21
Density at 20°C: 0.97
Boiling point: 207°C
Boiling pressure: 760 mmHg
Melting point: -35°C

Flash point: 77°C
ADR/RID: 9/III
UN: 3082
HS-Nr: 29029090
EINECS: 204-340-2
Risk: R19, R36/38, R51/53
Safety: S26, S28A, S61

Xi N

Assay (GC): >97%

Tetramethyl ammonium chloride Certified
for HPLC

HPLC

packaging		product code
25 g	Plastic jar	T/0931/46

$C_4H_{12}NCl$
CAS: 75-57-0
MW: 109.6
Melting point: 420°C
ADR/RID: 6.1/III

UN: 2811
HS-Nr: 29239000
EINECS: 200-880-8
Risk: R25, R36/37/38
Safety: S26, S28A, S37/39, S45

T

Assay: >98%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.1 M) ..... <0.05 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Tetramethyl ammonium hydrogen sulfate Certified
for HPLC

HPLC

packaging		product code
5 g	Glass packaging	T/0935/44

$C_4H_{13}NSO_4$
CAS: 80526-82-5
MW: 171.21
Melting point: 295 to 297°C

HS-Nr: 29239000
EINECS: 279-495-5
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis
Loss on drying 100°C ..... <2%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
200 nm ..... <0.3 A.U. 220 nm ..... <0.05 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Tetramethyl ammonium hydroxide solution 25% in water SLR
extra pure

Specified LR

packaging		product code
25 mL	Plastic bottle	T/0940/04
100 mL	Plastic bottle	T/0940/05

$C_4H_{13}NO$
CAS: 75-59-2
MW: 91.15
Density at 20°C: 1.02
Boiling point: 110°C
Boiling pressure: 760 mmHg

ADR/RID: 8/II
UN: 1835
HS-Nr: 28151100
EINECS: 200-882-9
Risk: R20/21/22, R34
Safety: S26, S36/37/39, S45

C

Assay: >24.5%

Guaranteed analysis
Colour ..... <20 APHA Halogenated compounds ..... <0.2%
Residue after ignition ..... <0.3%

N,N,N′,N′-Tetramethyl-p-phenylene-diamine dihydrochloride SLR
extra pure

Specified LR

packaging		product code
5 g	Plastic jar	T/0960/44
10 g	Plastic jar	T/0960/45

$C_{10}H_{16}N_2.2HCl$
CAS: 637-01-4
MW: 237.17
Melting point: 217 to 222°C
ADR/RID: 6.1/II

UN: 2811
HS-Nr: 29215110
EINECS: 211-274-8
Risk: R20/21/22
Safety: S36/37

Xn

Assay: >97%

TFA *See Trifluoroacetic acid, page 295*

Thallium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTL22Y
250 mL	Plastic bottle	SPPLTL22T
500 mL	Plastic bottle	SPPLTL22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Thallium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTL23Y
500 mL	Plastic bottle	SPPLTL23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Thallium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLTL22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Thermit ignition powder
pure

packaging		product code
250 g	Glass packaging	T/0978/50

ADR/RID: 5.1/II
UN: 1479
HS-Nr: 28211000

Risk: R8, R10, R15, R20/22
Safety: S7/8, S13, S27, S43

F O

Thermit powder
pure

packaging		product code
500 g	Glass packaging	T/0977/53

ADR/RID: 4.1/III
UN: 3178
HS-Nr: 38220000

Risk: R10, R15
Safety: S7/8, S43

F

Thioacetamide
extra pure SLR

Specified LR

packaging		product code
25 g	Plastic jar	T/0980/46

C_2H_5NS
CAS: 62-55-5
MW: 75.13
Density at 20°C: 1.37
Melting point: 112 to 114°C

HS-Nr: 29309085
EINECS: 200-540-9
Risk: R45, R22, R36/38, R52/53
Safety: S53, S45, S61

T

Assay: >98%

Guaranteed analysis
Residue after ignition ..... <0.05%

Thioglycolic acid
extra pure SLR

Specified LR

packaging		product code
100 mL	Coated Glass Bottle	T/1000/PB05
250 mL	Coated Glass Bottle	T/1000/PB07
2.5 L	Coated Glass Bottle	T/1000/PB17

$C_2H_4O_2S$
CAS: 68-11-1
MW: 92.12
Density at 20°C: 1.33
Boiling point: 96°C
Boiling pressure: 5 mmHg
Melting point: -16°C
Flash point: 126°C

ADR/RID: 8/II
UN: 1940
HS-Nr: 29309085
EINECS: 200-677-4
Risk: R24/25, R26, R34
Safety: S23, S25, S27, S28C, S36/37, S45

T+

Assay: >97%

Guaranteed analysis
Sensitivity test (iron) ..... Conform

Thionyl chloride
pure

packaging		product code
500 mL	Coated Glass Bottle	T/1050/PB08

$SOCl_2$
CAS: 7719-09-7
MW: 118.97
Density at 20°C: 1.59 to 1.69
Boiling point: 76°C
Boiling pressure: 760 mmHg
Melting point: -105°C

ADR/RID: 8/I
UN: 1836
HS-Nr: 28121090
EINECS: 231-748-8
Risk: R14, R20/22, R29, R35
Safety: S26, S36/37/39, S45

C

Thorium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTH22Y
500 mL	Plastic bottle	SPPLTH22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Thorium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLTH22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Thullium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTM22Y
500 mL	Plastic bottle	SPPLTM22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Thymol
extra pure SLR

Specified LR

packaging		product code
100 g	Plastic jar	T/1450/48

$C_{10}H_{14}O$
CAS: 89-83-8
MW: 150.22
Density at 20°C: 0.96
Boiling point: 232°C
Boiling pressure: 760 mmHg
Freezing point: <49°C
Melting point: 48 to 52°C

Flash point: 102°C
ADR/RID: 8/III
UN: 3261
HS-Nr: 29071990
EINECS: 201-944-8
Risk: R22, R34, R51/53
Safety: S26, S28A, S36/37/39, S45, S61

C N

Guaranteed analysis
Residue after evaporation ..... <0.05%

Thymol blue solution 0.04%
pure, indicator grade

packaging		product code
500 mL	Glass bottle	T/1470L/08

ADR/RID: 3/III
UN: 1170
HS-Nr: 38220000

Risk: R10
Safety: S16, S24/25

F

Guaranteed analysis
At pH 20°C ..... pH > 0

Thymol blue
pure, indicator grade

packaging		product code
5 g	Glass packaging	T/1470/44

$C_{27}H_{30}O_5S$
CAS: 76-61-9
MW: 466.58
Melting point: 221 °C

HS-Nr: 29349090
EINECS: 200-973-3
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

pH 1.2-2.8 red to yellow.
pH 8.0-9.6 yellow to blue.

Thymolphthalein solid
pure, indicator grade

packaging		product code
5 g	Glass packaging	T/1480/44
25 g	Glass packaging	T/1480/46

$C_{28}H_{30}O_4$
CAS: 125-20-2
MW: 430.53
Melting point: 251 to 253°C

HS-Nr: 29322990
EINECS: 204-729-7
Risk: R40
Safety: S36/37

Xn

Guaranteed analysis
IR Analysis ..... Conform

pH 9.3-10.5 colorless to blue.
Conforming to the IR spectrum of reference.

Thymolphthalein solution 0.2%
pure, indicator grade

packaging		product code
500 mL	Glass bottle	T/1480L/08

ADR/RID: 3/III
UN: 1170
HS-Nr: 38220000

Risk: R10, R40/20/21/22, R20/21/22
Safety: S16, S36/37, S45

F Xn

Guaranteed analysis
At pH 20°C ..... pH > 0

Thymolsulfonephthaleindi-(methyl-iminodiacetic acid) sodium salt
pure

packaging		product code
1 g	Glass Jar	T/1500/43

$C_{37}H_{41}N_2Na_3O_{13}S$
CAS: 1945-77-3
MW: 822.78

HS-Nr: 29349090
EINECS: 217-743-3
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Tillman's reagent
See Phenol-indo-2.6-dichlorophenol sodium salt, page 196

Tin standard metal solution 1000 ppm
for AAS, solution HCl 1M

packaging		product code
100 mL	Plastic bottle	J/8067/05
500 mL	Plastic bottle	J/8067/08

HS-Nr: 38220000
Risk: R36/38
Safety: S26

Xi

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 1000 ppm
for ICP, solution HCl 1M

packaging		product code
500 mL	Plastic bottle	J/8326/08

HS-Nr: 38220000
Risk: R36/38
Safety: S26

Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 10 000 ppm
for ICP, solution HCl 1M

packaging		product code
100 mL	Plastic bottle	J/8325/05

HS-Nr: 38220000
Risk: R36/38
Safety: S26

Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 1000 ppm
for ICP solution in HNO_3 1%/HF 1%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLSN22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 1000 ppm
for ICP solution in HCL 20%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSN52Y
250 mL	Plastic bottle	SPPLSN52T
500 mL	Plastic bottle	SPPLSN52X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 10 000 ppm
for ICP solution in HNO_3 2%/HF 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLSN23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 10 000 ppm
for ICP solution in HCL 20%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLSN53Y
500 mL	Plastic bottle	SPPLSN53X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 1%/HF 1%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLSN22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tin (metal)
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	T/1640/50

Sn
CAS: 7440-31-5
MW: 118.69
Density at 20°C: 7.3
Boiling point: 2270°C
Boiling pressure: 760 mmHg
Melting point: 231.9°C
HS-Nr: 80011000
EINECS: 231-141-8
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Antimony (Sb)	<200 ppm	Iron (Fe)	<100 ppm
Bismuth (Bi)	<40 ppm	Lead (Pb)	<50 ppm
Copper (Cu)	<10 ppm	Zinc (Zn)	<20 ppm

The prices applied to the tin and derivatives vary with the price of the raw material.

Tin metal powder fine
pure

packaging		product code
100 g	Plastic jar	T/1650/48

Sn
CAS: 7440-31-5
MW: 118.69
Density at 20°C: 7.3
Boiling point: 2270°C
Boiling pressure: 760 mmHg
Melting point: 231.9°C
HS-Nr: 80052000
EINECS: 231-141-8
Safety: S24/25

The prices applied to the tin and derivatives vary with the price of the raw material.

Tin metal foil (0.10 mm)
pure

packaging		product code
100 g	Leaf	T/1560/48
500 g	Leaf	T/1560/53

Sn
CAS: 7440-31-5
MW: 118.69
Density at 20°C: 7.3
Boiling point: 2270°C
Boiling pressure: 760 mmHg
Melting point: 231.9°C
HS-Nr: 38220000
EINECS: 231-141-8
Safety: S24/25

The prices applied to the tin and derivatives vary with the price of the raw material.

Tin metal
pure

packaging		product code
100 g	Plastic jar	T/1600/48
500 g	Plastic jar	T/1600/53

Sn
CAS: 7440-31-5
MW: 118.69
Density at 20°C: 7.3
Boiling point: 2270°C
Boiling pressure: 760 mmHg
Melting point: 231.9°C
HS-Nr: 80011000
EINECS: 231-141-8
Safety: S24/25

The prices applied to the tin and derivatives vary with the price of the raw material.

Tin(II) chloride anhydrous
extra pure — SLR

packaging		product code
100 g	Plastic jar	T/1645/48

$SnCl_2$
CAS: 7772-99-8
MW: 189.6
Density at 20°C: 3.95
Boiling point: 652°C
Boiling pressure: 760 mmHg
Melting point: 246°C
ADR/RID: 8/III
UN: 3260
HS-Nr: 28273700
EINECS: 231-868-0
Risk: R22, R34
Safety: S26, S36/37/39, S45

Tin(II) chloride dihydrate
for analysis — Certified AR

packaging		product code
100 g	Plastic jar	T/1654/48
250 g	Plastic jar	T/1654/50
500 g	Plastic jar	T/1654/53
1 kg	Plastic jar	T/1654/60

$SnCl_2.2H_2O$
CAS: 10025-69-1
MW: 225.63
Density at 20°C: 2.71
Boiling point: 652°C
Boiling pressure: 760 mmHg
Melting point: 37 to 38°C
ADR/RID: 8/III
UN: 3260
HS-Nr: 28273700
EINECS: 231-868-0
Risk: R22, R34
Safety: S26, S36/37/39, S45

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Potassium (K)	<20 ppm
Copper (Cu)	<50 ppm	Sodium (Na)	<50 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<50 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<50 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm

Typical analysis

Aluminium (Al)	<1 ppm	Manganese (Mn)	<1 ppm
Arsenic (As)	<2 ppm	Molybdenum (Mo)	<1 ppm
Barium (Ba)	<1 ppm	Nickel (Ni)	<1 ppm
Cadmium (Cd)	<1 ppm	Silver (Ag)	<1 ppm
Chromium (Cr)	<1 ppm	Strontium (Sr)	<1 ppm
Cobalt (Co)	<1 ppm	Titanium (Ti)	<1 ppm
Lithium (Li)	<1 ppm	Vanadium (V)	<1 ppm

Corrosive when wet.
Lot analysis on the label.

Tin(II) chloride dihydrate
extra pure — SLR

packaging		product code
250 g	Plastic jar	T/1652/50
500 g	Plastic jar	T/1652/53
1 kg	Plastic jar	T/1652/60

$SnCl_2.2H_2O$
CAS: 10025-69-1
MW: 225.63
Density at 20°C: 2.71
Boiling point: 652°C
Boiling pressure: 760 mmHg
Melting point: 37 to 38°C
ADR/RID: 8/III
UN: 3260
HS-Nr: 28273700
EINECS: 231-868-0
Risk: R22, R34
Safety: S26, S36/37/39, S45

Assay: >96%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<100 ppm
Copper (Cu)	<200 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<200 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<200 ppm	Total sulphur (S)	<200 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<200 ppm

Corrosive when wet.

Tin(IV) chloride anhydrous
pure

packaging		product code
100 mL	Coated Glass Bottle	T/1665/PB05

$SnCl_4$
CAS: 7646-78-8
MW: 260.52
Density at 20°C: 1.18 to 1.2
Boiling point: 114°C
Boiling pressure: 760 mmHg
Melting point: -33°C

ADR/RID: 8/II
UN: 1827
HS-Nr: 28273700
EINECS: 231-588-9
Risk: R34, R52/53
Safety: S7/8, S26, S45, S61

C

Tin(IV) chloride pentahydrate
pure

packaging		product code
100 g	Plastic jar	T/1661/48
500 g	Plastic jar	T/1661/53

$SnCl_2.5H_2O$
CAS: 10026-06-9
MW: 350.58
Melting point: 56°C
ADR/RID: 8/III

UN: 2440
HS-Nr: 28273700
EINECS: 231-588-9
Risk: R34, R52/53
Safety: S7/8, S26, S45, S61

C

Tin(IV) oxide
pure

packaging		product code
100 g	Plastic jar	T/1670/48

SnO_2
CAS: 18282-10-5
MW: 150.69
Density at 20°C: 6.95

Melting point: 1127°C
HS-Nr: 28259030
EINECS: 242-159-0
Safety: S24/25

TISAB solution
pure

packaging		product code
5 L	Plastic bottle	F/1325/21

HS-Nr: 38220000

Guaranteed analysis
At pH 20°C ..... 5 to 7

Contents per Litre:
Acetic acid glacial: 12.6 ml
trans-1.2-Diaminocyclohexane-N,N,N',N'-tetra acetic acid: 0.1 g
Sodium chloride: 58 g
Sodium hydroxyde AR: 8 g

Titanium standard metal solution 1000 ppm
for AAS, solution HCl 2M

packaging		product code
100 mL	Plastic bottle	J/8110/05
500 mL	Plastic bottle	J/8110/08

HS-Nr: 38220000
Risk: R34
Safety: S26/28

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Titanium standard metal solution 1000 ppm
for ICP, solution HCl 2M

packaging		product code
500 mL	Plastic bottle	J/8331/08

HS-Nr: 38220000
Risk: R34
Safety: S26/28

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium standard metal solution 10 000 ppm
for ICP, solution HCl 2M

packaging		product code
100 mL	Plastic bottle	J/8330/05

HS-Nr: 38220000
Risk: R34
Safety: S26/28

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium standard metal solution 1000 ppm
for ICP solution in HCL 20%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLTI52X

Density at 20°C: 1.1
Risk: R36/37/38
Safety: S26, S45

Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium standard metal solution 1000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLTI92Y
250 mL	Plastic bottle	SPPLTI92T
500 mL	Plastic bottle	SPPLTI92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium standard metal solution 10 000 ppm
for ICP solution in HCL 40%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLTI53X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium standard metal solution 10 000 ppm
for ICP solution in H_2O/HF trace, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLTI93Y**
500 mL	Plastic bottle	**SPPLTI93X**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium standard metal solution 1000 ppm
for ICP-MS solution in H_2O/HF trace, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPCLTI92Y**

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Titanium
pure, metal, crushed sponge

packaging		product code
100 g	Plastic jar	**T/1840/48**

Ti
CAS: 7440-32-6
MW: 47.88
Density at 20°C: 4.51
Boiling point: 3287°C
Boiling pressure: 760 mmHg
Melting point: 1660°C
ADR/RID: 4.2/II
HS-Nr: 81092000
EINECS: 231-142-3
Risk: R11
Safety: S16

F

Titanium(III) chloride solution 12.5 % w/w TiCl3
Technical

packaging		product code
500 mL	Coated Glass Bottle	**T/1950/PB08**

$TiCl_3$
CAS: 7705-07-9
MW: 154.26
Density at 20°C: 1.14 to 1.16
Melting point: 440 °C
ADR/RID: 8/III
UN: 3264
HS-Nr: 28273985
EINECS: 231-728-9
Risk: R34
Safety: S26, S28

C

Titanium(III) chloride solution 0.2M (0.2N)
Standard solution ready to use, For volumetric analysis

packaging		product code
2.5 L	Glass bottle	**J/8780/17**

HS-Nr: 38220000
Risk: R36/38
Safety: S26, S28

Xi

Manufactured to a tolerance of ± 0.1%.
See the full range of Standard Volumetric solution page 266.

Titanium(IV) sulfate solution 15 % w/v approx
Technical

packaging		product code
1 L	Coated Glass Bottle	**T/1800/PB15**

KOH
CAS: 13693-11-3
Density at 20°C: 1.1 to 1.14
ADR/RID: 8/III
UN: 1760
HS-Nr: 28332930
EINECS: 237-215-6
Risk: R34, R36/38
Safety: S26, S30, S45

C

Titanium(IV) dioxide
extra pure

SLR

packaging		product code
500 g	Plastic jar	**T/1900/53**

TiO_2
CAS: 13463-67-7
MW: 79.88
Density at 20°C: 4.23
Boiling point: 2900°C
Boiling pressure: 760 mmHg
Melting point: 1855°C
HS-Nr: 28230000
EINECS: 236-675-5
Safety: S24/25

Assay: >98%

Guaranteed analysis
Loss on ignition ..... <0.5% Iron (Fe) ..... <500 ppm

Titanium(III) sulfate solution approx.15 % w/v Ti2 (SO4)3
Technical

packaging		product code
500 mL	Coated Glass Bottle	**T/2000/PB08**

CAS: 10343-61-0
Density at 20°C: 1.1 to 1.3
ADR/RID: 8/III
UN: 1760
HS-Nr: 28332930
EINECS: 233-749-9
Risk: R34, R36/38
Safety: S26, S30, S45

C

Titan yellow C.I. 19540
pure, indicator grade

packaging		product code
25 g	Glass Jar	**T/2060/46**

$C_{28}H_{19}N_5Na_2O_6S_4$
CAS: 1829-00-1
MW: 695.71
HS-Nr: 32041400
EINECS: 217-377-4
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

pH 12.0-13.0 yellow to red.
Suitable for magnesium determination.

Toluene
for HPLC

Certified

packaging		product code
1 L	Glass bottle	**T/2306/15**
2.5 L	Glass bottle	**T/2306/17**
200 L	Metal drum	**T/2306/27MS**
200 L	Stainless steel drum	**T/2306/27SS**

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C
ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Assay (GC): >99.8%

Guaranteed analysis
Acidity / Alkalinity ..... <0.0015 meq/g Water ..... <0.03%
Residue after evaporation ..... <2 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

290 nm	<0.2 A.U.	330 nm	<0.005 A.U.
300 nm	<0.05 A.U.	340 nm	<0.005 A.U.
310 nm	<0.025 A.U.	350 nm	<0.005 A.U.
320 nm	<0.01 A.U.		

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

Toluene
for Gel Permeation Chromatography (GPC)

GPC

packaging		product code
2.5 L	Coated Glass Bottle	T/2310/PB17

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Guaranteed analysis

Colour	<10 APHA	Water	<0.03%
Residue after evaporation	<2 ppm		

Toluene
for trace metal analysis
Primar

Primar

packaging		product code
2.5 L	Glass bottle	T/2301/17

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Assay (GC): >99.9%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Manganese (Mn)	<0.005 ppm
Colour	<5 APHA	Molybdenum (Mo)	<0.005 ppm
Residue after evaporation	<2 ppm	Nickel (Ni)	<0.005 ppm
Water	<0.05%	Potassium (K)	<0.05 ppm
Aluminium (Al)	<0.02 ppm	Silver (Ag)	<0.005 ppm
Barium (Ba)	<0.005 ppm	Sodium (Na)	<0.2 ppm
Cadmium (Cd)	<0.005 ppm	Strontium (Sr)	<0.005 ppm
Calcium (Ca)	<0.05 ppm	Titanium (Ti)	<0.005 ppm
Chromium (Cr)	<0.005 ppm	Total phosphorus (P)	<0.02 ppm
Cobalt (Co)	<0.005 ppm	Total silicon (Si)	<0.02 ppm
Copper (Cu)	<0.01 ppm	Total sulphur (S)	<0.1 ppm
Iron (Fe)	<0.05 ppm	Vanadium (V)	<0.005 ppm
Lead (Pb)	<0.005 ppm	Zinc (Zn)	<0.01 ppm
Lithium (Li)	<0.005 ppm	Benzene	<0.02%
Magnesium (Mg)	<0.02 ppm	Xylenes	<0.02%

Toluene
for residue and pesticide analysis
Distol

Distol

packaging		product code
1 L	Glass bottle	T/2323/15
2.5 L	Glass bottle	T/2323/17

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Assay (GC): >99.8%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.05%
GC (NPD) analysis	Conform		

GC Analysis
Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile:
(1) 50°C for 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

Toluene
extra dry, for synthesis

Dried distilled

packaging		product code
1 L	Coated Glass Bottle	T/2302/PB15
2.5 L	Coated Glass Bottle	T/2302/PB17

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Assay (GC): >99.8%

Guaranteed analysis

Residue after evaporation	<2 ppm	Water	<0.01%

Toluene
for analysis
Certified AR

Certified AR

packaging		product code
1 L	Glass bottle	T/2300/15
1 L	Coated Glass Bottle	T/2300/PB15
2.5 L	Glass bottle	T/2300/17
2.5 L	Coated Glass Bottle	T/2300/PB17
5 L	Metal can	T/2300/21
25 L	Metal drum	T/2300/25
25 L	Metal drum	T/2300/DH25
200 L	Metal drum	T/2300/27

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Lead (Pb)	<0.02 ppm
Colour	<10 APHA	Magnesium (Mg)	<0.05 ppm
Residue after evaporation	<10 ppm	Potassium (K)	<0.5 ppm
Substances darkened by (H_2SO_4)	<50 APHA	Sodium (Na)	<1 ppm
		Total phosphorus (P)	<0.1 ppm
Substances reducing $KMnO_4$	<0.0005%	Total silicon (Si)	<0.05 ppm
		Total sulphur (S)	<10 ppm
Water	<0.03%	Zinc (Zn)	<0.05 ppm
Calcium (Ca)	<0.1 ppm	Benzene	<0.05 %
Copper (Cu)	<0.02 ppm	Xylenes	<0.05 %
Iron (Fe)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.02 ppm	Manganese (Mn)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Nickel (Ni)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Acids, Bases and Water for Trace Metal analysis
The right grade for the right detection level.
Choose between Optima®, Trace Metal® & Primar Plus® grade.
Read more page 9

Toluene
extra pure, low in sulfur SLR

Specified

packaging		product code
2.5 L	Glass bottle	T/2250/17
2.5 L	Coated Glass Bottle	T/2250/PB17
25 L	Metal drum	T/2250/25

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Guaranteed analysis

Residue after evaporation	<50 ppm	Sulfur compounds (SC_2)	<0.0005%

see page 279 for suitable Tap & accessories.

Toluene
extra pure SLR

Specified

packaging		product code
2.5 L	Glass bottle	T/2200/17
2.5 L	Coated Glass Bottle	T/2200/PB17
5 L	Metal can	T/2200/21
25 L	Metal drum	T/2200/25
200 L	Metal drum	T/2200/27

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Iron (Fe)	<5 ppm
Colour	<10 APHA	Lead (Pb)	<2 ppm
Residue after evaporation	<30 ppm	Magnesium (Mg)	<2 ppm
Substances darkened by (H_2SO_4)	<50 APHA	Potassium (K)	<2 ppm
		Sodium (Na)	<5 ppm
Substances reducing $KMnO_4$	<0.001%	Total phosphorus (P)	<2 ppm
		Total silicon (Si)	<2 ppm
Water	<0.05%	Total sulphur (S)	<50 ppm
Calcium (Ca)	<5 ppm	Zinc (Zn)	<2 ppm
Copper (Cu)	<2 ppm		

see page 279 for suitable Tap & accessories.

Toluene
Technical

packaging		product code
1 L	Coated Glass Bottle	T/2150/PB15
2.5 L	Glass bottle	T/2150/17
2.5 L	Coated Glass Bottle	T/2150/PB17
25 L	Metal drum	T/2150/25

C_7H_8
CAS: 108-88-3
MW: 92.14
Density at 20°C: 0.87
Boiling point: 111°C
Boiling pressure: 760 mmHg
Melting point: -95°C
Flash point: 4°C

ADR/RID: 3/II
UN: 1294
HS-Nr: 29023000
EINECS: 203-625-9
Risk: R11, R38, R48/20, R63, R65, R67
Safety: S36/37, S46, S62

F Xn

see page 279 for suitable Tap & accessories.

Toluene-4-sulfonic acid
extra pure SLR

Specified

packaging		product code
100 g	Plastic jar	T/2500/48
500 g	Plastic jar	T/2500/53

$C_7H_8SO_3.H_2O$
CAS: 6192-52-5
MW: 190.22
Melting point: 103 to 106°C
Flash point: 180°C
ADR/RID: 8/III

UN: 2585
HS-Nr: 29041000
EINECS: 203-180-0
Risk: R36/37/38
Safety: S26, S37

Xi

Assay: >98%

Guaranteed analysis

Calcium (Ca)	<500 ppm	Potassium (K)	<2000 ppm
Copper (Cu)	<50 ppm	Sodium (Na)	<500 ppm
Iron (Fe)	<100 ppm	Total chloride (Cl)	<0.02%
Lead (Pb)	<50 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<200 ppm	Zinc (Zn)	<100 ppm

Toluene-4-sulfonyl chloride
extra pure SLR

Specified

packaging		product code
250 g	Glass packaging	T/2550/50

$C_7H_7ClO_2S$
CAS: 98-59-9
MW: 190.65
Boiling point: 134°C
Boiling pressure: 10 mmHg
Melting point: 67 to 69°C
Flash point: 128°C

ADR/RID: 8/II
UN: 3261
HS-Nr: 29049090
EINECS: 202-684-8
Risk: R29, R34
Safety: S26, S36/37/39, S45

C

Assay: >98%

p-Toluic acid
extra pure SLR

Specified

packaging		product code
100 g	Plastic jar	T/2590/48

$C_8H_8O_2$
CAS: 99-94-5
MW: 136.15
Boiling point: 274 to 275°C
Boiling pressure: 760 mmHg

Melting point: 179 to 182°C
HS-Nr: 29163900
EINECS: 202-803-3
Risk: R22
Safety: S22

Xn

Assay: >98%

Guaranteed analysis

Residue after ignition ..... <0.5%

p-Toluidine
extra pure SLR

Specified

packaging		product code
500 g	Glass packaging	T/2650/53

C_7H_9N
CAS: 106-49-0
MW: 107.16
Boiling point: 200°C
Boiling pressure: 760 mmHg
Melting point: 41 to 46°C
Flash point: 87°C

ADR/RID: 6.1/II
UN: 3451
HS-Nr: 29214310
EINECS: 203-403-1
Risk: R23/24/25, R36, R40, R43, R50
Safety: S28A, S36/37, S45, S61

T N

Assay (GC): >98%

Toluidine blue C.I. 52040
pure

packaging		product code
25 g	Glass packaging	T/2660/46

$C_{15}H_{16}N_3SCl$
CAS: 92-31-9
MW: 305.83

HS-Nr: 32041300
EINECS: 202-146-2
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Total hardness indicator tablets
pure, indicator grade

packaging		product code
100	Tablets	T/2750/79

HS-Nr: 38220000

For use as an indicator in conjunction with EDTA solution.

Trichloroacetic acid
for analysis — Certified AR

packaging		product code
250 g	Plastic jar	T/3000/50
500 g	Plastic jar	T/3000/53
1 kg	Plastic jar	T/3000/60

$C_2HCl_3O_2$
CAS: 76-03-9
MW: 163.39
Density at 20°C: 1.62
Boiling point: 196°C
Boiling pressure: 760 mmHg
Melting point: 52 to 58°C

ADR/RID: 8/II
UN: 1839
HS-Nr: 29154000
EINECS: 200-927-2
Risk: R35, R50/53
Safety: S26, S36/37/39, S45, S60, S61

C N

Assay: >99.5%

Guaranteed analysis

Substances reducing $KMnO_4$	<0.0002%	Sodium (Na)	<20 ppm
Calcium (Ca)	<10 ppm	Total chloride (Cl)	<0.001 %
Copper (Cu)	<2 ppm	Total nitrogen (N)	<50 ppm
Iron (Fe)	<5 ppm	Total phosphorus (P)	<10 ppm
Lead (Pb)	<2 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<10 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<10 ppm	Zinc (Zn)	<5 ppm

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Trichloroacetic acid
extra pure — SLR

packaging		product code
250 g	Plastic jar	T/2950/50
500 g	Plastic jar	T/2950/53
1 kg	Plastic jar	T/2950/60

$C_2HCl_3O_2$
CAS: 76-03-9
MW: 163.39
Density at 20°C: 1.62
Boiling point: 196°C
Boiling pressure: 760 mmHg
Melting point: 52 to 58°C

ADR/RID: 8/II
UN: 1839
HS-Nr: 29154000
EINECS: 200-927-2
Risk: R35, R50/53
Safety: S26, S36/37/39, S45, S60, S61

C N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<10 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<10 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<500 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

Standard Volumetric solution
NIST Certified & Conform to Pharmacopeia
Read more on page 266

Trichloroethylene
for analysis, stabilized with triethylamine — Certified AR

packaging		product code
500 mL	Glass bottle	T/3101/08
2.5 L	Coated Glass Bottle	T/3101/PB17

C_2HCl_3
CAS: 79-01-6
MW: 131.39
Density at 20°C: 1.46
Boiling point: 87°C
Boiling pressure: 760 mmHg
Melting point: -86°C

ADR/RID: 6.1/III
UN: 1710
HS-Nr: 29032200
EINECS: 201-167-4
Risk: R45, R36/38, R52/53, R67
Safety: S53, S45, S61

T

Assay (GC): >99.8%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Magnesium (Mg)	<0.2 ppm
Colour	<10 APHA	Manganese (Mn)	<0.02 ppm
Residue after evaporation	<20 ppm	Molybdenum (Mo)	<0.02 ppm
Water	<0.02%	Nickel (Ni)	<0.02 ppm
Aluminium (Al)	<0.02 ppm	Potassium (K)	<0.5 ppm
Barium (Ba)	<0.02 ppm	Sodium (Na)	<0.5 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Calcium (Ca)	<0.5 ppm	Titanium (Ti)	<0.02 ppm
Chlorine	<5 ppm	Total phosphorus (P)	<0.1 ppm
Chromium (Cr)	<0.02 ppm	Total silicon (Si)	<0.05 ppm
Cobalt (Co)	<0.02 ppm	Total sulphur (S)	<0.5 ppm
Copper (Cu)	<0.05 ppm	Vanadium (V)	<0.02 ppm
Iron (Fe)	<0.05 ppm	Zinc (Zn)	<0.1 ppm
Lead (Pb)	<0.05 ppm	Triethylamine	0.02 to 0.04%
Lithium (Li)	<0.02 ppm		

Lot analysis on the label.
Stabilised with 0.04% Triethylamine

Trichloroethylene
extra pure, stabilized with triethylamine — SLR

packaging		product code
500 mL	Glass bottle	T/3100/08
2.5 L	Glass bottle	T/3100/17
2.5 L	Coated Glass Bottle	T/3100/PB17
5 L	Metal can	T/3100/21
25 L	Metal drum	T/3100/25

C_2HCl_3
CAS: 79-01-6
MW: 131.39
Density at 20°C: 1.46
Boiling point: 87°C
Boiling pressure: 760 mmHg
Melting point: -86°C

ADR/RID: 6.1/III
UN: 1710
HS-Nr: 29032200
EINECS: 201-167-4
Risk: R45, R36/38, R52/53, R67
Safety: S53, S45, S61

T

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.002 meq/g	Magnesium (Mg)	<2 ppm
Colour	<10 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<5 ppm
Water	<0.05%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Chlorine	<10 ppm	Total sulphur (S)	<2 ppm
Copper (Cu)	<2 ppm	Zinc (Zn)	<2 ppm
Iron (Fe)	<2 ppm	Triethylamine	0.02 to 0.03%
Lead (Pb)	<2 ppm		

Stabilised with 0.04% Triethylamine.
see page 279 for suitable Tap & accessories.

Trichloroethylene
Technical, stabilized

packaging		product code
2.5 L	Coated Glass Bottle	T/3050/PB17
25 L	Metal drum	T/3050/25

C_2HCl_3
CAS: 79-01-6
MW: 131.39
Density at 20°C: 1.463 to 1.465
Boiling point: 87°C
Boiling pressure: 760 mmHg
Melting point: -86°C

ADR/RID: 6.1/III
UN: 1710
HS-Nr: 29032200
EINECS: 201-167-4
Risk: R45, R36/38, R52/53, R67
Safety: S53, S45, S61

T

see page 279 for suitable Tap & accessories.

Triethanolamine
for analysis — Certified AR

packaging		product code
500 mL	Glass bottle	T/3160/08
2.5 L	Glass bottle	T/3160/17

$C_6H_{15}NO_3$
CAS: 102-71-6
MW: 149.19
Density at 20°C: 1.12
Boiling point: 360°C
Boiling pressure: 760 mmHg
Melting point: 21°C

Flash point: 190°C
ADR/RID: 8/III
UN: 3259
HS-Nr: 29221310
EINECS: 203-049-8
Risk: R36
Safety: S26, S39

Xi

Assay (GC): >99%

Guaranteed analysis

Residue after ignition	<0.005%	Potassium (K)	<5 ppm
Water	<0.2%	Sodium (Na)	<10 ppm
Calcium (Ca)	<2 ppm	Total phosphorus (P)	<0.5 ppm
Chloride (Cl)	<0.0001 %	Total silicon (Si)	<5 ppm
Copper (Cu)	<0.5 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<1 ppm	Zinc (Zn)	<0.5 ppm
Lead (Pb)	<0.5 ppm	Diéthanolamine	<0.5 %
Magnesium (Mg)	<1 ppm	Ethanolamine	<0.1 %

Typical analysis

Aluminium (Al)	<0.5 ppm	Manganese (Mn)	<0.5 ppm
Barium (Ba)	<0.5 ppm	Molybdenum (Mo)	<0.5 ppm
Cadmium (Cd)	<0.5 ppm	Nickel (Ni)	<0.5 ppm
Chromium (Cr)	<0.5 ppm	Strontium (Sr)	<0.5 ppm
Cobalt (Co)	<0.5 ppm	Titanium (Ti)	<0.5 ppm
Lithium (Li)	<0.5 ppm	Vanadium (V)	<0.5 ppm

Lot analysis on the label.

Triethanolamine
extra pure — SLR

packaging		product code
500 mL	Glass bottle	T/3150/08
2.5 L	Glass bottle	T/3150/17
25 L	Metal drum	T/3150/25

$C_6H_{15}NO_3$
CAS: 102-71-6
MW: 149.19
Density at 20°C: 1.12
Boiling point: 360°C
Boiling pressure: 760 mmHg
Melting point: 21°C

Flash point: 190°C
ADR/RID: 8/III
UN: 3259
HS-Nr: 29221310
EINECS: 203-049-8
Risk: R36
Safety: S26, S39

Xi

Assay (GC): >97%

Guaranteed analysis

Residue after ignition	<0.05%	Magnesium (Mg)	<5 ppm
Water	<1%	Potassium (K)	<20 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<50 ppm
Chloride (Cl)	<0.0005%	Total phosphorus (P)	<2 ppm
Copper (Cu)	<2 ppm	Total silicon (Si)	<2 ppm
Iron (Fe)	<5 ppm	Total sulphur (S)	<5 ppm
Lead (Pb)	<2 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

Triethylamine
for HPLC — Certified

packaging		product code
250 mL	Glass bottle	T/3203/07

$C_6H_{15}N$
CAS: 121-44-8
MW: 101.19
Density at 20°C: 0.73
Boiling point: 90°C
Boiling pressure: 760 mmHg
Melting point: -115°C
Flash point: -11°C

ADR/RID: 3(8)/II
UN: 1296
HS-Nr: 29211910
EINECS: 204-469-4
Risk: R11, R20/21/22, R35
Safety: S3, S16, S26, S29, S36/37/39, S45

F C

Assay (GC): >99.5%

Guaranteed analysis

Residue after evaporation	<2 ppm	Iron (Fe)	<1 ppm
Water	<0.05%	Lead (Pb)	<0.02 ppm

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
254 nm (sol. aqu. 0.25 M) <0.125 A.U.

Lot analysis on the label.
Filtered to 0.2 µm.

Triethylamine
for analysis — Certified AR

packaging		product code
1 L	Glass bottle	T/3201/15
2.5 L	Coated Glass Bottle	T/3201/PB17
25 L	Metal drum	T/3201/25

$C_6H_{15}N$
CAS: 121-44-8
MW: 101.19
Density at 20°C: 0.73
Boiling point: 90°C
Boiling pressure: 760 mmHg
Melting point: -115°C
Flash point: -11°C

ADR/RID: 3(8)/II
UN: 1296
HS-Nr: 29211910
EINECS: 204-469-4
Risk: R11, R20/21/22, R35
Safety: S3, S16, S26, S29, S36/37/39, S45

F C

Assay (GC): >99.5%

Guaranteed analysis

Colour	<10 APHA	Potassium (K)	<0.5 ppm
Residue after evaporation	<50 ppm	Sodium (Na)	<1 ppm
Water	<0.05%	Total phosphorus (P)	<0.2 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.1 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<0.5 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.2 ppm
Lead (Pb)	<0.05 ppm	Diethylamine	<0.1 %
Magnesium (Mg)	<0.2 ppm		

Typical analysis

Aluminium (Al)	<0.05 ppm	Manganese (Mn)	<0.05 ppm
Barium (Ba)	<0.05 ppm	Molybdenum (Mo)	<0.05 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Lithium (Li)	<0.05 ppm	Vanadium (V)	<0.05 ppm

Lot analysis on the label.

Triethylamine
extra pure — SLR

packaging		product code
500 mL	Glass bottle	T/3200/08
2.5 L	Glass bottle	T/3200/17
2.5 L	Coated Glass Bottle	T/3200/PB17

$C_6H_{15}N$
CAS: 121-44-8
MW: 101.19
Density at 20°C: 0.73
Boiling point: 90°C
Boiling pressure: 760 mmHg
Melting point: -115°C
Flash point: -11°C

ADR/RID: 3(8)/II
UN: 1296
HS-Nr: 29211910
EINECS: 204-469-4
Risk: R11, R20/21/22, R35
Safety: S3, S16, S26, S29, S36/37/39, S45

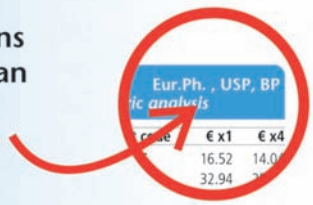
F C

Assay (GC): >99%

Guaranteed analysis

Colour	<20 APHA	Potassium (K)	<2 ppm
Residue after evaporation	<100 ppm	Sodium (Na)	<5 ppm
Water	<0.2%	Total phosphorus (P)	<2 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<5 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm
Lead (Pb)	<2 ppm	Diethylamine	<0.5%
Magnesium (Mg)	<2 ppm		

The ready to use solutions comply with the European Pharmacopeia
Discover them at page 266



Triethylene glycol
extra pure — SLR

Specified

packaging		product code
500 mL	Glass bottle	T/3270/08
2.5 L	Glass bottle	T/3270/17

$C_6H_{14}O_4$
CAS: 112-27-6
MW: 150.18
Density at 20°C: <1.125
Boiling point: 285°C
Boiling pressure: 760 mmHg
Melting point: -7°C
Flash point: 165°C
HS-Nr: 29094910
EINECS: 203-953-2
Safety: S24/25

Assay (GC): >95%

Guaranteed analysis
Acidity ..... <0.005 meq/g

Trifluoroacetic acid
for HPLC — Certified

HPLC

packaging		product code
25 mL	Coated Glass Bottle	T/3258/04
100 mL	Coated Glass Bottle	T/3258/PB05

$C_2HF_3O_2$
CAS: 76-05-1
MW: 114.02
Density at 20°C: 1.54
Boiling point: 72°C
Boiling pressure: 760 mmHg
Melting point: -15°C
ADR/RID: 8/I
UN: 2699
HS-Nr: 29159080
EINECS: 200-929-3
Risk: R20, R35, R52/53
Safety: S9, S26, S27, S28A, S45, S61

C

Assay: >99%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

210 nm	<0.6 A.U.	240 nm	<0.05 A.U.
220 nm	<0.2 A.U.	250 nm	<0.01 A.U.
230 nm	<0.1 A.U.		

Lot analysis on the label.
Filtered to 0.2 µm.

Trifluoroacetic acid solution 1%
HPLC for gradient analysis — Certified

HPLC

packaging		product code
500 mL	Coated Glass Bottle	J/8800/PB08

HS-Nr: 29159080

Assay: 0.98 to 1.02%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Gradient (max eluted peak) ≤0.005 U Absorbance

Conditions:
Column: C18 Reverse Phase
Flow Rate: 3ml/min
Wavelength: 254nm
Solvent A: Water + 10%Buffer
Solvent B: Acetonitrile + 10% Buffer
Gradient: 10 min. At 5% solvent B followed by a linear gradient to 95% solvent B over 15min.

Trifluoroacetic acid
extra pure — SLR

Specified

packaging		product code
100 mL	Coated Glass Bottle	T/3256/PB05

$C_2HF_3O_2$
CAS: 76-05-1
MW: 114.02
Density at 20°C: 1.54
Boiling point: 72°C
Boiling pressure: 760 mmHg
Melting point: -15°C
ADR/RID: 8/I
UN: 2699
HS-Nr: 29159000
EINECS: 200-929-3
Risk: R20, R35, R52/53
Safety: S9, S26, S27, S28A, S45, S61

C

Assay: >99.5%

Trifluoroacetic anhydride
extra pure — SLR

Specified

packaging		product code
100 mL	Coated Glass Bottle	T/3257/PB05

$C_4F_6O_3$
CAS: 407-25-0
MW: 210.03
Density at 20°C: <1.51
Boiling point: 39.1°C
Boiling pressure: 760 mmHg
Melting point: -63.5°C
ADR/RID: 8/I
UN: 3265
HS-Nr: 29159090
EINECS: 206-982-9
Risk: R14, R35, R52/53
Safety: S8, S26, S36/37/39, S45, S61

C

Assay: >99%

Tri-n-hexylamine
for HPLC — Certified

HPLC

packaging		product code
100 mL	Coated Glass Bottle	T/3296/PB05

$(CH_3(CH_2)_5)_3N$
CAS: 102-86-3
MW: 269.52
ADR/RID: 8/II
UN: 2735
HS-Nr: 29211990
EINECS: 203-062-9
Risk: R36/37/38

Xi

HPLC reagent suitable for HPLC analysis.

1.2,3-Trihydroxybenzene
See Pyrogallol, page 221

1.3,5-Trihydroxybenzene dihydrate
See Phloroglucinol dihydrate, page 198

3.4,5-Trihydroxybenzoic acid
pure

packaging		product code
100 g	Plastic Jar	T/3300/48

$C_7H_6O_5.H_2O$
CAS: 149-91-7
MW: 188.14
Density at 20°C: 1.69
Melting point: 253 °C
HS-Nr: 29182980
EINECS: 205-749-9
Risk: R36/37/38
Safety: S24/25

Xi

Guaranteed analysis
IR Analysis ..... Conform

Triiodomethane
See Iodoform, page 130

3-Trimethoxysilyl-propyl-methacrylate
pure

packaging		product code
100 g	Glass bottle	T/3350/48

$C_{10}H_{20}O_5Si$
CAS: 2530-85-0
MW: 248.35
ADR/RID: 3/III
HS-Nr: 29310000
EINECS: 219-785-8
Risk: R36/38, R43
Safety: S26, S28

Xi

Guaranteed analysis
IR Analysis ..... Conform

Reagents, Solvents & Volumetric solutions comply with the European Pharmacopeia
Read more on page 191

Trimethylanilinium hydroxide solution 0.1 M
for gas chromatography

packaging		product code
50 mL	Glass bottle	T/3510/10

$C_9H_{15}NO$
CAS: 1899-02-1
MW: 153.23
Flash point: 10°C
ADR/RID: 3(6.1)/II
UN: 1230

HS-Nr: 29051100
EINECS: 217-592-3
Risk: R11, R23/24/25, R36/38, R39/23/24/25
Safety: S7, S16, S26, S36/37/39, S45

F T

Guaranteed analysis
IR Analysis ..... Conform

Trimethylchlorosilane
See Chlorotrimethylsilane, page 67

Trimethylene glycol
See Propane-1.3-diol, page 218

2.2,4-Trimethylpentane — Certified
for HPLC

HPLC

packaging		product code
1 L	Glass bottle	T/3606/15
2.5 L	Glass bottle	T/3606/17
5 L	Aluminium drum	T/3606/21
200 L	Stainless steel drum	T/3606/27SS

C_8H_{18}
CAS: 540-84-1
MW: 114.23
Density at 20°C: 0.69
Boiling point: 98 to 99°C
Boiling pressure: 760 mmHg
Melting point: -107°C
Flash point: -12°C

ADR/RID: 3/II
UN: 1262
HS-Nr: 38220000
EINECS: 208-759-1
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0002 meq/g	Water	<0.01%
Residue after evaporation	<2 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.4 A.U.	230 nm	<0.02 A.U.
210 nm	<0.2 A.U.	240 nm	<0.005 A.U.
220 nm	<0.1 A.U.	250 nm	<0.005 A.U.

Lot analysis on the label including an absorbance curve.
Filtered to 0.2 µm.
see page 279 for suitable Tap & accessories.

2.2,4-Trimethylpentane — Distol
for residue and pesticide analysis

Distol

packaging		product code
1 L	Glass bottle	T/3608/15
2.5 L	Glass bottle	T/3608/17

C_8H_{18}
CAS: 540-84-1
MW: 114.23
Density at 20°C: 0.69
Boiling point: 98 to 99°C
Boiling pressure: 760 mmHg
Melting point: -107°C
Flash point: -12°C

ADR/RID: 3/II
UN: 1262
HS-Nr: 29011000
EINECS: 208-759-1
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99.5%

Guaranteed analysis

GC (ECD) Analysis	Conform	Residue after evaporation	<2 ppm
GC (FID) Analysis	Conform	Water	<0.02%
GC (NPD) analysis	Conform		

Analysis of pesticides: *from the retention time of Lindane, after concentration of 2500 times, no impurity peak higher than that obtained with 10 pg / mL héptachloréoxide (ECD) and 5 pg / mL Parathion (NPD).*
Analysis of hydrocarbons: *no impurity chain longer than the dodecane is present at a concentration greater than 0.01 ppm (FID).*
Conditions :
Column: J&W DB 5: 30m x 0.32mm x 0.1µm df.
Temperature profile:
(1) 50°C for 2 min
(2) 40°C / min until 320°C
(3) 320°C for 30 min
Injection: 5µl cold on the column.

2.2,4-Trimethylpentane — Certified AR
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	T/3601/15
2.5 L	Glass bottle	T/3601/17
25 L	Metal drum	T/3601/25

C_8H_{18}
CAS: 540-84-1
MW: 114.23
Density at 20°C: 0.69
Boiling point: 98 to 99°C
Boiling pressure: 760 mmHg
Melting point: -107°C
Flash point: -12°C

ADR/RID: 3/II
UN: 1262
HS-Nr: 29011000
EINECS: 208-759-1
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Magnesium (Mg)	<0.2 ppm
Colour	<10 APHA	Potassium (K)	<0.2 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.5 ppm
Water	<0.02%	Total phosphorus (P)	<0.1 ppm
Calcium (Ca)	<0.5 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.1 ppm	Total sulphur (S)	<1 ppm
Iron (Fe)	<0.2 ppm	Zinc (Zn)	<0.2 ppm
Lead (Pb)	<0.1 ppm		

Typical analysis

Aluminium (Al)	<0.05 ppm	Manganese (Mn)	<0.05 ppm
Barium (Ba)	<0.05 ppm	Molybdenum (Mo)	<0.05 ppm
Cadmium (Cd)	<0.05 ppm	Nickel (Ni)	<0.05 ppm
Chromium (Cr)	<0.05 ppm	Strontium (Sr)	<0.05 ppm
Cobalt (Co)	<0.05 ppm	Titanium (Ti)	<0.05 ppm
Lithium (Li)	<0.05 ppm	Vanadium (V)	<0.05 ppm

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

2.2,4-Trimethylpentane — SLR
extra pure

Specified LR

packaging		product code
2.5 L	Glass bottle	T/3600/17
2.5 L	Coated Glass Bottle	T/3600/PB17
5 L	Metal can	T/3600/21
25 L	Metal drum	T/3600/25
200 L	Metal drum	T/3600/27

C_8H_{18}
CAS: 540-84-1
MW: 114.23
Density at 20°C: 0.69
Boiling point: 98 to 99°C
Boiling pressure: 760 mmHg
Melting point: -107°C
Flash point: -12°C

ADR/RID: 3/II
UN: 1262
HS-Nr: 29011000
EINECS: 208-759-1
Risk: R11, R38, R50/53, R65, R67
Safety: S9, S16, S29, S33, S60, S61, S62

F Xn N

Assay (GC): >99%

Guaranteed analysis

Acidity / Alkalinity	<0.001 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<100 ppm	Potassium (K)	<2 ppm
Water	<0.1%	Sodium (Na)	<5 ppm
Calcium (Ca)	<5 ppm	Total silicon (Si)	<2 ppm
Copper (Cu)	<2 ppm	Total sulphur (S)	<10 ppm
Iron (Fe)	<5 ppm	Zinc (Zn)	<2 ppm

see page 279 for suitable Tap & accessories.

NO-Bis (Trimethylsilyl) acetamide (BSA)
for gas chromatography

packaging		product code
10 mL	Glass bottle	B/3640/03

$C_8H_{21}NOSi_2$
CAS: 10416-59-8
MW: 203.43
Density at 20°C: 0.82
Boiling point: 71 to 73°C
Boiling pressure: 35 mmHg
Melting point: 24°C
Flash point: 42°C

ADR/RID: 3(8)/II
UN: 2920
HS-Nr: 29310000
EINECS: 233-892-7
Risk: R11, R14, R22, R34
Safety: S26, S30, S36, S43A, S7/8, S16

F C

Assay (GC): >90%

Trimethylsilyl chloride
See Chlorotrimethylsilane, page 67

N-Trimethylsilylimidazole
for gas chromatography

packaging		product code
25 g	Glass bottle	T/3622/46

$C_6H_{12}N_2Si$
CAS: 18156-74-6
MW: 140.26
Density at 20°C: 0.95
Boiling point: 93 to 94°C
Boiling pressure: 13 mmHg
Melting point: -42°C

Flash point: 5°C
ADR/RID: 3/II
UN: 1993
HS-Nr: 38220000
EINECS: 242-040-3
Risk: R11, R14, R36/37/38
Safety: S16, S26, S37/39

F Xi

Assay (GC): >98%

N,N-Bis(Trimethylsilyl) trifluoroacetamide
for gas chromatography

packaging		product code
10 g	Glass bottle	B/3647/45
50 g	Glass bottle	B/3647/47

$C_8H_{18}F_3NOSi_2$
CAS: 21149-38-2
MW: 257.4
ADR/RID: 8(3)/II
UN: 2920

HS-Nr: 38220000
EINECS: 247-103-9
Risk: R10
Safety: S16, S24/25

Assay (GC): >98%

Triphenylamine
pure

packaging		product code
5 g	Glass packaging	T/3630/44

$C_{18}H_{15}N$
CAS: 603-34-9
MW: 245.33
Boiling point: 347 to 348°C
Boiling pressure: 760 mmHg

Melting point: 125 to 127°C
HS-Nr: 29214980
EINECS: 210-035-5
Risk: R36/37/38
Safety: S26, S37/39

Xi

Guaranteed analysis
IR Analysis ..... Conform

Triphenyl phosphate
pure

packaging		product code
500 g	Plastic jar	T/3650/53

$C_{18}H_{15}PO_4$
CAS: 115-86-6
MW: 326.29
Boiling point: 370°C
Boiling pressure: 760 mmHg
Melting point: 47 to 53°C
Flash point: 220°C

ADR/RID: 9/III
UN: 3077
HS-Nr: 29190019
EINECS: 204-112-2
Risk: R50/53
Safety: S60, S61

N

Triphenyl phosphine
pure

packaging		product code
100 g	Plastic jar	T/3652/48

$C_{18}H_{15}P$
CAS: 603-35-0
MW: 262.29
Boiling point: 377°C
Boiling pressure: 760 mmHg
Melting point: 78.5 to 81.5°C

Flash point: 181°C
ADR/RID: 6.1/II
HS-Nr: 29310000
EINECS: 210-036-0
Risk: R22, R43, R53
Safety: S26, S36/37/39, S61

Xn

Guaranteed analysis
Melting Point tested ..... 78 to 82°C

N-Tris(hydroxymethyl)methyl-2-aminoethanesulfonic acid
for HPLC, biological buffer

HPLC

packaging		product code
100 g	Plastic jar	T/3720/48

$C_6H_{15}NO_6S$
CAS: 7365-44-8
MW: 229.25
Melting point: 223 to 225°C

HS-Nr: 29225000
EINECS: 230-906-3
Safety: S24/25

Assay: >99%

Guaranteed analysis

PKa 37°C	7.15 to 7.17	Lead (Pb)	<10 ppm
Residue after ignition	<0.2%	Sulfate (SO_4)	<0.01%
Water	<0.2%	Total chloride (Cl)	<0.02%
Iron (Fe)	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
250 nm ..... 0.1 A.U.

Tris(hydroxymethyl) methylamine, 'Tris buffer' SLR
extra pure

Specified LR

packaging		product code
100 g	Plastic jar	T/3710/48
250 g	Plastic jar	T/3710/50
1 kg	Plastic jar	T/3710/60

$C_4H_{11}NO_3$
CAS: 77-86-1
MW: 121.14
Boiling point: 219 to 220°C
Boiling pressure: 10 mmHg

Melting point: >168.5°C
HS-Nr: 29221980
EINECS: 201-064-4
Risk: R36/37/38
Safety: S26, S37/39

Xi

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<5 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<200 ppm	Zinc (Zn)	<50 ppm

Triton Kaowool® epsilon ceramic fibre
pure

packaging		product code
500 g	Plastic jar	T/3740/53

HS-Nr: 38220000
Risk: R20, R36/37/38, R40
Safety: S36/37/39, S24/25

Xn

Save money!
Order 4 bottles in a box

Triton X-100®
extra pure

SLR

Specified LR

packaging		product code
500 mL	Plastic bottle	T/3751/08
2.5 L	Plastic bottle	T/3751/17

$C_{34}H_{62}O_{11}$
CAS: 9002-93-1
MW: 646.85
Density at 20°C: <1.062
Boiling point: 270°C
Melting point: 6°C

Flash point: 274°C
ADR/RID: 9/III
UN: 3082
HS-Nr: 34021300
Risk: R22, R36, R41
Safety: S26, S39

Xn

Triton X-114®
pure

packaging		product code
500 mL	Plastic bottle	T/3757/08

$C_{30}H_{54}O_9$
CAS: 9036-19-5
MW: 558.75
Density at 20°C: <1.05

UN: 3082
HS-Nr: 38220000
Risk: R22, R36
Safety: S26

Xn

Trypsin
pure, from beef pancreas

packaging		product code
100 g	Plastic jar	T/3760/48

CAS: 9002-07-7
HS-Nr: 38220000
EINECS: 232-650-8

Risk: R36/37/38, R42
Safety: S22, S24, S26, S36/37

Xn

Guaranteed analysis
Activity ..... 0.4 to 0.6 U Anson

L-Tryptophan
extra pure

SLR

packaging		product code
25 g	Plastic jar	T/3770/46

$C_{11}H_{12}N_2O_2$
CAS: 73-22-3
MW: 204.23
Boiling pressure: 760 mmHg

Melting point: 280-285°C
HS-Nr: 29339090
EINECS: 200-795-6
Safety: S24/25

Assay: >99%

Guaranteed analysis
Loss on drying ..... <0.5%
Residue after ignition ..... <0.1%
Specific rotation (α 20/D) ... -+33° to -30°
Iron (Fe) ..... <10 ppm
Lead (Pb) ..... <10 ppm

Tungsten standard metal solution 1000 ppm
for AAS, solution NH3 0.1M

packaging		product code
100 mL	Plastic bottle	J/8120/05
500 mL	Plastic bottle	J/8120/08

HS-Nr: 28259040

Xn

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

pH Buffers
NIST Certified Standard
Solution & Concentrate
A full range to discover on page 45

Tungsten standard metal solution 1000 ppm
for ICP, solution NH3 0.1M

packaging		product code
500 mL	Plastic bottle	J/8336/08

HS-Nr: 38220000

Xn

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tungsten standard metal solution 1000 ppm
for ICP solution in HNO_3 1%/HF 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLW22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tungsten standard metal solution 1000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLW92Y
500 mL	Plastic bottle	SPPLW92X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tungsten standard metal solution 10 000 ppm
for ICP solution in HNO_3 2%/HF 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLW23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tungsten standard metal solution 10 000 ppm
for ICP solution in H_2O/HF trace, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLW93Y
500 mL	Plastic bottle	SPPLW93X

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Tungstophosphoric acid hydrate
for analysis — Certified AR

packaging		product code
100 g	Plastic Jar	T/3902/48

$H_3PO_4.12WO_3$+aq
CAS: 12501-23-4
MW: 2880.17
ADR/RID: 8/III
UN: 3260

HS-Nr: 28111900
EINECS: 235-087-6
Risk: R34
Safety: S24/25

C

Guaranteed analysis

Aluminium (Al)	<5 ppm	Potassium (K)	<500 ppm
Barium (Ba)	<5 ppm	Silver (Ag)	<5 ppm
Cadmium (Cd)	<5 ppm	Sodium (Na)	<500 ppm
Calcium (Ca)	<50 ppm	Strontium (Sr)	<5 ppm
Copper (Cu)	<10 ppm	Titanium (Ti)	<5 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.001%
Lead (Pb)	<10 ppm	Total nitrogen (N)	<20 ppm
Lithium (Li)	<5 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<50 ppm	Zinc (Zn)	<50 ppm
Nickel (Ni)	<5 ppm		

Lot analysis on the label.

Tungstosilicic acid hydrate
extra pure — SLR

packaging		product code
100 g	Plastic jar	T/3940/48

$SiO_2.12WO_3.26H_2O$
CAS: 12027-38-2
HS-Nr: 28111900
EINECS: 234-719-8

Turpentine oil
extra pure, rectified — SLR

packaging		product code
1 L	Glass bottle	T/4050/15

CAS: 8006-64-2
Density at 20°C: 0.97 to 0.99
ADR/RID: 3/III
UN: 1299
HS-Nr: 38220000

EINECS: 232-350-7
Risk: R10, R20/21/22, R36/38, R43, R51/53, R65
Safety: S36/37, S46, S61, S62

Xn N F

Turpentine substitute
extra pure — SLR

packaging		product code
2.5 L	Glass bottle	T/4200/17
25 L	Metal drum	T/4200/25

CAS: 64742-88-7
Density at 20°C: 0.76 to 0.78
ADR/RID: 3/III
UN: 1300

HS-Nr: 27101190
Risk: R10, R51/53, R65
Safety: S37, S43, S61, S62

N Xn

see page 279 for suitable Tap & accessories.

Tween® 20
pure

packaging		product code
1 kg	Glass bottle	T/4206/60

$C_{58}H_{114}O_{26}$
CAS: 9005-64-5
Density at 20°C: 1.05
Melting point: 0.1°C

Flash point: >200°C
HS-Nr: 34021300
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Tween® 40
pure

packaging		product code
1 kg	Glass bottle	T/4205/60

CAS: 9005-66-7
Density at 20°C: 1.05
Melting point: 0.1°C

Flash point: >200°C
HS-Nr: 34021300
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Tween® 80
pure

packaging		product code
1 kg	Glass bottle	T/4203/60

CAS: 9005-65-6
MW: approx. 1300
Density at 20°C: 1.073 to 1.079

Flash point: >110°C
HS-Nr: 34021300
Safety: S24/25

L-Tyrosine
extra pure — SLR

packaging		product code
100 g	Plastic jar	T/4210/48

$C_9H_{11}NO_3$
CAS: 60-18-4
MW: 181.19
Melting point: 290 °C

Flash point: 176°C
HS-Nr: 29225000
Safety: S24/25

Assay: >98.5%

Guaranteed analysis

Loss on drying	<0.5%	Water	<0.5%
Residue after ignition	<0.1%	Iron (Fe)	<50 ppm
Specific rotation (α 20/D)	+11.2° to -9.8°	Lead (Pb)	<10 ppm

n-Undecane
pure

packaging		product code
100 mL	Glass bottle	U/0005/05

$C_{11}H_{24}$
CAS: 1120-21-4
MW: 156.31
Density at 20°C: 0.74
Boiling point: 196°C
Boiling pressure: 760 mmHg
Melting point: -26°C

Flash point: 60°C
ADR/RID: 3/III
UN: 2330
HS-Nr: 29011000
EINECS: 214-300-6
Safety: S24/25

Assay (GC): >99%

Universal indicator, pH range 4-10
for pH measurement

packaging		product code
100 mL	Coated Glass Bottle	U/0020/PB05
500 mL	Coated Glass Bottle	U/0020/PB08
2.5 L	Coated Glass Bottle	U/0020/PB17

ADR/RID: 3/II
UN: 1170
HS-Nr: 38220000

Risk: R11, R20/21/22, R40/20/21/22
Safety: S7, S16, S36/37, S45

F Xn

Uracil
extra pure — SLR

packaging		product code
25 g	Plastic Jar	U/0030/46

$C_4H_4N_2O_2$
CAS: 66-22-8
MW: 112.09
Melting point: 335°C

HS-Nr: 29335990
EINECS: 200-621-9
Safety: S24/25

Guaranteed analysis
IR Analysis ..... Conform

Uranium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLU22Y
500 mL	Plastic bottle	SPPLU22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Uranium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLU23Y
500 mL	Plastic bottle	SPPLU23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Uranium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLU22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Urea
for analysis — Certified AR

packaging		product code
500 g	Plastic jar	U/0500/53
3 kg	Plastic jar	U/0500/63
5 kg	Plastic jar	U/0500/65
25 kg	Fibre Keg	U/0500/70

CH_4N_2O
CAS: 57-13-6
MW: 60.06
Melting point: 131 to 135°C
HS-Nr: 31021010
EINECS: 200-315-5
Safety: S24/25

Assay: >99.5%

Guaranteed analysis

Acidity / Alkalinity	<0.0005 meq/g	Sodium (Na)	<20 ppm
Calcium (Ca)	<20 ppm	Total chloride (Cl)	<0.0005 %
Copper (Cu)	<1 ppm	Total phosphorus (P)	<10 ppm
Iron (Fe)	<2 ppm	Total silicon (Si)	<5 ppm
Lead (Pb)	<1 ppm	Total sulphur (S)	<10 ppm
Magnesium (Mg)	<10 ppm	Zinc (Zn)	<5 ppm
Potassium (K)	<10 ppm	Biuret	<0.1 %

Typical analysis

Aluminium (Al)	<2 ppm	Molybdenum (Mo)	<2 ppm
Barium (Ba)	<2 ppm	Nickel (Ni)	<2 ppm
Cadmium (Cd)	<2 ppm	Silver (Ag)	<2 ppm
Chromium (Cr)	<2 ppm	Strontium (Sr)	<2 ppm
Cobalt (Co)	<2 ppm	Titanium (Ti)	<2 ppm
Lithium (Li)	<2 ppm	Vanadium (V)	<2 ppm
Manganese (Mn)	<2 ppm		

Lot analysis on the label.

Urea
extra pure — SLR

packaging		product code
500 g	Plastic jar	U/0450/53
1 kg	Plastic jar	U/0450/60
3 kg	Plastic jar	U/0450/63

CH_4N_2O
CAS: 57-13-6
MW: 60.06
Melting point: 131 to 135°C
HS-Nr: 31021010
EINECS: 200-315-5
Safety: S24/25

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.002%
Iron (Fe)	<10 ppm	Total phosphorus (P)	<50 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<20 ppm
Magnesium (Mg)	<50 ppm	Total sulphur (S)	<50 ppm
Potassium (K)	<50 ppm	Zinc (Zn)	<20 ppm

Urease-active meal
pure, from Jack beans

packaging		product code
25 g	Plastic jar	U/0655/46

HS-Nr: 35079090

iso-Valeric acid
extra pure — SLR

packaging		product code
100 mL	Coated Glass Bottle	V/0011/PB05

$C_5H_{10}O_2$
CAS: 503-74-2
MW: 102.13
Density at 20°C: <0.931
Boiling point: 176°C
Boiling pressure: 760 mmHg
Melting point: -35°C
Flash point: 70°C
ADR/RID: 8(6.1)/II
UN: 2922
HS-Nr: 29156090
EINECS: 207-975-3
Risk: R22, R24, R34
Safety: S26, S28A, S36/37/39, S38, S45

Assay: >98%

Vanadium standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8150/05
500 mL	Plastic bottle	J/8150/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 28419030

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Vanadium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLV22Y
500 mL	Plastic bottle	SPPLV22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Vanadium standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLV12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Vanadium standard metal solution 10 000 ppm
for ICP solution in HNO_3 15%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPPLV43Y
500 mL	Plastic bottle	SPPLV43X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Vanadium standard metal solution 10 000 ppm
for ICP solution in HCL 15%, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLV33X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Vanadium standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLV22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Vanadium pentoxide
pure

packaging		product code
100 g	Plastic jar	V/0100/48
500 g	Plastic jar	V/0100/53
25 kg	Fibre Keg	V/0100/70

V_2O_5
CAS: 1314-62-1
MW: 181.88
Density at 20°C: 3.35
Boiling point: 1750°C
Boiling pressure: 760 mmHg
Melting point: 690°C

ADR/RID: 6.1/III
UN: 2862
HS-Nr: 28253000
EINECS: 215-239-8
Risk: R20/22, R37, R40, R48/23, R51/53, R63
Safety: S36/37, S38, S45, S61

Vanadyl sulfate hydrate
extra pure SLR

packaging		product code
100 g	Plastic jar	V/0105/48

$VOSO_4.H_2O$
CAS: 12439-96-2
ADR/RID: 6.1/II
UN: 2931

HS-Nr: 28332990
Risk: R22, R36/37/38
Safety: S26, S37/39

Vinyl alcohol
pure, polymerized

packaging		product code
500 g	Plastic jar	V/0200/53

CAS: 9002-89-5
MW: approx. 25 000
Density at 20°C: 1.26

Melting point: 200 °C
Flash point: >70°C
HS-Nr: 39052000

Guaranteed analysis
Degree of hydrolysis ..... >84% Viscosity ..... 4.5 to 6.5 cP

Water Blank
for ICP-MS, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLBLKH2O

Density at 20°C: 1

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Water blank in HCl 2%
for ICP-MS, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLBLKHCL

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Water blank in HNO_3 2%
for ICP-MS, NIST certified

packaging		product code
100 mL	Plastic bottle	SPCLBLKHNO3

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Water blank in HNO_3 5%
for ICP, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLBLKHNO3

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Water blank in HCl 5%
for ICP, NIST certified

packaging		product code
500 mL	Plastic bottle	SPPLBLKHCL

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Water — Certified
for HPLC-MS

packaging		product code
1 L	Glass bottle	W/0112/15
2.5 L	Glass bottle	W/0112/17

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 28530010
EINECS: 231-791-2

Guaranteed analysis

LC-MS analysis	Conform	Lead (Pb)	<0.01 ppm
Residue after evaporation	<1 ppm	Magnesium (Mg)	<0.01 ppm
Aluminium (Al)	<0.05 ppm	Manganese (Mn)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Potassium (K)	<0.1 ppm
Calcium (Ca)	<0.05 ppm	Silver (Ag)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Sodium (Na)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Copper (Cu)	<0.01 ppm	Zinc (Zn)	<0.01 ppm
Iron (Fe)	<0.01 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)

200 nm	<0.005 A.U.	Gradient (max eluted peak)	<0.2 mA.U.
230 nm	<0.005 A.U.		

Gradient analysis
Absorbance of the largest eluted peak < 0.02 mA.U.
Wavelength 254 nm
This product has been tested on an LC-MS instrument to ensure suitability.
Filtered to 0.2 µm.
All water by Fisher Chemical is deionised not distilled.

Standard Certified for AAS, ICP & ICP-MS
A full range of Mono & Multi-elemental standard solution to discover on page 256

Water — NEW SPEC. — Certified Advanced HPLC
HPLC for gradient analysis

packaging		product code
1 L	Coated Glass Bottle	W/0110/PB15
2.5 L	Coated Glass Bottle	W/0110/PB17

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 38220000
EINECS: 231-791-2

Guaranteed analysis

Conductivity	<5 µS	Residue after ignition	<0.0003%
Residue after evaporation	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Gradient (max eluted peak) <0.1 mA.U.

Absorbance of the largest eluted peak < 0.1 mA.U.
Conditions :
Column: C18 Reverse Phase.
Flow rate: 3 mL / min
Wavelength 220 nm
Solvent A: Water
Solvent B: Acetonitrile
10 min solvent A to 100% linear gradient until then 95% solvent for B 15 min.
All water by Fisher Chemical is deionised not distilled.

Water — Certified
HPLC for gradient analysis

packaging		product code
1 L	Glass bottle	W/0106/15
2.5 L	Glass bottle	W/0106/17
2.5 L	Coated Glass Bottle	W/0106/PB17

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 28530010
EINECS: 231-791-2

Guaranteed analysis

Conductivity	<5 µS	Residue after ignition	<0.0003%
Residue after evaporation	<5 ppm		

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Gradient (max eluted peak) <0.002 A.U.

Recommended for DNA synthesis and protein sequencing.
Gradient analysis
Conditions :
Column: C18 Reverse Phase.
Flow rate: 2 mL / min
Wavelength 254 nm
Absorbance range: 0-0.04 AU.
Solvent A: Water
Solvent B: Acetonitrile
20 min solvent was followed by a linear gradient 100% A solvent 100%
All water by Fisher Chemical is deionised not distilled.
Lot analysis on the label.
Filtered to 0.2 µm.

NIST Certified Standard from SPEX
A full range of Mono & Multi-elemental standard and Calibration solution for ICP & ICP-MS
Discover them on page 258

Water
HPLC for fluorescence detection
Certified

HPLC fluorescence

packaging		product code
2.5 L	Glass bottle	**W/0107/17**

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 28530010
EINECS: 231-791-2

Guaranteed analysis

Residue after evaporation ..... <5 ppm
Residue after ignition ..... <0.0003%

Absorbance specification
Max. Absorbance (1cm cell v HPLC water)
Fluorescence ..... Conform

Excitation in the range 250-750nm produces no fluorescence emission greater than the solvents natural Raman signal at 350nm excittation.This is equivalent to the emission maximum of approximately 1ppb quinine sulfate.
All water by Fisher Chemical is deionised not distilled.
Lot analysis on the label (excluding fluorescence scan).
Filtered to 0.2 µm.

Water
HPLC for electrochemical detection
Certified

HPLC electrochemical

packaging		product code
2.5 L	Glass bottle	**W/0108/17**

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 28530010
EINECS: 231-791-2

Guaranteed analysis

Electrochemical test ..... Conform
Residue after evaporation ..... <5 ppm
Residue after ignition ..... <0.0003%

Tested by HPLC-EC to ensure low electrochemical response.
Detector - ESA Coulochem II
Mode-oxidative
Graphite Electrode.
All water by Fisher Chemical is deionised not distilled.
Lot analysis on the label.
Filtered to 0.2 µm.

Water NEW SPEC.
for ultra trace analysis
OPTIMA

Optima

packaging		product code
500 mL	Teflon bottle	**W/0115/08**
1 L	Teflon bottle	**W/0115/15**

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 28530010
EINECS: 231-791-2

Guaranteed analysis

Colour	<10 APHA	Gallium (Ga)	<10 ppt
Sulfate (SO_4)	<1 ppb	Germanium (Ge)	<10 ppt
Total chloride (Cl)	<1 ppb	Gold (Au)	<10 ppt
Total phosphorus (P)	<1 ppb	Hafnium (Hf)	<1 ppt
Aluminium (Al)	<20 ppt	Holmium (Ho)	<1 ppt
Antimony (Sb)	<10 ppt	Indium (In)	<1 ppt
Arsenic (As)	<10 ppt	Iron (Fe)	<20 ppt
Barium (Ba)	<10 ppt	Lanthanum (La)	<1 ppt
Beryllium (Be)	<10 ppt	Lead (Pb)	<10 ppt
Bismuth (Bi)	<10 ppt	Lithium (Li)	<10 ppt
Boron (B)	<50 ppt	Lutetium (Lu)	<1 ppt
Cadmium (Cd)	<10 ppt	Magnesium (Mg)	<10 ppt
Calcium (Ca)	<20 ppt	Manganese (Mn)	<10 ppt
Cerium (Ce)	<10 ppt	Mercury (Hg)	<20 ppt
Cesium (Cs)	<10 ppt	Molybdenum (Mo)	<10 ppt
Chromium (Cr)	<10 ppt	Neodymium (Nd)	<1 ppt
Cobalt (Co)	<10 ppt	Nickel (Ni)	<10 ppt
Copper (Cu)	<10 ppt	Niobium (Nb)	<10 ppt
Dysprosium (Dy)	<1 ppt	Palladium (Pd)	<10 ppt
Erbium (Er)	<1 ppt	Platinum (Pt)	<10 ppt
Europium (Eu)	<1 ppt	Potassium (K)	<10 ppt
Gadolinium (Gd)	<1 ppt		
Praseodymium (Pr)	<10 ppt	Terbium (Tb)	<10 ppt
Rhenium (Re)	<10 ppt	Thallium (Tl)	<10 ppt
Rhodium (Rh)	<10 ppt	Thorium (Th)	<1 ppt
Rubidium (Rb)	<10 ppt	Thulium (Tm)	<10 ppt
Ruthenium (Ru)	<10 ppt	Tin (Sn)	<10 ppt
Samarium (Sm)	<10 ppt	Titanium (Ti)	<10 ppt
Scandium (Sc)	<10 ppt	Tungsten (W)	<10 ppt
Selenium (Se)	<50 ppt	Uranium (U)	<1 ppt
Silver (Ag)	<10 ppt	Vanadium (V)	<10 ppt
Sodium (Na)	<10 ppt	Ytterbium (Yb)	<10 ppt
Strontium (Sr)	<10 ppt	Yttrium (Y)	<1 ppt
Tantalum (Ta)	<10 ppt	Zinc (Zn)	<10 ppt
Tellurium (Te)	<1 ppt		

Water
for analysis
Certified AR

Certified AR

packaging		product code
5 L	Plastic bottle	**W/0100/21**
10 L	Cubitainer	**W/0100/24**
25 L	Metal drum	**W/0100/25**
200 L	Metal drum	**W/0100/27**

H_2O
CAS: 7732-18-5
MW: 18.02
Density at 20°C: 1

Boiling point: 100°C
Boiling pressure: 760 mmHg
HS-Nr: 28530010
EINECS: 231-791-2

Guaranteed analysis

At pH 20°C	4.5 to 7.5	Potassium (K)	<0.05 ppm
Conductivity	<5 µS	Sodium (Na)	<0.2 ppm
Substances reducing $KMnO_4$	<0.00001%	Total chloride (Cl)	<0.00001 %
Calcium (Ca)	<0.05 ppm	Total nitrogen (N)	<0.1 ppm
Copper (Cu)	<0.01 ppm	Total phosphorus (P)	<0.01 ppm
Iron (Fe)	<0.01 ppm	Total silicon (Si)	<0.2 ppm
Lead (Pb)	<0.005 ppm	Total sulphur (S)	<0.5 ppm
Magnesium (Mg)	<0.05 ppm	Zinc (Zn)	<0.01 ppm

Typical analysis

Aluminium (Al)	<0.01 ppm	Molybdenum (Mo)	<0.01 ppm
Barium (Ba)	<0.01 ppm	Nickel (Ni)	<0.01 ppm
Cadmium (Cd)	<0.01 ppm	Silver (Ag)	<0.01 ppm
Chromium (Cr)	<0.01 ppm	Strontium (Sr)	<0.01 ppm
Cobalt (Co)	<0.01 ppm	Tin (Sn)	<0.01 ppm
Lithium (Li)	<0.01 ppm	Titanium (Ti)	<0.01 ppm
Manganese (Mn)	<0.01 ppm	Vanadium (V)	<0.01 ppm

All water by Fisher Chemical is deionised not distilled.
Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Wax Beeswax White
pure

packaging		product code
500 g	Plastic Jar	**W/0150/53**

CAS: 8012-89-3
Melting point: 61 to 65°C
HS-Nr: 38220000

EINECS: 232-383-7
Safety: S24/25

Wax Beeswax
pure

packaging		product code
250 g	Plastic Jar	**W/0200/50**

CAS: 8012-89-3
Melting point: 61.5 to 64.5°C
HS-Nr: 15219099

EINECS: 232-383-7
Safety: S24/25

Guaranteed analysis

IR Analysis ..... Conform

Wax Carnauba yellow
pure

packaging		product code
100 g	Plastic jar	**W/0255/48**

CAS: 8015-86-9
Melting point: 81 to 86°C
HS-Nr: 38220000

EINECS: 232-399-4
Safety: S24/25

Wax lanette emulsifying
pure

packaging		product code
500 g	Plastic jar	W/0320/53

HS-Nr: 38220000

T

Wood's metal
pure, m.p. ca. 70°C

packaging		product code
100 g	Bidon	W/0350/48
500 g	box	W/0350/53

CAS: 8049-22-7
Melting point: 70°C
HS-Nr: 81060010

9H-Xanthen-9-ol *See Xanthydrol, page 304*

Xanthydrol
pure, solution 10% w/v in methanol

packaging		product code
100 mL	Glass bottle	J/9030/05

$C_{13}H_{10}O_2$
CAS: 90-46-0
MW: 198.22
Melting point: 124 to 127°C
ADR/RID: 3(6.1)/II
UN: 1230

HS-Nr: 38220000
EINECS: 201-996-1
Risk: R11, R23/24/25, R39/23/24/25
Safety: S7, S16, S36/37, S45

F T

o-Xylene
pure

packaging		product code
500 mL	Glass bottle	X/0300/08
2.5 L	Glass bottle	X/0300/17
200 L	Metal drum	X/0300/27

C_8H_{10}
CAS: 95-47-6
MW: 106.17
Density at 20°C: 0.878 to 0.88
Boiling point: 143 to 145°C
Boiling pressure: 760 mmHg
Melting point: -25°C

Flash point: 31°C
ADR/RID: 3/II
UN: 1307
HS-Nr: 29024100
EINECS: 202-422-2
Risk: R10, R20/21, R38
Safety: S25

Xn

Assay (GC): >98%

see page 279 for suitable Tap & accessories.

m-Xylene
pure

packaging		product code
500 mL	Glass bottle	X/0350/08

C_8H_{10}
CAS: 108-38-3
MW: 106.17
Density at 20°C: 0.86
Boiling point: 139 to 139°C
Boiling pressure: 760 mmHg
Melting point: -48°C

Flash point: 25°C
ADR/RID: 3/III
UN: 1307
HS-Nr: 29024200
EINECS: 203-576-3
Risk: R10, R20/21, R36/38
Safety: S25

Xn

Assay: >98%

p-Xylene
pure

packaging		product code
500 mL	Glass bottle	X/0400/08

C_8H_{10}
CAS: 106-42-3
MW: 106.17
Density at 20°C: 0.858 to 0.862
Boiling point: 138°C
Boiling pressure: 760 mmHg
Melting point: 13°C

Flash point: 25°C
ADR/RID: 3/III
UN: 1307
HS-Nr: 29024200
EINECS: 203-396-5
Risk: R10, R20/21, R38
Safety: S25

Xn

Assay (GC): >98%

Xylene
for electronic use (MOS)

packaging		product code
2.5 L	Glass bottle	X/0255/17

C_8H_{10}
CAS: 1330-20-7
MW: 106.17
Density at 20°C: 0.87
Boiling point: 136 to 140°C
Boiling pressure: 760 mmHg
Melting point: -34°C

Flash point: 21°C
ADR/RID: 3/III
UN: 1307
HS-Nr: 29024400
EINECS: 215-535-7
Risk: R10, R20/21, R38
Safety: S25

Xn

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Molybdenum (Mo)	<0.02 ppm
Colour	<10 APHA	Nickel (Ni)	<0.02 ppm
Water	<0.05%	Potassium (K)	<0.5 ppm
Aluminium (Al)	<0.02 ppm	Sodium (Na)	<0.5 ppm
Barium (Ba)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Calcium (Ca)	<0.5 ppm	Titanium (Ti)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Total phosphorus (P)	<0.1 ppm
Cobalt (Co)	<0.02 ppm	Total silicon (Si)	<0.05 ppm
Copper (Cu)	<0.05 ppm	Total sulphur (S)	<2 ppm
Iron (Fe)	<0.1 ppm	Vanadium (V)	<0.02 ppm
Lead (Pb)	<0.05 ppm	Zinc (Zn)	<0.1 ppm
Lithium (Li)	<0.02 ppm	Benzene	<0.05%
Magnesium (Mg)	<0.2 ppm	No benzene Propyle	<1%
Manganese (Mn)	<0.02 ppm	Toluene	<1%

Filtered to 0.2 µm.

Xylene
for analysis

Certified AR

packaging		product code
1 L	Glass bottle	X/0250/15
2.5 L	Glass bottle	X/0250/17
2.5 L	Coated Glass Bottle	X/0250/PB17
5 L	Metal can	X/0250/21
25 L	Metal drum	X/0250/25
200 L	Metal drum	X/0250/27

C_8H_{10}
CAS: 1330-20-7
MW: 106.17
Density at 20°C: 0.87
Boiling point: 136 to 140°C
Boiling pressure: 760 mmHg
Melting point: -34°C

Flash point: 21°C
ADR/RID: 3/III
UN: 1307
HS-Nr: 29024400
EINECS: 215-535-7
Risk: R10, R20/21, R38
Safety: S25

Xn

Assay (GC): >98%

Guaranteed analysis

Acidity / Alkalinity	<0.0001 meq/g	Nickel (Ni)	<0.02 ppm
Colour	<10 APHA	Potassium (K)	<0.5 ppm
Residue after evaporation	<20 ppm	Sodium (Na)	<0.5 ppm
Substances reducing $KMnO_4$	<0.0005%	Total phosphorus (P)	<0.1 ppm
Water	<0.05%	Total silicon (Si)	<0.05 ppm
Calcium (Ca)	<0.5 ppm	Total sulphur (S)	<2 ppm
Copper (Cu)	<0.05 ppm	Zinc (Zn)	<0.1 ppm
Iron (Fe)	<0.1 ppm	Benzene	<0.05 %
Lead (Pb)	<0.05 ppm	No benzene Propyle	<1 %
Magnesium (Mg)	<0.2 ppm	Toluene	<1 %

Typical analysis

Aluminium (Al)	<0.02 ppm	Molybdenum (Mo)	<0.02 ppm
Barium (Ba)	<0.02 ppm	Selenium (Se)	<0.02 ppm
Cadmium (Cd)	<0.02 ppm	Strontium (Sr)	<0.02 ppm
Chromium (Cr)	<0.02 ppm	Tin (Sn)	<0.02 ppm
Cobalt (Co)	<0.02 ppm	Titanium (Ti)	<0.02 ppm
Lithium (Li)	<0.02 ppm	Vanadium (V)	<0.02 ppm
Manganese (Mn)	<0.02 ppm		

Lot analysis on the label.
see page 279 for suitable Tap & accessories.

Xylene
extra pure SLR

Specified LR

packaging		product code
2.5 L	Glass bottle	X/0200/17
2.5 L	Coated Glass Bottle	X/0200/PB17
5 L	Metal can	X/0200/21
25 L	Metal drum	X/0200/25
25 L	Metal drum	X/0200/DH25
200 L	Metal drum	X/0200/27

C_8H_{10}
CAS: 1330-20-7
MW: 106.17
Density at 20°C: 0.87
Boiling point: 136 to 140°C
Boiling pressure: 760 mmHg
Melting point: -34°C

Flash point: 21°C
ADR/RID: 3/III
UN: 1307
HS-Nr: 29024400
EINECS: 215-535-7
Risk: R10, R20/21, R38
Safety: S25

Xn

Assay (GC): >97%

Guaranteed analysis

Acidity / Alkalinity	<0.003 meq/g	Lead (Pb)	<2 ppm
Colour	<10 APHA	Magnesium (Mg)	<2 ppm
Residue after evaporation	<100 ppm	Potassium (K)	<2 ppm
Substances		Sodium (Na)	<5 ppm
reducing $KMnO_4$	<0.001%	Total phosphorus (P)	<2 ppm
Water	<0.05%	Total silicon (Si)	<2 ppm
Calcium (Ca)	<5 ppm	Total sulphur (S)	<10 ppm
Copper (Cu)	<2 ppm	Zinc (Zn)	<2 ppm
Iron (Fe)	<5 ppm		

see page 279 for suitable Tap & accessories.

Xylene
Technical

packaging		product code
2.5 L	Glass bottle	X/0100/17
2.5 L	Coated Glass Bottle	X/0100/PB17
25 L	Metal drum	X/0100/25
200 L	Metal drum	X/0100/27

C_8H_{10}
CAS: 1330-20-7
MW: 106.17
Density at 20°C: 0.87
Boiling point: 136 to 140°C
Boiling pressure: 760 mmHg
Melting point: -34°C

Flash point: 21°C
ADR/RID: 3/III
UN: 1307
HS-Nr: 29024400
EINECS: 215-535-7
Risk: R10, R20/21, R38
Safety: S25

Xn

Assay (GC): >97%

see page 279 for suitable Tap & accessories.

Xylenol Orange
See o-Cresolsulfonphthaleindi-(methyl-iminodiacetic acid) sodium salt, page 76

Yeast extract powder
pure

packaging		product code
100 g	Plastic jar	Y/0200/48

HS-Nr: 38220000

Ytterbium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLYB22Y
500 mL	Plastic bottle	SPPLYB22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Ytterbium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLY22Y
250 mL	Plastic bottle	SPPLY22T
500 mL	Plastic bottle	SPPLY22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Ytterbium standard metal solution 10 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLY21AY

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Yttrium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLY23Y
500 mL	Plastic bottle	SPPLY23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 1000 ppm
for AAS, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8070/05
500 mL	Plastic bottle	J/8070/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000

Risk: R34
Safety: S23, S26, S36, S45

C

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 1000 ppm
for ICP, solution HNO_3 1M

packaging		product code
500 mL	Plastic bottle	J/8341/08

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 10 000 ppm
for ICP, solution HNO_3 1M

packaging		product code
100 mL	Plastic bottle	J/8340/05

ADR/RID: 8/II
UN: 2031
HS-Nr: 38220000
Risk: R34
Safety: S23, S26, S36, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLZN22Y
250 mL	Plastic bottle	SPPLZN22T

Density at 20°C: 1.02
Risk: R36/38
Safety: S26
Xi

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 1000 ppm
for ICP solution in HCL 2%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLZN12X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLZN23Y
500 mL	Plastic bottle	SPPLZN23X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 10 000 ppm
for ICP solution in HCL 5%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLZN13X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc standard metal solution 1000 ppm
for ICP-MS solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPCLZN22Y

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurities.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zinc granulated (metal)
for analysis — Certified AR

CertiFied AR

packaging		product code
500 g	Plastic Jar	Z/0300/53
1 kg	Plastic Jar	Z/0300/60
25 kg	Plastic keg with screw-on lid	Z/0300/70

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.14
Boiling point: 907°C
Boiling pressure: 760 mmHg
Melting point: 419°C
ADR/RID: 4.3/II
UN: 3077
HS-Nr: 79011230
Risk: R50/53
Safety: S60, S61
N

Assay: >99.9%

Guaranteed analysis

Arsenic (As)	<0.05 ppm	Lead (Pb)	<40 ppm
Cadmium (Cd)	<20 ppm	Sulfide (S)	<0.00001 %
Copper (Cu)	<30 ppm	Tin (Sn)	<10 ppm
Iron (Fe)	<20 ppm		

Lot analysis on the label.

Zinc powder (metal)
for analysis — Certified AR

CertiFied AR

packaging		product code
500 g	Plastic jar	Z/0500/53
1 kg	Plastic jar	Z/0500/60

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.1
Boiling point: 907°C
Boiling pressure: 760 mmHg
Melting point: 419°C
ADR/RID: 4.3/II
UN: 1436
HS-Nr: 79039000
EINECS: 231-175-3
Risk: R15, R17, R50/53
Safety: S43A, S46, S60, S61
F N

Assay: >90%

Guaranteed analysis

Substances reducing $KMnO_4$	<0.002%	Iron (Fe)	<50 ppm
		Total nitrogen (N)	<100 ppm

Lot analysis on the label.

Zinc metal granulated
extra pure, activated with copper
SLR

Specified LR

packaging		product code
500 g	Plastic jar	Z/0400/53

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.14
Boiling point: 907°C
Boiling pressure: 760 mmHg

Melting point: 419°C
ADR/RID: 4.3/II
UN: 3077
HS-Nr: 38220000
Risk: R50/53
Safety: S60, S61

N

Guaranteed analysis

Arsenic (As) ..... <1 ppm Acids insoluble ..... <0.05%

For the determination of Arsenic.

Zinc metal granulated
extra pure
SLR

Specified LR

packaging		product code
500 g	Plastic jar	Z/0250/53
2 kg	Plastic jar	Z/0250/61

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.14
Boiling point: 907°C
Boiling pressure: 760 mmHg

Melting point: 419°C
ADR/RID: 4.3/II
UN: 3077
HS-Nr: 79011230
Risk: R50/53
Safety: S60, S61

N

Zinc metal powder
pure

packaging		product code
500 g	Plastic Jar	Z/0450/53
1 kg	Plastic Jar	Z/0450/60

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.1
Boiling point: 907°C
Boiling pressure: 760 mmHg
Melting point: 419°C

ADR/RID: 4.3/II
UN: 1436
HS-Nr: 79039000
EINECS: 231-175-3
Risk: R15, R17, R50/53
Safety: S43A, S46, S60, S61

F N

Assay: >90%

Zinc metal stick
pure, low in arsenic

packaging		product code
500 g	box	Z/0550/53

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.14
Boiling point: 907°C
Boiling pressure: 760 mmHg

Melting point: 419°C
ADR/RID: 4.3/II
UN: 3077
HS-Nr: 79040000
Risk: R50/53
Safety: S60, S61

N

Zinc metal foil, about 0.3 mm
pure

packaging		product code
500 g	Cardboard tube	Z/0160/53

Zn
CAS: 7440-66-6
MW: 65.36
Density at 20°C: 7.14
Boiling point: 907°C
Boiling pressure: 760 mmHg

Melting point: 419°C
ADR/RID: 4.3/II
UN: 3077
HS-Nr: 38220000
Risk: R50/53
Safety: S60, S61

N

Zinc acetate dihydrate
for analysis
Certified AR

Certified AR

packaging		product code
250 g	Plastic Jar	Z/0700/50
500 g	Plastic Jar	Z/0700/53
1 kg	Plastic Jar	Z/0700/60

$C_4H_6O_4Zn.2H_2O$
CAS: 5970-45-6
MW: 219.49
Density at 20°C: 1.84

Melting point: 100°C
HS-Nr: 29152900
EINECS: 209-170-2
Risk: R22

Xn

Assay: >99.5%

Guaranteed analysis

Calcium (Ca)	<10 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<5 ppm	Total nitrogen (N)	<20 ppm
Lead (Pb)	<5 ppm	Total phosphorus (P)	<20 ppm
Magnesium (Mg)	<10 ppm	Total silicon (Si)	<100 ppm
Potassium (K)	<10 ppm	Total sulphur (S)	<50 ppm

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Zinc acetate dihydrate
extra pure
SLR

Specified LR

packaging		product code
500 g	Plastic Jar	Z/0650/53

$C_4H_6O_4Zn.2H_2O$
CAS: 5970-45-6
MW: 219.49
Density at 20°C: 1.84

Melting point: 100°C
HS-Nr: 29152900
EINECS: 209-170-2
Risk: R22

Xn

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<100 ppm	Sodium (Na)	<100 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<20 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<100 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<100 ppm		

Zinc bromide
extra pure
SLR

Specified LR

packaging		product code
100 g	Plastic jar	Z/0750/48

$ZnBr_2$
CAS: 7699-45-8
MW: 225.19
Density at 20°C: 4.22
Boiling point: 697°C
Boiling pressure: 760 mmHg
Melting point: 394°C

ADR/RID: 8/II
UN: 3260
HS-Nr: 28275900
EINECS: 231-718-4
Risk: R34, R50
Safety: S26, S29, S36/37/39, S45, S61

C N

Assay: >98%

Guaranteed analysis

Iron (Fe) ..... <10 ppm Sulfate (SO_4) ..... <0.02%

Zinc carbonate
pure, basic

packaging		product code
500 g	Plastic jar	Z/0800/53

$Zn(CO_3)$
CAS: 5970-47-8
MW: 549.01

Density at 20°C: 4.39
HS-Nr: 28369919
Safety: S24/25

Zinc chloride
for analysis
Certified AR

packaging		product code
500 g	Plastic jar	**Z/0870/53**
1 kg	Plastic jar	**Z/0870/60**

$ZnCl_2$
CAS: 7646-85-7
MW: 136.29
Boiling point: 732°C
Boiling pressure: 760 mmHg
Melting point: 293°C
ADR/RID: 8/III

UN: 2331
HS-Nr: 28273985
EINECS: 231-592-0
Risk: R22, R34, R50/53
Safety: S26, S36/37/39, S45, S60, S61

C N

Assay: >98%

Guaranteed analysis

Basic Salts	<1%	Potassium (K)	<10 ppm
Calcium (Ca)	<10 ppm	Sodium (Na)	<10 ppm
Copper (Cu)	<5 ppm	Total phosphorus (P)	<20 ppm
Iron (Fe)	<10 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<5 ppm	Total sulphur (S)	<20 ppm
Magnesium (Mg)	<10 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Lot analysis on the label.

Zinc chloride
extra pure
SLR

packaging		product code
500 g	Plastic Jar	**Z/0850/53**
1 kg	Plastic Jar	**Z/0850/60**
10 kg	Plastic keg with screw-on lid	**Z/0850/68**

$ZnCl_2$
CAS: 7646-85-7
MW: 136.29
Boiling point: 732°C
Boiling pressure: 760 mmHg
Melting point: 293°C
ADR/RID: 8/III

UN: 2331
HS-Nr: 28273985
EINECS: 231-592-0
Risk: R22, R34, R50/53
Safety: S26, S36/37/39, S45, S60, S61

C N

Assay: >97%

Guaranteed analysis

Basic Salts	<5%	Potassium (K)	<2000 ppm
Calcium (Ca)	<2000 ppm	Sodium (Na)	<5000 ppm
Copper (Cu)	<20 ppm	Total phosphorus (P)	<100 ppm
Iron (Fe)	<50 ppm	Total silicon (Si)	<100 ppm
Lead (Pb)	<20 ppm	Total sulphur (S)	<100 ppm
Magnesium (Mg)	<1000 ppm		

Zinc iodide
extra pure
SLR

packaging		product code
100 g	Plastic jar	**Z/1100/48**

ZnI_2
CAS: 10139-47-6
MW: 319.18
Density at 20°C: 4.74
Melting point: 446°C
ADR/RID: 8/III

UN: 3260
HS-Nr: 28276000
EINECS: 233-396-0
Risk: R34
Safety: S26, S36/37/39, S45

C

Assay: >98%

Guaranteed analysis

Iron (Fe)	<100 ppm	Sulfate (SO_4)	<0.05%

Zinc nitrate hexahydrate
extra pure
SLR

packaging		product code
250 g	Plastic jar	**Z/1150/50**
500 g	Plastic jar	**Z/1150/53**

$Zn(NO_3)_2.6H_2O$
CAS: 10196-18-6
MW: 297.47
Density at 20°C: 2.06
Melting point: 36°C
ADR/RID: 5.1/II

UN: 1514
HS-Nr: 28342980
EINECS: 231-943-8
Risk: R8, R22, R38
Safety: S17, S24/25

O Xn

Assay: >97%

Guaranteed analysis

Calcium (Ca)	<50 ppm	Sodium (Na)	<1000 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.005%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<100 ppm
Lead (Pb)	<50 ppm	Total silicon (Si)	<100 ppm
Magnesium (Mg)	<100 ppm	Total sulphur (S)	<200 ppm
Potassium (K)	<50 ppm		

Zinc nitrate hexahydrate
Technical

packaging		product code
500 g	Plastic jar	**Z/1145/53**

$N_2O_6Zn.6H_2O$
CAS: 10196-18-6
MW: 297.47
Density at 20°C: 2.06
Melting point: 36°C
ADR/RID: 5.1/II

UN: 1514
HS-Nr: 28342980
EINECS: 231-943-8
Risk: R8, R22, R38
Safety: S17, S24/25

O Xn

Zinc oxide
for analysis
Certified AR

packaging		product code
500 g	Plastic jar	**Z/1350/53**
1 kg	Plastic jar	**Z/1350/60**
25 kg	Fibre Keg	**Z/1350/70**

ZnO
CAS: 1314-13-2
MW: 81.38
Density at 20°C: 5.6
Melting point: 1975°C
ADR/RID: 9/III

UN: 3077
HS-Nr: 28170000
EINECS: 215-222-5
Risk: R50/53
Safety: S60, S61

N

Assay: >99.5%

Guaranteed analysis

Loss on drying 600°C	<0.5%	Manganese (Mn)	<5 ppm
Reducing substance	<0.002%	Molybdenum (Mo)	<5 ppm
Aluminium (Al)	<5 ppm	Nickel (Ni)	<5 ppm
Barium (Ba)	<5 ppm	Potassium (K)	<50 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<50 ppm
Carbonate (Na_2CO_3)	<0.2%	Strontium (Sr)	<5 ppm
Chromium (Cr)	<5 ppm	Titanium (Ti)	<5 ppm
Cobalt (Co)	<5 ppm	Total chloride (Cl)	<0.002%
Copper (Cu)	<5 ppm	Total phosphorus (P)	<50 ppm
Iron (Fe)	<5 ppm	Total silicon (Si)	<200 ppm
Lead (Pb)	<50 ppm	Total sulphur (S)	<100 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Magnesium (Mg)	<50 ppm		

Lot analysis on the label.

Fisher Chemical packaging
A convenient and complete range for a cleaner and safer world!

Zinc oxide
extra pure
SLR, Eur.Ph.,BP, USP

Specified LR

packaging		product code
500 g	Plastic jar	Z/1300/53
1 kg	Plastic jar	Z/1300/60

ZnO
CAS: 1314-13-2
MW: 81.38
Density at 20°C: 5.6
Melting point: 1975°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 28170000
EINECS: 215-222-5
Risk: R50/53
Safety: S60, S61
N

Assay: >99%

Guaranteed analysis

Loss on ignition	<1%	Potassium (K)	<200 ppm
Calcium (Ca)	<200 ppm	Sodium (Na)	<200 ppm
Copper (Cu)	<20 ppm	Total chloride (Cl)	<0.02%
Iron (Fe)	<20 ppm	Total phosphorus (P)	<200 ppm
Lead (Pb)	<200 ppm	Total silicon (Si)	<500 ppm
Magnesium (Mg)	<200 ppm	Total sulphur (S)	<500 ppm

Zinc stearate
Technical

packaging		product code
500 g	Plastic jar	Z/1400/53

$C_{36}H_{70}O_4Zn$
CAS: 557-05-1
MW: 632.34
Melting point: 118 to 128°C
Flash point: >100°C
HS-Nr: 29157030
EINECS: 209-151-9
Safety: S24/25

Zinc sulfate heptahydrate
for analysis
Certified AR

Certified AR

packaging		product code
25 kg	Plastic screw top Keg	Z/1600/70

$ZnSO_4.7H_2O$
CAS: 7446-20-0
MW: 287.53
Melting point: 100°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 28332920
EINECS: 231-793-3
Risk: R22, R41, R50/53
Safety: S22, S26, S39, S46, S60, S61
Xn
N

Assay: 99.5 to 100.5%

Guaranteed analysis

pH (aqueous solution 5%)	4.5 to 6	Potassium (K)	<50 ppm
Calcium (Ca)	<50 ppm	Sodium (Na)	<50 ppm
Copper (Cu)	<5 ppm	Total chloride (Cl)	<0.001 %
Iron (Fe)	<5 ppm	Total nitrogen (N)	<20 ppm
Lead (Pb)	<5 ppm	Total silicon (Si)	<50 ppm
Magnesium (Mg)	<50 ppm		

Typical analysis

Aluminium (Al)	<5 ppm	Molybdenum (Mo)	<5 ppm
Barium (Ba)	<5 ppm	Nickel (Ni)	<5 ppm
Cadmium (Cd)	<5 ppm	Silver (Ag)	<5 ppm
Chromium (Cr)	<5 ppm	Strontium (Sr)	<5 ppm
Cobalt (Co)	<5 ppm	Titanium (Ti)	<5 ppm
Lithium (Li)	<5 ppm	Vanadium (V)	<5 ppm
Manganese (Mn)	<5 ppm		

Zinc sulfate heptahydrate
extra pure
SLR

Specified LR

packaging		product code
500 g	Plastic jar	Z/1550/53
1 kg	Plastic jar	Z/1550/60
5 kg	Plastic drum	Z/1550/65

$ZnSO_4.7H_2O$
CAS: 7446-20-0
MW: 287.54
Melting point: 100°C
ADR/RID: 9/III
UN: 3077
HS-Nr: 28332920
EINECS: 231-793-3
Risk: R22, R41, R50/53
Safety: S22, S26, S39, S46, S60, S61
Xn
N

Assay: >99%

Guaranteed analysis

Calcium (Ca)	<200 ppm	Potassium (K)	<200 ppm
Copper (Cu)	<20 ppm	Sodium (Na)	<200 ppm
Iron (Fe)	<20 ppm	Total chloride (Cl)	<0.005%
Lead (Pb)	<20 ppm	Total silicon (Si)	<200 ppm
Magnesium (Mg)	<200 ppm		

Zinc sulfate solution 0.05M (0.05N)
NIST Standard Concentrate, For Volumetric analysis

Solutrate

packaging		product code
1	ampoule	J/8490C/05
6	ampoule	J/8490C/90

HS-Nr: 28416010

Each ampoule makes 1 L of solution.
See the full range of Standard Volumetric solution page 266.

Zinc sulfide
pure

packaging		product code
500 g	Plastic jar	Z/1700/53

ZnS
CAS: 1314-98-3
MW: 97.44
HS-Nr: 28302000
EINECS: 215-251-3
Safety: S24/25

Zirconium standard metal solution 1000 ppm
for AAS, solution HCl 1M

packaging		product code
500 mL	Plastic bottle	J/8200/08

HS-Nr: 38220000

Manufactured to a tolerance of ± 0.5%.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zirconium standard metal solution 1000 ppm
for ICP solution in HNO_3 2%, NIST certified

SPEX CertiPrep

packaging		product code
100 mL	Plastic bottle	SPPLZR22Y
250 mL	Plastic bottle	SPPLZR22T
500 mL	Plastic bottle	SPPLZR22X

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zirconium standard metal solution 1000 ppm
for ICP solution in HCL 10%, NIST certified

SPEX CertiPrep

packaging		product code
500 mL	Plastic bottle	SPPLZR32X

Density at 20°C: 1.05
Risk: R34, R37
Safety: S26, S36/37/39, S45
C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zirconium standard metal solution 10 000 ppm
for ICP solution in HNO_3 5%, NIST certified

packaging		product code
100 mL	Plastic bottle	**SPPLZR23Y**
500 mL	Plastic bottle	**SPPLZR23X**

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zirconium standard metal solution 10 000 ppm
for ICP solution in HCL 10%, NIST certified

packaging		product code
500 mL	Plastic bottle	**SPPLZR33X**

Density at 20°C: 1
Risk: R34
Safety: S36/37/39, S26, S45

C

Manufactured to a tolerance of ± 0.5%.
All standards are manufactured from acids, metals & metal salts and contain less than <10 ppm total metal impurites.
See also the full range in the Standard Elemental solution for Trace metal analysis section see page 256.

Zirconium dioxide
extra pure SLR

packaging		product code
250 g	Plastic jar	**Z/1850/50**

ZrO_2
CAS: 1314-23-4
MW: 123.22
Density at 20°C: 5.6
Boiling point: 4300°C
Boiling pressure: 760 mmHg

Melting point: 2700°C
HS-Nr: 28256090
EINECS: 215-227-2
Risk: R36/37
Safety: S26, S39

Xi

Zirconyl chloride octahydrate
extra pure SLR

packaging		product code
500 g	Plastic jar	**Z/1900/53**

$ZrCl_2O.8H_2O$
CAS: 13520-92-8
MW: 322.25
Density at 20°C: 1.91
ADR/RID: 8/III

UN: 3260
HS-Nr: 28274990
EINECS: 231-717-9
Risk: R22, R34
Safety: S26, S36/37/39, S45

C

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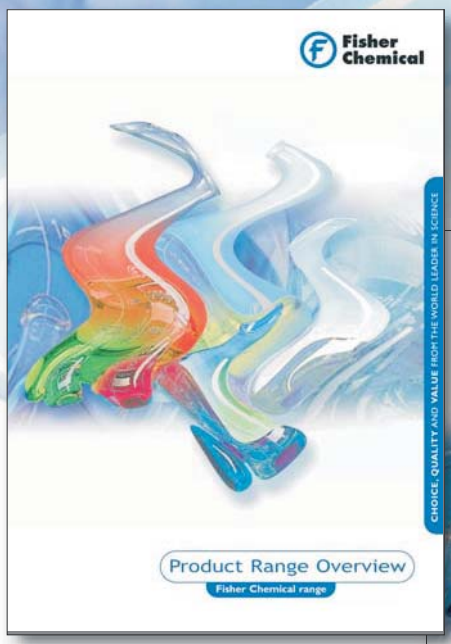

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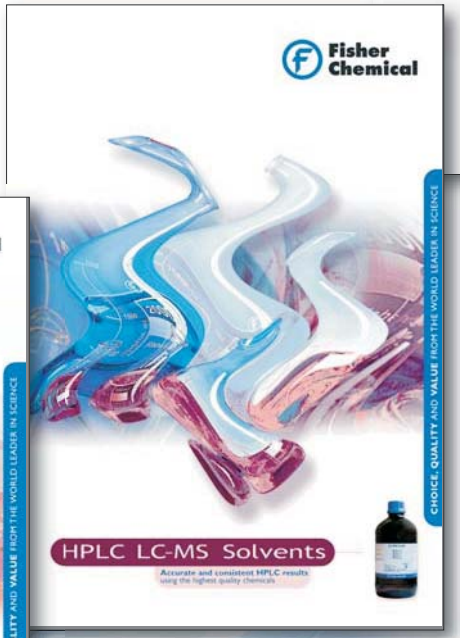

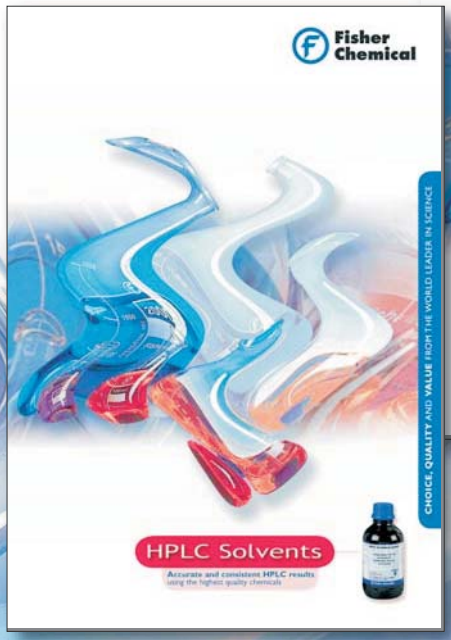

Other catalogue publications

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