GENERAL CATALOGUE · EDITION 4 · 2026

Edition 4 · November 2026 · supersedes Edition 3

Purity, element by element.

High-purity acids, bases, solvents, water and salts for semiconductor, photovoltaic, pharmaceutical and analytical manufacturing — made by our own group, shipped from the US and UK.

17 product families

81 grades

316 SKUs

65 elements on every ultrapure CoA

Every pack is identified by one 9-digit SKU. Specifications are the limits each batch is released against.

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About Highpuris

Highpuris builds resilient global supply chains for critical high-purity materials, delivering to semiconductor fabrication plants and laboratories across North America and Europe. What we sell is manufactured by our own group in Gujarat, India — which is how a US and UK operation can guarantee parts per billion.

Quality management	ISO 9001:2015 · ISO 14001:2015 · ISO 45001:2018 — certified by URS
Manufacturing standard	cGMP
Labelling	CLP (GHS) Regulation (EC) No 1272/2008; OSHA HCS (29 CFR 1910.1200, 2024) for the US
Safety data sheets	One per product, HP-SDS-<code>-US-01, with US DOT transport information — www.highpuris.com/resources/
ICP-MS	PerkinElmer NexION 2000 S
FAAS	PerkinElmer PinAAcle 500
Impurity profiling	% w/w down to ppt
UK REACH	Hydrogen chloride — UK-01-4393370836-4-0029 · Nitric acid — UK-01-9464807725-6-0009

Ultrapure grades are produced in a controlled clean facility and packed in a trace-metal clean room under ULPA filtration. Every batch ships with a certificate of analysis carrying the full trace-metal profile.

A note on specifications. Every limit printed in this catalogue is a limit we release batches against. Where a grade follows a published standard — ACS Reagent Chemicals, USP–NF, FCC, Ph. Eur. or ISO 6353 — the standard is named against the grade. Ultrapure limits are our own, established from ICP-MS validation on our own material and plant. Customised specifications are available on request.

A vertically integrated group

Own acid manufacture, own purification, own packaging and own overseas distribution — and, from 2026, own solids.

Company	Since	What it does
Satyendra Fine Chem Dudhwada, Padra, Vadodara	1986	Acids, bases and ultrapure reagents from a 15,000 m² cGMP plant. ISO 9001, 14001 and 45001 certified by URS.
TresPure Speciality Chemicals LLP Saykha Industrial Estate, Bharuch	2022	High-purity acids and bases for pharmaceutical, photovoltaic and semiconductor manufacturing across 7,200 m², with ULPA-filtered clean areas.
Pristius Pack LLP Vadodara, Gujarat	2024	Multi-layered HDPE containers with the GL45 spill-free neck. Every pack in this catalogue that is not glass or FEP comes from here.
Highpuris LLC & Highpuris Ltd United States and United Kingdom	2019	The group's distribution arm, holding stock and serving fabs and laboratories — LLC from San Diego, Ltd from London.
Aethel Speciality Chemicals Gujarat, India	2026	A GMP facility for high-purity dry chemicals and inorganic salts.

Four decades of manufacturing

1986	Founded as Jyot Chemicals Ltd. Manufacturing begins in Gujarat.
1992	Renamed Satyendra Fine Chemicals Ltd.
2009	New premises at Dudhwada, Padra — production space tripled to 15,000 m².
2015	First in India to manufacture high-purity chemicals.
2019	Highpuris LLC established in the United States; overseas distribution begins.
2022	TresPure Speciality Chemicals founded at Saykha, Bharuch.
2024	Pristius Pack LLP founded — HDPE containers made in-house.
2025	500 kW solar plant commissioned.
2026	Aethel commissioning — GMP dry chemicals and inorganic salts. Sodium chloride joins the range: the first solid reagent in this catalogue.

Partnerships and sustainability

Intelligent Fluids GmbH (IFX Technologies GmbH), Leipzig — water-based phasefluid chemistry replacing NMP, acetone and DMSO/TMAH in resist stripping and metal lift-off; Highpuris is its authorised distribution partner for North America and TresPure its manufacturing arm for APAC. A **500 kW solar plant** commissioned in 2025 moves manufacturing onto renewable power. EcoVadis documents were submitted in October 2026; Silver is the target rating for 2026 and has not yet been awarded.

How to read a Highpuris SKU

Every pack is identified by one code — the 9-digit SKU: a 5-digit product code, a 2-digit grade code and a 2-digit pack code (**PPPPP·CC·VV**). Quote it on purchase orders, EDI and labels exactly as nine digits (253000442). There are no letters and no hyphens.

253000442 — Hydrochloric acid 34–37 %, Ultrapure PPB, 2.5 L

25300	04	42
Product code (5 digits)	Grade code (2 digits)	Pack code (2 digits)

There is no check digit. Every delivery carries a batch number built from the SKU — the SKU, a hyphen and a four-digit sequence — so **253000442-0003** is the third batch of that SKU (<SKU>-NNNN). The certificate of analysis for a batch records the source lot. Customer documents — packing lists, bills of lading and invoices — show the numeric SKU and the batch number.

Grade codes

Tier	Grade	Application
x0	Technical	Bulk process chemistry
x1	Laboratory Reagent (LR)	General laboratory work — ISO 6353-2
x2	Analytical Reagent (AR)	Quantitative analysis — ACS / ISO / Ph. Eur.
x3	PV Pure	Photovoltaic cell and module manufacturing
x4	Ultrapure PPB	Semiconductor processing, trace metal analysis
x5	Ultrapure PPT	ICP-MS trace analysis, advanced wafer fabrication
x6	HPLC	Chromatography and UV spectroscopy — solvents
x7	LC-MS	Mass spectrometry mobile phase — solvents
x8	Electronic grade	Semiconductor cleaning and drying — solvents
x9	Pharmacopoeial and specialty	Solids — sodium chloride: USP·FCC·Ph. Eur. (09), Molecular Biology (19), Trace Metal 99.999 % (29)

Pack codes

Code	Pack	SKUs
22	250 mL	8
23	500 mL (500 g)	53
41	1 L (1 kg)	56
42	2.5 L	51
43	4 L	4
44	5 L (5 kg)	42
61	20 L	2
62	25 L (25 kg)	48
63	50 L	2
64	200 L	24
81	1,000 L IBC	23
82	16,000 L tanker	3

The last digit of the grade code is the purity tier; the first digit numbers variants within a tier (04 is the standard Ultrapure PPB, 14 a second PPB product). Water uses variants for its 13 application grades. Sodium chloride's tier-9 grades (09, 19, 29) denote pharmacopoeial and specialty solids. Tens digit of the pack code = size class: 2 small packs · 4 litre and kilogram packs · 6 drums and large packs · 8 bulk. For solids the 23 / 41 / 44 / 62 slots carry 500 g / 1 kg / 5 kg / 25 kg.

Worked examples

SKU	Product	Grade	Pack	Product · grade · pack
253000442	Hydrochloric acid 34–37 %	Ultrapure PPB	2.5 L	25300 · 04 · 42
261000441	Nitric acid 67–69 %	Ultrapure PPB	1 L	26100 · 04 · 41
253000242	Hydrochloric acid 36.5–38 %	Analytical Reagent (AR)	2.5 L	25300 · 02 · 42
401002944	Sodium chloride 99.999 % metals basis	Trace Metal 99.999 %	5 kg	40100 · 29 · 44
301000423	Water, ultrapure	Ultrapure PPB	500 mL	30100 · 04 · 23

Reading a specification. Limits shown as "≤" are maximum values released against. Trace metal limits are given in ppb (µg/L), ppt (ng/L) or, for solids, ppm (mg/kg) and are determined by ICP-MS. Assay ranges are the guaranteed window, not a typical value.

Product range

Family	Product	Grades	No.	SKUs
10200	**Ammonia solution**	Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB	4	10
25300	**Hydrochloric acid**	Technical · Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB · Ultrapure PPT	7	28
25400	**Hydrofluoric acid**	Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB	4	14
20500	**Hydrogen peroxide**	Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB	4	9
26100	**Nitric acid**	Technical · Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB · Ultrapure PPT	6	26
26700	**Sulphuric acid**	Technical · Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB	5	22
26800	**o-Phosphoric acid**	Laboratory Reagent · Analytical Reagent · Ultrapure PPB	3	9
27900	**Potassium hydroxide solution**	Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB	4	17
28000	**Sodium hydroxide solution**	Laboratory Reagent · Analytical Reagent · PV Pure · Ultrapure PPB	4	18
28100	**Perchloric acid**	Laboratory Reagent · Analytical Reagent · Ultrapure PPB	3	8
20100	**Acetic acid**	Laboratory Reagent · Analytical Reagent · HPLC · Ultrapure PPB	4	14
20200	**Acetone**	Laboratory Reagent · Analytical Reagent · HPLC · Electronic grade	4	17
20300	**Acetonitrile**	Laboratory Reagent · Analytical Reagent · HPLC · LC-MS	4	12
20400	**n-Hexane**	Laboratory Reagent · Analytical Reagent · HPLC	3	10
20600	**Isopropyl alcohol**	Laboratory Reagent · Analytical Reagent · HPLC · Electronic grade	4	17
30100	**Water**	Ultrapure PPB · Analytical Reagent · Laboratory Reagent	13	65
40100	**Sodium chloride** NEW	Laboratory Reagent · Certified ACS · USP · FCC · Ph. Eur. · Molecular Biology · Trace Metal 99.999 %	5	20
	Total		**81**	**316**

Customised specifications. Any product in this catalogue can be manufactured to a customer specification — bespoke concentrations, tightened limits, blended reagents and non-standard pack sizes. Volumetric solutions are prepared to order.

New in Edition 4

- **Sodium chloride (40100)** — the first solid in the range: five grades from Laboratory Reagent to Trace Metal 99.999 %, in 500 g, 1 kg, 5 kg and 25 kg packs (20 SKUs).
- **17 families, 81 grades, 316 SKUs** (Edition 3: 16, 76, 296). One pack-code table now serves every product, from 250 mL to the 16,000 L tanker.
- **Documents for every product:** a Safety Data Sheet, a product specification and a sheet per grade, listed on page references in the final section.
- **Current contacts:** +1 (401) 288-1196, admin@highpuris.com and noreply@highpuris.com; emergency CHEMTREC with Highpuris CCN 1024800.

Industries we serve

The same grade system runs across every market: the tier in the grade code tells you the purity class, the family tells you the chemistry. The grades below are the ones most often specified for each application; every product page lists the full set.

Industry	Applications	Lead products	Typical grades
Semiconductor	Wafer cleaning, etching, resist stripping, drying	Sulphuric acid, hydrogen peroxide, ammonia solution, hydrochloric acid, hydrofluoric acid, o-phosphoric acid, nitric acid, isopropyl alcohol, acetone, water	Ultrapure PPB · Ultrapure PPT · Electronic grade
Photovoltaic	Texturing, saw-damage removal, PSG removal	Potassium hydroxide, sodium hydroxide, hydrofluoric acid, nitric acid, hydrochloric acid, hydrogen peroxide, ammonia solution, sulphuric acid	PV Pure · Analytical Reagent
Pharmaceutical	API manufacture, cleaning validation, QC testing	Hydrochloric acid, sodium hydroxide, potassium hydroxide, o-phosphoric acid, acetic acid, acetonitrile, isopropyl alcohol, acetone, water	Analytical Reagent · HPLC · LC-MS · Laboratory Reagent
Chromatography	HPLC, UHPLC, LC-MS, GC and ion chromatography	Acetonitrile, water, acetic acid, o-phosphoric acid, ammonia solution, n-hexane, isopropyl alcohol, acetone	LC-MS · HPLC · Analytical Reagent
Trace analysis	ICP-MS, ICP-OES and AAS sample preparation	Nitric acid, hydrochloric acid, hydrogen peroxide, hydrofluoric acid, perchloric acid, sulphuric acid, ammonia solution, water	Ultrapure PPT · Ultrapure PPB
Food & PFAS	Residue, contaminant and PFAS determination	Acetonitrile, acetic acid, n-hexane, acetone, ammonia solution, water	LC-MS · HPLC · Analytical Reagent

New in Edition 4 — sodium chloride (40100). Trace Metal 99.999 % for ICP-MS and ICP-OES standards and trace analysis; Molecular Biology for nucleic-acid buffers and electrophoresis; USP·FCC·Ph. Eur. for pharmaceutical and food-chemical use; Laboratory Reagent and Certified ACS for general and quantitative work.

Custom concentrations, tightened limits and reserve lots for a validation campaign are available on request. Lot data is reported on the certificate of analysis.

PRODUCT FAMILY 10200

Ammonia solution

Ammonium hydroxide; Aqueous ammonia; Ammonia water

CAS	EC	HS	UN
1336-21-6	215-647-6	2814.20.00	UN 2672
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8, PG III	17.03 g/mol (NH_3)	NH_3 (aq)	GHS05 · GHS07 · GHS09

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Ammonia solution 25 %	500 mL, 2.5 L	2
Analytical Reagent (AR) · 02	Ammonia solution 25 %	500 mL, 2.5 L	2
PV Pure · 03	Ammonia solution 25 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Ammonia solution 20–22 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store tightly closed below 25 °C in a well-ventilated area. Vapour pressure rises sharply with temperature — vent carefully before opening. Keep away from acids and oxidising agents. Ammonia solution loses strength on storage and on repeated opening. For trace analysis, decant only what is needed and reseal immediately.

Classification

DANGER

H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H400 Very toxic to aquatic life.

P260 · P264 · P271 · P273 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P391 · P403+P233 · P405 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-10200-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C21 — Specification and Guide for Ammonium Hydroxide**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-10200-US-01**
Product specification (all grades)	**HP-SPEC-10200-01**
Grade sheets (one per grade)	**HP-SPEC-10200-**<*grade*>**-01** — grade = 01 · 02 · 03 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Ammonia solution 25 %

General laboratory work, buffer preparation, sample neutralisation

Meets ISO 6353-2 requirements for laboratory reagents

Density 0.91 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NH_3)	**24.0 – 26.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.002**	%
Carbonate (CO_3)	**≤ 0.005**	%
Chloride (Cl)	**≤ 0.0005**	%
Sulphate (SO_4)	**≤ 0.0005**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
102000123	500 mL	Amber glass bottle
102000142	2.5 L	Amber glass bottle

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

AR · GRADE 02

Ammonia solution 25 %

Quantitative analysis, titrimetry, AAS sample preparation

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 0.91 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NH_3)	**25.0 – 26.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.0005**	%
Carbonate (CO_3)	**≤ 0.002**	%
Chloride (Cl)	**≤ 0.00005**	%
Sulphate (SO_4)	**≤ 0.00002**	%
Phosphate (PO_4)	**≤ 0.00002**	%
Iron (Fe)	**≤ 0.00005**	%
Heavy metals (as Pb)	**≤ 0.00005**	%
Substances reducing permanganate	**Passes test**	

SKU	Pack	Packaging
102000223	500 mL	Amber glass bottle
102000242	2.5 L	Amber glass bottle

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

PV PURE · GRADE 03

Ammonia solution 25 %

Photovoltaic wafer cleaning and SC-1 bath make-up

Manufactured to the Highpuris PV Pure specification

Density 0.91 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NH_3)	**24.0 – 26.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00005**	%
Total metallic impurities	**≤ 1**	ppm

SKU	Pack	Packaging
102000362	25 L	HDPE container
102000364	200 L	HDPE container
102000381	1000 L	IBC tank

HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 100**	Magnesium (Mg)	**≤ 100**
Iron (Fe)	**≤ 100**	Potassium (K)	**≤ 100**
Calcium (Ca)	**≤ 100**	Nickel (Ni)	**≤ 100**
Copper (Cu)	**≤ 100**	Chromium (Cr)	**≤ 100**
Aluminium (Al)	**≤ 100**	Zinc (Zn)	**≤ 100**

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 04

Ammonia solution 20–22 %

Semiconductor SC-1 cleaning, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 0.92 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NH_3)	**20.0 – 22.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00002**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
102000422	250 mL	Clear glass / PU-coated Safebreak / FEP
102000423	500 mL	Clear glass / PU-coated Safebreak / FEP
102000441	1 L	Clear glass / PU-coated Safebreak / FEP

Clear glass · PU-coated Safebreak · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 25300

Hydrochloric acid

Muriatic acid; Chlorohydric acid; Hydrogen chloride solution

CAS	EC	HS	UN
7647-01-0	231-595-7	2806.10.00	UN 1789
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8, PG II	36.46 g/mol	HCl	GHS05 · GHS07

Grades in this section

Grade	Product	Pack sizes	SKUs
Technical · 00	Hydrochloric acid 30–34 %	5 L, 25 L, 200 L, 1000 L, 16,000 L	5
Laboratory Reagent (LR) · 01	Hydrochloric acid 35–37 %	500 mL, 2.5 L, 5 L, 25 L, 200 L, 1000 L	6
Analytical Reagent (AR) · 02	Hydrochloric acid 36.5–38 %	500 mL, 2.5 L, 5 L, 25 L, 200 L, 1000 L	6
PV Pure · 03	Hydrochloric acid 30–32 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Hydrochloric acid 34–37 %	500 mL, 1 L, 2.5 L	3
Ultrapure PPB · 14	Hydrochloric acid 30 %	1 L, 2.5 L	2
Ultrapure PPT · 05	Hydrochloric acid 34–37 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store tightly closed in the original container, upright, between 5 and 30 °C in a well-ventilated area away from alkalis, oxidising agents and metals. Hydrochloric acid attacks most metals, liberating hydrogen. Use only corrosion-resistant transfer equipment. Once an ultrapure pack is opened, trace metal levels can no longer be guaranteed against the released specification.

Classification

DANGER

H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation.

P234 · P260 · P264 · P271 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P390 · P403+P233 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-25300-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C27 — Specification and Guide for Hydrochloric Acid**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-25300-US-01**
Product specification (all grades)	**HP-SPEC-25300-01**
Grade sheets (one per grade)	**HP-SPEC-25300-**<*grade*>**-01** — grade = 00 · 01 · 02 · 03 · 04 · 14 · 05
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

TECHNICAL · GRADE 00

Hydrochloric acid 30–34 %

Bulk process chemistry, pickling, water treatment, resin regeneration

Manufactured to Highpuris internal specification

Density 1.15 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**30.0 – 34.0**	%
Appearance	**Clear, free from suspended matter**	
Colour	**≤ 50**	APHA
Residue after ignition	**≤ 0.01**	%
Iron (Fe)	**≤ 5**	ppm
Sulphate (SO_4)	**≤ 0.005**	%
Free chlorine (Cl_2)	**≤ 0.001**	%

SKU	Pack	Packaging
253000044	5 L	HDPE container
253000062	25 L	HDPE container
253000064	200 L	HDPE container
253000081	1000 L	IBC tank
253000082	16,000 L	Road tanker

HDPE containers · IBC tanks · road tanker

LR · GRADE 01

Hydrochloric acid 35–37 %

General laboratory work, teaching laboratories, sample preparation

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.18 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**35.0 – 37.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 20**	APHA
Residue after ignition	**≤ 0.002**	%
Free chlorine (Cl_2)	**≤ 0.0005**	%
Sulphate (SO_4)	**≤ 0.001**	%
Sulphite (SO_3)	**≤ 0.001**	%
Ammonium (NH_4)	**≤ 0.001**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
253000123	500 mL	Amber glass bottle
253000142	2.5 L	Amber glass bottle
253000144	5 L	HDPE container
253000162	25 L	HDPE container
253000164	200 L	HDPE container
253000181	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

AR · GRADE 02

Hydrochloric acid 36.5–38 %

Quantitative analysis, titrimetry, AAS digestion, pharmacopoeial testing

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.19 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**36.5 – 38.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0005**	%
Free chlorine (Cl_2)	**≤ 0.0001**	%
Bromide (Br)	**≤ 0.005**	%
Sulphate (SO_4)	**≤ 0.0001**	%
Sulphite (SO_3)	**≤ 0.0001**	%
Ammonium (NH_4)	**≤ 0.0003**	%
Arsenic (As)	**≤ 0.01**	ppm
Iron (Fe)	**≤ 0.0001**	%
Heavy metals (as Pb)	**≤ 0.0001**	%
Extractable organic substances	**Passes test**	

SKU	Pack	Packaging
253000223	500 mL	Amber glass bottle
253000242	2.5 L	Amber glass bottle
253000244	5 L	HDPE container
253000262	25 L	HDPE container
253000264	200 L	HDPE container
253000281	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

PV PURE · GRADE 03

Hydrochloric acid 30–32 %

Photovoltaic wafer texturing, etching and cleaning

Manufactured to the Highpuris PV Pure specification

Density 1.15 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**30.0 – 32.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0005**	%
Free chlorine (Cl_2)	**≤ 0.0001**	%
Sulphate (SO_4)	**≤ 0.0001**	%
Total metallic impurities	**≤ 1**	ppm

SKU	Pack	Packaging
253000362	25 L	HDPE container
253000364	200 L	HDPE container
253000381	1000 L	IBC tank

HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 100**	Magnesium (Mg)	**≤ 100**
Iron (Fe)	**≤ 100**	Potassium (K)	**≤ 100**
Calcium (Ca)	**≤ 100**	Nickel (Ni)	**≤ 100**
Copper (Cu)	**≤ 100**	Chromium (Cr)	**≤ 100**
Aluminium (Al)	**≤ 100**	Zinc (Zn)	**≤ 100**

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 04

Hydrochloric acid 34–37 %

Semiconductor wet processing, trace metal analysis, ICP and AAS work

Trace metals to the Highpuris ultrapure specification below

Density 1.18 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**34.0 – 37.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after evaporation	**≤ 0.0005**	%
Free chlorine (Cl_2)	**≤ 0.00005**	%
Sulphate (SO_4)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
253000423	500 mL	Clear glass / PU-coated Safebreak / FEP
253000441	1 L	Clear glass / PU-coated Safebreak / FEP
253000442	2.5 L	Clear glass / PU-coated Safebreak / FEP

Clear glass · PU-coated Safebreak · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 14

Hydrochloric acid 30 %

Semiconductor cleaning baths specified at lower concentration

Trace metals to the Highpuris ultrapure specification below

Density 1.15 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**29.5 – 30.5**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after evaporation	**≤ 0.0005**	%
Free chlorine (Cl_2)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
253001441	1 L	Clear glass / PU-coated Safebreak / FEP
253001442	2.5 L	Clear glass / PU-coated Safebreak / FEP

Clear glass · PU-coated Safebreak · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPT · GRADE 05

Hydrochloric acid 34–37 %

ICP-MS trace analysis, advanced wafer fabrication, ultratrace digestion

Trace metals at parts-per-trillion level — limits set from batch validation

Density 1.18 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HCl)	**34.0 – 37.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after evaporation	**≤ 0.0001**	%
Particles > 0.5 µm	**≤ 25**	per mL

SKU	Pack	Packaging
253000522	250 mL	FEP bottle, clean-room packed
253000523	500 mL	FEP bottle, clean-room packed
253000541	1 L	FEP bottle, clean-room packed

FEP bottles, packed in a trace-metal clean room under ULPA filtration

Trace metal impurities

ppt (ng/L)

Aluminium (Al)	—	Gadolinium (Gd)	—	Neodymium (Nd)	—	Strontium (Sr)	—
Antimony (Sb)	—	Gallium (Ga)	—	Nickel (Ni)	—	Tantalum (Ta)	—
Arsenic (As)	—	Germanium (Ge)	—	Niobium (Nb)	—	Tellurium (Te)	—
Barium (Ba)	—	Gold (Au)	—	Osmium (Os)	—	Terbium (Tb)	—
Beryllium (Be)	—	Hafnium (Hf)	—	Palladium (Pd)	—	Thallium (Tl)	—
Bismuth (Bi)	—	Holmium (Ho)	—	Platinum (Pt)	—	Thulium (Tm)	—
Boron (B)	—	Indium (In)	—	Potassium (K)	—	Tin (Sn)	—
Cadmium (Cd)	—	Iridium (Ir)	—	Praseodymium (Pr)	—	Titanium (Ti)	—
Caesium (Cs)	—	Iron (Fe)	—	Rhenium (Re)	—	Tungsten (W)	—
Calcium (Ca)	—	Lanthanum (La)	—	Rhodium (Rh)	—	Vanadium (V)	—
Cerium (Ce)	—	Lead (Pb)	—	Rubidium (Rb)	—	Ytterbium (Yb)	—
Chromium (Cr)	—	Lithium (Li)	—	Ruthenium (Ru)	—	Yttrium (Y)	—
Cobalt (Co)	—	Lutetium (Lu)	—	Samarium (Sm)	—	Zinc (Zn)	—
Copper (Cu)	—	Magnesium (Mg)	—	Scandium (Sc)	—	Zirconium (Zr)	—
Dysprosium (Dy)	—	Manganese (Mn)	—	Selenium (Se)	—		
Erbium (Er)	—	Mercury (Hg)	—	Silver (Ag)	—		
Europium (Eu)	—	Molybdenum (Mo)	—	Sodium (Na)	—		

PPT limits are batch-determined and reported element by element on the certificate of analysis.

PRODUCT FAMILY 25400

Hydrofluoric acid

Hydrogen fluoride solution; Fluorhydric acid; Fluoric acid

CAS	EC	HS	UN
7664-39-3	231-634-8	2811.11.00	UN 1790
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8 (6.1), PG II	20.01 g/mol	HF	GHS05 · GHS06

Warning. Highly toxic and corrosive. Calcium gluconate gel and medical support must be available on site.

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Hydrofluoric acid 40 %	5 L, 25 L, 200 L, 1000 L	4
Analytical Reagent (AR) · 02	Hydrofluoric acid 40 %	5 L, 25 L, 200 L, 1000 L	4
PV Pure · 03	Hydrofluoric acid 49 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Hydrofluoric acid 47–51 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store in HDPE or PFA containers only — never in glass. Keep below 25 °C in a ventilated, bunded area away from alkalis, glass and silicates. Hydrofluoric acid penetrates skin and causes deep, delayed burns with systemic hypocalcaemia. Calcium gluconate gel must be immediately available wherever it is handled and any exposure requires urgent medical attention. Never use glass apparatus.

Classification

DANGER

H300 Fatal if swallowed. H310 Fatal in contact with skin. H314 Causes severe skin burns and eye damage. H330 Fatal if inhaled.

P234 · P260 · P262 · P264 · P270 · P271 · P280 · P284 · P301+P310 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P320 · P361+P364 · P390 · P403+P233 · P404 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-25400-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C28 — Specification and Guide for Hydrofluoric Acid**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-25400-US-01**
Product specification (all grades)	**HP-SPEC-25400-01**
Grade sheets (one per grade)	**HP-SPEC-25400-**<*grade*>**-01** — grade = 01 · 02 · 03 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Hydrofluoric acid 40 %

General laboratory work, silicate digestion, glass etching

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.13 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HF)	**39.0 – 41.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.002**	%
Sulphate (SO_4)	**≤ 0.005**	%
Fluorosilicate (SiF_6)	**≤ 0.05**	%
Iron (Fe)	**≤ 0.001**	%
Heavy metals (as Pb)	**≤ 0.001**	%

SKU	Pack	Packaging
254000144	5 L	HDPE container
254000162	25 L	HDPE container
254000164	200 L	HDPE container
254000181	1000 L	IBC tank

HDPE containers only · IBC tanks

AR · GRADE 02

Hydrofluoric acid 40 %

Quantitative analysis, geological and ceramic sample digestion

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.13 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HF)	**39.5 – 40.5**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.001**	%
Chloride (Cl)	**≤ 0.0005**	%
Sulphate and sulphite (as SO_4)	**≤ 0.002**	%
Fluorosilicate (SiF_6)	**≤ 0.01**	%
Phosphate (PO_4)	**≤ 0.0002**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
254000244	5 L	HDPE container
254000262	25 L	HDPE container
254000264	200 L	HDPE container
254000281	1000 L	IBC tank

HDPE containers only · IBC tanks

PV PURE · GRADE 03

Hydrofluoric acid 49 %

Photovoltaic wafer texturing, oxide removal and cleaning

Manufactured to the Highpuris PV Pure specification

Density 1.16 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HF)	**48.0 – 50.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.0005**	%
Fluorosilicate (SiF_6)	**≤ 0.005**	%
Total metallic impurities	**≤ 1**	ppm

SKU	Pack	Packaging
254000362	25 L	Specially designed HDPE container
254000364	200 L	Specially designed HDPE container
254000381	1000 L	IBC tank

Specially designed HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 100**	Magnesium (Mg)	**≤ 100**
Iron (Fe)	**≤ 100**	Potassium (K)	**≤ 100**
Calcium (Ca)	**≤ 100**	Nickel (Ni)	**≤ 100**
Copper (Cu)	**≤ 100**	Chromium (Cr)	**≤ 100**
Aluminium (Al)	**≤ 100**	Zinc (Zn)	**≤ 100**

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 04

Hydrofluoric acid 47–51 %

Semiconductor oxide etching, BOE make-up, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 1.16 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HF)	**47.0 – 51.0**	%
Appearance	**Clear, colourless liquid**	
Residue after evaporation	**≤ 0.0005**	%
Fluorosilicate (SiF_6)	**≤ 0.001**	%
Chloride (Cl)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
254000422	250 mL	Specially designed HDPE
254000423	500 mL	Specially designed HDPE
254000441	1 L	Specially designed HDPE

Specially designed HDPE · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 20500

Hydrogen peroxide

Hydrogen dioxide; Dihydrogen dioxide; Perhydrol (30 %)

CAS	EC	HS	UN
7722-84-1	231-765-0	2847.00.00	UN 2014
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 5.1 (8), PG II	34.01 g/mol	H_2O_2	GHS03 · GHS05 · GHS07

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Hydrogen peroxide 30 %	25 L, 50 L	2
Analytical Reagent (AR) · 02	Hydrogen peroxide 30 %	25 L, 50 L	2
PV Pure · 03	Hydrogen peroxide 30–31 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Hydrogen peroxide 30–32 %	500 mL, 1 L	2

Handling and storage

Store upright below 25 °C in vented containers, away from light, heat, metals and combustible material. Never return decanted material to the original container. Hydrogen peroxide decomposes slowly, releasing oxygen — containers are vented and must never be sealed tight or transferred to unvented vessels. Contamination with metals or dust accelerates decomposition sharply.

Classification

DANGER

H271 May cause fire or explosion; strong oxidiser. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation.

P210 · P220 · P221 · P261 · P264 · P270 · P271 · P280 · P301+P312 · P330 · P303+P361+P353 · P304+P340+P312 · P305+P351+P338 · P310 · P370+P378 · P403+P235 · P405 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-20500-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C30 — Specification and Guide for Hydrogen Peroxide**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-20500-US-01**
Product specification (all grades)	**HP-SPEC-20500-01**
Grade sheets (one per grade)	**HP-SPEC-20500-**<*grade*>**-01** — grade = 01 · 02 · 03 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Hydrogen peroxide 30 %

General laboratory work, cleaning solutions, oxidation reactions

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.11 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2O_2)	**29.0 – 31.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.0005**	%
Sulphate (SO_4)	**≤ 0.005**	%
Nitrate (NO_3)	**≤ 0.005**	%
Iron (Fe)	**≤ 0.0002**	%
Heavy metals (as Pb)	**≤ 0.0005**	%
Stabiliser	**≤ 0.005**	%

SKU	Pack	Packaging
205000162	25 L	Vented HDPE container
205000163	50 L	Vented HDPE container

Vented HDPE containers

AR · GRADE 02

Hydrogen peroxide 30 %

Quantitative analysis, sample digestion, trace-metal cleaning

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.11 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2O_2)	**29.0 – 32.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.002**	%
Chloride (Cl)	**≤ 0.0003**	%
Sulphate (SO_4)	**≤ 0.002**	%
Nitrate (NO_3)	**≤ 0.002**	%
Phosphate (PO_4)	**≤ 0.0005**	%
Ammonium (NH_4)	**≤ 0.0005**	%
Iron (Fe)	**≤ 0.00005**	%
Heavy metals (as Pb)	**≤ 0.0001**	%

SKU	Pack	Packaging
205000262	25 L	Vented HDPE container
205000263	50 L	Vented HDPE container

Vented HDPE containers

PV PURE · GRADE 03

Hydrogen peroxide 30–31 %

Photovoltaic wafer cleaning, SC-1 and SC-2 bath make-up

Manufactured to the Highpuris PV Pure specification

Density 1.11 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2O_2)	**30.0 – 31.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00005**	%
Total metallic impurities	**≤ 1**	ppm

SKU	Pack	Packaging
205000362	25 L	Vented HDPE container
205000364	200 L	Vented HDPE container
205000381	1000 L	IBC tank

Vented HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 100**	Magnesium (Mg)	**≤ 100**
Iron (Fe)	**≤ 100**	Potassium (K)	**≤ 100**
Calcium (Ca)	**≤ 100**	Nickel (Ni)	**≤ 100**
Copper (Cu)	**≤ 100**	Chromium (Cr)	**≤ 100**
Aluminium (Al)	**≤ 100**	Zinc (Zn)	**≤ 100**

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 04

Hydrogen peroxide 30–32 %

Semiconductor cleaning chemistry, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 1.11 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2O_2)	**30.0 – 32.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.0003**	%
Chloride (Cl)	**≤ 0.00002**	%
Phosphate (PO_4)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
205000423	500 mL	Specially designed HDPE
205000441	1 L	Specially designed HDPE

Specially designed HDPE · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 26100

Nitric acid

Aqua fortis; Hydrogen nitrate; Azotic acid

CAS	EC	HS	UN
7697-37-2	231-714-2	2808.00.10	UN 2031
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8 (5.1), PG II	63.01 g/mol	HNO_3	GHS03 · GHS05

Grades in this section

Grade	Product	Pack sizes	SKUs
Technical · 00	Nitric acid 60–62 %	5 L, 25 L, 200 L, 1000 L, 16,000 L	5
Laboratory Reagent (LR) · 01	Nitric acid 69 %	500 mL, 2.5 L, 5 L, 25 L, 200 L, 1000 L	6
Analytical Reagent (AR) · 02	Nitric acid 69–70 %	500 mL, 2.5 L, 5 L, 25 L, 200 L, 1000 L	6
PV Pure · 03	Nitric acid 67–69 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Nitric acid 67–69 %	500 mL, 1 L, 2.5 L	3
Ultrapure PPT · 05	Nitric acid 67–69 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store tightly closed, upright, below 30 °C in a well-ventilated area away from combustible material, organics, bases and metals. Protect from light. Nitric acid is a strong oxidiser as well as a strong acid. Never mix with organic solvents or alcohols. Yellowing on storage indicates dissolved nitrogen oxides and is normal for concentrated grades.

Classification

DANGER

H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. EUH071 Corrosive to the respiratory tract.

P210 · P220 · P221 · P234 · P260 · P264 · P271 · P280 · P284 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P370+P378 · P390 · P402 · P403+P233 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-26100-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C35 — Specification and Guide for Nitric Acid**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-26100-US-01**
Product specification (all grades)	**HP-SPEC-26100-01**
Grade sheets (one per grade)	**HP-SPEC-26100-**<*grade*>**-01** — grade = 00 · 01 · 02 · 03 · 04 · 05
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

TECHNICAL · GRADE 00

Nitric acid 60–62 %

Bulk process chemistry, metal pickling and passivation

Manufactured to Highpuris internal specification

Density 1.37 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HNO_3)	**60.0 – 62.0**	%
Appearance	**Clear, free from suspended matter**	
Colour	**≤ 50**	APHA
Residue after ignition	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.005**	%
Sulphate (SO_4)	**≤ 0.005**	%
Iron (Fe)	**≤ 5**	ppm

SKU	Pack	Packaging
261000044	5 L	HDPE container
261000062	25 L	HDPE container
261000064	200 L	HDPE container
261000081	1000 L	IBC tank
261000082	16,000 L	Road tanker

HDPE containers · IBC tanks · road tanker

LR · GRADE 01

Nitric acid 69 %

General laboratory work, sample digestion, glassware cleaning

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.41 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HNO_3)	**68.0 – 70.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 20**	APHA
Residue after ignition	**≤ 0.002**	%
Chloride (Cl)	**≤ 0.0005**	%
Sulphate (SO_4)	**≤ 0.001**	%
Phosphate (PO_4)	**≤ 0.0005**	%
Iron (Fe)	**≤ 0.0002**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
261000123	500 mL	Amber glass bottle
261000142	2.5 L	Amber glass bottle
261000144	5 L	HDPE container
261000162	25 L	HDPE container
261000164	200 L	HDPE container
261000181	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

AR · GRADE 02

Nitric acid 69–70 %

Quantitative analysis, AAS and ICP digestion, pharmacopoeial testing

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.41 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HNO_3)	**69.0 – 70.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00002**	%
Sulphate (SO_4)	**≤ 0.00005**	%
Phosphate (PO_4)	**≤ 0.00002**	%
Arsenic (As)	**≤ 0.005**	ppm
Iron (Fe)	**≤ 0.00002**	%
Heavy metals (as Pb)	**≤ 0.00002**	%

SKU	Pack	Packaging
261000223	500 mL	Amber glass bottle
261000242	2.5 L	Amber glass bottle
261000244	5 L	HDPE container
261000262	25 L	HDPE container
261000264	200 L	HDPE container
261000281	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

PV PURE · GRADE 03

Nitric acid 67–69 %

Photovoltaic wafer texturing and etching, module manufacturing

Manufactured to the Highpuris PV Pure specification

Density 1.40 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HNO_3)	**67.0 – 69.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00005**	%
Total metallic impurities	**≤ 1**	ppm

SKU	Pack	Packaging
261000362	25 L	HDPE container
261000364	200 L	HDPE container
261000381	1000 L	IBC tank

HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 100**	Magnesium (Mg)	**≤ 100**
Iron (Fe)	**≤ 100**	Potassium (K)	**≤ 100**
Calcium (Ca)	**≤ 100**	Nickel (Ni)	**≤ 100**
Copper (Cu)	**≤ 100**	Chromium (Cr)	**≤ 100**
Aluminium (Al)	**≤ 100**	Zinc (Zn)	**≤ 100**

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 04

Nitric acid 67–69 %

Semiconductor processing, trace metal analysis, ICP and AAS work

Trace metals to the Highpuris ultrapure specification below

Density 1.40 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HNO_3)	**67.0 – 69.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after evaporation	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00002**	%
Sulphate (SO_4)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
261000423	500 mL	Clear glass / PU-coated Safebreak / FEP
261000441	1 L	Clear glass / PU-coated Safebreak / FEP
261000442	2.5 L	Clear glass / PU-coated Safebreak / FEP

Clear glass · PU-coated Safebreak · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPT · GRADE 05

Nitric acid 67–69 %

ICP-MS trace analysis, advanced wafer fabrication, ultratrace digestion

Trace metals at parts-per-trillion level — limits set from batch validation

Density 1.40 g/mL (20 °C)

Parameter	Limit	Unit
Assay (HNO_3)	**67.0 – 69.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after evaporation	**≤ 0.0001**	%
Particles > 0.5 µm	**≤ 25**	per mL

SKU	Pack	Packaging
261000522	250 mL	FEP bottle, clean-room packed
261000523	500 mL	FEP bottle, clean-room packed
261000541	1 L	FEP bottle, clean-room packed

FEP bottles, packed in a trace-metal clean room under ULPA filtration

Trace metal impurities

ppt (ng/L)

Aluminium (Al)	—	Gadolinium (Gd)	—	Neodymium (Nd)	—	Strontium (Sr)	—
Antimony (Sb)	—	Gallium (Ga)	—	Nickel (Ni)	—	Tantalum (Ta)	—
Arsenic (As)	—	Germanium (Ge)	—	Niobium (Nb)	—	Tellurium (Te)	—
Barium (Ba)	—	Gold (Au)	—	Osmium (Os)	—	Terbium (Tb)	—
Beryllium (Be)	—	Hafnium (Hf)	—	Palladium (Pd)	—	Thallium (Tl)	—
Bismuth (Bi)	—	Holmium (Ho)	—	Platinum (Pt)	—	Thulium (Tm)	—
Boron (B)	—	Indium (In)	—	Potassium (K)	—	Tin (Sn)	—
Cadmium (Cd)	—	Iridium (Ir)	—	Praseodymium (Pr)	—	Titanium (Ti)	—
Caesium (Cs)	—	Iron (Fe)	—	Rhenium (Re)	—	Tungsten (W)	—
Calcium (Ca)	—	Lanthanum (La)	—	Rhodium (Rh)	—	Vanadium (V)	—
Cerium (Ce)	—	Lead (Pb)	—	Rubidium (Rb)	—	Ytterbium (Yb)	—
Chromium (Cr)	—	Lithium (Li)	—	Ruthenium (Ru)	—	Yttrium (Y)	—
Cobalt (Co)	—	Lutetium (Lu)	—	Samarium (Sm)	—	Zinc (Zn)	—
Copper (Cu)	—	Magnesium (Mg)	—	Scandium (Sc)	—	Zirconium (Zr)	—
Dysprosium (Dy)	—	Manganese (Mn)	—	Selenium (Se)	—		
Erbium (Er)	—	Mercury (Hg)	—	Silver (Ag)	—		
Europium (Eu)	—	Molybdenum (Mo)	—	Sodium (Na)	—		

PPT limits are batch-determined and reported element by element on the certificate of analysis.

PRODUCT FAMILY 26700

Sulphuric acid

Sulfuric acid; Oil of vitriol; Hydrogen sulfate

CAS	EC	HS	UN
7664-93-9	231-639-5	2807.00.00	UN 1830
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8, PG II	98.08 g/mol	H_2SO_4	GHS05

Grades in this section

Grade	Product	Pack sizes	SKUs
Technical · 00	Sulphuric acid 98 %	5 L, 25 L, 200 L, 1000 L, 16,000 L	5
Laboratory Reagent (LR) · 01	Sulphuric acid 98 %	500 mL, 2.5 L, 5 L, 25 L, 200 L, 1000 L	6
Analytical Reagent (AR) · 02	Sulphuric acid 95–98 %	500 mL, 2.5 L, 5 L, 25 L, 200 L, 1000 L	6
PV Pure · 03	Sulphuric acid 96–98 %	5 L, 25 L, 1000 L	3
Ultrapure PPB · 04	Sulphuric acid 93–98 %	500 mL, 1 L	2

Handling and storage

Store tightly closed, upright, in a cool dry bunded area away from water, bases, metals and organic material. Always add acid to water, never the reverse — dilution is strongly exothermic and can boil violently. Concentrated sulphuric acid chars organic material on contact.

Classification

DANGER

H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.

P234 · P260 · P264 · P271 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P390 · P403+P233 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-26700-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C44 — Specification and Guide for Sulfuric Acid**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-26700-US-01**
Product specification (all grades)	**HP-SPEC-26700-01**
Grade sheets (one per grade)	**HP-SPEC-26700-**<*grade*>**-01** — grade = 00 · 01 · 02 · 03 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

TECHNICAL · GRADE 00

Sulphuric acid 98 %

Bulk process chemistry, dehydration, effluent neutralisation

Manufactured to Highpuris internal specification

Density 1.84 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2SO_4)	**97.0 – 98.5**	%
Appearance	**Clear, free from suspended matter**	
Colour	**≤ 50**	APHA
Residue after ignition	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.005**	%
Iron (Fe)	**≤ 10**	ppm

SKU	Pack	Packaging
267000044	5 L	HDPE container
267000062	25 L	HDPE container
267000064	200 L	HDPE container
267000081	1000 L	IBC tank
267000082	16,000 L	Road tanker

HDPE containers · IBC tanks · road tanker

LR · GRADE 01

Sulphuric acid 98 %

General laboratory work, sample digestion, drying

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.84 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2SO_4)	**97.0 – 98.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 20**	APHA
Residue after ignition	**≤ 0.002**	%
Chloride (Cl)	**≤ 0.0005**	%
Nitrate (NO_3)	**≤ 0.0005**	%
Ammonium (NH_4)	**≤ 0.001**	%
Iron (Fe)	**≤ 0.0002**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
267000123	500 mL	Amber glass bottle
267000142	2.5 L	Amber glass bottle
267000144	5 L	HDPE container
267000162	25 L	HDPE container
267000164	200 L	HDPE container
267000181	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

AR · GRADE 02

Sulphuric acid 95–98 %

Quantitative analysis, Kjeldahl digestion, COD determination

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.84 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2SO_4)	**95.0 – 98.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00002**	%
Nitrate (NO_3)	**≤ 0.00005**	%
Ammonium (NH_4)	**≤ 0.0002**	%
Arsenic (As)	**≤ 0.005**	ppm
Iron (Fe)	**≤ 0.00002**	%
Heavy metals (as Pb)	**≤ 0.0001**	%
Substances reducing permanganate	**Passes test**	

SKU	Pack	Packaging
267000223	500 mL	Amber glass bottle
267000242	2.5 L	Amber glass bottle
267000244	5 L	HDPE container
267000262	25 L	HDPE container
267000264	200 L	HDPE container
267000281	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

PV PURE · GRADE 03

Sulphuric acid 96–98 %

Photovoltaic wafer cleaning and piranha bath make-up

Manufactured to the Highpuris PV Pure specification

Density 1.84 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2SO_4)	**96.0 – 98.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00005**	%
Total metallic impurities	**≤ 1**	ppm

SKU	Pack	Packaging
267000344	5 L	HDPE container
267000362	25 L	HDPE container
267000381	1000 L	IBC tank

HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 100**	Magnesium (Mg)	**≤ 100**
Iron (Fe)	**≤ 100**	Potassium (K)	**≤ 100**
Calcium (Ca)	**≤ 100**	Nickel (Ni)	**≤ 100**
Copper (Cu)	**≤ 100**	Chromium (Cr)	**≤ 100**
Aluminium (Al)	**≤ 100**	Zinc (Zn)	**≤ 100**

Determined by ICP-MS and reported on the certificate of analysis.

ULTRAPURE PPB · GRADE 04

Sulphuric acid 93–98 %

Semiconductor cleaning chemistry, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 1.84 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_2SO_4)	**93.0 – 98.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Residue after ignition	**≤ 0.0003**	%
Chloride (Cl)	**≤ 0.00002**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
267000423	500 mL	Clear glass / PU-coated Safebreak / FEP
267000441	1 L	Clear glass / PU-coated Safebreak / FEP

Clear glass · PU-coated Safebreak · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 26800

o-Phosphoric acid

Orthophosphoric acid; Phosphoric(V) acid; Hydrogen phosphate

CAS	EC	HS	UN
7664-38-2	**231-633-2**	**2809.20.00**	**UN 1805**
CLASS / PG	M.W.	FORMULA	PICTOGRAMS
Class 8, PG III	**98.00 g/mol**	**H_3PO_4**	**GHS05**

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	o-Phosphoric acid 85 %	500 mL, 1 L, 2.5 L	3
Analytical Reagent (AR) · 02	o-Phosphoric acid 85 %	500 mL, 1 L, 2.5 L	3
Ultrapure PPB · 04	o-Phosphoric acid 85 %	500 mL, 1 L, 2.5 L	3

Handling and storage

Store tightly closed between 5 and 30 °C. Crystallises below about 21 °C at 85 % — warm gently and mix before use if crystals are present. Phosphoric acid is viscous and slow to drain; allow for hold-up when dispensing. Crystallisation in cold storage is normal and reverses on warming.

Classification

DANGER

H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.

P234 · P260 · P264 · P270 · P271 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P390 · P403+P233 · P402 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-26800-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C36 — Specification for Phosphoric Acid**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-26800-US-01**
Product specification (all grades)	**HP-SPEC-26800-01**
Grade sheets (one per grade)	**HP-SPEC-26800-**<*grade*>**-01** — grade = 01 · 02 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

o-Phosphoric acid 85 %

General laboratory work, buffer preparation, metal treatment

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.69 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_3PO_4)	**≥ 85.0**	%
Appearance	**Clear, colourless viscous liquid**	
Residue after ignition	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.001**	%
Sulphate (SO_4)	**≤ 0.005**	%
Nitrate (NO_3)	**≤ 0.001**	%
Iron (Fe)	**≤ 0.001**	%
Heavy metals (as Pb)	**≤ 0.001**	%

SKU	Pack	Packaging
268000123	500 mL	HDPE container
268000141	1 L	HDPE container
268000142	2.5 L	HDPE container

HDPE containers · amber glass bottles

AR · GRADE 02

o-Phosphoric acid 85 %

Quantitative analysis, HPLC mobile phase preparation, ion chromatography

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.69 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_3PO_4)	**≥ 85.0**	%
Appearance	**Clear, colourless viscous liquid**	
Residue after ignition	**≤ 0.005**	%
Chloride (Cl)	**≤ 0.0003**	%
Sulphate (SO_4)	**≤ 0.0005**	%
Nitrate (NO_3)	**≤ 0.0005**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%
Substances reducing permanganate	**Passes test**	

SKU	Pack	Packaging
268000223	500 mL	HDPE container
268000241	1 L	HDPE container
268000242	2.5 L	HDPE container

HDPE containers · amber glass bottles

ULTRAPURE PPB · GRADE 04

o-Phosphoric acid 85 %

Semiconductor etching chemistry, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 1.69 g/mL (20 °C)

Parameter	Limit	Unit
Assay (H_3PO_4)	**84.0 – 86.0**	%
Appearance	**Clear, colourless viscous liquid**	
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
268000423	500 mL	Specially designed HDPE
268000441	1 L	Specially designed HDPE
268000442	2.5 L	Specially designed HDPE

Specially designed HDPE · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 27900

Potassium hydroxide solution

Caustic potash solution; Potassium hydrate; Potash lye

CAS	EC	HS	UN
1310-58-3	215-181-3	2815.20.00	UN 1814
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8, PG II	56.11 g/mol	KOH (aq)	GHS05 · GHS07

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Potassium hydroxide solution 45 %	500 mL, 2.5 L, 25 L, 200 L, 1000 L	5
Analytical Reagent (AR) · 02	Potassium hydroxide solution 45 %	500 mL, 1 L, 2.5 L, 25 L, 200 L, 1000 L	6
PV Pure · 03	Potassium hydroxide solution 45–48 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Potassium hydroxide solution 45 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store tightly closed above 15 °C to prevent crystallisation. Keep away from acids, aluminium, zinc and tin. Concentrated potassium hydroxide attacks glass slowly and aluminium rapidly, liberating hydrogen. Dilution is strongly exothermic — add the solution to water.

Classification

DANGER

H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage.

P234 · P260 · P264 · P270 · P271 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P390 · P402 · P403+P233 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-27900-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C40 — Specification for Potassium Hydroxide, 45 % Solution**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-27900-US-01**
Product specification (all grades)	**HP-SPEC-27900-01**
Grade sheets (one per grade)	**HP-SPEC-27900-**<*grade*>**-01** — grade = 01 · 02 · 03 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Potassium hydroxide solution 45 %

General laboratory work, neutralisation, cleaning solutions

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.45 g/mL (20 °C)

Parameter	Limit	Unit
Assay (KOH)	**44.0 – 46.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (K_2CO_3)	**≤ 1.0**	%
Chloride (Cl)	**≤ 0.01**	%
Sulphate (SO_4)	**≤ 0.005**	%
Sodium (Na)	**≤ 0.5**	%
Iron (Fe)	**≤ 0.001**	%
Heavy metals (as Pb)	**≤ 0.001**	%

SKU	Pack	Packaging
279000123	500 mL	Amber glass bottle
279000142	2.5 L	Amber glass bottle
279000162	25 L	HDPE container
279000164	200 L	HDPE container
279000181	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

AR · GRADE 02

Potassium hydroxide solution 45 %

Quantitative analysis, titrimetry, carbonate-free preparations

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.45 g/mL (20 °C)

Parameter	Limit	Unit
Assay (KOH)	**44.5 – 45.5**	%
Appearance	**Clear, colourless liquid**	
Carbonate (K_2CO_3)	**≤ 0.5**	%
Chloride (Cl)	**≤ 0.001**	%
Sulphate (SO_4)	**≤ 0.001**	%
Nitrogen compounds (as N)	**≤ 0.001**	%
Sodium (Na)	**≤ 0.1**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
279000223	500 mL	Amber glass bottle
279000241	1 L	Amber glass bottle
279000242	2.5 L	Amber glass bottle
279000262	25 L	HDPE container
279000264	200 L	HDPE container
279000281	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

PV PURE · GRADE 03

Potassium hydroxide solution 45–48 %

Photovoltaic wafer texturing and saw-damage removal

Manufactured to the Highpuris PV Pure specification

Density 1.47 g/mL (20 °C)

Parameter	Limit	Unit
Assay (KOH)	**45.0 – 48.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (K_2CO_3)	**≤ 0.3**	%
Chloride (Cl)	**≤ 0.0005**	%
Total metallic impurities (excl. K)	**≤ 5**	ppm

SKU	Pack	Packaging
279000362	25 L	HDPE container
279000364	200 L	HDPE container
279000381	1000 L	IBC tank

HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 500**	Magnesium (Mg)	**≤ 500**
Iron (Fe)	**≤ 500**	Potassium (K)	**≤ 500**
Calcium (Ca)	**≤ 500**	Nickel (Ni)	**≤ 500**
Copper (Cu)	**≤ 500**	Chromium (Cr)	**≤ 500**
Aluminium (Al)	**≤ 500**	Zinc (Zn)	**≤ 500**

Determined by ICP-MS and reported on the certificate of analysis. Potassium is the matrix element and is not listed.

ULTRAPURE PPB · GRADE 04

Potassium hydroxide solution 45 %

Semiconductor etching and cleaning, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 1.45 g/mL (20 °C)

Parameter	Limit	Unit
Assay (KOH)	**44.0 – 46.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (K_2CO_3)	**≤ 0.2**	%
Chloride (Cl)	**≤ 0.0001**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
279000422	250 mL	Specially designed HDPE
279000423	500 mL	Specially designed HDPE
279000441	1 L	Specially designed HDPE

Specially designed HDPE · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Europium (Eu)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**
Antimony (Sb)	**≤ 0.5**	Gadolinium (Gd)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**
Arsenic (As)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Barium (Ba)	**≤ 0.1**	Germanium (Ge)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Boron (B)	**≤ 1**	Holmium (Ho)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Cadmium (Cd)	**≤ 0.5**	Indium (In)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Caesium (Cs)	**≤ 0.1**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Tin (Sn)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Chromium (Cr)	**≤ 0.5**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cobalt (Co)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Ytterbium (Yb)	**≤ 0.1**
Copper (Cu)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Yttrium (Y)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Erbium (Er)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**	Zirconium (Zr)	**≤ 0.1**

Determined by ICP-MS and reported on the certificate of analysis. Potassium is the matrix element and is not listed.

PRODUCT FAMILY 28000

Sodium hydroxide solution

Caustic soda solution; Sodium hydrate; Soda lye

CAS	EC	HS	UN
1310-73-2	215-185-5	2815.12.00	UN 1824
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 8, PG II	40.00 g/mol	NaOH (aq)	GHS05

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Sodium hydroxide solution 47–50 %	500 mL, 1 L, 2.5 L, 25 L, 200 L, 1000 L	6
Analytical Reagent (AR) · 02	Sodium hydroxide solution 47–50 %	500 mL, 1 L, 2.5 L, 25 L, 200 L, 1000 L	6
PV Pure · 03	Sodium hydroxide solution 48–50 %	25 L, 200 L, 1000 L	3
Ultrapure PPB · 04	Sodium hydroxide solution 47–50 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store tightly closed above 20 °C — 50 % solution crystallises near 12 °C. Keep away from acids, aluminium, zinc and tin. Concentrated sodium hydroxide attacks glass slowly and aluminium rapidly, liberating hydrogen. Dilution is strongly exothermic — add the solution to water.

Classification

DANGER

H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.

P234 · P260 · P264 · P271 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P390 · P402 · P403+P233 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-28000-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C43 — Specification for Sodium Hydroxide, 50 % Solution**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-28000-US-01**
Product specification (all grades)	**HP-SPEC-28000-01**
Grade sheets (one per grade)	**HP-SPEC-28000-**<*grade*>**-01** — grade = 01 · 02 · 03 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Sodium hydroxide solution 47–50 %

General laboratory work, neutralisation, cleaning solutions

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.50 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NaOH)	**47.0 – 50.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (Na_2CO_3)	**≤ 0.5**	%
Chloride (Cl)	**≤ 0.01**	%
Sulphate (SO_4)	**≤ 0.005**	%
Iron (Fe)	**≤ 0.001**	%
Heavy metals (as Pb)	**≤ 0.001**	%

SKU	Pack	Packaging
280000123	500 mL	Amber glass bottle
280000141	1 L	Amber glass bottle
280000142	2.5 L	Amber glass bottle
280000162	25 L	HDPE container
280000164	200 L	HDPE container
280000181	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

AR · GRADE 02

Sodium hydroxide solution 47–50 %

Quantitative analysis, titrimetry, carbonate-free preparations

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.50 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NaOH)	**48.0 – 50.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (Na_2CO_3)	**≤ 0.2**	%
Chloride (Cl)	**≤ 0.001**	%
Sulphate (SO_4)	**≤ 0.001**	%
Nitrogen compounds (as N)	**≤ 0.001**	%
Potassium (K)	**≤ 0.05**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
280000223	500 mL	Amber glass bottle
280000241	1 L	Amber glass bottle
280000242	2.5 L	Amber glass bottle
280000262	25 L	HDPE container
280000264	200 L	HDPE container
280000281	1000 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 1000 L)

PV PURE · GRADE 03

Sodium hydroxide solution 48–50 %

Photovoltaic wafer texturing and saw-damage removal

Manufactured to the Highpuris PV Pure specification

Density 1.51 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NaOH)	**48.0 – 50.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (Na_2CO_3)	**≤ 0.2**	%
Chloride (Cl)	**≤ 0.0005**	%
Total metallic impurities (excl. Na)	**≤ 5**	ppm

SKU	Pack	Packaging
280000362	25 L	HDPE container
280000364	200 L	HDPE container
280000381	1000 L	IBC tank

HDPE containers · IBC tanks

Metallic impurities

ppb (µg/L)

Sodium (Na)	**≤ 500**	Magnesium (Mg)	**≤ 500**
Iron (Fe)	**≤ 500**	Potassium (K)	**≤ 500**
Calcium (Ca)	**≤ 500**	Nickel (Ni)	**≤ 500**
Copper (Cu)	**≤ 500**	Chromium (Cr)	**≤ 500**
Aluminium (Al)	**≤ 500**	Zinc (Zn)	**≤ 500**

Determined by ICP-MS and reported on the certificate of analysis. Sodium is the matrix element and is not listed.

ULTRAPURE PPB · GRADE 04

Sodium hydroxide solution 47–50 %

Semiconductor etching and cleaning, trace metal analysis

Trace metals to the Highpuris ultrapure specification below

Density 1.50 g/mL (20 °C)

Parameter	Limit	Unit
Assay (NaOH)	**47.0 – 50.0**	%
Appearance	**Clear, colourless liquid**	
Carbonate (Na_2CO_3)	**≤ 0.2**	%
Chloride (Cl)	**≤ 0.0001**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
280000422	250 mL	Specially designed HDPE
280000423	500 mL	Specially designed HDPE
280000441	1 L	Specially designed HDPE

Specially designed HDPE · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Europium (Eu)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Selenium (Se)	**≤ 1**
Antimony (Sb)	**≤ 0.5**	Gadolinium (Gd)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Silver (Ag)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Barium (Ba)	**≤ 0.1**	Germanium (Ge)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Boron (B)	**≤ 1**	Holmium (Ho)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Cadmium (Cd)	**≤ 0.5**	Indium (In)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Caesium (Cs)	**≤ 0.1**	Iridium (Ir)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Iron (Fe)	**≤ 1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lanthanum (La)	**≤ 0.1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Chromium (Cr)	**≤ 0.5**	Lead (Pb)	**≤ 0.2**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cobalt (Co)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Copper (Cu)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Magnesium (Mg)	**≤ 1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Erbium (Er)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**

Determined by ICP-MS and reported on the certificate of analysis. Sodium is the matrix element and is not listed.

PRODUCT FAMILY 28100

Perchloric acid

Hyperchloric acid; Perchloric acid 70 %; Perchloric acid solution

CAS	EC	HS	UN
7601-90-3	231-512-4	2811.19.80	UN 1873
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 5.1 (8), PG I	100.46 g/mol	$HClO_4$	GHS03 · GHS05

Warning. Strong oxidiser. Keep away from organic material; specialised storage and disposal required.

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Perchloric acid 70 %	500 mL, 2.5 L	2
Analytical Reagent (AR) · 02	Perchloric acid 70 %	500 mL, 1 L, 2.5 L	3
Ultrapure PPB · 04	Perchloric acid 70 %	250 mL, 500 mL, 1 L	3

Handling and storage

Store in a dedicated, well-ventilated area away from organic material, reducing agents and dehydrating agents. Keep on a spill tray of inert, non-combustible material. Hot or concentrated perchloric acid forms explosive mixtures with organic material. Digestions must be carried out only in a dedicated perchloric acid fume hood with a wash-down facility. Never evaporate to dryness.

Classification

DANGER

H271 May cause fire or explosion; strong oxidiser. H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.

P210 · P220 · P221 · P234 · P260 · P264 · P270 · P271 · P280 · P283 · P301+P330+P331 · P303+P361+P353 · P306+P360 · P304+P340 · P305+P351+P338 · P310 · P363 · P371+P380+P375 · P370+P378 · P390 · P402 · P403+P233 · P405 · P406 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-28100-US-01 before use.

Reference standards. No SEMI specification exists for perchloric acid; the Ultrapure PPB grade is released to the Highpuris trace-metal specification.

Documents

Safety Data Sheet	**HP-SDS-28100-US-01**
Product specification (all grades)	**HP-SPEC-28100-01**
Grade sheets (one per grade)	**HP-SPEC-28100-*<grade>*-01** — grade = 01 · 02 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Perchloric acid 70 %

General laboratory work, sample digestion, ion-pair reagent preparation

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.67 g/mL (20 °C)

Parameter	Limit	Unit
Assay ($HClO_4$)	**69.0 – 72.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.001**	%
Sulphate (SO_4)	**≤ 0.002**	%
Nitrate (NO_3)	**≤ 0.002**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.001**	%

SKU	Pack	Packaging
281000123	500 mL	Amber glass bottle
281000142	2.5 L	Amber glass bottle

Amber glass bottles

AR · GRADE 02

Perchloric acid 70 %

Quantitative analysis, wet-ashing digestion, non-aqueous titrimetry

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.67 g/mL (20 °C)

Parameter	Limit	Unit
Assay ($HClO_4$)	**69.0 – 72.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.002**	%
Chloride (Cl)	**≤ 0.0005**	%
Sulphate (SO_4)	**≤ 0.0005**	%
Nitrate (NO_3)	**≤ 0.0005**	%
Phosphate (PO_4)	**≤ 0.0002**	%
Iron (Fe)	**≤ 0.0002**	%
Heavy metals (as Pb)	**≤ 0.0002**	%

SKU	Pack	Packaging
281000223	500 mL	Amber glass bottle
281000241	1 L	Amber glass bottle
281000242	2.5 L	Amber glass bottle

Amber glass bottles

ULTRAPURE PPB · GRADE 04

Perchloric acid 70 %

Trace metal digestion, ICP and ICP-MS sample preparation

Trace metals to the Highpuris ultrapure specification below

Density 1.67 g/mL (20 °C)

Parameter	Limit	Unit
Assay ($HClO_4$)	**69.0 – 72.0**	%
Appearance	**Clear, colourless liquid**	
Residue after ignition	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00005**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
281000422	250 mL	Clear glass / PU-coated Safebreak / FEP
281000423	500 mL	Clear glass / PU-coated Safebreak / FEP
281000441	1 L	Clear glass / PU-coated Safebreak / FEP

Clear glass · PU-coated Safebreak · FEP bottles

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 20100

Acetic acid

Glacial acetic acid; Ethanoic acid; Methanecarboxylic acid

CAS	EC	HS	UN
64-19-7	**200-580-7**	**2915.21.00**	**UN 2789**
CLASS / PG	M.W.	FORMULA	PICTOGRAMS
Class 8 (3), PG II	**60.05 g/mol**	**CH_3COOH**	**GHS02 · GHS05**

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Acetic acid 99.5 % glacial	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Analytical Reagent (AR) · 02	Acetic acid 99.8 % glacial	500 mL, 1 L, 2.5 L, 5 L	4
HPLC · 06	Acetic acid 99.8 % glacial	1 L, 2.5 L	2
Ultrapure PPB · 04	Acetic acid 99.8 % glacial	250 mL, 500 mL, 1 L	3

Handling and storage

Store tightly closed between 18 and 25 °C. Glacial acetic acid freezes at about 16.6 °C — solidification in cold storage is normal and reverses on warming to room temperature. Do not force-thaw with direct heat. Flammable liquid. Store in a designated flammables store below 25 °C, away from ignition sources and oxidising agents. Keep containers earthed when decanting and use only non-sparking tools.

Classification

DANGER

H226 Flammable liquid and vapour. H314 Causes severe skin burns and eye damage.

P210 · P233 · P240 · P241 · P242 · P243 · P260 · P264 · P280 · P301+P330+P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P310 · P363 · P370+P378 · P403+P235 · P405 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-20100-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C18 — Specification for Acetic Acid**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-20100-US-01**
Product specification (all grades)	**HP-SPEC-20100-01**
Grade sheets (one per grade)	**HP-SPEC-20100-**<*grade*>**-01** — grade = 01 · 02 · 06 · 04
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Acetic acid 99.5 % glacial

General laboratory work, buffer preparation, staining and fixation

Meets ISO 6353-2 requirements for laboratory reagents

Density 1.05 g/mL (20 °C)

Parameter	Limit	Unit
Assay (CH_3COOH)	**≥ 99.5**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 20**	APHA
Freezing point	**≥ 15.6**	°C
Water (K.F.)	**≤ 0.3**	%
Residue after evaporation	**≤ 0.01**	%
Chloride (Cl)	**≤ 0.0005**	%
Sulphate (SO_4)	**≤ 0.0005**	%
Iron (Fe)	**≤ 0.0005**	%
Heavy metals (as Pb)	**≤ 0.0005**	%

SKU	Pack	Packaging
201000123	500 mL	Amber glass bottle
201000141	1 L	Amber glass bottle
201000142	2.5 L	Amber glass bottle
201000144	5 L	HDPE container
201000162	25 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

AR · GRADE 02

Acetic acid 99.8 % glacial

Quantitative analysis, non-aqueous titrimetry, pharmacopoeial testing

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 1.05 g/mL (20 °C)

Parameter	Limit	Unit
Assay (CH_3COOH)	**≥ 99.8**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Freezing point	**≥ 15.8**	°C
Water (K.F.)	**≤ 0.2**	%
Residue after evaporation	**≤ 0.001**	%
Chloride (Cl)	**≤ 0.00005**	%
Sulphate (SO_4)	**≤ 0.00005**	%
Iron (Fe)	**≤ 0.00002**	%
Heavy metals (as Pb)	**≤ 0.00005**	%
Substances reducing dichromate	**Passes test**	

SKU	Pack	Packaging
201000223	500 mL	Amber glass bottle
201000241	1 L	Amber glass bottle
201000242	2.5 L	Amber glass bottle
201000244	5 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

HPLC · GRADE 06

Acetic acid 99.8 % glacial

HPLC and LC-MS mobile phase modifier, ion-pair chromatography

Manufactured and released to Highpuris chromatography specification

Density 1.05 g/mL (20 °C)

Parameter	Limit	Unit
Assay (CH_3COOH)	**≥ 99.8**	%
Appearance	**Clear, colourless liquid**	
Absorbance at 240 nm	**≤ 0.10**	AU
Absorbance at 260 nm	**≤ 0.05**	AU
Water (K.F.)	**≤ 0.1**	%
Evaporation residue	**≤ 2**	ppm
Filtration	**0.2**	µm

SKU	Pack	Packaging
201000641	1 L	Amber glass bottle with PTFE-lined closures
201000642	2.5 L	Amber glass bottle with PTFE-lined closures

Amber glass bottles with PTFE-lined closures

ULTRAPURE PPB · GRADE 04

Acetic acid 99.8 % glacial

Trace metal analysis, ICP-MS sample preparation and digestion

Trace metals to the Highpuris ultrapure specification below

Density 1.05 g/mL (20 °C)

Parameter	Limit	Unit
Assay (CH_3COOH)	**≥ 99.8**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Water (K.F.)	**≤ 0.2**	%
Residue after evaporation	**≤ 0.0005**	%
Chloride (Cl)	**≤ 0.00002**	%
Particles > 0.5 µm	**≤ 100**	per mL

SKU	Pack	Packaging
201000422	250 mL	High-purity HDPE / FEP, clean-room filled
201000423	500 mL	High-purity HDPE / FEP, clean-room filled
201000441	1 L	High-purity HDPE / FEP, clean-room filled

High-purity HDPE and FEP, filled in a clean room under ULPA filtration

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 20200

Acetone

2-Propanone; Dimethyl ketone; Propan-2-one

CAS	EC	HS	UN
67-64-1	**200-662-2**	**2914.11.00**	**UN 1090**
CLASS / PG	M.W.	FORMULA	PICTOGRAMS
Class 3, PG II	**58.08 g/mol**	**C_3H_6O**	**GHS02 · GHS07**

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Acetone 99.0 %	500 mL, 1 L, 2.5 L, 5 L, 25 L, 200 L	6
Analytical Reagent (AR) · 02	Acetone 99.5 %	500 mL, 1 L, 2.5 L, 5 L	4
HPLC · 06	Acetone 99.8 %	1 L, 2.5 L, 4 L	3
Electronic grade · 08	Acetone 99.9 %	1 L, 2.5 L, 5 L, 20 L	4

Handling and storage

Store tightly closed below 25 °C in a designated flammables store. Vapour is heavier than air and can travel to a distant ignition source. Flammable liquid. Store in a designated flammables store below 25 °C, away from ignition sources and oxidising agents. Keep containers earthed when decanting and use only non-sparking tools. Acetone attacks many plastics and elastomers — check compatibility of seals, gloves and transfer lines before use.

Classification

DANGER

H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. EUH066 Repeated exposure may cause skin dryness or cracking.

P210 · P233 · P240 · P241 · P242 · P243 · P261 · P264 · P271 · P280 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P312 · P337+P313 · P370+P378 · P403+P235 · P405 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-20200-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C19 — Specification for Acetone**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-20200-US-01**
Product specification (all grades)	**HP-SPEC-20200-01**
Grade sheets (one per grade)	**HP-SPEC-20200-**<*grade*>**-01** — grade = 01 · 02 · 06 · 08
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Acetone 99.0 %

General laboratory work, glassware rinsing, degreasing

Meets ISO 6353-2 requirements for laboratory reagents

Density 0.79 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 15**	APHA
Water (K.F.)	**≤ 0.5**	%
Residue after evaporation	**≤ 0.005**	%
Acidity (as CH_3COOH)	**≤ 0.005**	%
Methanol	**≤ 0.1**	%

SKU	Pack	Packaging
202000123	500 mL	Amber glass bottle
202000141	1 L	Amber glass bottle
202000142	2.5 L	Amber glass bottle
202000144	5 L	HDPE container
202000162	25 L	HDPE container
202000164	200 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

AR · GRADE 02

Acetone 99.5 %

Quantitative analysis, extraction, sample preparation

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 0.79 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.5**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Water (K.F.)	**≤ 0.5**	%
Residue after evaporation	**≤ 0.001**	%
Acidity (as CH_3COOH)	**≤ 0.002**	%
Alkalinity (as NH_3)	**≤ 0.001**	%
Aldehyde (as HCHO)	**≤ 0.002**	%
Methanol	**≤ 0.05**	%
Isopropyl alcohol	**≤ 0.05**	%
Substances reducing permanganate	**Passes test**	

SKU	Pack	Packaging
202000223	500 mL	Amber glass bottle
202000241	1 L	Amber glass bottle
202000242	2.5 L	Amber glass bottle
202000244	5 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

HPLC · GRADE 06

Acetone 99.8 %

HPLC mobile phase, extraction for chromatography, residue analysis

Manufactured and released to Highpuris chromatography specification

Density 0.79 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.8**	%
Appearance	**Clear, colourless liquid**	
UV cut-off	**330**	nm
Absorbance at 340 nm	**≤ 0.10**	AU
Absorbance at 400 nm	**≤ 0.01**	AU
Water (K.F.)	**≤ 0.2**	%
Evaporation residue	**≤ 1**	ppm
Filtration	**0.2**	µm

SKU	Pack	Packaging
202000641	1 L	Amber glass bottle with PTFE-lined closures
202000642	2.5 L	Amber glass bottle with PTFE-lined closures
202000643	4 L	Amber glass bottle with PTFE-lined closures

Amber glass bottles with PTFE-lined closures

ELECTRONIC GRADE · GRADE 08

Acetone 99.9 %

Semiconductor wafer cleaning, photoresist stripping, precision degreasing

Electronic grade — trace metals to the Highpuris ultrapure specification below

Density 0.79 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.9**	%
Appearance	**Clear, colourless liquid**	
Water (K.F.)	**≤ 0.1**	%
Evaporation residue	**≤ 1**	ppm
Acidity (as CH_3COOH)	**≤ 0.001**	%
Particles > 0.5 µm	**≤ 25**	per mL

SKU	Pack	Packaging
202000841	1 L	High-purity HDPE / FEP, clean-room filled
202000842	2.5 L	High-purity HDPE / FEP, clean-room filled
202000844	5 L	High-purity HDPE / FEP, clean-room filled
202000861	20 L	High-purity HDPE / FEP, clean-room filled

High-purity HDPE and FEP, filled in a clean room under ULPA filtration

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gallium (Ga)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Terbium (Tb)	**≤ 0.1**
Antimony (Sb)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Thallium (Tl)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Gold (Au)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Tin (Sn)	**≤ 0.5**
Beryllium (Be)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Potassium (K)	**≤ 1**	Titanium (Ti)	**≤ 0.5**
Bismuth (Bi)	**≤ 0.1**	Indium (In)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Boron (B)	**≤ 1**	Iridium (Ir)	**≤ 0.1**	Rhenium (Re)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iron (Fe)	**≤ 1**	Rhodium (Rh)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Caesium (Cs)	**≤ 0.1**	Lanthanum (La)	**≤ 0.1**	Rubidium (Rb)	**≤ 0.1**	Yttrium (Y)	**≤ 0.1**
Calcium (Ca)	**≤ 1**	Lead (Pb)	**≤ 0.2**	Ruthenium (Ru)	**≤ 0.5**	Zinc (Zn)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lithium (Li)	**≤ 0.3**	Samarium (Sm)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Scandium (Sc)	**≤ 0.1**	Europium (Eu)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Selenium (Se)	**≤ 1**	Molybdenum (Mo)	**≤ 0.3**
Copper (Cu)	**≤ 0.5**	Manganese (Mn)	**≤ 0.3**	Silver (Ag)	**≤ 0.1**	Sodium (Na)	**≤ 1**
Dysprosium (Dy)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**		
Erbium (Er)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Tantalum (Ta)	**≤ 0.1**		
Gadolinium (Gd)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tellurium (Te)	**≤ 0.1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 20300

Acetonitrile

Methyl cyanide; Cyanomethane; Ethanenitrile

CAS	EC	HS	UN
75-05-8	200-835-2	2926.90.70	UN 1648
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 3, PG II	41.05 g/mol	CH_3CN	GHS02 · GHS07

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Acetonitrile 99.5 %	1 L, 2.5 L, 5 L, 25 L	4
Analytical Reagent (AR) · 02	Acetonitrile 99.8 %	1 L, 2.5 L, 5 L	3
HPLC · 06	Acetonitrile 99.9 % gradient grade	1 L, 2.5 L, 4 L	3
LC-MS · 07	Acetonitrile 99.95 % LC-MS grade	1 L, 2.5 L	2

Handling and storage

Store tightly closed below 25 °C in a designated flammables store, away from strong oxidisers and acids. Protect chromatography grades from light. Flammable liquid. Store in a designated flammables store below 25 °C, away from ignition sources and oxidising agents. Keep containers earthed when decanting and use only non-sparking tools. Acetonitrile is metabolised to cyanide — treat any significant exposure as a medical emergency and keep the safety data sheet with the material.

Classification

DANGER

H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in contact with skin. H332 Harmful if inhaled. H319 Causes serious eye irritation.

P210 · P233 · P240 · P241 · P242 · P243 · P260 · P264 · P270 · P271 · P280 · P301+P312 · P330 · P303+P361+P353 · P302+P312 · P362+P364 · P304+P340 · P304+P312 · P305+P351+P338 · P337+P313 · P370+P378 · P403+P235 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-20300-US-01 before use.

Reference standards. No SEMI specification exists for acetonitrile; HPLC and LC-MS grades are released to the Highpuris chromatography specification (UV cut-off, gradient and MS suitability).

Documents

Safety Data Sheet	**HP-SDS-20300-US-01**
Product specification (all grades)	**HP-SPEC-20300-01**
Grade sheets (one per grade)	**HP-SPEC-20300-**<*grade*>**-01** — grade = 01 · 02 · 06 · 07
Certificate of analysis	With every lot.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Acetonitrile 99.5 %

General laboratory work, synthesis, extraction

Meets ISO 6353-2 requirements for laboratory reagents

Density 0.786 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.5**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 15**	APHA
Water (K.F.)	**≤ 0.1**	%
Residue after evaporation	**≤ 0.005**	%
Acidity (as CH_3COOH)	**≤ 0.005**	%
Acetamide	**≤ 0.05**	%

SKU	Pack	Packaging
203000141	1 L	Amber glass bottle
203000142	2.5 L	Amber glass bottle
203000144	5 L	HDPE container
203000162	25 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

AR · GRADE 02

Acetonitrile 99.8 %

Quantitative analysis, DNA synthesis, sample preparation

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 0.786 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.8**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Water (K.F.)	**≤ 0.05**	%
Residue after evaporation	**≤ 0.001**	%
Acidity (as CH_3COOH)	**≤ 0.002**	%
Alkalinity (as NH_3)	**≤ 0.0005**	%
Acetamide	**≤ 0.01**	%
Copper (Cu)	**≤ 0.00005**	%
Iron (Fe)	**≤ 0.00005**	%

SKU	Pack	Packaging
203000241	1 L	Amber glass bottle
203000242	2.5 L	Amber glass bottle
203000244	5 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

HPLC · GRADE 06

Acetonitrile 99.9 % gradient grade

HPLC and UHPLC mobile phase, gradient elution, peptide separation

Manufactured and released to Highpuris chromatography specification

Density 0.786 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.9**	%
Appearance	**Clear, colourless liquid**	
UV cut-off	**190**	nm
Absorbance at 190 nm	**≤ 0.05**	AU
Absorbance at 200 nm	**≤ 0.03**	AU
Absorbance at 254 nm	**≤ 0.003**	AU
Gradient baseline at 254 nm	**≤ 1**	mAU
Water (K.F.)	**≤ 0.02**	%
Evaporation residue	**≤ 2**	ppm
Filtration	**0.2**	µm

SKU	Pack	Packaging
203000641	1 L	Amber glass bottle with PTFE-lined closures
203000642	2.5 L	Amber glass bottle with PTFE-lined closures
203000643	4 L	Amber glass bottle with PTFE-lined closures

Amber glass bottles with PTFE-lined closures

LC-MS · GRADE 07

Acetonitrile 99.95 % LC-MS grade

LC-MS and LC-MS/MS mobile phase, proteomics, metabolomics

Released against LC-MS suitability testing in positive and negative ESI

Density 0.786 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.95**	%
Appearance	**Clear, colourless liquid**	
Absorbance at 210 nm	**≤ 0.02**	AU
Water (K.F.)	**≤ 0.02**	%
Evaporation residue	**≤ 1**	ppm
Sodium (Na)	**≤ 10**	ppb
Potassium (K)	**≤ 10**	ppb
Iron (Fe)	**≤ 10**	ppb
Calcium (Ca)	**≤ 10**	ppb
MS suitability, ESI ±	**Passes test**	
Filtration	**0.2**	µm

SKU	Pack	Packaging
203000741	1 L	Amber glass bottle with PTFE-lined closures
203000742	2.5 L	Amber glass bottle with PTFE-lined closures

Amber glass bottles with PTFE-lined closures

PRODUCT FAMILY 20400

n-Hexane

Hexane; normal-Hexane; Hexyl hydride

CAS	EC	HS	UN
110-54-3	203-777-6	2901.10.00	UN 1208
CLASS / PG	**M.W.**	**FORMULA**	**PICTOGRAMS**
Class 3, PG II	86.18 g/mol	C_6H_{14}	GHS02 · GHS07 · GHS08 · GHS09

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	n-Hexane 95 %	1 L, 2.5 L, 5 L, 25 L	4
Analytical Reagent (AR) · 02	n-Hexane 96 %	1 L, 2.5 L, 5 L	3
HPLC · 06	n-Hexane 95 % HPLC grade	1 L, 2.5 L, 4 L	3

Handling and storage

Store tightly closed below 25 °C in a designated flammables store, away from oxidising agents. Protect from light. Flammable liquid. Store in a designated flammables store below 25 °C, away from ignition sources and oxidising agents. Keep containers earthed when decanting and use only non-sparking tools. n-Hexane carries a reproductive-toxicity classification (H361f) and a peripheral-neuropathy hazard on prolonged exposure — handle in a fume hood and monitor workplace exposure against the applicable occupational limit.

Classification

DANGER

H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H361f Suspected of damaging fertility. H373 May cause damage to organs through prolonged exposure. H411 Toxic to aquatic life with long lasting effects.

P201 · P202 · P210 · P233 · P240 · P241 · P242 · P243 · P260 · P264 · P271 · P273 · P280 · P301+P310 · P331 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P308+P313 · P332+P313 · P337+P313 · P362+P364 · P370+P378 · P391 · P403+P233 · P403+P235 · P405 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-20400-US-01 before use.

Reference standards. No SEMI specification exists for n-hexane; HPLC grade is released to the Highpuris chromatography specification.

Documents

Safety Data Sheet	**HP-SDS-20400-US-01**
Product specification (all grades)	**HP-SPEC-20400-01**
Grade sheets (one per grade)	**HP-SPEC-20400-**<*grade*>**-01** — grade = 01 · 02 · 06
Certificate of analysis	With every lot.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

n-Hexane 95 %

General laboratory work, extraction, degreasing

Meets ISO 6353-2 requirements for laboratory reagents

Density 0.659 g/mL (20 °C)

Parameter	Limit	Unit
Assay, n-hexane (GC)	**≥ 95.0**	%
Assay, total hexanes (GC)	**≥ 99.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 15**	APHA
Water (K.F.)	**≤ 0.05**	%
Residue after evaporation	**≤ 0.005**	%
Acidity	**≤ 0.001**	meq/g
Benzene	**≤ 0.01**	%

SKU	Pack	Packaging
204000141	1 L	Amber glass bottle
204000142	2.5 L	Amber glass bottle
204000144	5 L	HDPE container
204000162	25 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

AR · GRADE 02

n-Hexane 96 %

Quantitative analysis, residue and pesticide extraction, oil determination

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 0.659 g/mL (20 °C)

Parameter	Limit	Unit
Assay, n-hexane (GC)	**≥ 96.0**	%
Assay, total hexanes (GC)	**≥ 99.5**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Water (K.F.)	**≤ 0.02**	%
Residue after evaporation	**≤ 0.0005**	%
Acidity	**≤ 0.0003**	meq/g
Benzene	**≤ 0.005**	%
Sulphur compounds	**Passes test**	
Substances darkened by sulphuric acid	**Passes test**	

SKU	Pack	Packaging
204000241	1 L	Amber glass bottle
204000242	2.5 L	Amber glass bottle
204000244	5 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

HPLC · GRADE 06

n-Hexane 95 % HPLC grade

Normal-phase HPLC, UV spectroscopy, chiral separation

Manufactured and released to Highpuris chromatography specification

Density 0.659 g/mL (20 °C)

Parameter	Limit	Unit
Assay, n-hexane (GC)	**≥ 95.0**	%
Assay, total hexanes (GC)	**≥ 99.0**	%
UV cut-off	**200**	nm
Absorbance at 200 nm	**≤ 0.20**	AU
Absorbance at 220 nm	**≤ 0.05**	AU
Absorbance at 254 nm	**≤ 0.01**	AU
Water (K.F.)	**≤ 0.01**	%
Evaporation residue	**≤ 1**	ppm
Filtration	**0.2**	µm

SKU	Pack	Packaging
204000641	1 L	Amber glass bottle with PTFE-lined closures
204000642	2.5 L	Amber glass bottle with PTFE-lined closures
204000643	4 L	Amber glass bottle with PTFE-lined closures

Amber glass bottles with PTFE-lined closures

PRODUCT FAMILY 20600

Isopropyl alcohol

Isopropanol; 2-Propanol; Propan-2-ol

CAS	EC	HS	UN
67-63-0	**200-661-7**	**2905.12.00**	**UN 1219**
CLASS / PG	M.W.	FORMULA	PICTOGRAMS
Class 3, PG II	**60.10 g/mol**	**C_3H_8O**	**GHS02 · GHS07**

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Isopropyl alcohol 99.0 %	500 mL, 1 L, 2.5 L, 5 L, 25 L, 200 L	6
Analytical Reagent (AR) · 02	Isopropyl alcohol 99.7 %	500 mL, 1 L, 2.5 L, 5 L	4
HPLC · 06	Isopropyl alcohol 99.8 % HPLC grade	1 L, 2.5 L, 4 L	3
Electronic grade · 08	Isopropyl alcohol 99.9 %	1 L, 2.5 L, 5 L, 20 L	4

Handling and storage

Store tightly closed below 25 °C in a designated flammables store, away from oxidising agents. Isopropyl alcohol is hygroscopic — keep sealed to hold water content within specification. Flammable liquid. Store in a designated flammables store below 25 °C, away from ignition sources and oxidising agents. Keep containers earthed when decanting and use only non-sparking tools. Isopropyl alcohol can form peroxides on prolonged storage in the presence of air and light. Do not distil to dryness from an aged container.

Classification

DANGER

H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

P210 · P233 · P240 · P241 · P242 · P243 · P260 · P264 · P271 · P280 · P303+P361+P353 · P304+P340 · P305+P351+P338 · P312 · P337+P313 · P370+P378 · P403+P233 · P403+P235 · P405 · P501

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-20600-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI C41 — Specification and Guide for 2-Propanol**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-20600-US-01**
Product specification (all grades)	**HP-SPEC-20600-01**
Grade sheets (one per grade)	**HP-SPEC-20600-**<*grade*>**-01** — grade = 01 · 02 · 06 · 08
Certificate of analysis	With every lot. Ultrapure grades report all 65 elements.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Isopropyl alcohol 99.0 %

General laboratory work, cleaning, disinfection, glassware drying

Meets ISO 6353-2 requirements for laboratory reagents

Density 0.785 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.0**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 15**	APHA
Water (K.F.)	**≤ 0.5**	%
Residue after evaporation	**≤ 0.005**	%
Acidity (as CH_3COOH)	**≤ 0.002**	%
Aldehyde (as CH_3CHO)	**≤ 0.005**	%

SKU	Pack	Packaging
206000123	500 mL	Amber glass bottle
206000141	1 L	Amber glass bottle
206000142	2.5 L	Amber glass bottle
206000144	5 L	HDPE container
206000162	25 L	HDPE container
206000164	200 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

AR · GRADE 02

Isopropyl alcohol 99.7 %

Quantitative analysis, extraction, standard preparation

Complies with ACS Reagent Chemicals, ISO 6353-2 and Ph. Eur. requirements

Density 0.785 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.7**	%
Appearance	**Clear, colourless liquid**	
Colour	**≤ 10**	APHA
Water (K.F.)	**≤ 0.2**	%
Residue after evaporation	**≤ 0.0005**	%
Acidity (as CH_3COOH)	**≤ 0.0006**	%
Aldehyde (as CH_3CHO)	**≤ 0.002**	%
Carbonyl compounds	**≤ 0.005**	%
Substances reducing permanganate	**Passes test**	

SKU	Pack	Packaging
206000223	500 mL	Amber glass bottle
206000241	1 L	Amber glass bottle
206000242	2.5 L	Amber glass bottle
206000244	5 L	HDPE container

Amber glass bottles (500 mL – 2.5 L) · HDPE containers (5 – 200 L)

HPLC · GRADE 06

Isopropyl alcohol 99.8 % HPLC grade

HPLC mobile phase modifier, normal-phase chromatography, UV work

Manufactured and released to Highpuris chromatography specification

Density 0.785 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.8**	%
Appearance	**Clear, colourless liquid**	
UV cut-off	**205**	nm
Absorbance at 210 nm	**≤ 0.30**	AU
Absorbance at 220 nm	**≤ 0.10**	AU
Absorbance at 254 nm	**≤ 0.01**	AU
Water (K.F.)	**≤ 0.1**	%
Evaporation residue	**≤ 1**	ppm
Filtration	**0.2**	µm

SKU	Pack	Packaging
206000641	1 L	Amber glass bottle with PTFE-lined closures
206000642	2.5 L	Amber glass bottle with PTFE-lined closures
206000643	4 L	Amber glass bottle with PTFE-lined closures

Amber glass bottles with PTFE-lined closures

ELECTRONIC GRADE · GRADE 08

Isopropyl alcohol 99.9 %

Semiconductor wafer drying and rinsing, Marangoni drying, precision cleaning

Electronic grade — trace metals to the Highpuris ultrapure specification below

Density 0.785 g/mL (20 °C)

Parameter	Limit	Unit
Assay (GC)	**≥ 99.9**	%
Appearance	**Clear, colourless liquid**	
Water (K.F.)	**≤ 0.05**	%
Evaporation residue	**≤ 0.5**	ppm
Acidity (as CH_3COOH)	**≤ 0.0005**	%
Particles > 0.5 µm	**≤ 25**	per mL

SKU	Pack	Packaging
206000841	1 L	High-purity HDPE / FEP, clean-room filled
206000842	2.5 L	High-purity HDPE / FEP, clean-room filled
206000844	5 L	High-purity HDPE / FEP, clean-room filled
206000861	20 L	High-purity HDPE / FEP, clean-room filled

High-purity HDPE and FEP, filled in a clean room under ULPA filtration

Trace metal impurities

ppb (µg/L)

Aluminium (Al)	**≤ 1**	Gadolinium (Gd)	**≤ 0.1**	Neodymium (Nd)	**≤ 0.1**	Strontium (Sr)	**≤ 0.3**
Antimony (Sb)	**≤ 0.5**	Gallium (Ga)	**≤ 0.1**	Nickel (Ni)	**≤ 0.5**	Tantalum (Ta)	**≤ 0.1**
Arsenic (As)	**≤ 0.5**	Germanium (Ge)	**≤ 0.1**	Niobium (Nb)	**≤ 0.1**	Tellurium (Te)	**≤ 0.1**
Barium (Ba)	**≤ 0.1**	Gold (Au)	**≤ 0.1**	Osmium (Os)	**≤ 1**	Terbium (Tb)	**≤ 0.1**
Beryllium (Be)	**≤ 0.1**	Hafnium (Hf)	**≤ 0.1**	Palladium (Pd)	**≤ 0.5**	Thallium (Tl)	**≤ 0.1**
Bismuth (Bi)	**≤ 0.1**	Holmium (Ho)	**≤ 0.1**	Platinum (Pt)	**≤ 0.5**	Thulium (Tm)	**≤ 0.1**
Boron (B)	**≤ 1**	Indium (In)	**≤ 0.1**	Potassium (K)	**≤ 1**	Tin (Sn)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.5**	Iridium (Ir)	**≤ 0.1**	Praseodymium (Pr)	**≤ 0.1**	Titanium (Ti)	**≤ 0.5**
Caesium (Cs)	**≤ 0.1**	Iron (Fe)	**≤ 1**	Rhenium (Re)	**≤ 0.1**	Tungsten (W)	**≤ 0.5**
Calcium (Ca)	**≤ 1**	Lanthanum (La)	**≤ 0.1**	Rhodium (Rh)	**≤ 0.1**	Vanadium (V)	**≤ 0.5**
Cerium (Ce)	**≤ 0.1**	Lead (Pb)	**≤ 0.2**	Rubidium (Rb)	**≤ 0.1**	Ytterbium (Yb)	**≤ 0.1**
Chromium (Cr)	**≤ 0.5**	Lithium (Li)	**≤ 0.3**	Ruthenium (Ru)	**≤ 0.5**	Yttrium (Y)	**≤ 0.1**
Cobalt (Co)	**≤ 0.5**	Lutetium (Lu)	**≤ 0.1**	Samarium (Sm)	**≤ 0.1**	Zinc (Zn)	**≤ 0.5**
Copper (Cu)	**≤ 0.5**	Magnesium (Mg)	**≤ 1**	Scandium (Sc)	**≤ 0.1**	Zirconium (Zr)	**≤ 0.1**
Dysprosium (Dy)	**≤ 0.1**	Manganese (Mn)	**≤ 0.3**	Selenium (Se)	**≤ 1**		
Erbium (Er)	**≤ 0.1**	Mercury (Hg)	**≤ 0.1**	Silver (Ag)	**≤ 0.1**		
Europium (Eu)	**≤ 0.1**	Molybdenum (Mo)	**≤ 0.3**	Sodium (Na)	**≤ 1**		

Determined by ICP-MS and reported on the certificate of analysis.

PRODUCT FAMILY 30100

Water

Purified water; Deionised water; Reagent water

CAS	EC	HS	TRANSPORT
7732-18-5	231-791-2	2853.90.10	Not dangerous goods
CLASSIFICATION	**M.W.**	**FORMULA**	**PICTOGRAMS**
Not classified	18.02 g/mol	H_2O	None required

Thirteen application grades, each released against the parameters that matter to its determination.

Grades in this section

Grade	Product	Pack sizes	SKUs
Ultrapure PPB · 04	Water, ultrapure	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Ultrapure PPB · 14	Water, ICP-MS grade	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Analytical Reagent (AR) · 02	Water, IC grade	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Analytical Reagent (AR) · 12	Water, ULC-MS grade	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Analytical Reagent (AR) · 22	Water, LC-MS grade	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Analytical Reagent (AR) · 32	Water, HPLC grade	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Analytical Reagent (AR) · 42	Water, for TOC analysis	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Laboratory Reagent (LR) · 01	Water, demineralised	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Laboratory Reagent (LR) · 11	Water, double distilled, pyrogen free	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Laboratory Reagent (LR) · 21	Water, ammonium free	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Laboratory Reagent (LR) · 31	Water, distilled	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Laboratory Reagent (LR) · 41	Water, nitrate free	500 mL, 1 L, 2.5 L, 5 L, 25 L	5
Laboratory Reagent (LR) · 51	Water, particle free	500 mL, 1 L, 2.5 L, 5 L, 25 L	5

Handling and storage

Store tightly closed at ambient temperature away from direct sunlight. High-purity grades absorb carbon dioxide and leach from packaging over time — use within the stated shelf life and never decant back into the original container. Purity is lost from the moment a pack is opened. For ultratrace work, open only in a clean environment and choose the smallest pack that suits the application.

Classification

Not classified as hazardous

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-30100-US-01 before use.

Reference standards. Ultrapure and electronic grades: the trace-metal parameter set follows **SEMI F63 — Guide for Ultrapure Water Used in Semiconductor Processing; ASTM D1193 Type I; ISO 3696 Grade 1**; conformance to a specific SEMI grade or tier is confirmed per lot on the certificate of analysis and can be contracted on request.

Documents

Safety Data Sheet	**HP-SDS-30100-US-01**
Product specification (all grades)	**HP-SPEC-30100-01**
Grade sheets (one per grade)	**HP-SPEC-30100-**<*grade*>**-01** — grade = 04 · 14 · 02 · 12 · 22 · 32 · 42 · 01 · 11 · 21 · 31 · 41 · 51
Certificate of analysis	With every lot.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

Water — grade specifications

Each grade is released against the parameters that matter to the determination it supports, rather than a single conductivity figure. Packs: 500 mL, 1 L, 2.5 L, 5 L and 25 L. SKUs: 30100 · grade · pack code.

ULTRAPURE PPB · GRADE 04

Water, ultrapure

Ultratrace analysis, semiconductor rinse, standard preparation

Resistivity at 25 °C	**18.2** MΩ·cm
TOC	≤ **5** ppb
Trace metals, each element	≤ **0.1** ppb
Particles > 0.2 µm	≤ **1** per mL
Bacteria	≤ **1** CFU/mL

500 mL	1 L	2.5 L	5 L	25 L
301000423	301000441	301000442	301000444	301000462

ULTRAPURE PPB · GRADE 14

Water, ICP-MS grade

ICP-MS and ICP-OES blank and standard preparation

Resistivity at 25 °C	≥ **18.0** MΩ·cm
TOC	≤ **10** ppb
Trace metals, each element	≤ **0.1** ppb
Particles > 0.2 µm	≤ **1** per mL

500 mL	1 L	2.5 L	5 L	25 L
301001423	301001441	301001442	301001444	301001462

AR · GRADE 02

Water, IC grade

Ion chromatography eluent and blank preparation

Resistivity at 25 °C	≥ **18.0** MΩ·cm
TOC	≤ **20** ppb
Chloride (Cl)	≤ **1** ppb
Sulphate (SO_4)	≤ **1** ppb
Nitrate (NO_3)	≤ **1** ppb
Sodium (Na)	≤ **1** ppb

500 mL	1 L	2.5 L	5 L	25 L
301000223	301000241	301000242	301000244	301000262

AR · GRADE 12

Water, ULC-MS grade

Ultra-low background LC-MS, proteomics and metabolomics

Conductivity at 25 °C	≤ **0.1** µS/cm
TOC	≤ **10** ppb
Evaporation residue	≤ **0.5** ppm
Gradient at 254 nm	≤ **1** mAU

500 mL	1 L	2.5 L	5 L	25 L
301001223	301001241	301001242	301001244	301001262

AR · GRADE 22

Water, LC-MS grade

LC-MS mobile phase and sample dilution

Conductivity at 25 °C	≤ **0.2** µS/cm
TOC	≤ **30** ppb
Evaporation residue	≤ **1** ppm
Gradient at 254 nm	≤ **2** mAU

500 mL	1 L	2.5 L	5 L	25 L
301002223	301002241	301002242	301002244	301002262

AR · GRADE 32

Water, HPLC grade

HPLC mobile phase, gradient elution, sample dilution

Conductivity at 25 °C	≤ **1.0** µS/cm
TOC	≤ **50** ppb
Evaporation residue	≤ **1** ppm
Absorbance at 254 nm	≤ **0.01** AU
Filtration	**0.2** µm

500 mL	1 L	2.5 L	5 L	25 L
301003223	301003241	301003242	301003244	301003262

AR · GRADE 42

Water, for TOC analysis

Blank and system suitability for TOC instrumentation

Resistivity at 25 °C	≥ **18.0** MΩ·cm
TOC	≤ **5** ppb
Conductivity at 25 °C	≤ **0.056** µS/cm

500 mL	1 L	2.5 L	5 L	25 L
301004223	301004241	301004242	301004244	301004262

LR · GRADE 01

Water, demineralised

General laboratory rinsing, reagent and buffer make-up

Conductivity at 25 °C	≤ **5** µS/cm
Evaporation residue	≤ **5** ppm
Chloride (Cl)	≤ **0.2** ppm

500 mL	1 L	2.5 L	5 L	25 L
301000123	301000141	301000142	301000144	301000162

LR · GRADE 11

Water, double distilled, pyrogen free

Cell culture media, endotoxin-sensitive preparations

Conductivity at 25 °C	≤ **2** µS/cm
Evaporation residue	≤ **2** ppm
Endotoxin	≤ **0.25** EU/mL
Nitrate (NO_3)	≤ **0.2** ppm

500 mL	1 L	2.5 L	5 L	25 L
301001123	301001141	301001142	301001144	301001162

LR · GRADE 21

Water, ammonium free

Nitrogen and ammonium determinations

Ammonium (NH_4)	≤ **0.05** ppm
Conductivity at 25 °C	≤ **2** µS/cm
Evaporation residue	≤ **2** ppm

500 mL	1 L	2.5 L	5 L	25 L
301002123	301002141	301002142	301002144	301002162

LR · GRADE 31

Water, distilled

General laboratory use, glassware rinsing

Conductivity at 25 °C	≤ **3** µS/cm
Evaporation residue	≤ **3** ppm
pH	**5.0 – 7.0**

500 mL	1 L	2.5 L	5 L	25 L
301003123	301003141	301003142	301003144	301003162

LR · GRADE 41

Water, nitrate free

Nitrate and nitrite determinations

Nitrate (NO_3)	≤ **0.05** ppm
Nitrite (NO_2)	≤ **0.02** ppm
Conductivity at 25 °C	≤ **2** µS/cm

500 mL	1 L	2.5 L	5 L	25 L
301004123	301004141	301004142	301004144	301004162

LR · GRADE 51

Water, particle free

Particle counting, optical and filtration work

Particles > 0.2 µm	≤ **1** per mL
Conductivity at 25 °C	≤ **1** µS/cm
Filtration	**0.2** µm

500 mL	1 L	2.5 L	5 L	25 L
301005123	301005141	301005142	301005144	301005162

PRODUCT FAMILY 40100

Sodium chloride

Common salt; Table salt; Halite

CAS	EC	HS	TRANSPORT
7647-14-5	231-598-3	2501.00.00	Not dangerous goods
CLASSIFICATION	**M.W.**	**FORMULA**	**PICTOGRAMS**
Not classified	58.44 g/mol	NaCl	None required

Crystalline solid. 500 g and 1 kg are individual packs; 5 kg packs are individually sealed and shipped 10 per 50 kg outer drum; 25 kg is supplied loose.

Grades in this section

Grade	Product	Pack sizes	SKUs
Laboratory Reagent (LR) · 01	Sodium chloride ≥ 99.0 %	500 g, 1 kg, 5 kg, 25 kg	4
Certified ACS · 02	Sodium chloride ≥ 99.0 % (ACS)	500 g, 1 kg, 5 kg, 25 kg	4
USP · FCC · Ph. Eur. · 09	Sodium chloride 99.0–100.5 %	500 g, 1 kg, 5 kg, 25 kg	4
Molecular Biology · 19	Sodium chloride ≥ 99.5 %	500 g, 1 kg, 5 kg, 25 kg	4
Trace Metal 99.999 % · 29	Sodium chloride 99.999 % metals basis	500 g, 1 kg, 5 kg, 25 kg	4

Handling and storage

Store tightly closed in a dry place at ambient temperature. Sodium chloride is hygroscopic in humid air and cakes on storage — keep packs sealed, avoid relative humidity above 60 % and use the first-opened pack first. No segregation is required; keep away from strong acids and oxidising agents as a matter of good practice. For the molecular-biology and trace-metal grades, open only in a clean environment, use dedicated spatulas and never return material to the pack.

Classification

Not classified as hazardous (OSHA HCS 2024 / GHS); not regulated for transport

Classification per OSHA HCS 2024 (29 CFR 1910.1200) and UN GHS. Consult Safety Data Sheet HP-SDS-40100-US-01 before use.

Reference standards. No SEMI specification exists for sodium chloride; grades are released to the ACS Reagent Chemicals, USP–NF, FCC and Ph. Eur. monographs and to the Highpuris molecular-biology and trace-metal specifications.

Documents

Safety Data Sheet	**HP-SDS-40100-US-01**
Product specification (all grades)	**HP-SPEC-40100-01**
Grade sheets (one per grade)	**HP-SPEC-40100-*<grade>*-01** — grade = 01 · 02 · 09 · 19 · 29
Certificate of analysis	With every lot.

Download at www.highpuris.com/resources/ — safety data sheets directly, specification sheets after e-mail verification.

LR · GRADE 01

Sodium chloride, crystalline

General laboratory work, saline and buffer preparation, salting-out, cleaning and teaching laboratories

Meets ISO 6353-2 requirements for laboratory reagents

Density 2.165 g/cm³ (20 °C)

Parameter	Limit	Unit
Appearance	**White crystals or crystalline powder**	
Assay (NaCl, argentometric)	**≥ 99.0**	%
Insoluble matter	**≤ 0.01**	%
pH (5 % solution, 25 °C)	**5.0 – 8.0**	
Loss on drying (105 °C)	**≤ 0.5**	%
Sulphate (SO_4)	**≤ 0.02**	%
Heavy metals (as Pb)	**≤ 0.001**	%
Iron (Fe)	**≤ 0.0005**	%
Calcium (Ca)	**≤ 0.01**	%
Magnesium (Mg)	**≤ 0.005**	%

SKU	Pack	Packaging
401000123	500 g	Wide-mouth HDPE bottle
401000141	1 kg	Wide-mouth HDPE bottle
401000144	5 kg	HDPE pail · 10 per 50 kg outer drum
401000162	25 kg	PE-lined fibre drum

Wide-mouth HDPE bottles (500 g, 1 kg) · HDPE pail (5 kg, 10 per 50 kg outer drum) · PE-lined fibre drum (25 kg)

CERTIFIED ACS · GRADE 02

Sodium chloride, crystalline, ACS

Quantitative analysis, argentometric standardisation, ionic-strength adjustment, chromatography buffers

Complies with the ACS Reagent Chemicals monograph for Sodium Chloride (current edition)

Density 2.165 g/cm³ (20 °C)

Parameter	Limit	Unit
Description	**Fine white crystals**	
Assay	**≥ 99.0**	%
Barium (Ba)	**Passes test**	
Bromide	**≤ 0.01**	%
Calcium (Ca)	**≤ 0.002**	%
Chlorate and nitrate	**≤ 0.003**	%
Heavy metals (as Pb)	**≤ 5**	ppm
Identification	**Passes test**	
Insoluble matter	**≤ 0.005**	%
Iodide	**≤ 0.002**	%
Iron (Fe)	**≤ 2**	ppm
Magnesium (Mg)	**≤ 0.001**	%
pH of 5 % solution at 25 °C	**5.0 – 9.0**	
Phosphate (PO_4)	**≤ 5**	ppm
Potassium (K)	**≤ 0.005**	%
Sulfate (SO_4)	**≤ 0.004**	%

SKU	Pack	Packaging
401000223	500 g	Wide-mouth HDPE bottle
401000241	1 kg	Wide-mouth HDPE bottle
401000244	5 kg	HDPE pail · 10 per 50 kg outer drum
401000262	25 kg	PE-lined fibre drum

Wide-mouth HDPE bottles (500 g, 1 kg) · HDPE pail (5 kg, 10 per 50 kg outer drum) · PE-lined fibre drum (25 kg)

USP · FCC · PH. EUR. · GRADE 09

Sodium chloride, multi-compendial (USP–NF, FCC, Ph. Eur.)

Pharmaceutical formulation and excipient use, food processing, isotonic saline and buffer manufacture

Complies with the current USP–NF, Food Chemicals Codex and Ph. Eur. monographs for Sodium Chloride; released with a multi-compendial CoA

Density 2.165 g/cm³ (20 °C)

Parameter	Limit	Unit
Appearance	**White crystalline powder or colourless crystals**	
Identification (sodium, chloride)	**Passes test**	
Assay (dried substance)	**99.0 – 100.5**	%
Appearance of solution	**Clear and colourless**	
Acidity or alkalinity	**Passes test**	
Loss on drying (105 °C, 2 h)	**≤ 0.5**	%
Bromides	**≤ 100**	ppm
Ferrocyanides	**Passes test**	
Iodides	**Passes test**	
Nitrites	**Passes test**	
Phosphates (PO_4)	**≤ 25**	ppm
Sulphates (SO_4)	**≤ 200**	ppm
Arsenic (As)	**≤ 1**	ppm
Barium (Ba)	**Passes test**	
Iron (Fe)	**≤ 2**	ppm
Lead (Pb)	**≤ 2**	ppm
Magnesium and alkaline-earth metals (as Ca)	**≤ 100**	ppm
Potassium (K)	**≤ 500**	ppm
Heavy metals (as Pb)	**≤ 5**	ppm

SKU	Pack	Packaging
401000923	500 g	Wide-mouth HDPE bottle
401000941	1 kg	Wide-mouth HDPE bottle
401000944	5 kg	HDPE pail · 10 per 50 kg outer drum
401000962	25 kg	PE-lined fibre drum

Wide-mouth HDPE bottles (500 g, 1 kg) · HDPE pail (5 kg, 10 per 50 kg outer drum) · PE-lined fibre drum (25 kg)

MOLECULAR BIOLOGY · GRADE 19

Sodium chloride, molecular biology grade, nuclease- and protease-free

Nucleic-acid buffers (SSC, TE, PBS, STE), hybridisation and washing solutions, electrophoresis, protein salting-out and purification

Highpuris molecular-biology specification; DNase, RNase and protease activity tested on every lot

Density 2.165 g/cm³ (20 °C)

Parameter	Limit	Unit
Appearance	**White crystals**	
Assay (NaCl)	**≥ 99.5**	%
Insoluble matter	**≤ 0.005**	%
pH (5 % solution, 25 °C)	**5.0 – 8.0**	
Loss on drying (105 °C)	**≤ 0.5**	%
Heavy metals (as Pb)	**≤ 5**	ppm
Iron (Fe)	**≤ 2**	ppm
Calcium (Ca)	**≤ 0.002**	%
Magnesium (Mg)	**≤ 0.001**	%
Potassium (K)	**≤ 0.005**	%
Sulphate (SO_4)	**≤ 0.004**	%
DNase activity	**None detected**	
RNase activity	**None detected**	
Protease activity	**None detected**	

SKU	Pack	Packaging
401001923	500 g	Wide-mouth HDPE bottle
401001941	1 kg	Wide-mouth HDPE bottle
401001944	5 kg	HDPE pail · 10 per 50 kg outer drum
401001962	25 kg	PE-lined fibre drum

Wide-mouth HDPE bottles (500 g, 1 kg) · HDPE pail (5 kg, 10 per 50 kg outer drum) · PE-lined fibre drum (25 kg)

TRACE METAL 99.999 % · GRADE 29

Sodium chloride, 99.999 % (metals basis), 5N

ICP-MS and ICP-OES matrix and calibration standards, ionic-strength adjustment in trace analysis, electrochemistry, crystal growth and optical-material research

Released to the Highpuris trace-metal specification — 99.999 % (metals basis) by ICP-MS on every lot

Density 2.165 g/cm³ (20 °C)

Parameter	Limit	Unit
Appearance	**White crystalline powder**	
Assay (metals basis)	**≥ 99.999**	%
Total metallic impurities (listed elements)	**≤ 10**	ppm
Insoluble matter	**≤ 0.005**	%
Loss on drying (105 °C)	**≤ 0.2**	%
Sulphate (SO_4)	**≤ 0.002**	%
pH (5 % solution, 25 °C)	**5.0 – 8.0**	

SKU	Pack	Packaging
401002923	500 g	Wide-mouth HDPE bottle
401002941	1 kg	Wide-mouth HDPE bottle
401002944	5 kg	HDPE pail · 10 per 50 kg outer drum
401002962	25 kg	PE-lined fibre drum

Wide-mouth HDPE bottles (500 g, 1 kg) · HDPE pail (5 kg, 10 per 50 kg outer drum) · PE-lined fibre drum (25 kg)

Trace metal impurities, metals basis

ppm (mg/kg)

Aluminium (Al)	**≤ 1**	Copper (Cu)	**≤ 0.2**	Nickel (Ni)	**≤ 0.2**
Barium (Ba)	**≤ 0.5**	Iron (Fe)	**≤ 1**	Lead (Pb)	**≤ 0.2**
Calcium (Ca)	**≤ 2**	Potassium (K)	**≤ 2**	Strontium (Sr)	**≤ 0.5**
Cadmium (Cd)	**≤ 0.1**	Lithium (Li)	**≤ 0.5**	Zinc (Zn)	**≤ 0.5**
Cobalt (Co)	**≤ 0.1**	Magnesium (Mg)	**≤ 1**		
Chromium (Cr)	**≤ 0.2**	Manganese (Mn)	**≤ 0.1**		

Determined by ICP-MS on every lot and reported on the certificate of analysis; limits are ppm (mg/kg) of the solid as packed.

Quality, packaging and ordering

Certifications

System	Certificate	Valid until	Accreditation
ISO 9001:2015 — Quality	137685/A/0001/NB/En	29 Nov 2027	URS · NABCB QM016
ISO 14001:2015 — Environment	137685/B/0001/UK/En	03 Dec 2027	URS · UKAS 0043
ISO 45001:2018 — Health & safety	137685/C/0001/UK/En	03 Dec 2027	URS · UKAS 0043

Scope: development, manufacture and supply of inorganic chemicals. EcoVadis: documents submitted October 2026; Silver is the target for 2026.

Documents and certificates of analysis

Every product has a **Safety Data Sheet** (HP-SDS-<code>-US-01), a **product specification** covering all grades (HP-SPEC-<code>-01) and a **grade sheet** for each grade (HP-SPEC-<code>-<grade>-01). Download them at **www.highpuris.com/resources/** — safety data sheets directly, specification sheets after e-mail verification. A **certificate of analysis** ships with every lot; for ultrapure grades it reports all 65 elements.

Code	Product	Safety Data Sheet	Product specification	Grade sheets: HP-SPEC-<code>-<grade>-01
10200	Ammonia solution	HP-SDS-10200-US-01	HP-SPEC-10200-01	01 · 02 · 03 · 04
25300	Hydrochloric acid	HP-SDS-25300-US-01	HP-SPEC-25300-01	00 · 01 · 02 · 03 · 04 · 14 · 05
25400	Hydrofluoric acid	HP-SDS-25400-US-01	HP-SPEC-25400-01	01 · 02 · 03 · 04
20500	Hydrogen peroxide	HP-SDS-20500-US-01	HP-SPEC-20500-01	01 · 02 · 03 · 04
26100	Nitric acid	HP-SDS-26100-US-01	HP-SPEC-26100-01	00 · 01 · 02 · 03 · 04 · 05
26700	Sulphuric acid	HP-SDS-26700-US-01	HP-SPEC-26700-01	00 · 01 · 02 · 03 · 04
26800	o-Phosphoric acid	HP-SDS-26800-US-01	HP-SPEC-26800-01	01 · 02 · 04
27900	Potassium hydroxide solution	HP-SDS-27900-US-01	HP-SPEC-27900-01	01 · 02 · 03 · 04
28000	Sodium hydroxide solution	HP-SDS-28000-US-01	HP-SPEC-28000-01	01 · 02 · 03 · 04
28100	Perchloric acid	HP-SDS-28100-US-01	HP-SPEC-28100-01	01 · 02 · 04
20100	Acetic acid	HP-SDS-20100-US-01	HP-SPEC-20100-01	01 · 02 · 06 · 04
20200	Acetone	HP-SDS-20200-US-01	HP-SPEC-20200-01	01 · 02 · 06 · 08
20300	Acetonitrile	HP-SDS-20300-US-01	HP-SPEC-20300-01	01 · 02 · 06 · 07
20400	n-Hexane	HP-SDS-20400-US-01	HP-SPEC-20400-01	01 · 02 · 06
20600	Isopropyl alcohol	HP-SDS-20600-US-01	HP-SPEC-20600-01	01 · 02 · 06 · 08
30100	Water	HP-SDS-30100-US-01	HP-SPEC-30100-01	04 · 14 · 02 · 12 · 22 · 32 · 42 · 01 · 11 · 21 · 31 · 41 · 51
40100	Sodium chloride	HP-SDS-40100-US-01	HP-SPEC-40100-01	01 · 02 · 09 · 19 · 29

Packaging

Format	Range	Used for
Amber glass	500 mL – 4 L	UV protection to 500 nm for light-sensitive products; PTFE-lined closures for chromatography grades
Clear glass	250 mL – 2.5 L	Borosilicate class 3.3, very low trace impurities
PU-coated Safebreak	250 mL – 2.5 L	Contains liquid and glass splinters if dropped
HDPE containers	250 mL – 1000 L	Multi-layered, GL45 spill-free neck, made by Pristius Pack; vented for peroxide; specially designed for HF
FEP bottles	250 mL – 1 L	Ultrapure grades; PPT packed in a trace-metal clean room under ULPA filtration
IBC tanks / road tanker	1,000 L / 16,000 L	Bulk supply
Solids — sodium chloride	500 g – 25 kg	Wide-mouth HDPE bottles (500 g, 1 kg); HDPE pails (5 kg, 10 per 50 kg outer drum); PE-lined fibre drum (25 kg, loose)

Closures to DIN 32 and DIN 45. Hazardous goods ship in UN-certified packaging with GHS labels and a 24-hour emergency contact. Sodium chloride: 500 g and 1 kg are individual packs; 5 kg packs are individually sealed and shipped 10 per 50 kg outer drum; 25 kg is supplied loose.

Ordering

Quote the 9-digit SKU on purchase orders. Prices are quoted on delivered (DDP) terms from US or UK stock. Custom concentrations, tightened limits, blended reagents, volumetric solutions and non-standard packs are available on request — send us your specification and we will quote against it.

Contacts and emergency

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24-hour emergency: CHEMTREC **+1 800-424-9300** (US) / **+1 703-527-3887** (international) · Highpuris CCN **1024800** — quote this number when calling.

Lot-specific values are reported on the certificate of analysis. Edition 4 · November 2026 supersedes Edition 3. © 2026 Highpuris LLC · Highpuris Ltd.