SAFETY DATA SHEET

Hydrochloric Acid (30–38 %) — Technical, Laboratory Reagent, Analytical Reagent, PV Pure, Ultrapure PPB and Ultrapure PPT grades

Prepared in accordance with 29 CFR 1910.1200 (OSHA Hazard Communication Standard, 2024 amendment / GHS Rev. 7), UN GHS, US DOT 49 CFR Parts 171–180 and Canada HPR (SOR/2015-17)

SDS number	**HP-SDS-25300-US-01**
Version / Revision	Version 1.0
Issue date	01 November 2026
Supersedes	HP-SDS-HCL36-US-01 v1.1 (06 September 2026) — scope widened from the ACS 36 % grade to all Highpuris hydrochloric acid grades, 30–38 % w/w; content otherwise unchanged
Review due	01 November 2029, or earlier if new hazard information becomes available
Companion sheet	HP-SDS-HCL36-GB-01 covers supply into Great Britain by Highpuris Ltd. Do not substitute one sheet for the other — the classification is the same but the exposure limits, supply restrictions and legal references are not.

1 SECTION 1: IDENTIFICATION

1.1 Product identifier

Product name	**Hydrochloric Acid (30–38 %)**
Product description	Aqueous solution of hydrogen chloride, 30.0 – 38.0 % w/w HCl, supplied as Technical (30.0 – 34.0 %), Laboratory Reagent (35.0 – 37.0 %), Analytical Reagent (36.5 – 38.0 %), PV Pure (30.0 – 32.0 %), Ultrapure PPB (34.0 – 37.0 % and nominal 30 %) and Ultrapure PPT (34.0 – 37.0 %) grades. All grades carry the same hazard classification and transport description.
Synonyms	Muriatic acid; Chlorohydric acid; Hydrogen chloride solution; Spirits of salt; Acide chlorhydrique
CAS number	7647-01-0
EC (EINECS) number	231-595-7
EU Index number	017-002-01-X
REACH registration number	Not applicable to supply in the United States. Highpuris Ltd holds UK REACH registration UK-01-4393370836-4-0029 for supply into Great Britain — see companion sheet HP-SDS-HCL36-GB-01. A separate EU REACH registration is required before placement in the EU/EEA or Northern Ireland.
Molecular formula	HCl (in aqueous solution)
Molecular weight	36.46 g/mol (HCl)
Highpuris product code	**25300** — the 9-digit catalogue SKUs below are built as product code · grade · pack
Pack sizes covered	250 mL, 500 mL, 1 L and 2.5 L glass bottles (GL45), 5 L HDPE containers, 25 L HDPE drums, 200 L HDPE drums, 1000 L IBCs and 16,000 L road tankers (bulk sizes by grade, see the SKU table), in UN-certified multi-unit shipping cases where applicable

Catalogue SKUs covered by this SDS

Grade	HCl assay	Pack size and SKU
Technical	30.0–34.0 %	5 L **253000044** · 25 L **253000062** · 200 L **253000064** · 1000 L **253000081** · 16,000 L **253000082**
Laboratory Reagent	35.0–37.0 %	500 mL **253000123** · 2.5 L **253000142** · 5 L **253000144** · 25 L **253000162** · 200 L **253000164** · 1000 L **253000181**

Grade	HCl assay	Pack size and SKU
Analytical Reagent	36.5–38.0 %	500 mL **253000223** · 2.5 L **253000242** · 5 L **253000244** · 25 L **253000262** · 200 L **253000264** · 1000 L **253000281**
PV Pure	30.0–32.0 %	25 L **253000362** · 200 L **253000364** · 1000 L **253000381**
Ultrapure PPB	34.0–37.0 %	500 mL **253000423** · 1 L **253000441** · 2.5 L **253000442**
Ultrapure PPB (30 %)	29.5–30.5 %	1 L **253001441** · 2.5 L **253001442**
Ultrapure PPT	34.0–37.0 %	250 mL **253000522** · 500 mL **253000523** · 1 L **253000541**

1.2 Relevant identified uses of the substance and uses advised against

- **Identified uses:** laboratory analytical reagent; acid for sample digestion, titration, extraction, cleaning and pH adjustment; use in research, quality-control and industrial laboratories; trace-metal (ppb / ppt) applications in semiconductor, photovoltaic and ICP-MS laboratories (PV Pure and Ultrapure grades); industrial process use (Technical grade); further formulation and repackaging by professional users.
- **Uses advised against:** not for food, drug, cosmetic, medicinal, household or consumer use. Not intended for use by the general public. Not to be used in any application resulting in human ingestion or direct dermal application.

1.3 Details of the supplier of the safety data sheet

Supplier	**Highpuris LLC** 9920 Pacific Heights Blvd, Suite 150 San Diego, CA 92121-4361 United States of America
Telephone	+1 (401) 288-1196
E-mail (SDS contact)	admin@highpuris.com · noreply@highpuris.com
Website	www.highpuris.com

1.4 Emergency telephone number

24-hour emergency (USA / Canada)	**CHEMTREC 1-800-424-9300**
24-hour emergency (international)	**CHEMTREC +1 703-527-3887** (collect calls accepted)
CHEMTREC contract number	**CCN 1024800** — Highpuris LLC, registered August 2026. Quote this number when calling; it must appear with the emergency telephone number on shipping papers under 49 CFR 172.604
Non-emergency (business hours)	+1 (401) 288-1196, 09:00 – 17:00 Pacific Time, Monday to Friday

2 SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture

Classification under 29 CFR 1910.1200 (OSHA HCS 2024), UN GHS Rev. 7, EU CLP (EC) No 1272/2008 and Canada HPR:

Hazard class	Category	Hazard statement
Corrosive to metals	Category 1	H290 — May be corrosive to metals
Skin corrosion / irritation	Category 1B	H314 — Causes severe skin burns and eye damage
Serious eye damage / eye irritation	Category 1	H318 — Causes serious eye damage
Specific target organ toxicity, single exposure (respiratory tract irritation)	Category 3	H335 — May cause respiratory irritation

H318 is not required on the label where H314 is assigned (GHS labelling precedence rules). The harmonised EU classification for hydrochloric acid at a concentration ≥ 25 % (Index No. 017-002-01-X) is Skin Corr. 1B, H314; STOT SE 3, H335; Met. Corr. 1, H290. Every Highpuris grade covered by this sheet (30 – 38 % w/w) is above the 25 % limit and carries the same classification.

2.2 GHS label elements

Hazard pictograms — required on the label and on every shipped container:



GHS05 — Corrosion



GHS07 — Exclamation mark

Pictograms must be a square set on a point, with a black symbol on a white ground and a red border wide enough to be clearly visible. Minimum size is one-fifteenth of the label surface area and never smaller than 10 mm × 10 mm (16 mm × 16 mm where the package holds more than 3 L). Where the corresponding DOT transport label is displayed on the outer packaging, the duplicate GHS pictogram may be omitted from that outer packaging under 29 CFR 1910.1200(f)(5); all pictograms remain required on the inner container label.

Signal word	**DANGER**
Hazard statements	H290 — May be corrosive to metals. H314 — Causes severe skin burns and eye damage. H335 — May cause respiratory irritation.

Precautionary statements — Prevention

- P234 — Keep only in original packaging.
- P260 — Do not breathe mist, vapours or spray.
- P264 — Wash hands and exposed skin thoroughly after handling.
- P271 — Use only outdoors or in a well-ventilated area.
- P280 — Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statements — Response

- P301 + P330 + P331 — IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 — IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304 + P340 — IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 — IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P310 — Immediately call a POISON CENTER or doctor.
- P363 — Wash contaminated clothing before reuse.
- P390 — Absorb spillage to prevent material damage.

Precautionary statements — Storage and disposal

- P403 + P233 — Store in a well-ventilated place. Keep container tightly closed.
- P405 — Store locked up.
- P406 — Store in a corrosive-resistant container with a resistant inner liner.
- P501 — Dispose of contents and container in accordance with federal, state, provincial and local regulations.

2.3 Other hazards which do not result in classification

- Contact with common metals (aluminium, zinc, iron, steel, brass, copper) liberates flammable hydrogen gas, which can form explosive mixtures with air in confined spaces.
- Contact with oxidising agents such as hypochlorites, chlorates, permanganates or chlorinated isocyanurates liberates toxic chlorine gas.
- Contact with cyanides liberates hydrogen cyanide; contact with sulfides liberates hydrogen sulfide.
- The concentrated solution fumes in air; the visible mist is corrosive and irritating to the respiratory tract at concentrations below those causing obvious discomfort. Fuming and vapour pressure increase with concentration.
- Dilution with water is strongly exothermic and can cause violent spattering. Always add acid to water, never water to acid.
- The substance does not meet PBT or vPvB criteria under REACH Annex XIII and is not an identified endocrine disruptor.

2.4 Unknown acute toxicity

Not applicable. Acute toxicity data are available for the substance; no component of unknown acute toxicity is present.

3 SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixture — aqueous solution of a single hazardous component. Covers all Highpuris grades from Technical 30 % to Analytical Reagent 38 %.

Chemical name	CAS No.	EC No.	Conc. (% w/w)	GHS classification of the ingredient
Hydrogen chloride (hydrochloric acid)	7647-01-0	231-595-7	30.0 – 38.0	Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318; STOT SE 3, H335
Water	7732-18-5	231-791-2	Balance	Not classified

EU Index number for hydrochloric acid: 017-002-01-X. Specific concentration limits in EU CLP Annex VI: Skin Corr. 1B / H314 at C ≥ 25 %; Skin Irrit. 2 / H315 and Eye Irrit. 2 / H319 at 10 % ≤ C < 25 %; STOT SE 3 / H335 at C ≥ 10 %. The nominal-30 % Ultrapure PPB grade (29.5 – 30.5 % w/w) lies marginally below the 30.0 % lower bound shown; its classification is unchanged because it remains well above 25 %.

Impurities and stabilising additives: none deliberately added. Trace impurities are controlled to the specification of each grade and are not present at levels that alter the classification.

4 SECTION 4: FIRST-AID MEASURES

4.1 Description of first-aid measures

General. Move the casualty out of the danger area. Rescuers must protect themselves — wear eye/face protection, gloves and, where mist or vapour is present, respiratory protection. Remove all contaminated clothing and footwear immediately while flushing. Never give anything by mouth to an unconscious or convulsing person. Show this Safety Data Sheet to the attending physician.
Inhalation. Move the casualty to fresh air at once and keep at rest in a position comfortable for breathing. Keep warm and quiet. If breathing is difficult, trained personnel should give oxygen. If breathing has stopped, give artificial respiration — do not use mouth-to-mouth; use a bag-valve mask or other mechanical device. Obtain medical attention immediately. Pulmonary oedema may be delayed by up to 48 hours after exposure; the casualty must be kept under medical observation even if initially asymptomatic.
Skin contact. Immediately flush the affected area with copious quantities of lukewarm, gently flowing water for at least 30 minutes, removing contaminated clothing, shoes and jewellery while flushing. Do not attempt to neutralise the acid. Obtain medical attention immediately. Continue flushing during transport to medical care. Discard heavily contaminated leather articles, including footwear and watch straps.
Eye contact. Immediately flush the eyes with lukewarm, gently flowing water for at least 30 minutes, holding the eyelids wide open. Remove contact lenses if present and if it can be done without delay; do not interrupt flushing to do so. Obtain immediate medical attention from an ophthalmologist. Continue irrigation en route to medical care. Serious eye damage, including permanent corneal opacification and blindness, may result.
Ingestion. Do NOT induce vomiting — re-exposure of the oesophagus to the acid and the risk of aspiration make vomiting dangerous. If the casualty is conscious and alert, rinse the mouth thoroughly with water and have them drink 120 – 240 mL (4 – 8 oz) of water or milk to dilute. Do not give sodium bicarbonate or other neutralising agents; the resulting gas evolution can rupture damaged tissue. Do not attempt gastric lavage. Obtain medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Skin: immediate pain, redness, blistering, deep chemical burns, yellow to brown discolouration, tissue destruction and scarring.
- Eyes: severe pain, lacrimation, blepharospasm, corneal burns and opacification, conjunctival oedema, permanent loss of vision.
- Inhalation: burning of the nose and throat, cough, hoarseness, laryngitis, chest tightness, dyspnoea; at higher concentrations laryngeal spasm, chemical pneumonitis and non-cardiogenic pulmonary oedema, which may be delayed up to 48 hours.
- Ingestion: immediate severe pain in the mouth, throat, oesophagus and stomach; dysphagia, vomiting (possibly with blood), perforation of the oesophagus or stomach, circulatory collapse, oesophageal stricture as a late sequela.
- Repeated exposure: erosion of dental enamel, chronic bronchitis, gastritis, dermatitis and photosensitisation.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat as a severe acid burn. Symptomatic and supportive treatment.
- Monitor the airway closely; laryngeal oedema and bronchospasm may require early intubation. Corticosteroids and bronchodilators may be indicated on clinical judgement.
- Following inhalation, observe for a minimum of 48 hours for delayed-onset pulmonary oedema; obtain a chest radiograph and arterial blood gases as indicated.
- Following ingestion, endoscopy within 12 – 24 hours may be indicated to assess the extent of injury. Activated charcoal is of no value and obscures the endoscopic view.
- Do not use chemical neutralising agents on burns or in the gastrointestinal tract.

5 SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable: the product is not combustible. Use extinguishing media appropriate to the surrounding fire — dry chemical, carbon dioxide, alcohol-resistant foam or water spray/fog.
- Unsuitable: do NOT direct a solid water jet into the product. Water entering the concentrated acid reacts exothermically and causes violent spattering and generation of corrosive mist. Do not use media that would spread the liquid.

5.2 Special hazards arising from the substance or mixture

- Non-combustible; the material itself does not burn.
- Contact with metals produces hydrogen gas, which is highly flammable and forms explosive mixtures with air (4 – 75 vol %). Hydrogen may accumulate in the headspace of damaged or improperly vented containers.
- Heating or fire exposure generates dense, corrosive and toxic fumes of hydrogen chloride and, in the presence of oxidisers, chlorine.
- Containers may rupture violently under fire conditions owing to internal pressure from vapour and evolved hydrogen.
- Reaction with oxidising agents, cyanides or sulfides in a fire situation may release chlorine, hydrogen cyanide or hydrogen sulfide respectively.

5.3 Advice for fire-fighters

- Wear a positive-pressure self-contained breathing apparatus (NIOSH-approved) and full acid-resistant protective clothing. Structural fire-fighting turnout gear alone provides only limited protection against this material.
- Evacuate and isolate the area. Approach from upwind. Stay out of low areas where corrosive vapour may collect.
- Use water spray to cool fire-exposed containers and to knock down vapour and mist, but prevent run-off water from entering the acid or from reaching drains and watercourses.
- Collect contaminated fire-fighting water separately for disposal; it must not be discharged to the sewer or environment.
- Refer to ERG 2024 Guide 157 (Substances — Toxic and/or Corrosive, non-combustible).

6 SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel. Evacuate the area immediately. Move upwind and uphill. Restrict access. Do not walk through spilled material. Avoid all contact with liquid and mist. Alert the site emergency response team.

For emergency responders. Do not attempt response without suitable PPE: chemical splash goggles with full face shield, acid-resistant suit and boots, butyl rubber or Viton gloves, and a NIOSH-approved supplied-air respirator or SCBA where mist or vapour concentrations are unknown or exceed exposure limits. Ventilate confined spaces before entry. Initial isolation of at least 50 m (150 ft) in all directions for a small liquid spill is recommended; increase the distance for large spills, and consult ERG Guide 157 for downwind protective-action distances.

6.2 Environmental precautions

- Prevent entry into drains, sewers, surface water, groundwater and soil. Dyke or bund the spill.
- The acid will kill aquatic life through pH depression and will corrode concrete, metal drainage systems and sewer infrastructure.
- Report releases as required by law. Under CERCLA, a release of 5,000 lb or more of hydrogen chloride in a 24-hour period must be reported immediately to the National Response Center (1-800-424-8802). Because the product is a solution of 30 – 38 % HCl, 5,000 lb of HCl corresponds to approximately 13,900 lb (about 6,300 kg, roughly 1,410 US gal) of 36 % product, or approximately 16,700 lb (about 7,600 kg, roughly 1,740 US gal) of 30 % product; for 38 % product the figure is approximately 13,200 lb (about 6,000 kg).

6.3 Methods and material for containment and cleaning up

- Stop the leak if it can be done without risk. Upright leaking containers and transfer the contents to a sound, labelled, acid-resistant container.
- Contain the spill with inert absorbent material — dry sand, earth, vermiculite, diatomaceous earth or a proprietary acid-absorbent. Do NOT use combustible absorbents such as sawdust, paper or cloth.
- Small spills may be carefully neutralised with a dry alkaline material such as soda ash, sodium bicarbonate or calcium carbonate, added slowly from a distance. Neutralisation liberates carbon dioxide, heat and spray — never confine the reaction and never neutralise inside a closed container.
- Collect the absorbed or neutralised material with non-sparking tools into a labelled, sealed, corrosion-resistant container for disposal.
- Flush the residual area with large volumes of water only after the bulk has been removed, collecting the wash water for pH adjustment and disposal.
- Ventilate the area thoroughly and monitor for hydrogen chloride and, where metals were contacted, hydrogen before releasing the area.

6.4 Reference to other sections

See Section 8 for exposure controls and personal protection, and Section 13 for disposal considerations.

7 SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

- Handle only in a chemical fume hood or under local exhaust ventilation. Open and dispense the concentrated acid with the sash lowered.
- Wear the personal protective equipment specified in Section 8 at all times when handling. Avoid breathing mist or vapour; avoid contact with skin, eyes and clothing.
- Open containers slowly and carefully to relieve any internal pressure; point the opening away from the face and body.

- When diluting, ALWAYS add the acid slowly to water with stirring and cooling — never add water to the acid.
- Ground and bond containers when transferring in bulk. Use only acid-resistant transfer equipment (PTFE, PP, HDPE, PVDF, glass or suitably lined steel).
- Do not eat, drink or smoke in the handling area. Wash hands and exposed skin thoroughly after handling.
- Keep the container tightly closed when not in use. Do not return unused material to the original container.
- Ensure an emergency eyewash station and safety shower are within 10 seconds' unobstructed travel of the work area and are tested regularly.
- Empty containers retain product residue and vapour and remain hazardous — do not cut, weld, drill or reuse.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Cool, dry, well-ventilated area away from direct sunlight and sources of heat. Store below 25 °C (77 °F) where practicable. Keep locked up or in an area accessible only to authorised, trained personnel.
Recommended temperature	15 – 25 °C (59 – 77 °F). Protect from freezing; the freezing point of the 36 % solution is approximately −30 °C (−22 °F) and that of the 30 % solution approximately −50 °C (−58 °F).
Containment	Store on an acid-resistant, bunded or kerbed floor with secondary containment of at least 110 % of the largest container. Segregate from other chemical classes.
Suitable materials	Original supplier packaging: borosilicate or soda-lime glass with PTFE-faced closures; HDPE, PP, PTFE, PVDF, PVC, CPVC, FRP with a suitable resin liner, rubber-lined or glass-lined steel.
Unsuitable materials	All common metals — carbon steel, stainless steel, aluminium, zinc, galvanised surfaces, copper, brass and bronze. Concrete, marble and limestone are attacked.
Incompatible storage	Segregate from alkalis and amines, oxidising agents (hypochlorites, chlorates, permanganates, nitric acid), cyanides, sulfides, carbides, metal powders, formaldehyde, and organic materials. Do not store with flammable liquids or oxidisers in the same cabinet.
Shelf life	Indefinite when stored as specified in unopened original packaging; assay may drift slightly through loss of HCl gas after opening. PV Pure and Ultrapure grades should be opened only in a clean environment, after which trace-metal levels can no longer be guaranteed against the released specification.

7.3 Specific end use(s)

Laboratory reagent and industrial process chemical. No further specific guidance beyond the identified uses in Section 1.2.

8 SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits — hydrogen chloride (CAS 7647-01-0)

Source	Type	Value
OSHA PEL (29 CFR 1910.1000, Table Z-1)	Ceiling	5 ppm (7 mg/m³)
NIOSH REL	Ceiling (15-minute)	5 ppm (7 mg/m³)
ACGIH TLV	Ceiling	2 ppm
NIOSH IDLH	Immediately dangerous to life or health	50 ppm
Cal/OSHA PEL (8 CCR 5155)	Ceiling	5 ppm (7 mg/m³)
Mexico OEL (NOM-010-STPS)	Ceiling	2 ppm
EU IOELV (Directive 2000/39/EC)	8-hour TWA / STEL	8 mg/m³ (5 ppm) / 15 mg/m³ (10 ppm)

Derived No-Effect Levels (DNELs) — workers: long-term inhalation, systemic and local: 8 mg/m³. Acute inhalation, local: 15 mg/m³. Predicted No-Effect Concentrations (PNECs): freshwater and marine water — not applicable; effects are attributable to pH change. Sewage treatment plant: pH-dependent.

8.2 Exposure controls

Appropriate engineering controls

- Use in a certified chemical fume hood with a minimum face velocity of 0.5 m/s (100 ft/min), or under equivalent local exhaust ventilation captured at the point of generation.
- Provide general dilution ventilation sufficient to keep airborne concentrations below the ceiling limits at all times. Exhaust ducting must be of corrosion-resistant construction.
- Where large quantities are handled, provide continuous HCl gas detection with alarm, and consider closed transfer systems.
- Safety shower and eyewash station must be immediately available (ANSI/ISEA Z358.1).

Eye and face protection

- Chemical splash goggles conforming to ANSI/ISEA Z87.1 or EN 166, worn together with a full face shield whenever there is any risk of splashing, pouring or pressurised release. Ordinary safety spectacles are not adequate.

Skin and body protection

- Gloves: butyl rubber, Viton®, neoprene or PVC. Butyl rubber of 0.5 mm or greater thickness typically gives a breakthrough time exceeding 480 minutes (EN ISO 374 performance level 6); nitrile is suitable only for incidental splash and must be changed immediately on contact. Natural rubber latex is not suitable. Confirm performance with the glove manufacturer for the specific task.
- Body: acid-resistant apron or coveralls over a flame-resistant laboratory coat for small-scale work; a full chemically resistant suit (Type 3/4, EN 14605) with hood for bulk transfer, drumming and spill response.
- Feet: closed, chemically resistant boots or overboots. Trouser legs worn outside the boots.

Respiratory protection

- Not normally required where work is carried out in an effective fume hood. Where the ceiling limit may be exceeded, use a NIOSH-approved air-purifying respirator with acid-gas cartridges (or combination acid-gas/P100 cartridges where mist is present) within its assigned protection factor.
- For unknown concentrations, oxygen-deficient atmospheres, emergency response or concentrations at or above 50 ppm (IDLH), use a positive-pressure self-contained breathing apparatus or a supplied-air respirator with escape bottle.
- Respirator use requires a written programme under 29 CFR 1910.134, including medical evaluation, fit testing and training.

Environmental exposure controls

- Do not discharge to the environment. Route vent gases through a caustic scrubber where necessary. Neutralise aqueous effluent to the pH range permitted by the receiving authority before discharge.

9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Liquid
Colour	Colourless to slightly yellow; fumes in moist air
Odour	Sharp, pungent, irritating
Odour threshold	0.25 – 10 ppm (as hydrogen chloride gas)
Melting point / freezing point	Approximately −30 °C (−22 °F) at 36 % w/w to −50 °C (−58 °F) at 30 % w/w; −35 °C (−31 °F) at 37 % w/w
Boiling point / initial boiling point	57 – 85 °C (135 – 185 °F) at 101.3 kPa, depending on concentration, with evolution of hydrogen chloride gas; approximately 57 – 61 °C (135 – 142 °F) at 36 – 38 % w/w; the constant-boiling azeotrope (20.2 % HCl) boils at 108.6 °C (227 °F)
Flammability	Not flammable. Contact with metals liberates flammable hydrogen gas
Lower / upper explosion limit	Not applicable to the liquid. Hydrogen evolved on contact with metals: 4 – 75 vol % in air
Flash point	Not applicable (non-combustible aqueous solution)
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable; loses hydrogen chloride gas on heating
pH	< 1 (as supplied); approximately 0.1 for a 1 N aqueous solution at 20 °C
Kinematic / dynamic viscosity	Dynamic viscosity approximately 1.9 mPa·s at 15 °C (kinematic ≈ 1.6 mm^2/s) for the 36 % solution
Solubility (water)	Completely miscible with water in all proportions, with evolution of heat
Solubility (other)	Soluble in alcohols and ethers; insoluble in hydrocarbons
Partition coefficient n-octanol/water (log Kow)	Not applicable — inorganic substance, fully ionised in water
Vapour pressure	40 – 190 hPa (30 – 143 mmHg) at 20 °C across the 30 – 38 % band: approximately 40 hPa (30 mmHg) for 30 % w/w; approximately 125 hPa (94 mmHg) for 36 % w/w; up to approximately 190 hPa (143 mmHg) for 37 – 38 % w/w
Density / relative density	1.15 – 1.19 g/cm^3 at 20 °C (relative density 1.15 – 1.19; approximately 1.18 at 36 % w/w)
Relative vapour density	1.27 (air = 1) as hydrogen chloride gas — vapour is heavier than air and will collect in low areas
Particle characteristics	Not applicable (liquid)

Property	Value
Molecular weight	36.46 g/mol (HCl)
Evaporation rate	> 1 (n-butyl acetate = 1)
Oxidising properties	None
Explosive properties	None
Surface tension	Not determined
Concentration	30.0 – 38.0 % w/w HCl; approximately 9.5 – 12.4 mol/L

9.2 Other information

No additional physical or chemical hazard information. Test data above relate to the concentrated aqueous solution unless otherwise stated; concentration-dependent properties are given as ranges across the 30 – 38 % w/w band.

10 SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

A strong mineral acid. Reacts vigorously and exothermically with bases, with many metals, and with a range of common laboratory and industrial chemicals as detailed below.

10.2 Chemical stability

Stable under the recommended storage and handling conditions. Not sensitive to mechanical impact or static discharge. The solution slowly loses hydrogen chloride gas at elevated temperature or when left open.

10.3 Possibility of hazardous reactions

- Violent, heat-generating reaction with alkalis, amines and other bases; can cause boiling and spattering.
- Reaction with most metals releases flammable hydrogen gas, which may form an explosive atmosphere in enclosed spaces or container headspace.
- Reaction with oxidising agents (hypochlorites, chlorates, chlorites, permanganates, nitric acid, chlorinated isocyanurates) releases toxic chlorine gas.
- Reaction with cyanides releases hydrogen cyanide; with sulfides, hydrogen sulfide; with carbides, flammable hydrocarbon gases.
- Reaction with formaldehyde can form bis(chloromethyl) ether, a recognised human carcinogen.
- Dilution with water is strongly exothermic — always add acid to water.

10.4 Conditions to avoid

Heat, direct sunlight, freezing, contact with incompatible materials, contact with metals, and confinement of evolved gas in closed systems.

10.5 Incompatible materials

Class	Examples
Bases and amines	Sodium and potassium hydroxide, ammonia and ammonium hydroxide, ethanolamines, organic amines
Oxidising agents	Sodium hypochlorite (bleach), calcium hypochlorite, chlorates, chlorites, permanganates, nitric acid, hydrogen peroxide, chlorinated isocyanurates
Metals and alloys	Aluminium, zinc, magnesium, iron and carbon steel, stainless steel, galvanised surfaces, copper, brass, bronze, metal powders
Salts liberating toxic gas	Cyanides, sulfides, sulfites, carbides, phosphides, borides
Reactive organics	Formaldehyde, acetic anhydride, vinyl acetate, aldehydes, epoxides
Construction materials	Concrete, marble, limestone, unlined mild steel, ordinary rubber gaskets

10.6 Hazardous decomposition products

Hydrogen chloride gas and corrosive mist on heating. Hydrogen gas on contact with metals. Chlorine on contact with oxidising agents. Thermal decomposition in a fire may produce hydrogen chloride and chlorine.

11 SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in 29 CFR 1910.1200(c) / GHS

Likely routes of exposure: skin and eye contact, inhalation of mist or vapour, and accidental ingestion.

Endpoint	Data and conclusion
Acute toxicity — oral	LD_{50} (rat): 238 – 277 mg/kg bw (concentrated hydrochloric acid). Effects are principally local corrosion of the gastrointestinal tract. Not classified for acute oral toxicity as a discrete GHS category at this concentration; corrosivity governs.
Acute toxicity — dermal	LD_{50} (rabbit): > 5,010 mg/kg bw. Not classified.
Acute toxicity — inhalation	LC_{50} (rat, 1 h): 1.68 mg/L (approximately 3,124 ppm) as hydrogen chloride gas. LC_{50} (rat, 4 h) estimated at approximately 6.4 mg/L for the concentrated solution mist. Not classified as acutely toxic by inhalation at the applicable cut-offs; respiratory irritation governs.
Skin corrosion / irritation	Corrosive. Causes severe, full-thickness chemical burns. Classified Skin Corrosion Category 1B on the basis of the harmonised EU classification for HCl ≥ 25 % and human experience. Animal testing is not required for a substance of known corrosivity.
Serious eye damage / irritation	Causes serious, irreversible eye damage, including corneal opacification and blindness. Classified Eye Damage Category 1.
Respiratory or skin sensitisation	Not a skin sensitiser and not a respiratory sensitiser. Not classified. Reported cases of "reactive airways dysfunction syndrome" following a single high-level exposure are an irritant, not an allergic, phenomenon.
Germ cell mutagenicity	Negative in bacterial reverse mutation assays and in mammalian in vitro assays at non-cytotoxic, pH-controlled concentrations. Not classified.
Carcinogenicity	IARC Group 3 — not classifiable as to its carcinogenicity to humans (hydrochloric acid, IARC Monograph Vol. 54). ACGIH A4 — not classifiable as a human carcinogen. Not listed by NTP or by OSHA as a carcinogen. Not classified. (The IARC Group 1 listing for "strong inorganic acid mists containing sulfuric acid" applies to sulfuric acid mists and not to hydrochloric acid.)
Reproductive toxicity	No evidence of adverse effects on fertility or development at exposures below those producing maternal toxicity from local irritation. Not classified.
STOT — single exposure	Category 3, respiratory tract irritation (H335). Inhalation of vapour or mist causes irritation of the nose, throat and airways; higher exposures can cause laryngeal spasm, chemical pneumonitis and pulmonary oedema of delayed onset.
STOT — repeated exposure	Not classified. Repeated occupational exposure has been associated with erosion of dental enamel, chronic bronchitis, gastritis and dermatitis, generally at concentrations well above current exposure limits.
Aspiration hazard	Not classified.

11.2 Other information

Target organs: eyes, skin, mucous membranes, respiratory system, gastrointestinal tract and teeth. Persons with pre-existing skin disorders, eye disease, chronic respiratory disease (asthma, chronic bronchitis, emphysema) or gastrointestinal disease may be at increased risk from exposure. Endocrine disrupting properties: this product does not contain any known or suspected endocrine disruptors.

The concentrated solution is not tested as such in most studies; the assessments above are based on the properties of hydrogen chloride and the pH of the solution, which is the determining factor for local effects.

12 SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Endpoint	Value
Fish — acute	LC_{50} (Gambusia affinis, 96 h): 282 mg/L. LC_{50} (Lepomis macrochirus, 96 h): 20 – 100 mg/L (pH-dependent).
Aquatic invertebrates — acute	EC_{50} (Daphnia magna): 56 mg/L. LC_{50} (Carcinus maenas, shore crab, 48 h): 240 mg/L. LC_{50} (Crangon crangon, shrimp, 48 h): 260 mg/L.
Algae	No reliable species-specific data. Effects are attributable to acidification rather than to intrinsic toxicity of the chloride ion.
Microorganisms	Activated sludge respiration is inhibited only at pH values outside the tolerance range of the biomass.

The ecotoxicity of hydrochloric acid is governed almost entirely by the pH depression it causes in the receiving water. In waters of adequate buffering capacity the substance dissociates to chloride and hydronium ions and is rapidly neutralised.

12.2 Persistence and degradability

Methods for determining biodegradability are not applicable to inorganic substances. Hydrochloric acid dissociates completely in water to hydrogen and chloride ions, which are natural constituents of surface waters.

12.3 Bioaccumulative potential

Does not bioaccumulate. Log Kow is not applicable to a fully ionised inorganic acid.

12.4 Mobility in soil

Highly mobile in soil owing to complete water solubility. Will be neutralised by soil carbonates and cation exchange capacity, releasing carbon dioxide and mobilising metal ions. May reach groundwater where the soil buffering capacity is exhausted.

12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for PBT or vPvB in Annex XIII of Regulation (EC) No 1907/2006. A chemical safety assessment concluding on PBT/vPvB is not applicable to inorganic acids. Not identified as having endocrine disrupting properties.

12.6 Other adverse effects

Discharge to surface water causes a rapid and potentially lethal drop in pH, with fish kills and destruction of benthic communities. Contact with soil and groundwater mobilises heavy metals from sediments. German Water Hazard Class (WGK): 1 — slightly hazardous to water. Does not deplete stratospheric ozone; not a listed greenhouse gas; contributes to acid deposition if emitted to air in bulk.

13 SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste under 40 CFR 261 and must consult federal, state and local hazardous waste regulations. Dispose of through a licensed hazardous waste disposal contractor; do not discharge to the sewer, to surface water or to the ground.
- The preferred treatment is controlled neutralisation with a dilute alkaline solution (sodium hydroxide, sodium carbonate, calcium hydroxide) in a suitable acid-resistant vessel with cooling and agitation, followed by discharge of the neutralised effluent under the terms of the applicable permit. Neutralisation must be carried out only by trained personnel with appropriate PPE and containment.
- Do not mix waste hydrochloric acid with cyanide, sulfide, hypochlorite or organic waste streams.
- Empty containers retain residue and vapour and remain hazardous. Do not cut, weld, braze, drill, grind or expose the container to heat.
- Triple-rinse containers with water, collecting the rinsate for neutralisation and permitted disposal, before offering for recycling or disposal. Deface or remove the label from a properly cleaned container.
- Dispose of the container in accordance with local regulations. RCRA "empty" criteria are set out in 40 CFR 261.7.

13.2 Waste codes

RCRA (40 CFR 261.22): unused product discarded as waste is a characteristic hazardous waste for corrosivity (pH ≤ 2) — EPA hazardous waste number D002. Not ignitable (no D001). Waste generators must determine whether additional listings apply on the basis of the actual use and contamination of the material. European waste catalogue: EWC code 06 01 02* (hydrochloric acid, from the manufacture, formulation, supply and use of acids); laboratory quantities may fall under EWC 16 05 06* (laboratory chemicals consisting of or containing hazardous substances). Final code allocation is the responsibility of the waste producer.

14 SECTION 14: TRANSPORT INFORMATION

This product is a regulated dangerous good in all modes of transport.

14.1 Common transport classification (all modes)

UN number / UN ID number	UN 1789
UN proper shipping name	Hydrochloric acid (also shown as "Hydrochloric acid solution" by some shippers)
Transport hazard class	Class 8 — Corrosive substances
Subsidiary hazard	None
Packing group	II
Label(s) required	Class 8 "Corrosive" (white upper half / black lower half, liquids dripping on hand and metal)
Environmental hazards	Not classified as a marine pollutant under the IMDG Code and not an environmentally hazardous substance under ADR/RID. Confirm against the current edition in force before each consignment.

Special precautions for user	Transport upright, secured against movement, away from foodstuffs. Segregate from bases, oxidisers, cyanides and sulfides. Vehicles and containers must be of, or lined with, acid-resistant material.
Transport in bulk (MARPOL Annex II / IBC Code)	Not applicable to packaged goods. Bulk marine carriage of hydrochloric acid is subject to the IBC Code; consult the relevant carriage requirements.

Transport hazard label(s) required on the package:



Class 8 — Corrosive

Minimum 100 mm × 100 mm on each side, set on a point, with a solid inner line 5 mm inside the edge (49 CFR 172.407). Reduced-size labels are permitted only where the package is too small to bear a full-size label. Where a subsidiary hazard label is required, it is displayed next to the primary label.

14.2 US DOT — 49 CFR (road, rail and domestic transport)

Hazardous materials table entry	Hydrochloric acid, 8, UN1789, PG II
Label codes	8
Special provisions (49 CFR 172.102)	386, A3, B3, B15, B133, IB2, N41, T8, TP2
Packaging — exceptions	49 CFR 173.154
Packaging — non-bulk	49 CFR 173.202
Packaging — bulk	49 CFR 173.242
Quantity limitation — passenger aircraft/rail	1 L
Quantity limitation — cargo aircraft only	30 L
Vessel stowage	Location C; other stowage provisions 53, 58
Limited quantity	Authorised under 49 CFR 173.154(b): inner packagings not exceeding 1.0 L, package gross mass not exceeding 30 kg. Limited quantity marking required in place of labels.
Reportable quantity (RQ)	5,000 lb (2,270 kg) of hydrogen chloride. This corresponds to approximately 13,900 lb (6,300 kg) of 36 % product, or approximately 16,700 lb (7,600 kg) of 30 % product. Where a single package contains an RQ or more, the letters "RQ" must appear on the shipping paper and package marking.
ERG 2024 guide number	157 — Substances, toxic and/or corrosive (non-combustible)
Emergency response telephone	Required on the shipping paper under 49 CFR 172.604 — see Section 1.4
Placarding	CORROSIVE placard required for bulk packagings and for non-bulk shipments where the aggregate gross weight of Table 2 materials is 454 kg (1,001 lb) or more

14.3 IMDG Code (sea)

UN number / class / PG	UN 1789, Class 8, PG II
Proper shipping name	HYDROCHLORIC ACID
EmS (emergency schedules)	F-A (fire) and S-B (spillage)
Segregation group	Group 1 — Acids
Marine pollutant	No
Limited quantity	1 L
Excepted quantity	E2
Stowage and segregation	Segregate from alkalis, oxidising agents (Class 5.1), cyanides (Class 6.1 cyanide entries) and Class 4.3 substances. Refer to the IMDG Code edition in force for the stowage category and segregation table.

14.4 IATA DGR / ICAO Technical Instructions (air)

UN number / class / PG	UN 1789, Class 8, PG II
Proper shipping name	Hydrochloric acid
Passenger and cargo aircraft	Packing Instruction 851 — maximum net quantity 1 L per package
Cargo aircraft only	Packing Instruction 855 — maximum net quantity 30 L per package
Limited quantity (passenger aircraft)	Packing Instruction Y840 — maximum net quantity 0.5 L per package
Excepted quantity code	E2
ERG code (ICAO)	8L
Note	Packing instruction numbers change between editions of the IATA Dangerous Goods Regulations. Verify against the edition in force on the date of shipment before completing the Shipper's Declaration.

14.5 ADR / RID / ADN (European road, rail and inland waterway)

UN number / class / PG	UN 1789, Class 8, PG II
Classification code	C1 — corrosive substances, acidic, inorganic, liquid
Labels	8
Tunnel restriction code	(E)
Hazard identification number (Kemler)	80
Transport category / limited quantity	Transport category 2; limited quantity 1 L
Special provisions / packing instructions	520 (where applicable); packing instruction P001, IBC02
Note	Verify against the ADR/RID edition in force before shipment.

14.6 Shipping documentation example

UN1789, Hydrochloric acid, 8, II, (Corrosive) — followed by the number and type of packages, total quantity, packaging authorisation, emergency response telephone number and, where applicable, the "RQ" designation and limited-quantity marking.

The shipper is responsible for confirming that packaging is UN-performance tested and marked to the required standard, that all personnel involved are trained and certified under 49 CFR 172 Subpart H (and IATA/IMDG equivalents), and that the classification remains valid under the regulatory edition in force on the date of shipment.

15 SECTION 15: REGULATORY INFORMATION

15.1 United States federal regulations

Regulation	Status
TSCA (15 U.S.C. §2601 et seq.)	Hydrochloric acid, CAS 7647-01-0, is listed on the TSCA Chemical Substance Inventory with an "active" designation. No TSCA section 12(b) export notification requirement applies. Not subject to a section 5(a)(2) significant new use rule.
OSHA Hazard Communication (29 CFR 1910.1200)	Classified as a hazardous chemical. This SDS is prepared to the HCS 2024 amendment (GHS Rev. 7), for which the compliance date for substances was 19 May 2026.
OSHA flammable liquids (29 CFR 1910.106)	Not applicable — aqueous hydrochloric acid is a non-combustible liquid with no flash point. Hydrogen evolved on contact with metals is flammable (see Sections 5 and 10).
OSHA PSM (29 CFR 1910.119, App. A)	Aqueous hydrochloric acid is not a listed highly hazardous chemical. Anhydrous hydrogen chloride is listed (threshold 5,000 lb).
CERCLA section 103 (40 CFR 302.4)	Hazardous substance. Reportable quantity 5,000 lb (2,270 kg) of hydrogen chloride — approximately 13,900 lb of 36 % product or 16,700 lb of 30 % product. Releases at or above the RQ in any 24-hour period must be reported immediately to the National Response Center, 1-800-424-8802.
EPCRA section 302 (40 CFR 355, App. A)	The extremely hazardous substance listing for CAS 7647-01-0 is "Hydrogen chloride (gas only)", TPQ 500 lb, RQ 5,000 lb. An aqueous solution is not covered by this entry, so section 302 emergency planning notification is not triggered by this product.

Regulation	Status
EPCRA sections 311 / 312 (40 CFR 370)	Reportable. Applicable hazard classes: skin corrosion (Category 1B), serious eye damage (Category 1), specific target organ toxicity — single exposure (Category 3), and corrosive to metals (Category 1). Reporting threshold 10,000 lb on site at any one time.
EPCRA section 313 (TRI, 40 CFR 372)	Listed as "Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)". Only aerosol forms are reportable; hydrochloric acid in aqueous solution is not counted toward the threshold. Thresholds 25,000 lb manufactured or processed, 10,000 lb otherwise used. De minimis 1.0 %.
Clean Air Act section 112 / 112(r)	"Hydrochloric acid (conc 37 % or greater)" is a regulated toxic substance under 40 CFR 68.130 with a threshold quantity of 15,000 lb. The Analytical Reagent grade (36.5 – 38.0 %) can fall within this listing, as can any batch of another grade assaying at or above 37 %; the Technical, Laboratory Reagent (up to 37.0 %), PV Pure and Ultrapure PPB / PPT grades below 37 % do not. Users holding large inventories should verify the certificate of analysis against this threshold. "Hydrogen chloride (anhydrous)" is separately listed at 5,000 lb.
Clean Water Act section 311 (40 CFR 116/117)	Designated hazardous substance; reportable quantity 5,000 lb. Not a section 307 priority pollutant.
RCRA (40 CFR 261)	Discarded unused product exhibits the corrosivity characteristic (pH ≤ 2): EPA hazardous waste number D002.
DEA / Chemical Diversion and Trafficking Act (21 CFR 1310)	Hydrochloric acid, including anhydrous hydrogen chloride, is a List II regulated chemical, DEA chemical code 6545. Distributors, importers and exporters are subject to registration, recordkeeping, reporting and suspicious-order requirements. Applicable thresholds are set out in 21 CFR 1310.04.
FDA / USDA	Not supplied as a food-grade, USP or FCC material. Not for use in food, drug or cosmetic applications.
US Department of Homeland Security (6 CFR 27, App. A)	Hydrochloric acid (concentration 37 % or greater) is a chemical of interest (COI) under the Chemical Facility Anti-Terrorism Standards, screening threshold quantity 15,000 lb (release — toxic). The same grade caveat applies as for Clean Air Act 112(r): the Analytical Reagent grade (36.5 – 38.0 %) can fall within the listing, whereas grades below 37 % do not. Anhydrous hydrogen chloride is separately listed (release 5,000 lb; theft 500 lb) and is not supplied by Highpuris.

15.2 United States state regulations

State list	Status
California Proposition 65	Hydrochloric acid is not listed under the Safe Drinking Water and Toxic Enforcement Act of 1986. No Proposition 65 warning is required for this product.
California — other	Listed as a Toxic Air Contaminant (CARB). Cal/OSHA PEL ceiling 5 ppm.
Massachusetts Right-to-Know	Listed (Substance List, 105 CMR 670).
New Jersey Right-to-Know	Listed (Hazardous Substance List; substance list). Special Health Hazard Substance — corrosive.
Pennsylvania Right-to-Know	Listed (Hazardous Substance List). Environmental hazard.
Rhode Island, Minnesota, Illinois, Texas	Listed on the respective state hazardous substance / right-to-know lists.

15.3 International regulations

Jurisdiction	Status
Canada	Classified under the Hazardous Products Regulations (SOR/2015-17) consistently with Section 2. Listed on the Domestic Substances List (DSL). Subject to NPRI reporting for acid aerosol forms.
European Union — CLP	Harmonised classification, Annex VI to Regulation (EC) No 1272/2008, Index No. 017-002-01-X: Skin Corr. 1B, H314; STOT SE 3, H335; Met. Corr. 1, H290, with the specific concentration limits given in Section 3.
European Union — REACH	Registered substance. Not on the Candidate List of substances of very high concern and not subject to authorisation (Annex XIV). Annex XVII restriction entry 75 applies to supply of certain acids to the general public in some Member States. Supplier REACH registration number to be inserted before EU/EEA placement.
Seveso III (Directive 2012/18/EU)	Not named individually; may be captured under the generic hazard categories. Indicative thresholds referenced by suppliers: 25 t (lower tier) / 250 t (upper tier).
Rotterdam / Stockholm / Montreal Conventions	Not listed under the PIC procedure, not a persistent organic pollutant and not an ozone-depleting substance.

Jurisdiction	Status
Basel Convention	Annex I — Y34 (acidic solutions or acids in solid form) when exported as waste.
Chemical Weapons Convention	Not a scheduled chemical.
Chemical inventories	Listed on TSCA (USA), DSL (Canada), EC Inventory / REACH (EU), AICS (Australia), IECSC (China), ENCS and ISHL (Japan), KECI (Korea), PICCS (Philippines), NZIoC (New Zealand), TCSI (Taiwan) and the Indian Chemical Inventory. India: classified as a hazardous chemical under the Manufacture, Storage and Import of Hazardous Chemical Rules 1989 (as amended) and subject to the Central Motor Vehicles Rules 1989 for road transport.
Mexico	OEL (NOM-010-STPS): ceiling 2 ppm. Hazard grade under NOM-018-STPS: no information available.
Germany	Water Hazard Class WGK 1 (slightly hazardous to water).

15.4 Chemical safety assessment

A chemical safety assessment has been carried out for hydrochloric acid under REACH by the registrant consortium. No exposure scenarios are annexed to this SDS; users placing the substance on the EU/EEA market should obtain the extended SDS from the registrant.

16 SECTION 16: OTHER INFORMATION

16.1 Hazard rating systems

System	Rating	Notes
NFPA 704	Health 3 · Flammability 0 · Instability 0 · Special: COR	Corrosive; also commonly marked ACID
HMIS® III	Health 3 · Flammability 0 · Physical hazard 1 · PPE: X	PPE code to be assigned by the employer based on the task



Rating scale 0 = minimal, 4 = severe. These ratings are supplementary and are not a substitute for the GHS classification in Section 2.

16.2 Full text of hazard statements referred to in this SDS

- H290 — May be corrosive to metals.
- H314 — Causes severe skin burns and eye damage.
- H315 — Causes skin irritation.
- H318 — Causes serious eye damage.
- H319 — Causes serious eye irritation.
- H335 — May cause respiratory irritation.

16.3 Abbreviations and acronyms

Abbreviation	Meaning
ACGIH	American Conference of Governmental Industrial Hygienists
ADR / RID / ADN	European agreements concerning the international carriage of dangerous goods by road / rail / inland waterway
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging
DNEL / PNEC	Derived no-effect level / predicted no-effect concentration
EmS	Emergency schedule (IMDG Code)
EPCRA	Emergency Planning and Community Right-to-Know Act
ERG	Emergency Response Guidebook (PHMSA / Transport Canada / SCT)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HCS	Hazard Communication Standard, 29 CFR 1910.1200
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA DGR	International Air Transport Association Dangerous Goods Regulations

Abbreviation	Meaning
IDLH	Immediately dangerous to life or health
IMDG	International Maritime Dangerous Goods Code
LC_{50} / LD_{50} / EC_{50}	Concentration / dose / effective concentration lethal or effective to 50 % of a test population
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PBT / vPvB	Persistent, bioaccumulative and toxic / very persistent and very bioaccumulative
PEL / REL / TLV	Permissible exposure limit / recommended exposure limit / threshold limit value
PG	Packing group
RCRA	Resource Conservation and Recovery Act
RQ / TPQ / TQ	Reportable quantity / threshold planning quantity / threshold quantity
SCBA	Self-contained breathing apparatus
STOT SE / RE	Specific target organ toxicity — single exposure / repeated exposure
TSCA	Toxic Substances Control Act
TWA / STEL	Time-weighted average / short-term exposure limit
WGK	Wassergefährdungsklasse (German water hazard class)

16.4 Key references

- 29 CFR 1910.1200, OSHA Hazard Communication Standard, as amended by the final rule of 19 July 2024 (89 FR 44144), aligning with GHS Revision 7.
- 49 CFR Parts 171–180, US DOT Hazardous Materials Regulations; Hazardous Materials Table, 49 CFR 172.101.
- 2024 Emergency Response Guidebook, Guide 157.
- IMDG Code and IATA Dangerous Goods Regulations, editions in force.
- 40 CFR 302.4, 40 CFR 355 Appendix A, 40 CFR 372, 40 CFR 68.130 and 40 CFR 261.22; 6 CFR Part 27, Appendix A.
- 21 CFR Part 1310, DEA List I and II regulated chemicals.
- Regulation (EC) No 1272/2008 Annex VI, Index No. 017-002-01-X; Regulation (EC) No 1907/2006 Annex II.
- NIOSH Pocket Guide to Chemical Hazards, hydrogen chloride; ACGIH TLVs and BEIs, current edition.
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 54.
- Manufacturer safety data sheet for hydrochloric acid (US OSHA HCS 2024 format, revision 9, December 2025) — cross-check of the physical, toxicological and ecotoxicological test values reproduced here.
- ECHA registered substance dossier and PubChem CID 313, hydrochloric acid.

16.5 Revision information

Version	1.0
Date of issue	01 November 2026
Reason for revision	First issue of the Hydrochloric Acid (30–38 %) sheet under SDS number HP-SDS-25300-US-01. Supersedes HP-SDS-HCL36-US-01 v1.1: scope widened from the ACS 36 % grade to all Highpuris hydrochloric acid grades, 30–38 % w/w; content otherwise unchanged. Concentration-dependent data (physical properties, CERCLA product-equivalent quantities, Clean Air Act 112(r) and DHS CFATS grade notes) revised for the wider band, and the complete Highpuris catalogue SKU list for this product added.
Sections revised	All — new SDS number and wider scope; concentration-dependent data revised in 1.1, 3, 6.2, 9, 14.2, 15.1 and 16.5
Prepared by	Regulatory Affairs, Highpuris LLC

16.6 Disclaimer

The information in this Safety Data Sheet is provided in good faith and is believed to be accurate as at the date of issue. It has been compiled from data on hydrochloric acid (30–38 %) published by regulatory authorities, manufacturers and recognised technical sources, and relates only to the specific material identified in Section 1. It does not constitute a warranty, express or implied, of merchantability, fitness for a particular purpose or of any other kind, and Highpuris LLC accepts no liability for loss or damage arising from the handling or use of the product. The material may present

hazards in combination with other substances or in processes not described here. It is the responsibility of the user to determine the suitability of this information for their own particular purpose, to comply with all applicable laws and regulations, and to ensure that the material is handled only by adequately trained personnel. Transport classifications, exposure limits and regulatory listings change. This document must be reviewed against the regulatory editions in force at the date of each shipment.

— END OF SAFETY DATA SHEET —