

SDS no. 6WEL8ZU1 • Version 1.0 • Date of issue: 2023-06-28

GHS Product identifier

Product name

Hydrochloric Acid (0.1-0.5M) in Propan-2-ol

Recommended use of the chemical and restrictions on use

Determination of neutralization number (basic) by colour-indicator titration of mineral oils and laboratory reagent.

Supplier's details

Name

ChemSupply Australia Pty Ltd

Address

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Australia

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CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity following single exposure, Cat. 3
- Flammable liquids, Cat. 2

GHS label elements, including precautionary statements

Pictograms

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Signal word

Warning

Hazard statement(s)

H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H225 Highly flammable liquid and vapor

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap
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.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P321 Specific treatment (see ... on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal facility
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P370+P378 In case of fire: Use agents recommended in Section 5 of SDS for extinction
P403+P235 Store in a well-ventilated place. Keep cool.

SECTION 3: Composition/information on ingredients

Mixtures

Components

Component	CAS no.	Concentration
Isopropanol (EC no.: 414-810-0; Index no.: 607-403-00-6)	67-63-0	98 % (volume)
CLASSIFICATIONS: Flammable liquids, Cat. 2; Serious eye damage/eye irritation, Cat. 2A; Specific target organ toxicity following single exposure, Cat. 3; Specific target organ toxicity following repeated exposure, Cat. 2; Serious eye damage/eye irritation, Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H225 - Highly flammable liquid and vapor; H318 - Causes serious eye damage; H319 -		

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Causes serious eye irritation; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness; H373 - May cause damage to organs [organs] through prolonged or repeated exposure [route]; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.		
HYDROCHLORIC ACID (<37%) (EC no.: 231-595-7; Index no.: 017-002-01-X)	7647-01-0	<= 2 % (weight)
CLASSIFICATIONS: Specific target organ toxicity following single exposure, Cat. 3; Skin corrosion/irritation, Cat. 1B. HAZARDS: H314 - Causes severe skin burns and eye damage; H335 - May cause respiratory irritation. [SCLs/M-factors/ATEs]: Skin Corr. 1B; H314: C ≥ 25 %; Skin Irrit. 2; H315: 10 % ≤ C < 25 %; Eye Irrit. 2; H319: 10 % ≤ C < 25 %; STOT SE 3; H335: C ≥ 10 %		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain and drench facilities in work area. Advice to Doctor: Urine acetone test may be helpful in diagnosis. Hemodialysis should be considered in severe intoxication.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Caution: Use of water spray when fighting fire may be inefficient.

Small fire: Use foam, dry chemical, CO₂ or water spray.

Large fire: Use foam, fog or water spray - Do not use water jets.

If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out.

Avoid getting water inside containers.

Specific hazards arising from the chemical

Hazards from Combustion Products: Hydrogen chloride gas, carbon monoxide and carbon dioxide.

HIGHLY FLAMMABLE: These products have a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures.

Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Liquids are lighter than water. Vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.

Special protective actions for fire-fighters

SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours. Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds.

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

SECTION 7: Handling and storage**Precautions for safe handling**

Avoid ingestion and inhalation of vapours or mist. Avoid contact with eyes, skin or clothing. Avoid prolonged or repeated exposure. Avoid generation of vapours/aerosols. Keep container tightly closed. Work under hood. Use only with adequate ventilation. Keep away from heat, sparks, flame and sources of ignition. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Take measures to prevent electrostatic charging. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Do not allow to evaporate to near dryness.

Conditions for safe storage, including any incompatibilities

Store in a segregated and approved Flammables-area. Store in tightly closed containers, in a cool, dry, well-ventilated area away from direct sunlight and incompatible substances. Keep container tightly closed and sealed until ready for use. Keep away from heat, sparks, flame and all sources of ignition. Keep from contact with oxidizing materials. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

Corrosiveness: Attacks some forms of plastics, rubbers, and coatings, aluminium at high temperatures.

Unsuitable Materials: Aluminium, iron/iron-containing compounds, light-weight-metal, some forms of plastics, rubbers, and coatings.

SECTION 8: Exposure controls/personal protection**Appropriate engineering controls**

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)**Eye/face protection**

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

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Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Resistance for protective clothing:

Excellent - Neoprene, natural rubber or latex, Buna-N, polyethylene;

Good - Polyvinyl chloride (PVC);

Fair - Polyvinylalcohol (PVA).

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, almost colourless liquid.
Color	No data available.
Odor	Characteristic, alcohol-like (IPA) odour.
Odor threshold	No data available.
Melting point/freezing point	~-89 °C
Boiling point or initial boiling point and boiling range	~ 82 °C
Flammability	Keep away from heat, sparks or naked flames. Use flameproof equipment and fittings to prevent flammability risk. Electrically link and ground metal containers for transfer of the product to prevent accumulation of static electricity. Ensure adequate venti
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 2% 2-Propanol Flammable Limits - Upper: 12% 2-Propanol
Flash point	~12 °C (closed cup) 2-Propanol
Explosive properties	Formation of explosive mixtures possible with air.; Explosive thermal decomposition may occur in contact with iron salts.; Container explosion may occur under fire conditions.
Auto-ignition temperature	425°C 2-Propanol
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	< 0.5
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble. Solubility in Organic Solvents: Soluble in alcohol and ether.
Partition coefficient n-octanol/water (log value)	Log P (o/w): - 0.05
Vapor pressure	33 mm Hg @ 20 °C
Evaporation rate	1.7 - 2.8 (butyl acetate=1)
Density and/or relative density	Specific Gravity: 0.79

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Relative vapor density
Particle characteristics

~2.1
No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability

Stable under normal conditions of use and storage, but cannot be stored indefinitely. Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation. Isopropanol is susceptible to autoxidation and therefore should be classified as peroxidizable. Sensitive to air and light.

Possibility of hazardous reactions

Contact with strong oxidising agents (e.g. nitrates, perchlorates, peroxides) increases risk of fire and explosion.

Contact with phosgene forms isopropyl chloroformate and hydrogen chloride.

Explosive thermal decomposition may occur in contact with iron salts.

Mixture with hydrogen-palladium can ignite in air.

Conditions to avoid

Light, excess heat, exposure to moist air or water, ignition sources (open flames, sparks and static discharge, shocks and mechanical impacts) and incompatible materials.

Incompatible materials

Strong oxidising agents (e.g. nitrates, perchlorates, peroxides), acids, acetaldehyde, alkalis, aldehydes, aluminium and high temperatures, amines, ammonia, chlorinated hydrocarbons, ethylene oxide, halogens, iron/iron-containing compounds, isocyanates, metals, nitric acid, nitrogen oxides, organic nitro compounds, phosgene, some forms of plastics, artificial and/or natural resins, rubbers, and coatings.

Hazardous decomposition products

Hydrogen chloride gas, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 (rat): 5045 mg/kg (2-Propanol)

Acute Toxicity - Inhalation: LC50 (rat): 37.5 mg/L 4 hr (2-Propanol);

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhoea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, inebriation, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, narcosis, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

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Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, drowsiness, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation.

Skin corrosion/irritation

Acute Toxicity - Dermal: LD50 (rabbit): 12870 mg/kg (2-Propanol).

May cause irritation with pain and stinging, especially if the skin is abraded. Degreasing effect on the skin, possibly followed by secondary inflammation. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin. Dermal absorption has been considered toxicologically insignificant. Reported cases of deep coma associated with skin contact are thought to be a result of vapour inhalation in rooms with inadequate ventilation, rather than being attributable to percutaneous absorption of isopropanol alone.

Serious eye damage/irritation

Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury. A very small amount may produce adverse effects.

Respiratory or skin sensitization

Skin Sensitisation: Sensitization test (guinea pig): negative.

Germ cell mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Hydrochloric acid [7647-01-0] and Isopropanol [67-63-0] are evaluated in the IARC Monographs (Vol. 54; 1992 and Vol. 15, Suppl. 7, Vol. 71; 1999) as Group 3: Not classifiable as to carcinogenicity to humans.

Reproductive toxicity

No data available

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

[2K] Chronic Effects: Repeated or prolonged skin contact can cause defatting, cracking, dermatitis. Repeated or prolonged eye contact can cause eye damage.

SECTION 12: Ecological information

Toxicity

Toxic effect on fish and plankton. According to current knowledge, does not cause interferences in waste water treatment if used appropriately. Risk of formation of explosive vapours above water surface.

Acute Toxicity - Fish: P.promelas LC50: 9640 mg/l /96 h.

[8Y] Acute Toxicity - Daphnia: Daphnia magna EC50: 13299 mg/l /48 h.

[8Z] Acute Toxicity - Algae: Desmodesmus subspicatus IC50: >1000 mg/l /72 h.

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Maximum permissible toxic concentration: Sc. quadricauda IC5: 18000 mg/l /8 d.

[90] Acute Toxicity - Bacteria: Photobacterium phosphoreum EC50: 22000 mg/l /15 min microtox test.

Maximum permissible toxic concentration: Ps. putida EC5: 1050 mg/l /16 h. M.aeruginosa EC5: 1000 mg/l /8 d.

[91] Acute Toxicity - Other Organisms: Protozoa: Maximum permissible toxic concentration: E. sulcatum EC5: 4930 mg/l /72 h.

Persistence and degradability

Abiotic degradation: Rapid degradation.

Biologic degradation: Biodegradation: 95 % /21 d modified OECD screening test

Readily biodegradable.

ThOD: 2.40 g/g. BOD 49 % of ThOD /5 d. COD 96 % of ThOD.

Bioaccumulative potential

No bioaccumulation is to be expected (log P(o/w) <1).

Mobility in soil

Distribution: log P(oct): -0.05 (chief component).

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal

No bioaccumulation is to be expected (log P(o/w) <1).

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 2924

Class: 3(8)

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Propan-2-ol, Hydrochloric acid)

Hazchem emergency action code (EAC)

•3WE

IMDG

UN Number: 2924

Class: 3(8)

Packing Group: II

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Propan-2-ol, Hydrochloric acid)

IATA

UN Number: 2924

Class: 3(8)

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SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)