

## 1. Identification

**Product Identifier:** Hydrochloric Acid

**Other means of identification:** Hydrochloric acid (HCl) 30 - 34%, Hydrogen chloride solution, Muriatic acid, Hydronium chloride, Chlorhydric acid.

**Recommended use of the chemical and restrictions on use:** Used in the production of organic and inorganic compounds. Used to control pH in the water industry. Used in the building, cleaning and metal refining industries. Used to remove rust and scale from iron and steel. No information for uses advised against.

**Details of manufacturer or importer:**

**Supplier:** RealChem Australia  
**ABN No:** 72 612 326 431  
**Street Address:** 41 Mogul Court,  
Deer Park, VIC 3023  
Australia  
**Telephone:** 03 8390 5776  
**Web Address:** [www.realchem.com.au](http://www.realchem.com.au)

**Emergency telephone number:** 000 (Available 24 hours)

## 2. Hazards Identification

**Classification of the substance or mixture:** This material is classified as hazardous according to the criteria of Regulation (EC) No. 1272/2008 (CLP), the Globally Harmonised System of Classification, Labelling and Packaging and Safe Work Australia.

Corrosive to Metals – Category 1  
Skin Corrosion/Irritation – Category 1B  
Serious Eye Damage/Irritation – Category 1  
Specific Target Organ Toxicity (Single Exposure) – Category 3

**Label elements/pictogram:**



**Signal Word:**

Danger

**Hazard Statements:**

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

**Prevention Precautionary Statements:**

P102: Keep out of reach of children  
P103: Read label before use  
P234: Keep only in original container  
P260: Do not breathe fume, gas, mist, vapours or spray  
P264: Wash hands, face and all exposed skin thoroughly after handling  
P271: Use only outdoors or in a well-ventilated area

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P280: Wear protective clothing, gloves, eye/face protection and suitable respirator

## Response Precautionary Statements:

- P101: If medical advice is needed, have product container or label at hand  
P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P363: Wash contaminated clothing before reuse  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305+351+338: 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 CENTRE or doctor/physician  
P390: Absorb spillage to prevent material damage

## Storage Precautionary Statements:

- P403+233: 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

## Disposal Statements:

- P501: Dispose of contents/container in accordance with local, regional, national and international regulations

**Poison Schedule:** S6 POISON

## 3. Composition/Information on Ingredients

Chemical Identity	CAS No.	EC No.	Concentration of Ingredients (% w/w)
Hydrochloric Acid	7647-01-0	231-595-7	30 - 34
Non-Hazardous	-	-	Balance

## 4. First Aid Measures

**Description of necessary first aid measures:** For advice, contact a Poisons Information Centre (eg. Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor at once.

**Ingestion:** If swallowed, immediately rinse mouth with water. Do NOT induce vomiting. If vomiting occurs, give further water. Contact a Poisons information Centre or doctor for advice.

**Skin Contact:** If spilt on large areas of skin or hair, immediately drench with water and remove clothing. Continue to flush skin and hair with plenty of water, until advised to stop by a Poisons Information Centre or a doctor. Burns may be covered with a clean, dry-gauze dressing. Transport to hospital or a medical centre.

**Inhalation:** If inhaled, remove from contaminated area into fresh air. Remove contaminated clothing. Allow patient to assume a comfortable position. Keep warm and at rest until fully recovered. If symptoms develop seek medical advice.

**Eye Contact:** If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre (eg. Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor, or for at least 15 minutes.

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**Symptoms caused by exposure:** Refer to Section 11 for Toxicological Information

**Medical attention and special treatment:** Treat symptomatically. Can cause corneal burns.

## 5. Fire Fighting Measures

**Hazchem Code:** 2R

**Suitable extinguishing equipment:** Water fog, fine water spray, foam, dry chemical powder or carbon dioxide.

**Specific hazards arising from the chemical:** Non-combustible liquid. Corrosive substance. Reacts rapidly and exothermically with alkalis of all kinds, including amines and amides. Reacts exothermically with carbonates and hydrogen carbonates generating carbon dioxide. Reacts with sulphides, carbides, borides, oxidising agents and phosphides to generate toxic or flammable gases. Will also react violently with acetic anhydride, 2-aminoethanol, 1,1-difluoroethylene, oleum, propylene oxide, vinyl acetate and mercury (II) sulphate. Will react with many metals, including zinc, aluminium, magnesium, iron, tin and all of the alkali metals generating highly flammable hydrogen gas.<sup>1</sup>

**Special protective equipment and precautions for fire fighters:** Contact with metals will evolve extremely flammable hydrogen gas. Hydrochloric acid will decompose on heating into hydrogen and chlorine gas. Fire fighters to wear full protective clothing and self-contained breathing apparatus if risk of exposure to product or toxic fumes.<sup>1</sup>

## 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Clear area of all unprotected personnel. Stop the source of the leak, if safe to do so. Clean up immediately. Work up wind or increase ventilation. Contain – prevent runoff into drains and waterways. Cover drains if necessary. Avoid contact with eyes, skin and clothing. Avoid breathing vapour. Wear protective equipment to prevent skin and eye contact and the inhalation of vapour, aerosols and spray mist.

**Environmental precautions:** If contamination of crops, sewers or waterways has occurred advise local emergency services.

**Methods and materials for containment and clean up:**

### **Large spills**

Use inert absorbent material such as sand or soil to soak up spill. Collect spilled product and place in sealable containers or drums for disposal. Clean contaminated area and objects with plenty of water and detergent. Contain and absorb wash water for disposal.

### **Small spills**

Use inert absorbent material such as sand or soil to soak up spill. Collect spilled product and place in a sealable container for disposal. Clean contaminated area and objects with plenty of water and detergent.

## 7. Handling and Storage

**Precautions for safe handling:** Avoid contact with skin, eyes and clothing. Avoid breathing vapour, aerosols or spray mist. Use only in well ventilated areas. Wear protective clothing when mixing or using. Do not add water to product - add product to water. Wash hands thoroughly after use.

**Conditions for safe storage, including any incompatibilities:** Store in a dry, clean, cool, well ventilated place away from sunlight. Store in the original, labelled container and keep container tightly closed when not in use. Store container upright. Do not store in copper-alloy, aluminium or galvanised containers. Do not use die-cast zinc or aluminium bungs; use steel or plastic bungs.<sup>1</sup>

Keep out of reach of children. This product is a schedule 6 poison and must be stored and handled in accordance with the recommendations of the Standard for the Uniform Scheduling of Medicines and Poisons.

## 8. Exposure Controls/Personal Protection

### Control parameters

**Exposure standards:** No workplace exposure standard has been assigned for this specific material by Safe Work Australia; however for the constituent:

HYDROGEN CHLORIDE – Peak Limitation = 5 ppm (7.5 mg/m<sup>3</sup>)

As published by Safe Work Australia in Workplace Exposure Standards for Airborne Contaminants.

Peak limitation means a maximum or peak airborne concentration of a substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standards. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Exposure standards represent airborne concentrations of individual substances which, according to current knowledge, should neither impair the health of, nor cause undue discomfort to, nearly all workers. Exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contaminants should be kept to as low a level that is practical. These exposure standards should not be used to define a line between a safe and dangerous concentration of a chemical. They are not a measure of relative toxicity.

**Biological monitoring:** No biological monitoring required.

**Appropriate engineering controls:** Ensure ventilation is adequate to ensure that air concentrations of components are controlled below listed workplace exposure standard. Use with local exhaust ventilation or while wearing appropriate respirator. Keep containers closed when not in use.

### Personal protective equipment:

**Manufacturing, Packaging and Transport:** Personal protective equipment should be used only when other control measures (eg. elimination, substitution, isolation and engineering controls) have been found to be impracticable or in conjunction with one or more control measures. When needed, wear gloves, goggles, apron (or coveralls), rubber boots and face mask. If inhalation risk exists, wear air purifying respirator meeting the requirements of AS/NZS 1715 AS/NZS 1716 (Australian/New Zealand Standard™ respiratory protective devices). Wash contaminated clothing and protective equipment before storing or re-using. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment.



**Recommendations for consumer use:** Wear safety glasses and gloves. Avoid inhaling vapour. Wash hands after use.

## 9. Physical and Chemical Properties

<b>Appearance/odour:</b>	Colourless to slightly yellow liquid with a pungent, irritating odour.
<b>Solubility:</b>	Soluble in water and diethyl ether.
<b>Odour threshold</b>	0.25 - 10 ppm of hydrogen chloride
<b>pH:</b>	< 1
<b>Specific gravity/density:</b>	1.19
<b>Melting point:</b>	-46.2 (31% aqueous solution)
<b>Initial boiling point:</b>	50.5 <sup>0</sup> C (37% aqueous solution)
<b>Boiling point range:</b>	Not available.
<b>Flash point:</b>	Not applicable.
<b>Evaporation rate:</b>	Not applicable.
<b>Flammability:</b>	Not applicable.
<b>Flammability limits:</b>	Not applicable.
<b>Vapour pressure</b>	16 kPa
<b>Rel. vap. Density, air=1:</b>	1.267
<b>Partition co-efficient:</b>	Not available.
<b>Autoignition Temp:</b>	Not applicable
<b>Decomposition Temp:</b>	Not available.
<b>Viscosity:</b>	Not available.

Reference<sup>1,2</sup>

## 10. Stability and Reactivity

**Reactivity/Incompatible materials:** Reacts rapidly and exothermically with alkalis, carbonates, sulphides, carbides, borides, oxidising agents and phosphides to generate toxic or flammable gases. Will also react violently with acetic anhydride, 2-aminoethanol, 1,1-difluoroethylene, oleum, propylene oxide, vinyl acetate and mercury (II) sulphate. Will react with many metals, including zinc, aluminium, magnesium, iron, tin and all of the alkali metals generating highly flammable hydrogen gas.<sup>1</sup>

**Chemical stability:** Stable under normal conditions of use.

**Conditions to avoid:** Avoid contact with foodstuffs. Keep containers tightly closed when not in use. Avoid extremes of temperature and direct sunlight. Avoid contact with incompatible materials.

**Possibility of hazardous reactions:** No hazardous reactions when stored and handled within normal conditions of use.

**Hazardous decomposition products:** Oxides of carbon and nitrogen, smoke and other toxic fumes including hydrogen and chlorine gas.

## 11. Toxicological Information

No adverse effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

### Acute Toxicity

**Ingestion:** Swallowing can result in nausea, vomiting, abdominal pain and burns to the gastrointestinal tract. If burns to the gastrointestinal tract develop, swelling of the larynx, and subsequent suffocation, perforation of the gastrointestinal tract, coma and cardiovascular collapse may result.

**Skin contact:** Product will cause burns before being absorbed to any appreciable extent through the skin.<sup>3</sup>

**Inhalation:** Inhalation of vapour, mists or aerosols will result in respiratory irritation.

## **Corrosion/Irritation**

**Skin Contact:** Corrosive to skin - may cause skin burns.<sup>3</sup>

**Eye contact:** Corrosive to eyes. Can cause corneal burns that may result in permanent injury.<sup>3</sup>

## **Respiratory and skin sensitisation**

This product is not expected to cause respiratory nor skin sensitisation.

## **Other toxic effects**

This product is not expected to be a germ cell mutagen and cause heritable genetic damage.

This product is not expected to be carcinogenic and cause cancer.

This product is not expected to be a reproductive toxicant and impair fertility nor cause irreversible effects in the offspring.

This product will cause respiratory irritation if the product is inhaled following a single exposure, however repeated exposure to low doses are not expected to cause specific target organ toxicity.<sup>3</sup>

This product is not expected to present an aspiration hazard.

## **12. Ecological Information**

**Ecotoxicity:** Avoid contaminating waterways. Harmful to aquatic species, due to pH effects.<sup>3</sup>

*pH of 3.25, 96hr LC50 (Lepomis macrochirus, fresh water fish): 20.5 mgL.*<sup>3</sup>

**Persistence and degradability:** Product is rapidly biodegradable.<sup>3</sup>

**Bioaccumulative potential:** Product does not bioaccumulate. Partitions into water.<sup>4</sup>

**Mobility in soil:** No information available.

**Other adverse effects:** Not dangerous to the ozone layer.

## **13. Disposal Considerations**

**Disposal methods:** Refer to State Land Waste Management Authority. Empty containers must be decontaminated if recycling. Normally suitable for disposal at approved land waste site.

## 14. Transport Information

### Road and Rail Transport

DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail.

**Class/Division:** 8 CORROSIVE SUBSTANCE

**UN No.** 1789

**Packing Group:** II

**Proper Shipping Name:** HYDROCHLORIC ACID

**Hazchem Code:** 2R

**Environmental hazards for transport purposes:** Not a marine pollutant according to the criteria or the International Maritime Dangerous Goods Code (IMDG) for transport by sea.

**Special precautions for transport:** Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), cyanides of Class 6, radioactive substances (Class 7) or food and food packaging in any quantity, however exemptions may apply. Note that concentrated strong acids are incompatible with concentrated strong alkalis.

**Additional information:** Not applicable.

### Marine Transport

DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

**Class/Division:** 8 CORROSIVE SUBSTANCE

**UN No.** 1789

**Packing Group:** II

**Proper Shipping Name:** HYDROCHLORIC ACID

### Air Transport

DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

**Class/Division:** 8 CORROSIVE SUBSTANCE

**UN No.** 1789

**Packing Group:** II

**Proper Shipping Name:** HYDROCHLORIC ACID



## 15. Regulatory Information

### **Safety, health and environmental regulations:**

SCHEDULE 6 POISON – Listed as a schedule 6 poison in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

All of the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS).

This material is not listed as subject to the following international agreements:

- An ozone depleting substance according to the Montreal Protocol.
- A persistent organic pollutant according to the Stockholm Convention.
- As requiring Prior Informed Consent according to the Rotterdam Convention.

This material is listed as subject to the following international agreements:

- As Dangerous Goods (Hazardous Waste) according to the Basel Convention on Hazardous Waste
  - Acidic solutions or acids in solid form
- A marine pollutant, according to the Prevention of Pollution from Ships (MARPOL).
  - Annex III - Harmful Substances carried in Packaged Form

## 16. Other Information

### **References**

1. Chemical Book (2017). Hydrochloric acid. CAS No. 7647-01-0. ([http://www.chemicalbook.com/ChemicalProductProperty\\_EN\\_CB7421538.htm](http://www.chemicalbook.com/ChemicalProductProperty_EN_CB7421538.htm))
2. Supplier Safety Data Sheet (Date not specified).
3. New Zealand Environmental Protection Authority (2017). Hydrochloric acid, >25% Aqueous Solution. Chemical Classification and Information Database (CCID).

### **Reason for Issue**

Supersedes Revision: Not applicable.

Reason for Issue: First issue.

This Safety Data Sheet was prepared by SDS Writers ([www.sdswriters.com](http://www.sdswriters.com)).

The information contained in this Safety Data Sheet is intended to give general guidance on how to safely handle the product in the workplace. Since the supplier of this product cannot anticipate or control the conditions under which it may be used, each user must, prior to usage, assess and control the risks arising from the use of this product. If clarification or further information is needed, the user should contact the product supplier, listed on the first page of this document.

The supplier's responsibility for the product as sold is subject to the terms and conditions of sale, a copy of which is available on request.

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