



SALES & SERVICES

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## Safety Data Sheet

### 1. IDENTIFICATION OF PRODUCT AND SUPPLIER

**1.1 Product identifiers**

Product name : HYDROCHLORIC ACID 5% SOLUTION

**1.2 Other means of identification**

Muriatic acid, Spirit of salts, Hydrogen chloride solution, HCl

**1.3 Recommended use of the product and restrictions on use**

Laboratory reagent; General chemical reagent

**1.4 Details of supplier of the safety data sheet**

Company : AGent Sales & Services Pty Ltd

Street address : 38 May Holman Drive, Bassendean, Western Australia 6054

Telephone : (+61 8) 6270 4500

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**1.5 Emergency telephone number**

Telephone : 1300 883 844

### 2. HAZARDS IDENTIFICATION

**2.1 GHS Classification**

Corrosive to metals (Category 1)

**GHS Label elements, including precautionary statements**



**Pictogram** :

**Signal word** : Warning

**Hazard statement(s)**

H290 May be corrosive to metals.

**Precautionary statement(s)**

**Prevention**

P234 Keep only in original container.

**Response**

P390 Absorb spillage to prevent material damage.

**Storage**

P406 Store in corrosive resistant container with a resistant inner liner.

**Disposal**

P501 Dispose of contents/ container to an approved waste disposal plant.

**2.2 Other hazards**

None.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Classification	Concentration (%)
Hydrochloric acid	7647-01-0	Met. Corr. 1; H290	>1 - <10
Water	7732-18-5	-	Balance

For the full text of the H-Statements mentioned in this section, see Section 16

### 4. FIRST AID MEASURES

#### 4.1 Description of First Aid measures

##### General advice

Contact the Poisons Information Centre (Phone: Australia 131 126; New Zealand 0800 764 766) or consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Flush eyes with water as a precaution.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in Section 2.2 and/or Section 11.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

#### 4.4 First Aid facilities

Eye wash facilities and safety shower should be available.

### 5. FIRE FIGHTING MEASURES

#### 5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.2 Special hazards arising from the chemical

Hydrogen chloride gas.

#### 5.3 Special protective equipment and precautions for fire fighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Hazchem code

2R

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see Section 8.

#### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. If contamination of sewers or waterways has occurred, advise local emergency services. Observe all local and national regulations.

#### 6.3 Methods and materials for containment and cleaning up

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Neutralise with lime or soda ash. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid breathing in vapour, mists and aerosols. Keep out of reach of children. Always add the acid to water, never the reverse.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place and out of direct sunlight. Store away from incompatible materials described in Section 10. Store away from foodstuffs. Do not store in aluminium containers. Do not store in galvanised containers. Keep containers closed when not in use - check regularly for leaks.

This material is classified as a Dangerous Goods Class 8 Corrosive by the criteria of the ADG Code and must be stored and handled in accordance with the relevant regulations.

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure Limits

Chemical Name	Reference	TWA – Peak Limitation		STEL		Carcinogen Category	Notices
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>		
Hydrochloric acid (7647-01-0)	ASCC	5	7.5			-	-

As published in "Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

#### Biological Limits

None allocated for this product.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements

#### Personal protective equipment (PPE)

The selection of PPE is dependent on a risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods and environmental factors.

#### Eye/face protection

Tightly fitting safety glasses, full face-shield (where appropriate). See Australian Standards (AS/NZS 1336 & 1337).

#### Skin protection

Wear protective gloves, protective clothing and safety footwear and splash apron appropriate for the risk of exposure. See Australian Standards (AS 2161 & 2919 and AS/NZS 2210). Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. See Australian Standards (AS/NZS 1715 & 1716).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Form : Liquid Colour : Clear, colourless to slightly yellow
<b>Odour:</b>	Pungent
<b>Odour Threshold:</b>	No data available
<b>pH:</b>	<1
<b>Melting Point:</b>	No data available
<b>Boiling Point/Range:</b>	No data available
<b>Decomposition Temperature:</b>	No data available
<b>Evaporation Rate:</b>	No data available
<b>Flash Point:</b>	Not applicable
<b>Flammability Limits:</b>	Non-flammable
<b>Specific Gravity:</b>	1.018 - 1.028 @ 20°C
<b>Vapour Density (air=1):</b>	No data available
<b>Vapour Pressure:</b>	23 hPa @ 20°C
<b>% Volatiles:</b>	No data available
<b>Solubility in water:</b>	Miscible with water

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Can react with alkalis, oxidising agents and other acids. Reaction with sulphides can produce hydrogen sulphide gas. Reaction with cyanides can produce hydrogen cyanide gas. Reaction with metals can produce hydrogen gas which can form explosive atmospheres.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Reacts with oxidising agents and sodium hypochlorite liberating toxic chlorine gas. May react exothermically. May produce hydrogen cyanide or hydrogen sulphide.

### 10.4 Conditions to avoid

Keep away from heat and sources of ignition. Protect from moisture. Avoid exposure to direct sunlight.

### 10.5 Incompatible materials

Incompatible with alkalis, oxidising agents, sodium hypochlorite, permanganates, cyanides and many metals. Amines. Perchloric acid Epichlorohydrin Isocyanates. Aldehydes. Aluminium. Fluorine Sulphides Ammonia. Ammonia compounds. Sulphuric acid.

### 10.6 Hazardous decomposition products

Hydrogen chloride and chlorine gases.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available (Hydrochloric acid)

Inhalation: no data available (Hydrochloric acid)

However, for constituent HYDROGEN CHLORIDE:

LD<sub>50</sub> Oral, rabbit is 900 mg/kg

LC<sub>50</sub> Inhalation, rat is 3124 ppm/1h

#### Skin corrosion/irritation

Slight irritation

#### Serious eye damage/eye irritation

Slight irritation

#### Respiratory or skin sensitisation

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)

**Reproductive toxicity**

No data available.

**Specific target organ toxicity (STOT) - single exposure**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Specific target organ toxicity (STOT) - repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**

No data available (Hydrochloric acid)

**Health Effects**

No adverse health 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:

**Eye contact :** May irritate the eyes.

**Skin contact :** May irritate the skin

**Ingestion :** May irritate mouth, throat and gastrointestinal tract. Ingestion of large amounts may cause local irritation, nausea and vomiting.

**Inhalation :** In high concentrations, vapour may irritate throat and respiratory system and cause coughing.

**11.2 Information on possible routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol, ingestion, skin and/or eye contact.

**11.3 Additional Information**

RTECS: Not available

**12. ECOLOGICAL INFORMATION**

**12.1 Ecotoxicity**

Avoid contaminating waterways.

**Toxicity to fish:**

No data available

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Other adverse effects**

May be harmful to aquatic organisms due to shift of the pH.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Disposal methods and containers**

Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.

**13.3 Special precautions for landfill or incineration**

Contact a specialist disposal company or the local waste regulator for advice.

**14. TRANSPORT INFORMATION**

Classified as a Dangerous Goods by the criteria of the ADG Code for transport by road or rail

Classified as a Dangerous Goods by the criteria of the IMDG Code for transport by sea

Classified as a Dangerous Goods by the criteria of the IATA Code for transport by air

**14.1 UN number**

**ADG :** 1789

**IMDG :** 1789

**IATA :** 1789

**14.2 Proper shipping name**

**ADG :** HYDROCHLORIC ACID

**IMDG :** HYDROCHLORIC ACID

**IATA :** HYDROCHLORIC ACID

**14.3 Transport hazard class**

**ADG :** 8 Corrosive

**IMDG :** 8 Corrosive

**IATA :** 8 Corrosive

**14.4 Packing group**

**ADG :** III

**IMDG :** III

**IATA :** III

**14.5 Environmental hazards**

**ADG :** No

**IMDG Marine Pollutant :** No

**IATA :** No

**14.6 Special precautions for users** No data

**14.7 Hazchem code**

**ADG :** 2R

**IMDG EMS :** F-A, S-B

**14.8 Dangerous goods initial  
emergency response guide  
(SAA/SNZ HB76:2010)**

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**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations**

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

S6 Poison

**Carcinogen classification under WHS Regulations 2011, Schedule 10**

Not listed

**Notification status**

**AICS** On the inventory, or in compliance with the inventory.

**16. OTHER INFORMATION**

**Key / legend to abbreviations and acronyms used in the MSDS**

ADG	Australian Dangerous Goods
ASCC	Australian Safety and Compensation Council
DEC	Department of Environment and Conservation
GHS	Globally Harmonised System of Classification & Labelling of Chemicals
NOHSC	National Occupational Health and Safety Commission
RTECS	Registry of Toxic Effects of Chemical Substances.
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
Met. Corr.	Corrosive to metals
H290	May be corrosive to metals
TWA	Time weighted average
STEL	Short term exposure level
SWA	Safe Work Australia
Peak Limitations	A ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes
LD <sub>50</sub>	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
LC <sub>50</sub>	Lethal concentration that kills 50% of an animal population within a specified time
TD Lo	The lowest dose of a substance known to have produced signs of toxicity
RTECS	Registry of Toxic Effects of Chemical Substances
g/L	Grams per litre
g/cm <sup>3</sup>	Grams per cubic centimetre
mg/m <sup>3</sup>	Milligrams per cubic metre
mg/kg	Milligrams per kilogram
pH	Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline
WHS	Work Health and Safety

**Literature references**

"Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA Work Health and Safety Regulations 2011

"Registry of Toxic Effects of Chemical Substances". Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2012.

**Reason(s) for Issue:**

Revised primary SDS

Alignment to GHS requirements

**Disclaimer**

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