

Material Safety Data Sheet

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Infosafe No™ 1HH03 Issue Date : July 2011 ISSUED by CULBEAG

Product Name : HYDROCHLORIC ACID

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name HYDROCHLORIC ACID
Product Code HCL
Company Name CULBEAG HOLDINGS Pty Ltd (ABN 95 007 197 079)
Address 19 Allied Drive Tullamarine
VICTORIA 3043 Australia
Emergency Tel. 03 9335 4400
Telephone/Fax Number Tel: 03 9335 4400
Fax: 03 9335 1750
Email sales@culbeag.com.au
Recommended Use Adjustment of pH, pickling of steel, metal cleaning, general chemical for manufacturing processes.
Other Names

| <u>Name</u> | <u>Product Code</u> |
|------------------|---------------------|
| Muriatic acid | |
| Spirits of salts | |

2. HAZARDS IDENTIFICATION

Hazard Classification CLASSIFIED as a DANGEROUS GOOD (1); UNNO 1789, Class 8 CORROSIVE
CLASSIFIED as a HAZARDOUS SUBSTANCE (2): CORROSIVE
Causes burns. Causes respiratory irritation. Risk of serious damage to eyes. Keep locked up and out of the reach of children.* (see section 15)
Do not breathe vapour or mist.
Avoid contact with skin and eyes
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection.
In case of accident or if you fell unwell, seek medical advice immediately (show the label or MSDS whenever possible).
CLASSIFIED as a Scheduled poison: S6; a substance with a moderate potential for causing harm[11]or [12].

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | <u>Name</u> | <u>CAS</u> | <u>Proportion</u> |
|--------------------|-------------------|------------|-------------------|
| | Hydrochloric Acid | 7647-01-0 | 33 % |
| | Water | 7732-18-5 | Balance |

4. FIRST AID MEASURES

Inhalation Remove affected person(s) from contaminated area to fresh air promptly. If not breathing commence artificial respiration. If breathing is difficult oxygen can be given by a qualified person. Obtain medical attention promptly or transport to a hospital.

Ingestion If swallowed, do NOT induce vomiting. Never give fluids or induce vomiting if patient is unconscious or is having convulsions. Rinse out mouth with water. Give a glass of water to drink. Obtain medical attention immediately.

Skin If skin or hair contact occurs, remove contaminated clothing while washing skin thoroughly with flowing water for at least 15 minutes. Remove contaminated clothing and foot wear immediately while washing. Obtain medical attention promptly. Wash contaminated clothing before re-use.

Eye If in eye(s), hold eyelid(s) apart and flush the eye(s) with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Consult a doctor promptly.

First Aid Facilities Safety shower fitted with an eye wash unit or a fresh water supply for washing areas of skin contact, plus a readily accessible eye washing unit. Drinking quality water source.

Advice to Doctor Product is a corrosive liquid. Treat symptomatically. Show this MSDS or the label of the product to the attending doctor.

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Other Information Advice can be obtained from a Poison Information Centre (Telephone 13 1126) or doctor.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Use the medium most suitable to control and extinguish the major fire source in immediate area of the product.

Specific Methods Wear standard fire fighting clothing and equipment. Use self contained breathing apparatus. Fight fire in the manner appropriate for the major source of fire. Keep intact containers of acid cool with water spray. Remove intact containers from the path of the fire if this operation can be performed safely.

Specific Hazards Product will not burn. Containers of acid may burst when exposed to fire conditions, releasing vapour of hydrogen chloride and a spray and/or mist of hydrochloric acid. The acid reacts with most metals to generate hydrogen gas which is extremely flammable.

Hazchem Code 2R

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Clear unprotected personnel from area of acid spill.

Methods and Materials for Containment and Clean Up Procedures Wear appropriate protective clothing. Ventilate area of leak or spill. Contain spilled acid with soil or sand. Prevent entry into sewers, drains or water courses. Neutralise the acid with soda ash, slaked lime or crushed limestone. Collect neutralised wastes for disposal. Wash residual materials from hard surfaces with water.

7. HANDLING AND STORAGE

Precautions for Safe Handling When diluting, small quantities of acid should always be added slowly to water while stirring gently. Do NOT use warm or hot water. Neutralise residual acid in an 'empty' container with a solution of soda ash and dispose of responsibly. Triple wash empty containers thoroughly with water before disposal.

Conditions for Safe Storage Product is classified as a Dangerous Good, Class 8 - CORROSIVE - for storage. Product should be stored and handled in accord with the statutory regulations for the Storage and Handling of Dangerous Goods. Store in a cool dry location with acid resistant floors and shelving. Keep lid of container closed at all times when not in use. Store away from food alkalis, chlorinating compounds and cyanide compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards National Exposure Standard (NES) [3] declared by SWA [4] for the workplace environment for;
Hydrogen chloride: 5 ppm, TWA, Peak limitation; where
Where,
TWA - means the Time Weighted Average concentration of a particular substance determined over a normal 8-hour working period for a 5-day working week.
Peak limitation means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

Engineering Controls Local exhaust ventilation should be used to maintain the airborne concentration of hydrogen chloride vapour below the NES [3].

Respiratory Protection Personal respiratory protection is recommended as an added control particularly where workplace atmospheric concentrations of hydrogen chloride vapour may exceed the NES for the workplace. Select and fit an approved air-purifying respirator according to AS/NZS 1715 [5] and AS/NZS 1716 [6].

Eye Protection Wear approved chemical goggles. Eye protection complying with AS/NZS 1337 [7] should be worn to protect against splashes/droplets of hydrochloric acid entering the eye. Guidance to recommended practices for eye protection in the industrial environment is provided in AS1336 [8]. Ensure that an eye wash facility is readily available in the work area.

Body Protection Wear long-sleeved overalls. Use gloves, boots and aprons suitable for the

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proposed operations. PVC, rubber or neoprene are suggested protective materials for this equipment. Selection of protective clothing can be guided by reference to AS/NZS 4501[9]. Remove contaminated clothing promptly. Wash contaminated clothing before re-use.

Hygiene Measures It is a good work practice to wash hands, arms and face before eating, drinking or using toilet facilities and at the end of each work period.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear liquid. Vapour fumes in air.

Boiling Point 100°C

Solubility in Water Soluble in all proportions.

Specific Gravity 1.15 - 1.17 @ 25°C

Vapour Pressure 15 mm Hg for 30% w/w acid; approx 50 mm Hg for 33%w/w acid, @ 25°C

Vapour Density (Air=1) >1 (relative to air = 1)

Flash Point Not applicable

Flammability Hydrochloric acid is not capable of burning. Vapour/air mixtures are not flammable.

Flammable Limits - Lower Not applicable

Flammable Limits - Upper Not applicable

10. STABILITY AND REACTIVITY

Stability and Reactivity Hydrochloric acid is stable. Reactive to most metals with generation of highly flammable hydrogen.

Incompatible Materials Incompatible with cyanides, sulphites, sulphides and formaldehyde. Reacts with sodium hypochlorite.

Hazardous Reactions Hydrogen chloride vapour reacts with ammonia vapour to form ammonium chloride fume.

Hydrochloric acid will react with most metals to generate hydrogen gas which is extremely flammable. Reacts with alkalies to form a salt and water. Also reacts with many oxidising agents such as peroxides, manganese and lead dioxides, permanganates, chromates and dichromates, nitrates, chlorates and perchlorates.

Incompatible with cyanides, sulphites, sulphides and formaldehyde.

Hydrogen chloride vapour reacts with ammonia vapour to form ammonium chloride fume.

11. TOXICOLOGICAL INFORMATION

Inhalation Vapour of the acid is a respiratory irritant. Causes coughing, choking and inflammation of the nose, throat and the upper respiratory tract. Effects are sufficiently severe to encourage prompt withdrawal of the affected person from the contaminated environment. Initial warning properties are good as most people can initially detect the odour at a concentration in air of about 5 ppm.

Ingestion Corrosive liquid. Causes burns. Swallowing acid will cause pain and severe burns to the mouth, throat and digestive tract if swallowed. May cause difficulty to swallow, nausea, vomiting and diarrhea. Swallowing hydrochloric acid may be fatal.

Skin Corrosive liquid. Causes burns. Causes redness, pain and severe burns. Will cause necrosis (death of tissue).

Eye Risk of serious damage to the eyes. Contact may result in permanent damage to the eye(s) and may result in total loss of vision. Vapour is irritating and will cause irritation of the eyes.

Chronic Effects Erosion of the teeth may occur due to prolonged exposure or frequently repeated exposure to high concentrations of hydrogen chloride vapour. Repeated inhalation exposure to vapour of the acid may cause ulceration of nasal

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passages.

12. ECOLOGICAL INFORMATION

Environ. Protection Keep the product out of sewers, drains and water courses. Will cause harm to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Dispose of wastes in an approved waste disposal system in accordance with State or Territorial waste disposal regulations.

Container Disposal Neutralise residual acid in empty container with dilute solution of sodium bicarbonate or soda ash. Triple wash treated container with water. Do not use container for any other purpose.

14. TRANSPORT INFORMATION

Transport Information Product is a dangerous good, Class 8 - CORROSIVE for transport by road, rail sea or air. Road and rail transport in Australia should be in accord with the current edition of the Australian Dangerous Goods Code.

U.N. Number 1789

Proper Shipping Name HYDROCHLORIC ACID

DG Class 8

Hazchem Code 2R

Packaging Method 3.8.8RT8

Packing Group II

EPG Number 8A1

IERG Number 40

15. REGULATORY INFORMATION

Regulatory Information Product is classified as a hazardous substance according to the criteria of SWA (4).
Hazard category: CORROSIVE
For labelling of workplace substances [10];
Risk phrase are;
R34 - Cause severe burns
R37 - Cause respiratory irritation.
R41 - Risk of serious damage to eyes.
Safety phrases are;
(S1/2- Keep locked up and out of the reach of children.)
S23 - Do not breathe vapour or mist.
S24/25 - Avoid contact with skin and eyes
S 26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
S45 - In case of accident or if you fell unwell, seek medical advice immediately (show the label or MSDS whenever possible).
* This phrase is used when there is the potential for public use or exposure particularly children.

Poisons Schedule S6

Packaging & Labelling Product is packaged and labelled for the industrial. If product is repackaged for the consumer market, labelling and packaging should be in accord with the current edition of the Standard for the Uniform Scheduling of Medicines and Poisons (SUSDP) [11] or Poisons Standard [12].

AICS (Australia) The principal ingredients are included in the Australian Inventory of Chemical Substances [11].

16. OTHER INFORMATION

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Date of preparation or last revision of MSDS 5 year review of original MSDS created on 19 September 2006. Document is in the format required by the National Code of Practice for preparation of a MSDS [13].

Contact Person/Point BUSINESS HOURS: Product Information Officer, (03) 9335 4400
This MSDS summarises our best knowledge of the health and safety hazard information of this product and how to safely handle and use the product in the workplace. Each user must review this MSDS in the context of how the product will be handled and used in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.
Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

Literature References

- [1] Australian Dangerous Goods Code, as amended.
- [2] List of Designated Hazardous Substances section of NOHSC Hazardous Substances Information System (HSIS), August 2005 as amended and the Approved Criteria for Classifying a Hazardous Substance, NOHSC, 3rd Edition, October 2004.
- [3] Exposure Standards for Atmospheric Contaminants in the Occupational Environment in exposure standards section of HSIS, as amended.
- [4] SWA = Safe Work Australia formerly the Australian Safety and Compensation Commission that replaced the National Occupational Health and Safety Commission (NOHSC).
- [5] AS1716: Respiratory protective devices.
- [6] AS1715: Selection, use and maintenance of respiratory protective devices.
- [7] AS/NZS1337: Eye protectors for the industrial applications.
- [8] AS1336: Recommended practices for eye protection in the industrial environment.
- [9] AS/NZS 4501:2008. Occupational protective clothing.
- [10] National Code of Practice for Labelling of Workplace Substances, 1st Edition [NOHSC:2012(1994)]
- [11] SUSMP = Standard for the Uniform Scheduling of Medicines and Poisons, NHMRC
- [12] POISONS STANDARD as amended and electronically published in ComLaw website - www.comlaw.gov.au.
- [13] Australian Inventory of Chemical Substances maintained by National Industrial Chemicals Notification and Assessment Scheme. (www.nicnas.gov.au).
- [14] National Code of Practice for the Preparation of Material Safety Data Sheets, 2nd Edition, [NOHSC: 2011(2003)]

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