

SAFETY DATA SHEET

054

Product Name **HYDROGEN CHLORIDE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name BOC LIMITED (AUSTRALIA)
Address 10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113
Telephone 131 262, (02) 8874 4400
Fax 132 427 (24 hours)
Emergency 1800 653 572 (24/7) (Australia only)
Web Site <http://www.boc.com.au/>
Synonym(s) 054 - SDS NUMBER • ANHYDROUS HYDROCHLORIC ACID • PRODUCT CODES: 160, 166
Use(s) CHEMICAL REAGENT
SDS Date 26 Mar 2010

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

RISK PHRASES

R23 Toxic by inhalation.
R35 Causes severe burns.

SAFETY PHRASES

S26 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 feel unwell seek medical advice immediately (show the label where possible).
S9 Keep container in a well ventilated place.

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1050	DG Class	2.3	Subsidiary Risk(s)	8
Packing Group	None Allocated	Hazchem Code	2RE	EPG	2B8

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
HYDROGEN CHLORIDE	Cl-H	7647-01-0	>99%

4. FIRST AID MEASURES

Eye 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 on 13 11 26 (Australia Wide) or a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Full-face Type B (Inorganic and acid gas) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.

Skin Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.

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Ingestion Due to product form and application, ingestion is considered unlikely.

Advice to Doctor Management of pulmonary oedema, cold and chemical burns.

First Aid Facilities Eye wash facilities and safety shower are recommended.

5. FIRE FIGHTING MEASURES

Flammability Non flammable. May evolve toxic gases (chlorides) when heated to decomposition. May evolve flammable hydrogen gas when in contact with some metals.

Fire and Explosion Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot. Remove cool cylinders from the path of the fire. Evacuate area if unable to keep cylinders cool.

Extinguishing Stop flow of gas if safe to do so. If safe, extinguish fire using dry chemical. Cool cylinders with water spray from protected area. Contact manufacturer for further advice.

Hazchem Code 2RE

6. ACCIDENTAL RELEASE MEASURES

Spillage If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment. Carefully move material to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.

7. STORAGE AND HANDLING

Storage Do not store near incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.

Handling Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

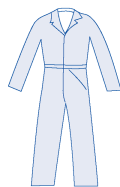
8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Hydrogen chloride	ASCC (AUS)	5	7.5	--	--

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE Wear safety boots, rubber gloves, coveralls, a Type B (Inorganic gases and vapours) respirator and safety glasses. Only experienced and trained person should use this product. At high vapour levels, wear: an Air-line respirator or self Contained Breathing Apparatus (SCBA).



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS OR LIQUID	Solubility (Water)	SOLUBLE
Odour	PUNGENT IRRITATING ODOUR, WILL FUME IN MOIST AIR	Specific Gravity	NOT APPLICABLE
pH	NOT APPLICABLE	% Volatiles	100 %
Vapour Pressure	4660 kPa @ 25°C	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	-85°C	Upper Explosion Limit	NOT RELEVANT

Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT APPLICABLE		
Critical Pressure	8258 kPa	Critical Temperature	51.4°C
Density	1.27 (Air = 1)		

10. STABILITY AND REACTIVITY

Material to Avoid	Incompatible with oxidising agents (eg. hypochlorites), alkalis (eg. hydroxides), most metals, acids (eg. nitric acid), alcohols, dinitroanilines, cyanides, sulphides and heat sources. Corrodes most materials when moist.
Decomposition	May evolve toxic gases (chlorides) when heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Highly corrosive. This product has the potential to cause serious adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in severe burns with corrosive tissue damage. Caution: Effects may be delayed with severe and potentially fatal results.
Eye	Highly corrosive. Gas and liquid are extremely irritating and corrosive. Mild concentrations of vapour will cause irritation, higher concentrations may cause burns, inflammation and swelling of the eyes with possible loss of vision. Persons with potential exposure should not wear contact lenses.
Inhalation	Corrosive. Causes irritation of upper respiratory tract at 35 vppm after short exposure. More severe exposures result in pulmonary oedema and often laryngeal spasm.
Skin	Corrosive. Low temperature evaporating liquid can cause cold burns.
Ingestion	Ingestion is considered unlikely due to product form. However, ingestion of liquid may result in burns to the mouth and throat.
Toxicity Data	HYDROGEN CHLORIDE (7647-01-0) LC50 (Inhalation): 3124 ppm/1 hour (rat)

12. ECOLOGICAL INFORMATION

Environment	Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.
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13. DISPOSAL CONSIDERATIONS

Waste Disposal	Cylinders should be returned to the manufacturer or supplier for disposal of contents.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport	Ensure cylinder is separated from driver and foodstuffs.
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CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	HYDROGEN CHLORIDE, ANHYDROUS				
UN No.	1050	DG Class	2.3	Subsidiary Risk(s)	8
Packing Group	None Allocated	Hazchem Code	2RE	EPG	2B8

15. REGULATORY INFORMATION

Poison Schedule	Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information

The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

APPLICATION METHOD: Gas withdrawal: regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.

ABBREVIATIONS:

ADB - Air-Dry Basis.

BEI - Biological Exposure Indice(s)

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EINECS - European INventory of Existing Commercial chemical Substances.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

NTP - National Toxicology Program.

OSHA - Occupational Safety and Health Administration.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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End of Report