

SAFETY DATA SHEET

053

Product Name **HYDROGEN BROMIDE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier name **BOC LIMITED (AUSTRALIA)**
Address 10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA
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) PRODUCT CODES: 160, 175
Use(s) CHEMICAL REAGENT
SDS date 01 February 2013

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R35 Causes severe burns.
R37 Irritating to respiratory system.

SAFETY PHRASES

S1/2 Keep locked up and out of reach of children.
S7/9 Keep container tightly closed and in a well ventilated place.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

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

UN number	1048	DG division	2.3
Packing group	None Allocated	Subsidiary risk(s)	8
Hazchem code	2RE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
HYDROGEN BROMIDE	CAS: 10035-10-6 EC: 233-113-0	C;R35 Xi;R37	>99.8%

4. FIRST AID MEASURES

Eye Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available. For advice, contact a Poison 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.
Ingestion	Due to product form and application, ingestion is considered unlikely.
Advice to doctor	Treat symptomatically.

Flammability	Non flammable. Cylinders may explode if heated.		
Fire and explosion	Evacuate area and contact emergency services. Cylinders may explode if heated. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.		
Extinguishing	Use water fog to cool containers from protected area.		
Hazchem code	2RE		
	2	Water Fog (or fine water spray if fog unavailable)	
	R	Full protective equipment including Self Contained Breathing apparatus.	
	E	Evacuation of people in the vicinity of the incident should be considered.	

Personal precautions	If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment as detailed in Section 8 of this SDS.
Environmental precautions	Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Methods of cleaning up	Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.
References	See Sections 8 and 13 for exposure controls and disposal.

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.

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Hydrogen bromide	SWA (AUS)	3	9.9	--	--

Biological limits No biological limit allocated.

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

PPE

Eye / Face	Not required under normal conditions of use.
Hands	Wear leather gloves.
Body	Wear coveralls and safety boots.
Respiratory	Wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS LIQUID OR GAS (WILL FUME IN MOIST AIR)
Odour	PUNGENT SUFFOCATING ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	-66.7°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	SOLUBLE
Vapour pressure	2,500 kPa @ 25°C
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Critical temperature	89.8°C
Critical pressure	8,510 kPa
% Volatiles	100 %
Density	2.81 (Air = 1)

10. STABILITY AND REACTIVITY

Material to avoid	Incompatible with oxidising agents (eg. hypochlorites), alkalis (eg. hydroxides) and metals.
Hazardous Decomposition Products	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Highly corrosive - toxic. Over exposure may result in irritation of upper respiratory tract at 35 vppm after short exposure. More severe exposures result in pulmonary oedema and often laryngeal spasm. Concentrations of 1,300 to 2,000 vppm can be rapidly fatal.	
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	Highly corrosive - severe irritant.	
Skin	Corrosive - severe irritant. 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 BROMIDE (10035-10-6)	
	LC50 (inhalation)	814 ppm/1 hour (mouse)
	LD50 (intraperitoneal)	76 mg/kg (rat)

12. ECOLOGICAL INFORMATION

Toxicity	No information provided.
Persistence and degradability	This product is not readily biodegradable.
Bioaccumulative potential	Not anticipated to bioaccumulate.
Mobility in soil	No information provided.
Other adverse effects	No information provided.

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

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



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN number	1048	-	-
Proper shipping name	HYDROGEN BROMIDE, ANHYDROUS	-	-
DG class/ Division	2.3	-	-
Subsidiary risk(s)	8	-	-
Packing group	None Allocated	-	-
GTEPG	2B8		
Hazchem code	2RE		
Other information	Ensure cylinder is separated from driver and foodstuffs.		

15. REGULATORY INFORMATION

Poison schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
Inventory Listing(s)	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.

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.
-------------------------------	--

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this 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.

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 ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
TLV	Threshold Limit Value
TWA/OEL	Time Weighted Average or Occupational Exposure Limit

Revision history

Revision	Description
2.0	Standard SDS Review.
1.0	Initial SDS creation

Report status

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

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

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.

Prepared by

Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmt.com.au

Revision: 2

SDS Date: 01 February 2013

End of SDS