

SAFETY DATA SHEET

084

Product Name **PHOSGENE**

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) 084 - MSDS NUMBER · CARBONYL CHLORIDE · PRODUCT CODES: 160, 175
Use(s) CHEMICAL REAGENT
SDS Date 26 April 2012

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

R26 Very toxic by inhalation.
R34 Causes burns.

SAFETY PHRASES

S7/9 Keep container tightly closed and in a well ventilated place.
S24/25 Avoid contact with skin and eyes.
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	1076	DG Division	2.3
Packing Group	None Allocated	Subsidiary Risk(s)	8
Hazchem Code	2XE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
PHOSGENE	CAS: 75-44-5 EC: 200-870-3	T+;R26 C;R34	>99%

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). Be aware of possible explosive atmospheres. 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

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attention.

Ingestion

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

Advice to Doctor

The manufacturer reports that patients should be kept rested and under observation for 24 - 48 hours in case of pulmonary odema. Subsequent treatment is symptomatic and supportive. Continuous administration of oxygen by means of mask may be necessary for several days,

First Aid Facilities

Eye wash facilities should be available.

5. FIRE FIGHTING MEASURES

Flammability

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

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. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot.

Extinguishing

Use water fog to cool containers from protected area.

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2XE

- 2 Water Fog (or fine water spray if fog unavailable)
- X Full protective clothing including Self Contained Breathing apparatus.
- E Evacuation of people in the vicinity of the incident should be considered.

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 Standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Phosgene	SWA (AUS)	0.02	0.08	0.06	0.25

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**Eye / Face**

Not required under normal conditions of use.

Hands

Wear leather or insulated gloves.

Body

Wear coveralls and rubber or safety boots.

Respiratory

Wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS
Odour	MUSTY HAY ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	7.6°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	DECOMPOSES
Vapour pressure	175 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 pressure	5674 kPa
% Volatiles	100 %
Critical temperature	182°C

10. STABILITY AND REACTIVITY

Material to Avoid	Incompatible with water or moisture (evolving carbon dioxide and corrosive hydrochloric acid), amines, oxidising agents and alkalis (eg. hydroxides). Hydrochloric acid may evolve highly flammable hydrogen gas in contact with metals.
Hazardous Decomposition Products	May evolve toxic gases (chlorides) when heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Highly toxic - asphyxiant - corrosive. Over exposure may result in throat irritation at 3 ppm. At 5 ppm, exposure may produce catching of breath, choking, coughing, tightness in chest, lacrimation, difficulty and pain in breathing and cyanosis. Brief exposure to 50 ppm may be rapidly fatal. Late developing symptoms are oedema, coughing with bloody sputum and general weakness.	
Eye	Corrosive - irritant. Low temperature evaporating liquid can cause cold burns.	
Inhalation	Highly toxic - asphyxiant. Acute exposure to the gas may range from mild respiratory irritation to death at high exposures.	
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	PHOSGENE (75-44-5)	
	LCLo (inhalation)	50 ppm/5 minutes (human)
	TDLo (ingestion)	25 ppm/30 minutes (human)

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

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	1076	-	-
Proper Shipping Name	PHOSGENE	-	-
DG Class/ Division	2.3	-	-
Subsidiary Risk(s)	8	-	-
Packing Group	None Allocated	-	-
GTEPG	2B8		
Hazchem Code	2XE		
Other Information	Ensure cylinder is separated from driver and foodstuffs. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.		

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 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 ChemAlert 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.
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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
	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
1.0	Standard SDS Review.

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 SDS