

**SAFETY DATA SHEET**

# 098

Product Name **SULPHUR DIOXIDE****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  
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**Emergency** 1800 653 572 (24/7) (Australia only)  
**Web Site** <http://www.boc.com.au/>

**Synonym(s)** 098 - SDS NUMBER • ANHYDROUS SULFUR DIOXIDE • PRODUCT CODES: 160, 172, 173, 174, 175 • SULFUR DIOXIDE

**Use(s)** CHEMICAL REAGENT • FOOD PRESERVATIVE • PAPER INDUSTRY • WATER TREATMENT

**SDS Date** 26 Mar 2010

**2. HAZARDS IDENTIFICATION**

CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

**RISK PHRASES**

R23 Toxic by inhalation.  
R34 Causes 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

<b>UN No.</b>	1079	<b>DG Class</b>	2.3	<b>Subsidiary Risk(s)</b>	8
<b>Packing Group</b>	None Allocated	<b>Hazchem Code</b>	2RE	<b>EPG</b>	2B1

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

Ingredient	Formula	CAS No.	Content
SULPHUR DIOXIDE	S-O2	7446-09-5	>99.9%

#### 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 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.
- Ingestion** Due to product form and application, ingestion is considered unlikely.
- Advice to Doctor** Adrenaline may be useful in the presence of bronchospasm.
- First Aid Facilities** Eye wash facilities and safety shower are recommended.

#### 5. FIRE FIGHTING MEASURES

- Flammability** Non flammable. May evolve sulphur oxides when heated to decomposition.
- 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.
- Extinguishing** Use water fog to cool containers from protected area.
- 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
	Sulphur dioxide	ASCC (AUS)	2	5.2	5	13

**Biological Limits** No biological limit allocated.

**Engineering Controls** Provide suitable ventilation to minimise or eliminate exposure. Confined areas (eg. tanks) should be adequately ventilated or gas tested. Maintain vapour levels below the recommended exposure standard.

**PPE** Wear safety boots, leather gloves, coveralls, a Type E (Sulphur dioxide) respirator and safety glasses. At high vapour levels, wear: an Air-line respirator or self Contained Breathing Apparatus (SCBA).



#### 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance</b>	COLOURLESS GAS OR LIQUID	<b>Solubility (Water)</b>	0.1128 kg/kg
<b>Odour</b>	PUNGENT IRRITATING ODOUR	<b>Specific Gravity</b>	NOT APPLICABLE
<b>pH</b>	NOT APPLICABLE	<b>% Volatiles</b>	100 %
<b>Vapour Pressure</b>	380 kPa @ 25°C	<b>Flammability</b>	NON FLAMMABLE
<b>Vapour Density</b>	NOT AVAILABLE	<b>Flash Point</b>	NOT RELEVANT
<b>Boiling Point</b>	-10°C	<b>Upper Explosion Limit</b>	NOT RELEVANT
<b>Melting Point</b>	NOT AVAILABLE	<b>Lower Explosion Limit</b>	NOT RELEVANT
<b>Evaporation Rate</b>	NOT APPLICABLE		
<b>Critical Pressure</b>	7884 kPa	<b>Critical Temperature</b>	157.6°C (Liquefiable gas)
<b>Density</b>	2.26 (Air = 1)		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under recommended conditions of storage.
<b>Conditions to Avoid</b>	Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.
<b>Material to Avoid</b>	Incompatible (violently) with strong alkalis and acids. Corrodes most materials when moist.
<b>Decomposition</b>	May evolve sulphur oxides when heated to decomposition.
<b>Hazardous Reactions</b>	Polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Health Hazard Summary</b>	Toxic - corrosive. Over exposure to 150 ppm of sulphur dioxide results in extreme irritation tolerable for minutes only. At 500 ppm, a sense of suffocation. May have fatal consequences as a result of spasm, inflammation and oedema of the larynx and bronchi, chemical pneumonitis and pulmonary oedema. Effects are a result of irritation of the mucous membranes of the upper respiratory gastro-intestinal tract. Chronic bronchitic emphysema has been documented. Chronic conjunctivitis may result. Dental degradation has been reported.
<b>Eye</b>	Corrosive - irritant. Low temperature evaporating liquid can cause cold burns.
<b>Inhalation</b>	Corrosive. Over exposure may result in severe irritation of the upper and lower respiratory tract.
<b>Skin</b>	Corrosive. Low temperature evaporating liquid can cause cold burns.
<b>Ingestion</b>	Ingestion is considered unlikely due to product form. However, ingestion of liquid may result in burns to the mouth and throat.
<b>Toxicity Data</b>	SULPHUR DIOXIDE (7446-09-5) LC50 (Inhalation): 2520 ppm/1 hour (rat) LCLo (Inhalation): 1000 ppm/10 minutes (human) TCLo (Inhalation): 3 ppm/5 days (human)

## 12. ECOLOGICAL INFORMATION

<b>Environment</b>	Sulphur dioxide in air is oxidised to sulphuric acid, which is a major component of acid rain. Acid rain has been associated with accelerated leaching of heavy metals from plumbing systems and generally fixed sites such as insoluble deposits and ores, and with bioaccumulation of heavy metals, especially mercury, in fish. Sulphur dioxide is harmful to aquatic life in very low concentrations.
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## 13. DISPOSAL CONSIDERATIONS

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

## 14. TRANSPORT INFORMATION

<b>Transport</b>	Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.
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**Product Name**      **SULPHUR DIOXIDE**

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

<b>Shipping Name</b>	SULFUR DIOXIDE				
<b>UN No.</b>	1079	<b>DG Class</b>	2.3	<b>Subsidiary Risk(s)</b>	8
<b>Packing Group</b>	None Allocated	<b>Hazchem Code</b>	2RE	<b>EPG</b>	2B1

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**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 Drugs and Poisons (SUSDP).

**AICS**                    All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

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**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. Liquid withdrawal with flow and pressure control through vapouriser or direct to specialised 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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**SDS Date:** 26 Mar 2010

**End of Report**