

SAFETY DATA SHEET

2422

Product Name **2 PPM SULPHUR DIOXIDE BALANCE NITROGEN****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Supplier Name BOC LIMITED (AUSTRALIA)
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Web Site <http://www.boc.com.au/>
Synonym(s) 2422 - SDS NUMBER • 285 - 288 - 292 - SPECIAL GAS MIXTURE
Use(s) CALIBRATION • INDUSTRIAL APPLICATIONS
SDS Date 01 Jun 2011

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

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

UN No.	1956	DG Class	2.2	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	2TE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content v/v
SULPHUR DIOXIDE	S-O2	7446-09-5	0.0002%
NITROGEN	N2	7727-37-9	remainder

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 attention.

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

Advice to Doctor Treat symptomatically.

First Aid Facilities Eye wash facilities should be available.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
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	2TE

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.
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7. STORAGE AND HANDLING

Storage	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	
Nitrogen	SWA (AUS)	Asphyxiant			
Sulphur dioxide	SWA (AUS)	2 ppm	5.2 mg/m ³	5 ppm	13 mg/m ³

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Protective equipment should be worn if levels exceed recommended exposure standards or oxygen levels are below 21%. Maintain vapour levels below the recommended exposure standard.

PPE Wear safety boots, leather gloves and safety glasses. Where an inhalation risk exists, wear: an Air-line or a Full-face Type B (Inorganic and Acid gas) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS OR LIQUID	Solubility (water)	INSOLUBLE
Odour	SLIGHT ODOUR	Specific Gravity	NOT APPLICABLE
pH	NOT APPLICABLE	% Volatiles	100 %
Vapour Pressure	NOT AVAILABLE	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	NOT AVAILABLE	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT APPLICABLE		
Autoignition Temperature	NOT AVAILABLE	Decomposition Temperature	NOT AVAILABLE
Partition Coefficient	NOT AVAILABLE	Viscosity	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to Avoid	Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.
Material to Avoid	Compatible with most commonly used materials. Avoid heating cylinders.
Hazardous Decomposition Products	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Asphyxiant gas - irritant. The sulphur dioxide level has the potential to cause adverse health effects with prolonged exposure. Chronic exposure to sulphur dioxide levels above 1 ppm can lead to a decline in respiratory function. Symptoms of exposure are directly related to displacement of oxygen. As the amount of oxygen inhaled is reduced from 21-14% volume, the pulse rate may accelerate and the rate and volume of breathing may increase. The ability to maintain attention and think clearly is diminished, muscular co-ordination is somewhat disturbed. As oxygen decreases from 14-10% volume, judgement becomes faulty, severe injuries may result in no pain. Muscular effort may lead to rapid fatigue. Further reduction to 6% may result in nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death may follow in minutes. Sulphur dioxide at 5 ppm causes dryness to the mouth & throat and slight breathing difficulties. Exposure at 50 ppm causes strong eye, nose, throat and respiratory tract irritation as well as changes in breathing volume.
Eye	Irritant. Contact may result in irritation, lacrimation, pain and redness. Contact with liquid or vapour may result in corneal burns and frost-bite.
Inhalation	Irritant - asphyxiant. Over exposure may result in irritation of the nose and throat, coughing, loss of taste and smell, headache, nausea, vomiting, drowsiness, weakness, lack of coordination, and asphyxiation and pulmonary oedema at very high levels. Individuals with pre-existing respiratory problems (eg. asthma) should avoid exposure.
Skin	Irritant. Direct contact with the liquefied material or escaping compressed gas may cause frost-bite injury.
Ingestion	Ingestion is considered unlikely due to product form.
Toxicity Data	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

Environment	Nitrogen is a fairly unreactive gas and will not contribute to ozone depletion or global warming. Nitrogen is the major component of the atmosphere and is not toxic to plants or animals except at very high (asphyxiating) levels. Sulphur dioxide may contribute to acid rain and is harmful to aquatic life in very low concentrations.
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13. DISPOSAL CONSIDERATIONS

Waste Disposal	Return cylinder and contents to manufacturer or supplier for recycling. Contact the manufacturer for additional information.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport	Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.
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CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	COMPRESSED GAS, N.O.S. (CONTAINS NITROGEN)				
UN No.	1956	DG Class	2.2	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	2TE	GTEPG	2C1

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).

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.
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ABBREVIATIONS:

- ACGIH - American Conference of Industrial Hygienists.
- ADG - Australian Dangerous Goods.
- BEI - Biological Exposure Indice(s).
- CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
- CNS - Central Nervous System.
- EC No - European Community Number.
- HSNO - Hazardous Substances and New Organisms.
- IARC - International Agency for Research on Cancer.
- mg/m³ - Milligrams per Cubic Metre.
- NOS - Not Otherwise Specified.
- 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.
- STEL - Short Term Exposure Limit.
- SWA - Safe Work Australia.
- TWA - Time Weighted Average.

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.

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.

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').
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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 01 Jun 2011

End of Report