

SAFETY DATA SHEET

1662

Product Name **12% SULPHUR DIOXIDE, BALANCE AIR**

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) 1662 - MSDS NUMBER • PRODUCT CODE: 292 • SPECIAL GAS MIXTURE
Use(s) CALIBRATION • INDUSTRIAL APPLICATIONS
SDS date 10 October 2014

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Risk Phrases

R20 Harmful by inhalation.
R34 Causes burns.

Safety Phrases

S9 Keep container in a well ventilated place.
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).

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

UN Number 1956 **Transport Hazard Class** 2.2
Packing Group None Allocated **Hazchem Code** 2TE

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
SULPHUR DIOXIDE	CAS: 7446-09-5 EC: 231-195-2	T;R23, C;R34	12%
AIR	Not Available	Not Available	Remainder

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Type B (Inorganic and acid gas) respirator where an inhalation risk exists. Apply artificial respiration if not breathing. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

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

Advice to doctor Adrenaline may be useful in presence of bronchospasm.

5. FIRE FIGHTING MEASURES

Flammability Non flammable. May evolve toxic gases if strongly heated.

Fire and explosion No fire or explosion hazard exists.

Extinguishing Use an extinguishing agent suitable for the surrounding fire.

Hazchem code 2TE
2 Water Fog (or fine water spray if fog unavailable)
T Self Contained Breathing apparatus and protective gloves.
E Evacuation of people in the vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the 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.

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 Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Sulphur dioxide	SWA (AUS)	2	5.2	5	13

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. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face	Wear splash-proof goggles.
Hands	Wear leather or cotton gloves.
Body	Wear safety boots.
Respiratory	At high vapour levels, wear an Air-line respirator or a Full-face Type B (Inorganic and Acid gas) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS
Odour	PUNGENT IRRITATING ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	0.967 (Air = 1) (Nitrogen)
Specific gravity	NOT APPLICABLE
Solubility (water)	0.1128 kg/kg (Sulphur dioxide)
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE
Critical temperature	13000 kPa @ 15°C
% Volatiles	100 %

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	Incompatible with chlorates, peroxides, chromates, dichromates, permanganates, oxygen difluoride. Sulphur dioxide is highly corrosive to ordinary steel in the presence of moisture.
Hazardous Decomposition Products	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Asphyxiant. Uncontrolled release of compressed gas may result in physical injuries. Regular exposure to sulphur dioxide may deaden the sense of smell and cause irritation of the mucous membranes of the upper respiratory gastrointestinal tract. Chronic bronchitic emphysema has been documented. Chronic conjunctivitis may result. Dental degradation has been reported.
Eye	Irritant. Sulphur dioxide concentrations of 8 to 12 ppm can irritate the eye. Do not wear contact lenses.
Inhalation	Severe irritant. Sulphur dioxide concentrations above 8 ppm will irritate the nose. At 150 ppm extreme irritation is only tolerable for a few minutes. At 500 ppm a sense of suffocation is felt. Inhalation may have fatal consequences as a result of spasm, inflammation and oedema of the larynx and bronchi, chemical pneumonitis and pulmonary oedema.

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Skin	Irritant. Contact may result in irritation. Sulphur dioxide irritates the skin. Skin irritation is aggravated by sweating.	
Ingestion	Exposure is considered unlikely.	
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

Toxicity	No information provided.
Persistence and degradability	No information provided.
Bioaccumulative potential	No information provided.
Mobility in soil	No information provided.
Other adverse effects	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.

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	1956	1956	1956
Proper Shipping Name	COMPRESSED GAS, N.O.S.	COMPRESSED GAS, N.O.S.	COMPRESSED GAS, N.O.S.
Transport Hazard Class	2.2	2.2	2.2
Packing Group	None Allocated	None Allocated	None Allocated

Environmental hazards	No information provided
Special precautions for user	
Hazchem code	2TE
GTEPG	2C1
EMS	F-C, S-V
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).
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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 valve 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
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
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
STEL	Short-Term Exposure Limit
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
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

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.

Product Name **12% SULPHUR DIOXIDE, BALANCE AIR**

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Revision: 2
SDS Date: 10 October 2014

End of SDS