BOC
A Member of The Linde Group

SAFETY DATA SHEET

 # 1800

Product Name **25% ARGON, BALANCE HYDROGEN SULPHIDE**

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)	1800 - MSDS NUMBER • PRODUCT CODES: 292 • SPECIAL GAS MIXTURE
Use(s)	CALIBRATION • INDUSTRIAL APPLICATIONS
SDS Date	26 Mar 2010

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

RISK PHRASES

R11	Highly flammable.
R26	Very toxic by inhalation.

SAFETY PHRASES

S25	Avoid contact with eyes.
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

UN No.	1953	**DG Class**	2.3	**Subsidiary Risk(s)**	2.1
Packing Group	None Allocated	**Hazchem Code**	2PE	**EPG**	2A4

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
HYDROGEN SULPHIDE	H2S	7783-06-4	remainder
ARGON	Ar	7440-37-1	25%

4. FIRST AID MEASURES

Eye	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor, or for at least 15 minutes.
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 breathing is difficult. Seek immediate medical attention. For advice, contact a Poisons 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.
Ingestion	Due to product form and application, ingestion is considered unlikely.

Advice to Doctor If inhalation has occurred observe for premonitary signs of pulmonary oedema. Otherwise, treatment is symptomatic and supportive. Treat for cold burns if severe liquid contact.

5. FIRE FIGHTING MEASURES

Flammability Highly flammable gas - potentially explosive. May evolve toxic gases (sulphur oxides) when heated to decomposition. Do not expose to heat and ignition sources. Eliminate ignition sources including cigarettes, open flames, electrical equipment, spark producing switches/ tools, naked lights, heaters, pilot lights, etc when handling.

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. Remove cool cylinders from the path of the fire. Evacuate area if unable to keep cylinders cool. This material is capable of forming explosive mixtures in air.

Extinguishing Stop flow of gas if safe to do so, such as by slowly closing the cylinder valve.

Hazchem Code 2PE

6. ACCIDENTAL RELEASE MEASURES

Spillage If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Prevent spreading of vapours through drains and ventilation systems. 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 sources of ignition, oxidising agents, flammable or combustible materials. Replace outlet seals after use. Cylinders should be stored: upright, prevented from falling, in a secure area; below 45°C, 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

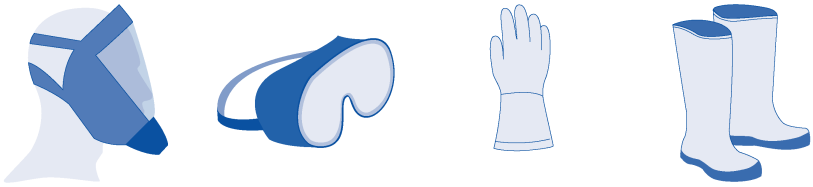
Exposure Stds

Ingredient	Reference	TWA		STEL	
		ppm	mg/m3	ppm	mg/m3
Argon	ASCC (AUS)	Asphyxiant			
Hydrogen sulfide	ASCC (AUS)	10	14	15	21

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. Flammable or explosive vapours may accumulate in confined or poorly ventilated areas. Vapours may travel some distance to an ignition source and flash back. Maintain atmospheric levels below the recommended exposure standard.

PPE Wear splash-proof goggles, safety boots, rubber gloves and an Air-line respirator or self Contained Breathing Apparatus (SCBA). Only experienced and trained person should use this product.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS (LIQUEFIED UNDER PRESSURE)	**Solubility (Water)**	2.3 L/L (Hydrogen sulphide)
Odour	ROTTEN EGG ODOUR	**Specific Gravity**	NOT APPLICABLE
pH	NOT APPLICABLE	**% Volatiles**	100 %
Vapour Pressure	2250 kPa @ 25°C (Hydrogen sulphide)	**Flammability**	HIGHLY FLAMMABLE
Vapour Density	1.2 (Air = 1) (Hydrogen sulphide)	**Flash Point**	NOT AVAILABLE

Boiling Point	-60.3°C (Hydrogen sulphide)	**Upper Explosion Limit**	45 % (Hydrogen sulphide)
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	4.3 % (Hydrogen sulphide)
Evaporation Rate	NOT APPLICABLE		

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid heat, sparks, open flames and other ignition sources.

Material to Avoid Incompatible with oxidising agents (eg. hypochlorites), metals, metal oxides, nitrogen trichloride, alkalis (eg. soda lime), heat and ignition sources. Corrodes most materials when moist.

Decomposition May evolve toxic gases (sulphur oxides) when heated to decomposition.

Hazardous Reactions Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Very toxic by inhalation - severe irritant. Over exposure to hydrogen sulphide may result in headache, nausea, vomiting, diarrhea, vertigo, amnesia, dizziness, apnea, palpitations, tachycardia, hypotension, muscle cramps, weakness, disorientation, and coma. Higher concentrations may also result in result in respiratory paralysis, asphyxial seizures, and death. Cold burns may be caused by evaporating liquid. Persons with potential exposure should not wear contact lenses.

Eye Severe irritant. Inflammation and irritation can occur at concentrations below 10 vppm. Above 50 vppm, there is intense tearing, blurring of vision and photophobia. Most symptoms disappear when exposure ceases, however in serious cases permanent eye damage can occur. Cold burns may be caused by evaporating liquid. Persons with potential exposure should not wear contact lenses.

Inhalation Very toxic by inhalation - severe irritant. Exposure to concentrations approaching 250 ppm causes irritation of mucus membranes, conjunctivitis, photophobia, lacrimation, corneal opacity, rhinitis, bronchitis, cyanosis, and acute lung injury. At concentrations of 250 ppm to 500 ppm, signs and symptoms include headache, nausea, vomiting, diarrhea, vertigo, amnesia, dizziness, apnea, palpitations, tachycardia, hypotension, muscle cramps, weakness, disorientation, and coma. At concentrations of 750 ppm to 1000 ppm, victims may experience abrupt physical collapse or "knock down". Higher concentrations may also result in result in respiratory paralysis, asphyxial seizures, and death.

Skin Severe irritant. Over exposure to hydrogen sulphide may result in severe pain, and erythema, especially in moist areas. Cyanosis may be noted following severe exposure.

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 SULPHIDE (7783-06-4)
LC50 (Inhalation): 444 ppm (rat)

12. ECOLOGICAL INFORMATION

Environment Microorganisms in soil and water are involved in oxidation-reduction reactions which oxidise hydrogen sulphide to elemental sulphur. Not anticipated to bioaccumulate or concentrate in the food chain.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Return to manufacturer for recycling/ reuse. Contact Waste Disposal Authorities in your state for further details and required approvals.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport 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.

Product Name **25% ARGON, BALANCE HYDROGEN SULPHIDE**

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

Shipping Name	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.				
UN No.	1953	**DG Class**	2.3	**Subsidiary Risk(s)**	2.1
Packing Group	None Allocated	**Hazchem Code**	2PE	**EPG**	2A4

15. REGULATORY INFORMATION

Poison Schedule Classified as a Schedule 7 (S7) Poison 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.

APPLICATION METHOD: Gas withdrawal: regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to 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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End of Report