Material Safety Data Sheet

HELIUM BASED, COMPRESSED GAS MIXTURES

Infosafe™ No.	8AE8P	**Issue Date**	May 2009	**Status**	ISSUED by AIRLIQUI	BS: 1.9.40

Not classified as hazardous

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Name HELIUM BASED, COMPRESSED GAS MIXTURES

Product Use Inert gas shielding for arc welding. Laser machines.

Company Name Air Liquide Australia Limited (ABN 57 004 385 782)

Address Level 9, 380 St. Kilda Road Melbourne
Victoria 3004

Emergency Tel. 1800 812588 (24hr)

Telephone Number/Fax Tel: (03) 9697 9888
Fax: (03) 9690 7107

Other Names

Name	Product Code
AIR LIQUIDE RANGE INCLUDING MIGSHIELD	
BLUESHIELD	
SOME OF THE ARCAL AND LASAL RANGE	

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Carbon Dioxide	124-38-9	0.5 %
Helium	7440-59-7	50-98 %
Nitrogen	7727-37-9	0-50 %

Argon	7440-37-1	0-50 %

3. HAZARDS IDENTIFICATION

Chronic Effects Long term exposure to this gas has no known health effects. Can be inhaled for several hours per day for periods of several days without observable harmful effect.

Inhalation Carbon dioxide/nitrogen/helium/argon gas mixtures are non-toxic at normal temperature and pressure. By diluting the oxygen concentration in air below the level necessary to support life, it can act as an asphyxiant.
Effects of oxygen deficiency are: 12-16%: breathing and pulse rate increased, muscular coordination slightly disturbed; 10-14%: emotional upset, abnormal fatigue, disturbed respiration; 6-10%: nausea and vomiting, collapse or loss of consciousness; below 6%: convulsive movements, possible respiratory collapse and death.

Ingestion Not applicable to gases.

Skin Not irritating to the skin.

Eye Not irritating to the eye.

4. FIRST AID MEASURES

Inhalation Prompt medical attention is mandatory in all cases of overexposure to oxygen. Seek medical attention.
If inhaled, remove affected person from contaminated area. Keep at rest until recovered.

Ingestion Not applicable to gases.

Skin Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

Eye If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and persist seek medical attention.

First Aid Facilities Eyewash and normal washroom facilities. A safety shower is strongly recommended.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media Use appropriate media to extinguish source of surrounding fire.

Specific Hazards This gas is non-flammable, but container may rupture when heated.

Hazardous Combustion

Under fire conditions this product may emit toxic and/or irritating

Products	fumes.
Precautions in connection with Fire	Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.
Flash Point	Not applicable
Ignition Temperature	Not availale
Flammable Limits UEL	Not applicable
Flammable Limits LEL	Not applicable
Flammability	Non-flammable

6. ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition. Increase ventilation. Evacuate all unnecessary personnel. Use self-contained breathing apparatus (S.C.B.A) and full protective clothing to minimise exposure. Allow gas to vent safely to atmosphere, preferably in well ventilated, remote location. Wear air-supplied mask. Check for leaks using pressure drop test or soapy water on joints and outlets. Shut cylinder valve to stop leak if possible and safe to do so.

7. HANDLING AND STORAGE

Handling	Use away from all sources or heat and ignition. Avoid skin and eye contact and breathing of gas. Use smallest possible amounts in designated areas with adequate ventilation. Have emergency equipment (for fires, leaks, etc.) readily available. Only experienced and properly instructed personnel should handle compressed gases. Cylinder contents and identification labels provided by the supplier must not be removed or defaced. Colour coding should not be the only criterion used for content identification.
Storage	Protect containers against physical damage. Store in a cool, dry, well-ventilated place, low fire risk area. Protect from extremes of temperature and weather. Do not allow any part of a cylinder to be exposed above 55°C. Storage areas should be kept clean and free from flammable and combustible materials. Ensure that containers are properly vented to prevent build up of pressure. Refer to commonwealth, state and territory legislation for requirements, which affect compressed gas storage and transport.
Packaging	Helium based mixtures are supplied in high pressure cylinders. CYLINDER COLOUR: AS 2700 x 54 Brown Body/with various colour body bands or shoulder quadrants. CYLINDER VALUE OUTLET: MEDICAL: AS 2472 Fig. 8 (oxygen <20%). AS 2472 Fig. 4 (oxygen >20%). INDUSTRIAL: AS 2473 Type 10 (Oxygen 20% and greater).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	No exposure value assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC), Australia. However, the available exposure limits for ingredients are listed below: National Occupational Health And Safety Commission (NOHSC), Australia Exposure Standards: Substance TWA STEL NOTICES ppm mg/m³ ppm mg/m³ Carbon dioxide 5000 9000 30000 54000 - TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week. STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.
Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then self-contained breathing apparatus (S.C.B.A) should be used.
Eye Protection	Safety glasses with side shields or chemical goggles should be worn. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Hand Protection	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Footwear	Personnel engaged in the movement of gas cylinders shall be provided with safety footwear.
Body Protection	Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.
Eng. Controls	Provide adequate local exhaust and dilution ventilation and supply sufficient replacement air to maintain oxygen concentration above 18%.
Biological Limit Values	No biological limits allocated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless, odourless, tasteless gas.
Melting Point	Not available
Boiling Point	Not available
Solubility in Water	Not applicable
Specific Gravity (H2O=1)	Not available
pH Value	Not applicable

Vapour Pressure	Not applicable
Vapour Density (Air=1)	0.14-0.56 at 15°C(Air=1)
Density	Density of Gas (101.3 kPa, 15°C): 0.17-0.68
Flash Point	Not applicable
Flammability	Non-flammable
Ignition Temperature	Not availale
Flammable Limits LEL	Not applicable
Flammable Limits UEL	Not applicable

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of storage and handling.
Hazardous Polymerization	Will not occur
Materials to Avoid	Combustible materials
Hazardous Decomposition Products	Thermal decomposition may result in the release of toxic and/or irritating fumes.
Conditions to Avoid	Extremes of temperature and direct sunlight.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	Not available
Inhalation	Carbon dioxide/nitrogen/helium/argon gas mixtures are non-toxic at normal temperature and pressure. By diluting the oxygen concentration in air below the level necessary to support life, it can act as an asphyxiant. Effects of oxygen deficiency are: 12-16%: breathing and pulse rate increased, muscular coordination slightly disturbed; 10-14%: emotional upset, abnormal fatigue, disturbed respiration; 6-10%: nausea and vomiting, collapse or loss of consciousness; below 6%: convulsive movements, possible respiratory collapse and death.
Ingestion	Not applicable to gases.
Skin	Not irritating to the skin.
Eye	Not irritating to the eye.
Chronic Effects	Long term exposure to this gas has no known health effects. Can be inhaled for several hours per day for periods of several days without observable harmful effect.

12. ECOLOGICAL INFORMATION

Environment Protection	Not applicable
Mobility	Not available
Persistence / Degradability	Not available
Ecotoxicity	Not available

13. DISPOSAL CONSIDERATIONS

Dispose of waste according to applicable local and national regulations.

14. TRANSPORT INFORMATION

This material is classified as a Class 2.2 (Non-flammable Non-toxic Gases) Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
Class 2.2 Dangerous Goods are incompatible in a placard load with any of the following:
- Class 1, Explosives
- Class 4.2, Spontaneously Combustible Substances
- Class 5.2, Organic Peroxides

U.N. Number	1956
Proper Shipping Name	COMPRESSED GAS, N.O.S. - (CONTAINS HELIUM AND ARGON)
DG Class	2.2
Hazchem Code	2[T]E
Packaging Method	P200
Packing Group	
EPG Number	2C1
IERG Number	06

15. REGULATORY INFORMATION

Not classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Risk Phrase	
Poisons Schedule	Not Scheduled

Packaging & Labelling	Helium based mixtures are supplied in high pressure cylinders. CYLINDER COLOUR: AS 2700 x 54 Brown Body/with various colour body bands or shoulder quadrants. CYLINDER VALUE OUTLET: MEDICAL: AS 2472 Fig. 8 (oxygen <20%). AS 2472 Fig. 4 (oxygen >20%). INDUSTRIAL: AS 2473 Type 10 (Oxygen 20% and greater).

16. OTHER INFORMATION

Contact Person/Point	24 HOUR EMERGENCY CONTACT: The Operator: 1800 812 588 Regional Offices: Victoria 40 Bunnett Street, North Sunshine 3020. Tel. (03) 9290 1100 Fax (03) 9290 1199 New South Wales 43-47 Pine Road, Fairfield 2165. Tel. (02) 9892 9777 Fax (02) 9892 1454 4 Kullara Close, Beresfield. 2322. Tel (02) 4949 1700 Fax (02) 4949 1750 Lot 5, Shellharbour Road, Port Kembla 2505. Tel. (02) 4274 4044 Fax (02) 4276 3879 South Australia 164 Philip Highway, Elizabeth 5112. Tel. (08) 8209 3600 Fax (08) 8255 9885 Queensland 759 Progress Road, Wacol 4076. Tel. (07) 3246 6363 Fax (07) 3271 2589 Ingham Road, Cnr. Dundee Street, Bohle, Townsville, 4818 Tel. (07) 4774 8276 Fax (07) 4774 8313 Featherstone Street, Parkhurst Rockhampton, 4702. Tel. (07) 4936 1066 Fax (07) 4936 1024 68 Bunda Street, Cairns 4870. Tel. (07) 4031 1566 Fax (07) 4051 4293 Tasmania 11 Windsor Street, Invermay 7248. Tel. (03) 6334 9666 Fax (03) 6334 9600 Air Liquide W.A. Pty Ltd A.B.N. 52 008 694 166 Wesfarmers Energy Building, Campus Drive (off Murdoch Drive), Murdoch, WA 6150 Tel. (08) 9312 9111 Fax (08) 9313 8108 AIR LIQUIDE AUSTRALIA LIMITED A.B.N. 57 004 385 782 Head Office: 380 St. Kilda Road, Melbourne, Victoria 3004, Australia. Tel. (03) 9697 9888 Fax (03) 9690 7107 www.airliquide.com.au
SDS History	Date Reviewed: May 2009 Supersedes: July 2004
Poisons Schedule	Not Scheduled

End of MSDS