Material Safety Data Sheet

MEDICAL NITRONOX, Compressed Gas Mixture

Infosafe™ No.	6ACE0	**Issue Date**	October 2005	**Status**	ISSUED by AIRLIQH	BS: 1.9.40

Not classified as hazardous

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

Product Name MEDICAL NITRONOX, Compressed Gas Mixture

Product Use General analgesic for first aid, in ambulances, nursing services, obstetrics and in doctors and dentists surgeries.

Company Name Air Liquide Healthcare Pty Limited (ABN 41002 653045)

Address Unit 5, 476 Gardeners Road Alexandria
NSW 2015

Emergency Tel. (AH) 1800 812 588

Telephone Number/Fax Tel: (02) 9364 7474
Fax: (02) 8338 9797

Other Names Not Available

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	**Name**	**CAS**	**Proportion**
	Oxygen	7782-44-7	50 %
	Nitrous oxide	10024-97-2	50 %

3. HAZARDS IDENTIFICATION

Chronic Effects Toxicity caused by prolonged and repeated exposure to professional staff-increased concentrations of Nitrous Oxide may increase the risk of spontaneous abortion, infertility and neurological problems. Nitrous Oxide must be used in a well ventilated area or where adequate scavenging techniques are employed. Chronic exposure may produce bone

	marrow depression. Hematologic changes usually resolve after discontinuation of exposure.
Inhalation	Inhalation of small amounts of Nitronox may produce euphoria. Large doses induce anaesthesia. Signs and symptoms of asphyxia include headache, dizziness, excitation proceeding to possible CNS depression.
Ingestion	Not applicable to gases; unlikely route of exposure.
Skin	May cause frostbite injuries in contact with skin.
Eye	May cause frostbite injuries in contact with eyes or physical injury arising from sudden or uncontrolled gas release.

4. FIRST AID MEASURES

Inhalation	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. Apply artificial respiration if not breathing. Seek medical attention.
Ingestion	Ingestion is not considered a potential route of exposure.
Skin	Rinse affected skin areas with lukewarm, running water. Seek medical attention if effects persist.
Eye	Should frostbite occur from escaping gas, immediately flush with tepid water in large quantities, or with sterile saline solution. Hold eyelids apart and irrigate with gentle flow for 15 minutes bathing entire eyeball. Seek immediate medical attention.
First Aid Facilities	Eyewash station, safety shower and normal washroom facilities.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Use extinguishing agents suitable for the surrounding environment. Cool cylinders with water if possible.
Specific Methods	Stop discharge of gas if it can be done safely. Let burn unless leak can be securely plugged. Move containers from fire area if it can be done safely. Use water spray to keep containers cool. Do not direct water at source of leak or at venting safety devices. Pressurized containers may explode in fire and release irritating gas. Consider evacuation if cylinders cannot be kept cool.
Precautions in connection with Fire	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
Flash Point	Not applicable
Flammability	Vigorously supports combustion. Store away from flammable products. No smoking or naked flames.

6. ACCIDENTAL RELEASE MEASURES

Evacuate the spill area of unnecessary personnel. As a precautionary measure, eliminate all ignition sources. In enclosed areas rescue personnel should wear AS 1715/1716 approved self contained breathing apparatus. Allow gas to escape to the external atmosphere, or preferably in a fume cupboard or well ventilated, remote area. Do not touch any spilled material. Prevent mixture from entering confined spaces. Leak checking may be done by pressure drop test or by using soapy water on joints and outlets. Shut cylinder valve to stop gas leaks from equipment if possible and safe to do so. If cylinder or cylinder valve is leaking then put on personal protective equipment, shut the cylinder valve, depressurise the equipment, disconnect cylinder from equipment and move the cylinder to a well ventilated area, preferably outdoors, and position to allow gas, rather than liquid to escape. If not possible, allow any liquid to vapourize. Use of a flammable gas monitor will warn of gas build-up in locality. Notify all relevant local, state and federal government occupational and environmental authorities. If possible, repair the leak or allow the cylinder to vent in external atmosphere. Mark empty cylinders 'defective'. Return all faulty cylinders to supplier/manufacturer.

7. HANDLING AND STORAGE

Handling

Use only in well-ventilated areas. Ground all cylinders. Transport cylinders by hand truck or cart designed for that purpose. Do not lift cylinders by their caps and do not handle them with oily hands. Secure cylinders in place, in an upright position at all times. Do not roll, slide or drop cylinders or permit them to strike each other. Leave valve cap on until cylinder is secured and ready for use, and avoid contact of oil or grease with the valve. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Close all valves securely when not in use.

Storage

Storage of compressed gas cylinders shall be in compliance with State or Territory regulations. Cylinders shall be stored in a cool, dry, well ventilated area out of direct sunlight and away from heat and ignition sources. No part of cylinders shall be exposed to temperatures above 55°C. Outside or detached storage is preferred. Cylinders shall be stored upright on a level, fireproof floor, secure in position and protected from damage. Keep cylinder valve cover on. Label empty cylinders and store them separate from empty ones. Cylinders should be moved by hand-truck or cart designed for that purpose. Inspect periodically for deficiencies such as damage or leaks. Consider leak detection and alarm systems, as required. Restrict access to storage area and post warning signs. Have fire extinguishers available near the storage area. Avoid any contact with oil or grease particularly to the cylinder valve.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards

Name	STEL (mgm3)	STEL (ppm)	TWA (mgm3)	TWA (ppm)	FootNote
Nitrous oxide			45	25	

Other Exposure Information

No exposure standards have been established for this product by the Australian National Occupational Health And Safety Commission (NOHSC), however, the exposure limits for individual ingredients are listed above.

Respiratory Protection

If engineering controls and work practices are not effective in controlling exposure to carbon monoxide component, then wear suitable AS1715/1716 approved respiratory protective equipment. Have appropriate personal protective equipment available for use in emergencies such as

	leaks or fire. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance, inspection, cleaning, and evaluation. A leak detector and alarm system should be considered as supplementary control system.
Eye Protection	The use of chemical goggles or safety glasses with side shield protection complying with AS/NZS 1337 is recommended.
Hand Protection	Chemical resistant or thermal protection gloves complying with AS/NZS 2161 is recommended.
Footwear	Personnel engaged in the movement of gas cylinders shall be provided with safety footwear.
Body Protection	Overalls or similar protective apparel.
Eng. Controls	Use only in a well ventilated area. Provide adequate general and local exhaust ventilation to prevent workplace atmospheres from becoming oxygen deficient. Provide supplied air or self-contained breathing apparatus for emergency or non routine situations where gas level is excessive.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless, sweet odour.
Solubility in Water	Not applicable
Specific Gravity (H2O=1)	Not available
Vapour Pressure	Not available
Vapour Density (Air=1)	(at 15°C)(Air=1): 1.3
Odour Threshold	None
Density	Density of Gas (101.3 kPa, 15°C): 1.59 kg/m3
Flash Point	Not applicable
Flammability	Vigorously supports combustion. Store away from flammable products. No smoking or naked flames.

10. STABILITY AND REACTIVITY

Stability	Stable
Hazardous Polymerization	Will not occur.
Conditions to Avoid	Extreme temperature

11. TOXICOLOGICAL INFORMATION

Inhalation	Inhalation of small amounts of Nitronox may produce euphoria. Large doses induce anaesthesia. Signs and symptoms of asphyxia include headache, dizziness, excitation proceeding to possible CNS depression.
Ingestion	Not applicable to gases; unlikely route of exposure.
Skin	May cause frostbite injuries in contact with skin.
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Chronic Effects	Toxicity caused by prolonged and repeated exposure to professional staff-increased concentrations of Nitrous Oxide may increase the risk of spontaneous abortion, infertility and neurological problems. Nitrous Oxide must be used in a well ventilated area or where adequate scavenging techniques are employed. Chronic exposure may produce bone marrow depression. Hematologic changes usually resolve after discontinuation of exposure.

12. ECOLOGICAL INFORMATION

Mobility	Not available
Persistence / Degradability	Not available
Bioaccumulation	Not available
Ecotoxicity	Not available

13. DISPOSAL CONSIDERATIONS

Waste disposal procedures must be performed by trained, experienced personnel with appropriate protective equipment in approved treatment facilities, and in accordance with all federal, state and local government requirements. Reuse or recycling may also be possible and should be investigated. Alternately, return properly labelled cylinders to the supplier with all valve outlet plugs, caps and protection caps secured, for proper disposal.

14. TRANSPORT INFORMATION

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

U.N. Number	3156
Proper Shipping Name	COMPRESSED GAS, OXIDIZING, N.O.S. - (Contains Nitrous oxide and Oxygen)
DG Class	2.2
Sub.Risk	5.1

Hazchem Code	2S
Packaging Method	3.8.2
Packing Group	
EPG Number	2C8
IERG Number	10

15. REGULATORY INFORMATION

Risk Phrase

Poisons Schedule Not Scheduled

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
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11 Windsor Street, Invermay 7248. Tel. (03) 6334 9666 Fax (03) 6334 9600
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References

- L'Air Liquide Gas Encyclopedia - Elsevier Scientific Publishing Co. Amsterdam
- Australian Code for the Transport of Dangerous Goods by Road and

Rail; 6th Edition
- List of Designated Hazardous Substances [NOHSC:10005(1994)]
- Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995) and NOHSC:1003(1995)]
- Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]
- SAA Safe Storage and Handling Information Cards
- SAA Emergency Procedure Cards
- Matheson Gas Data Book, 6th Edition, Matheson 1980
- Canadian Liquid Air Montreal, Canada - Gas Products Safety Data Sheets
- Tomes Database, Micromedev

SDS History MSDS Review: October 2005
Supersedes: October 2000

Poisons Schedule Not Scheduled

End of MSDS
