



Material Safety Data Sheet

NITROGEN, COMPRESSED (N2)

InfosafeSM FMOUE **Issue Date** August 2005 **Status** ISSUED by **BS: 1.9.11**
No. AIRLIQUI

Not classified as hazardous

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

Product Name NITROGEN, COMPRESSED (N2)

Product Use Inert gas widely used in chemical, food and beverage, petrochemical and metal industries.

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

Other Names

Name	Product Code
ALIGAL	
LASAL	

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
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3. HAZARDS IDENTIFICATION

Chronic Effects	Long term exposure has no known health effects. Prolonged exposure to an oxygen deficient atmosphere (below 18% oxygen in air) may affect the heart and nervous system.
Inhalation	Nitrogen is non-toxic but asphyxiant in high concentrations. By diluting the oxygen concentration in air below the level necessary to support life, it can act as an asphyxiant. Effect 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	Can cause severe frostburn if brought in contact with skin.
Eye	Can cause severe frostburn if brought in contact with eye.

4. FIRST AID MEASURES

Inhalation	Remove exposed person from source of contamination, to fresh air. Keep warm, comfortable and rested. Recovery should be rapid upon removal from exposure, but monitor the breathing. Ensure airways are clear. If symptoms persist seek medical attention.
Ingestion	Ingestion is not considered a potential route of exposure.
Skin	Seek medical attention if any effects of exposure persist, or immediately if extending from physical injury.
Eye	Immediately flush contaminated eyes with lukewarm, gently flowing water for several minutes, after removing any contact lenses, and holding the eyelids open. Seek medical attention.
First Aid Facilities	Eyewash station, safety shower and normal washroom facilities.
Advice to Doctor	Advise doctor that victim has been exposed to an oxygen deficient atmosphere. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Use extinguishing agents suitable for the surrounding environment. Cool cylinders with water if possible.
Hazardous Combustion Products	Nitrogen is non-flammable, but container may rupture when heated. Move cylinders from fire if safe to do so.
Protective Equipment	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA).
Flash Point	Not applicable.
Ignition Temperature	Not applicable.
Flammable Limits UEL	Not applicable.
Flammable Limits LEL	Not applicable.
Flammability	Nitrogen is non-flammable.

6. ACCIDENTAL RELEASE MEASURES

Evacuate the spill area of unnecessary personnel. 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. Cold vapours are heavier than air. In case of large spillage evacuate nearby trenches, excavations, pits and the like.

7. HANDLING AND STORAGE

Handling	Use only in a well ventilated area. DO NOT use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Prohibit sources of ignition and smoking in the vicinity of the product being used or stored. Cylinders should be moved by hand-truck or cart designed for that purpose. Avoid any contact with oil or grease particularly to the cylinder valve. It is essential that all who come into contact with this material, maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or going to the toilet.
Storage	Store in a dry, well-ventilated area, out of direct sunlight. Avoid sparks, flames, and other ignition sources. Do not smoke in storage areas. Do NOT pressurise, cut or heat aerosol containers. Content is under pressure and can explode violently. No part of cylinders shall be exposed to temperatures above 55°C. Cylinder should be stored upright on a level, fireproof floor, secure in position and protected from damage.
Packaging	Compressed nitrogen is supplied in high pressure cylinders. Cylinder Colour - AS2700 N63 Pewter Cylinder Valve Outlet - AS2473 Type 50

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	No exposure standards have been established for the mixture by the Australian National Occupational Health & Safety Commission (NOHSC). However, over-exposure to any chemical may result in enhancement of pre-existing adverse medical conditions and/or allergic reactions and should be kept to the least possible levels. Nitrogen is a simple asphyxiant having no exposure standard, but the oxygen concentration at 18% by volume (137 mmHg of oxygen), must be maintained. Atmospheres at less concentrations of oxygen do not provide sufficient sensory indications of deficiency, and can rapidly become life threatening.
Respiratory Protection	If engineering controls and work practices are not effective in controlling exposure, 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.
Eye Protection	The use of chemical goggles or safety glasses with side shield protection complying with AS/NZS 1337 is recommended.
Hand Protection	Wear laminated film, rubber or other suitable gloves conforming to AS/NZS 2161: Occupational protective gloves.

Body Protection	Overalls or similar protective apparel.
Eng. Controls	Provide adequate local exhaust and dilution (general) ventilation and supply sufficient replacement air to maintain oxygen concentration above 18%.
Biological Limit Values	No biological limit allocated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless
Odour	Odourless and tasteless.
Melting Point	Not available.
Boiling Point	-195.8°C
Solubility in Water	0.0235 m ³ /kg
Specific Gravity (H₂O=1)	(Air= 1) 0.967
pH Value	Not applicable.
Vapour Pressure	Not applicable.
Vapour Density (Air=1)	1.185 @ (15°C, 101.3kPa)
Density	Relative Density: (@ 15°C) (Air=1): 0.967
Flash Point	Not applicable.
Flammability	Nitrogen is non-flammable.
Ignition Temperature	Not applicable.
Flammable Limits LEL	Not applicable.
Flammable Limits UEL	Not applicable.
Molecular Weight	28.013
Other Information	Critical Temperature: -146.95°C

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Materials to Avoid	Not available.
Hazardous Decomposition Products	Not available.
Hazardous Reaction	No chemical reaction. Low temperature may cause brittleness in rubber and plastics.
Conditions to Avoid	Heat of water will vigorously vaporise liquid nitrogen.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	No toxicology data available for this product.
Inhalation	Nitrogen is non-toxic but asphyxiant in high concentrations. By diluting the oxygen concentration in air below the level necessary to support life, it can act as an asphyxiant. Effect 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.
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12. ECOLOGICAL INFORMATION

Environment Protection	Avoid release to the environment.
Mobility	No data available for this specific product.

Persistence / Degradability No data available for this specific product.
Ecotoxicity No data available for this specific product.

13. DISPOSAL CONSIDERATIONS

Dispose of waste according to federal, EPA and state regulations.

14. TRANSPORT INFORMATION

This material is classified as a Class 2.2 (Non-flammable Non-toxic Gas) Dangerous Good 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 1066

Proper Shipping Name NITROGEN, COMPRESSED

DG Class 2.2

Hazchem Code 2[T]

Packaging Method 3.8.2

Packing Group

EPG Number 2C1

IERG Number 08

15. REGULATORY INFORMATION

Risk Phrase

Poisons Schedule Not Scheduled

Packaging & Labelling Compressed nitrogen is supplied in high pressure cylinders.
Cylinder Colour - AS2700 N63 Pewter
Cylinder Valve Outlet - AS2473 Type 50

AICS (Australia) All components of this product are registered on the Australian Inventory of Chemical Substance.

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
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Wesfarmers Energy Building, Campus Drive (off Murdoch Drive), Murdoch, WA 6150
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AIR LIQUIDE AUSTRALIA LIMITED
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www.airliquide.com.au

References Use appropriate media to extinguish source of surrounding fire.
- 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(1994)]
- EPG Cards; or SAA/SNZ HB76 Initial Emergency Response Guide
- Matheson Gas Data Book, 6th Edition, Matheson 1980
- Canadian Liquid Air Montreal, Canada - Gas Products Safety Data Sheets
- Tomes Database, Micromedev

SDS History MSDS revised: August 2005
 MSDS supersedes: September 2000

**Poisons
Schedule** Not Scheduled

**Molecular
Weight** 28.013

End of MSDS

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