

Air Liquide New Zealand Limited  
19 Maurice Road  
Penrose  
Auckland 1061

Phone: (09) 622 3880  
Fax: (09) 622 3881  
Emergency: 0800 156 516

## MATERIAL SAFETY DATA SHEET

Product Name:

LASAL™ 4

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Revision: 2

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Label 2.2 : Non flammable, non toxic gas.

### IDENTIFICATION

**Chemical Name:** Helium  
**Synonyms:** Balloon Gas, Alphagaz™ 1, Helium, He  
**UN Number:** 1046  
**Poisons Schedule Number:** None allocated  
**G.T. EPG. (Group Text. Emergency Procedure Guide):** AS 1678 2C1

**Use:** In Breathing Mixtures for Long Deep Diving. Balloon Inflation. Helium Is The Lightest Inert Gas.

### HAZARDS IDENTIFICATION

**Dangerous Goods Class and Subsidiary Risk:** 2.2  
**HSNO Classification:** Not Hazardous

**Hazard Statement:** Contains gas under pressure; may explode if heated.

**Precautionary Statements:** Read label before use.  
Read Material Safety Data Sheet before use.  
Store in a well-ventilated place, protect from sunlight.

### COMPOSITION

Ingredients	CAS Number	Proportion
Chemical Entity		
Helium	7440-59-7	99%

### FIRST AID MEASURES

#### Health Effects

##### Acute

Swallowed: Not applicable to gases  
Eye: Not irritating to eye.  
Skin: Not irritating to skin.  
Inhaled: Helium is non toxic. 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.

**Chronic**

Long term exposure to helium has no known health effects. Prolonged exposure to an oxygen deficient atmosphere (below 18% oxygen in air) may affect the heart and nervous system.

**First Aid**Inhalation:

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin Contact:

Remove contaminated clothing and shoes immediately – Clothing frozen to the skin should be thawed before being removed – In case of frostbite, thaw with lukewarm water. Obtain immediate medical assistance.

Eye Contact:

Immediately flush eyes thoroughly with water for at least 15 minutes.

**Advice to Doctor**

Advise doctor that victim has been exposed to an oxygen deficient atmosphere.

**General:**

Rescuers should not enter an oxygen deficient atmosphere without using self-contained full face positive pressure breathing equipment.

**FIRE FIGHTING MEASURES****Flammability:**

Non Flammable

**Fire/Explosion Hazard:**

Exposure to fire may cause containers to rupture/explode.

**Extinguishing Media:**

Water jet or water fog. If possible, stop flow of product. Move away from the container and cool with water from a protected position.

**Hazchem Code:**

2 T

**Recommended Protective Clothing:**

Breathing apparatus need only be worn if the substance is involved in a fire. In confined space use self-contained breathing apparatus.

**ACCIDENTAL RELEASE MEASURES****Personal Protection:**

Personnel engaged in the movement of cylinders shall be provided with safety footwear and leather or PVC gloves. Full cover overalls and safety glasses recommended. In areas where equipment failure may cause an immediate high concentration of helium, approved self-contained full face respiratory equipment should be readily available.

**Spills and Disposal:**

Ventilate area. Stop leak if it can be done without risk. Allow gas to dissipate to atmosphere. Evacuate Area.

**Reference Guide:**

Standard SNZ HB 76:2008 Dangerous Goods – Initial Emergency Response Guide.

**General:**

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.

**HANDLING AND STORAGE****Handling****Flammability:**

Non Flammable.

**General:**

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.

**Approved Handlers:**

Approved handlers are not required, non hazardous gas (HSNO).

**Storage****Separation:**

Storage of compressed gas cylinders shall be in compliance with New Zealand 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 50°C. Avoid any contact with oil or grease particularly to the cylinder valve. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Cylinders shall be stored upright on a level, fireproof floor, secure in position and protected from damage. Full cylinders shall be stored separately from empties. Cylinders should be moved by hand-truck or cart designed for that purpose.

**Spills and Disposal:**

Ventilate area. Stop leak if it can be done without risk. Allow gas to dissipate to atmosphere. Evacuate Area.

**EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure Standards:**

Simple asphyxiant.

**Engineering Controls:**

Provide adequate local exhaust and dilution (general) ventilation and supply sufficient replacement air to maintain oxygen concentration above 18%.

**Personal Protection:**

Personnel engaged in the movement of cylinders shall be provided with safety footwear and leather or PVC gloves. Full cover overalls and safety glasses recommended. In areas where equipment failure may cause an immediate high concentration of helium, approved self-contained full face respiratory equipment should be readily available.

**PHYSICAL AND CHEMICAL PROPERTIES****Physical Properties**

Appearance:	Colourless, Odourless, Tasteless	Flashpoint:	Non Flammable
Boiling Point:	-268.93°C	Flammability Limits:	Non Flammable
Vapour Pressure:	Not Applicable	Solubility in Water (at 0°C):	0.0098 m <sup>3</sup> /kg

**Other Properties**

Relative Density (at 15°C) (Air = 1):	0.136	Density of Gas (101.3 kPa, 15°C):	0.167 kg/m <sup>3</sup>
Molecular Weight:	4.0026	Critical Temperature:	-267.95°C

**STABILITY AND REACTIVITY****Flammability:**

Non Flammable.

**Materials Compatibility:**

No Information.

**TOXICOLOGY INFORMATION**

No known toxicological effects from this product.

**ECOLOGICAL INFORMATION**

No known ecological damage caused by this product.

**DISPOSAL CONSIDERATIONS**

Do not discharge into any place where its accumulation could be dangerous. To atmosphere in a well ventilated place.

**TRANSPORT INFORMATION**

<b>UN Number:</b>	1046
<b>Proper Shipping Name:</b>	HELIUM, COMPRESSED
<b>Dangerous Goods Class and Subsidiary Risk:</b>	2.2
<b>Packing Group:</b>	Not applicable
<b>Hazchem Code:</b>	2 T

**Other Information:** Avoid transport on vehicles where the load is not separated from the driver's compartment.  
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.  
Before transporting product containers:

- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.

**REGULATORY INFORMATION**

**ERMA Register Approval No:** HSR001024

**HSNO Controls:** Hazardous Substances (Compressed Gases) Regulations 2004.  
Hazardous Substances (Tank Wagon and Transportable Containers) Regulations 2004.

**Approved Handlers:**

Approved handlers are not required, non hazardous gas (HSNO).

**OTHER INFORMATION**

Compressed helium is supplied in high pressure cylinders.

Cylinder Colour: AS4484-2004 Brown PMS 463C  
Cylinder Valve Outlet: Industrial: AS 2473 Type 10 Scandina Cap / Blue

- References:
- . L'Air Liquide Gas Encyclopaedia - Elsevier Scientific Publishing Co. Amsterdam
  - . Cheminfo Database
  - . New Zealand Code for the Transport of Dangerous Goods by Road and Rail
  - . NHMRC Threshold Limit Values - Commonwealth Dept Health
  - . 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
  - . AS 1894 Code of Practice for Safe Handling of Cryogenic fluids
  - . NZCIC Code of Practice – Preparation of Safety Data Sheets

**END MSDS**

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

This MSDS has been prepared in accordance with NZCIC Code of Practice – Preparation of Safety Data Sheets.

**Air Liquide regional offices contact details on following page**

## Regional Offices

### Auckland

PO Box 12846  
19 Maurice Road  
Penrose  
Phone: 09 622 3888  
Fax: 09 622 3882

### Hamilton

PO Box 10 394  
2 Tawn Place, Pukete  
Phone: 07 849 2969  
Fax: 07 348 9063

### Mt Maunganui

89 Poturi Street, Tauriko  
Tauranga 3110  
Phone: 07 574 8475  
Fax: 07 574 8476

### Palmerston North

PO Box 10 010  
5 Connolly Place  
Palmerston North  
Phone: 06 355 5216  
Fax: 06 354 7104

### Christchurch

PO Box 16453  
7 Canterbury St  
Hornby  
Phone: 03 344 6033  
Fax: 03 344 6031

**Emergency 24hr Phone  
Number 0800 156 516**