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## MATERIAL SAFETY DATA SHEET

Product Name:

5% CARBON DIOXIDE IN OXYGEN,  
Compressed Gas Mixture

Issued: May 2014

Revision: 9

Page: 1 of 6



Label 2.2 : Non  
flammable, non toxic  
gas.



Label 5.1 : Oxidizing  
substances.

### IDENTIFICATION

**Chemical Name:** 5% Carbon Dioxide in Oxygen, Compressed Gas Mixture  
**Synonyms:** Not Applicable  
**UN Number:** 3156  
**Poisons Schedule Number:** Non Allocated  
**EPG (Emergency Procedure Guide):**  
**G.T. EPG. (Group Text. Emergency Procedure Guide):** AS 1678 2C5

**Use:** Medical Gas Mixture.

### HAZARDS IDENTIFICATION

**Dangerous Goods Class and Subsidiary Risk:** 2.2 sub. 5.1  
**HSNO Classification:** 5.1.2A

**Hazard Statement:** Contains gas under pressure; may explode if heated.  
May cause or intensify fire; oxidiser.

**Precautionary Statements:** Read label before use.  
Read Safety Data Sheet before use.  
In case of fire: Stop leak if safe to do so.  
Store away from clothing and combustible materials.  
Keep reduction valves free from grease and oil.  
Store in well ventilated place.  
Dispose to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous.

### COMPOSITION

Ingredients	CAS Number	Proportion
Chemical Entity		
Oxygen	7782-44-7	95%
Carbon Dioxide	124-38-9	5%

**FIRST AID MEASURES****Health Effects****Acute**

Swallowed: Not applicable to gases.

Eye: Not irritating to the eye.

Skin: Irritating to the skin.

Inhaled: Breathing high concentrations of this gas may cause symptoms of hyperoxia including cramps, nausea, dizziness, hypothermia, ambylopia, respiratory difficulties, brachycardia, fainting spells and convulsions capable of leading to death.

**Chronic**

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.

**First Aid**Inhalation:

Call doctor. Prompt medical attention is mandatory in all cases of overexposure to oxygen. If victim conscious: Move to uncontaminated area to breathe fresh air. Keep warm and quiet. If victim is unconscious: Move to uncontaminated area and give assisted respiration. When normal breathing is restored, treatment as above. Continued treatment should be symptomatic and supportive.

Skin Contact:

In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

Eye Contact:

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

**Advice to Doctor**

Advise doctor that victim is experiencing (has experienced) hyperoxia.

**General:**

Rescue personnel should be aware of extreme fire hazard associated with oxygen rich atmospheres.

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

Non Flammable, Non Toxic Gas. Oxidizing Substances. Contact with combustible material may cause fire. Keep away from combust

**Fire/Explosion Hazard:**

This gas is non-flammable, but container may rupture when heated. Move cylinders from fire if safe to do so. Cool cylinders with water from a protected location. If unable to keep cylinders cool, evacuate area.

**Extinguishing Media:**

Fog or fine water spray.

**Hazchem Code:**

2 S

**Recommended Protective Clothing:**

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

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

Personnel engaged in the movement and use of cylinders should be provided with safety footwear and leather or PVC gloves. Full cover overalls and safety glasses recommended.

**Spills and Disposal:**

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

**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, Non Toxic Gas. Oxidizing Substances.

**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 required if more than 200 m<sup>3</sup> is stored on site.

**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. Open valve slowly to avoid pressure shock. 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:**

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

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

Carbon Dioxide TWA 5,000 ppm v/v STEL 30,000 ppm v/v

**Engineering Controls:**

Ensure that ventilation of area where oxygen is being used is adequate to maintain the air-oxygen concentration at the normal 21%.

**Personal Protection:**

Personnel engaged in the movement and use of cylinders should be provided with safety footwear and leather or PVC gloves. Full cover overalls and safety glasses recommended.

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

Appearance:	Colourless, odourless, tasteless	Flashpoint:	Non flammable
Boiling Point:	-183°C (for oxygen)	Flammability Limits:	Non flammable
Vapour Pressure:	Not applicable	Solubility in Water (at 0°C):	Not applicable

**Other Properties**

Relative Density (Air = 1):	1.13	Density of Gas (101.3 kPa, 15°C):	1.38 kg/m <sup>3</sup>
Molecular Weight:	Not applicable	Critical Temperature:	Not applicable

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

Non Flammable, Non Toxic Gas. Oxidising Substances.

**Materials Compatibility:**

Equipment to handle this gas must be constructed of suitable material. Copper and stainless steel are most commonly used. Most lubricants are NOT compatible.

**TOXICOLOGY INFORMATION**

No known toxicological effect from this product.

**ECOLOGICAL INFORMATION**

No known ecological damage caused by this product.

**DISPOSAL CONSIDERATIONS**

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

**TRANSPORT INFORMATION**

<b>UN Number:</b>	3156
<b>Proper Shipping Name:</b>	COMPRESSED GAS, OXIDISING, N.O.S
<b>Dangerous Goods Class and Subsidiary Risk:</b>	2.2 sub. 5.1
<b>Packing Group:</b>	Not applicable
<b>Hazchem Code:</b>	2 S
<b>Other Information:</b>	Avoid transport on vehicles where the load is not separated from the driver's compartment. do 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: <ul style="list-style-type: none"><li>• Ensure that containers are firmly secured.</li><li>• Ensure cylinder valve is closed and not leaking.</li><li>• Ensure there is adequate ventilation.</li><li>• Compliance with applicable regulations.</li></ul>

**REGULATORY INFORMATION**

**ERMA Register Approval No:** HSR002534

**HSNO Controls:** Hazardous Substances and New Organisms Act 1996  
Compressed Gas Mixtures (Oxidising (5.1.2) Group Standard 2006

**Approved Handlers:**

Approved handlers are required if more than 200 m<sup>3</sup> is stored on site.

**OTHER INFORMATION**

5% Carbon Dioxide in Oxygen is supplied in high pressure cylinders.

Cylinder Colour: Medical: Black with AS 2700 Green Grey N32/White Shoulders  
Cylinder Valve Outlet: Medical: AS 2472 Fig. 3

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**

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