Material Safety Data Sheet

Oxygen, compressed

1. MATERIAL IDENTIFICATION AND SUPPLIER

Supplier name: Supagas 2009 limited
Address: 141 Roscommon Road, Manukau, Auckland, New Zealand
Telephone: 09 278 0145
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Emergency: 111
Email: enquiries@supagas.co.nz
Web Site http://www.supagas.co.nz
Use(s) CHEMICAL REAGENT • COMBUSTION AID • INDUSTRIAL APPLICATIONS
Synonym(s) OXYGEN, COMPRESSED
MSDS Date 3 June 2010

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO HS (MIN DEG OF HAZ) REGS 2001

RISK PHRASES
R8 Contact with combustible material may cause fire.

SAFETY PHRASES
S17 Keep away from combustible material.

HAZARD CLASSIFICATION
5.1.2A Oxidising substances that are gases.

CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO NZS 5433
UN No. 1072

Pkg Group: None Allocated

DG Class: 2.2

Hazchem Code: 2[s]

Hazard Risk(s): Ruptured cylinders may rocket.

EPG: 2C6

3. COMPOSITION

Ingredients	Einics	CAS no.	Content
Oxygen	Not Available	7782-44-7	>99.5%

4. FIRST AID MEASURES

Eye	Exposure is considered unlikely.
Skin	Exposure is considered unlikely.
Inhalation	Exposure is considered unlikely.
Ingestion	Ingestion is considered unlikely. However, should ingestion occur, contact a Poison Information Centre on 0800764 766 (0800 POISON) or +643 479 7248 (New Zealand) or a doctor.
Advice to Doctor	Treat symptomatically

5. FIRE FIGHTING MEASURES

Fire and Explosion

Non flammable gas. Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Call fire brigade. This product will vigorously support combustion may ignite combustibles (wood, paper, oil, clothing, etc). Do not approach cylinders suspected to be hot. Remove cool cylinders from the path of the fire if safe to do so. Ensure working area is well ventilated before re-use. Notify the manufacturer that you will be returning a faulty cylinder. Residual product will be disposed of when the cylinder is returned.

Extinguishing

Non flammable. Use water fog to cool containers from protected area.

Flammability

Non flammable - oxidising agent. Oil/grease can spontaneously ignite at low temperatures in oxygen enriched atmospheres. Many other materials, which do not burn in air, will vigorously burn in pure oxygen.

Hazchem Code 2[S]

6. ACCIDENTAL RELEASE MEASURES

Spillage GAS CYLINDERS: If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and if safe to do so carefully move it to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.

Personal protection: Do not smoke while handling this product. Persons moving cylinders should be provided with safety footwear, safety glasses and leather or PVC gloves. Full cover overalls are recommended. All personal protective equipment must be free from oil and grease.

7. STORAGE AND HANDLING

Storage
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. Approved handlers required if more than 200m3 is stored onsite.

Handling
Do not store near sources of ignition or incompatible materials. Cylinders should be stored below 45 C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.

Approved handlers are required if more than 200m3 is stored on site.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards	No exposure standard(s) allocated.
Biological Limit Values	No biological limit allocated.
Engineering Controls	No special ventilation precautions are required with normal use.
Personal Protection Equipment	Wear safety boots, leather gloves and safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Colourless gas	**Solubility (Water) :** 0.032 cm3/cm3
Odour: odourless	**Specific gravity:** 1.105
PH: Not Available	**% Volatiles :** Not Available
Vapour pressure: Not Available	**Flammability:** Non Flammable
Vapour Density: Not Available	**Flash point:** Not relevant
Boiling point: -183.4	**Upper explosion limit:** Not Relevant
Melting point: not available	**Lower explosion limit:** not relevant
Evaporation rate; not available	**Autoignition Temperature:** not available
Critical Temperature: -118.4°C	**Density:** 1141.1 kg/m3

10. STABILITY AND REACTIVITY

Material to Avoid

Oil and grease can spontaneously ignite at low temperatures in oxygen enriched atmospheres. Many other materials, which do not burn in air, will vigorously burn in pure oxygen. All non-metals must be oxygen compatible. Copper is most commonly used metal. Metals can be ignited and will continue to burn in pure oxygen atmospheres under specific conditions of temperature and pressure.

Decomposition

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Health Hazard

Summary

Non irritant - non toxic gas. The respiratory and central nervous systems are primarily affected by gaseous oxygen. No health effects have been observed in humans exposed to concentrations up to 80 volume % oxygen for a few hours or up to 50 volume % for 24 hours. At pressures above 1 atmosphere hyperoxia may appear after 2 to 6 hours. Chronic exposure at normal or elevated pressure may cause severe thickening and scarring of lung tissues. Not carcinogenic or mutagenic.

Eye

Non irritating.

Inhalation

Non-irritant. As the amount of oxygen inhaled is increased chest tightness, burning pains and coughing spasms will occur. Other symptoms of hyperoxia include cramps, nausea, dizziness, hypothermia, amblyopia (loss of vision), bradycardia, fainting spells and convulsions capable of causing death.

Skin
Non irritating.

Ingestion
Due to product form, ingestion is considered highly unlikely.

Toxicity Data
No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

Environment
Oxygen is the most abundant element on earth. As a gaseous element, it forms 20.95 % (v/v) of the atmosphere. It makes up 46.6% of the earth's crust as oxides. Not toxic to aquatic or terrestrial life.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Cylinders should be returned to the manufacture or supplier for disposal of contents.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport
Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO NZS 5433

Shipping Name : Oxygen, Compressed

UN No. 1072	**DG Class: 2.2**	**Subsidiary Risk(s): 5.1**
Pkg Group: None Allocated	**Hazchem Code: 2[s]**	**EPG: 2C6**

15. REGULATORY INFORMATION

Group Name Oxygen

The ”HASNO” act 1996 and hazardous substances (compressed gases) regulations 2004

16. OTHER INFORMATION

Additional Information

This product is used in the manufacturer of steel, glass, ethylene oxides, methanol, acrolein, titanium dioxide, vinyl acetate and synthesis gas. In combination with a fuel gas such as acetylene, hydrogen or LPG, it is used in welding, cutting, hardening, scarfing, flame cleaning and heating. Oxygen can be considered for use in any chemical reaction where air is used to give faster reaction time and higher yields. A typical use would be in the treatment of bulk refuse and effluent. High purity oxygen is used in laboratories, in process control operations and in metals analysis equipment.

APPLICATION METHOD: Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.

ABBREVIATIONS:

mg/m3 - Milligrams per cubic metre
ppm - Parts Per Million
TWA/ES - Time Weighted Average or Exposure Standard.
CNS - Central Nervous System
NOS - Not Otherwise Specified
pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
M - moles per litre, a unit of concentration.
IARC - International Agency for Research on Cancer.
HSNO –Hazardous substances and new organisms act 1996.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

This MSDS summarises to our best knowledge, at the date of issue, the health and safety hazard information regarding this product and general guidance on how to safely handle the product in the workplace. All due care has been taken to include accurate and up-to-date information in this MSDS.
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 Supagas 2009 Ltd. As far as lawfully possible, no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS can be accepted. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is available on request. This MSDS has been prepared in accordance with NZCIC Code of Practice – Preparation of Safety Data Sheets. This MSDS is subject to change without notice, for the latest version of this MSDS visit www.supagas.co.nz

Reviewed 6 June 2010.