

MATERIAL SAFETY DATA SHEET

076

Product Name **OXYGEN, COMPRESSED**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name BOC LIMITED (AUSTRALIA)
Address 10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113
Telephone 131 262, (02) 8874 4400
Fax 132 427 (24 hours)
Emergency 1800 653 572 (24/7) (Australia only)
Web Site <http://www.boc.com.au/>
Synonym(s) BOC OXYGEN, COMPRESSED • OXYGEN • OXYGEN COMPRESSED • PRODUCT CODES: 020, 024, 025, 026, 027, 028, 128, 224, 226
Use(s) CHEMICAL REAGENT • COMBUSTION AID • FUEL ADDITIVE • INDUSTRIAL APPLICATIONS • LASER APPLICATIONS
MSDS Date 29 Jun 2009

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1072	DG Class	2.2	Subsidiary Risk(s)	5.1
Packing Group	None Allocated	Hazchem Code	2S	EPG	2C6

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
OXYGEN	O2	7782-44-7	>99.5%

4. FIRST AID MEASURES

Eye None required.
Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.
Skin None required.
Ingestion Due to product form and application, ingestion is considered unlikely.
Advice to Doctor Treatment for hyperoxia.

5. FIRE FIGHTING MEASURES

Flammability Non flammable - oxidising agent. Supports combustion and may cause fire/explosion in contact with incompatible substances strong acids, reducing agents, combustibles and flammables. Materials which burn in air, will burn more vigorously in oxygen enriched atmospheres.
Fire and Explosion Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being 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

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product will be disposed of when the cylinder is returned.

Extinguishing Use water fog to cool containers from protected area.

Hazchem Code 2S

6. ACCIDENTAL RELEASE MEASURES

Spillage If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment. Carefully move material to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.

7. STORAGE AND HANDLING

Storage 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.

Handling Use of safe work practices are recommended to avoid inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement. Do not drop, roll or drag cylinders. The uncontrolled release of any gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

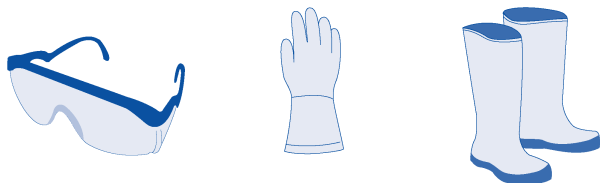
8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds No exposure standard(s) allocated.

Biological Limits No biological limit allocated.

Engineering Controls No special precautions are normally required when handling this product.

PPE Wear safety boots, leather gloves and safety glasses.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS	Solubility (Water)	0.032 cm ³ /cm ³
Odour	ODOURLESS	Specific Gravity	NOT APPLICABLE
pH	NOT APPLICABLE	% Volatiles	100 %
Vapour Pressure	NOT AVAILABLE	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	-183°C	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT APPLICABLE		
Critical Pressure	5,043 kPa	Critical Temperature	-118.6°C (Permanent gas)
Cylinder Pressure	Refer to Product Manuals	Density	1.105 (Air = 1)

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid heat, sparks, open flames and other ignition sources.

Material to Avoid Combustible materials such as oil and grease can spontaneously ignite at low temperatures in oxygen enriched atmospheres. Materials which burn in air, will burn more vigorously in oxygen enriched atmospheres. 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.

Hazardous Decomposition Products May evolve toxic gases if heated to decomposition.

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Hazardous Reactions Polymerization will not occur.

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% oxygen for a few hours or up to 50% for 24 hours. At pressures above 1 atmosphere hyperoxia may appear after 2 to 6 hours. Chronic exposure at normal or elevated pressure may result in severe thickening and scarring of lung tissues. Not carcinogenic or mutagenic.

Eye Non irritant.

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 irritant.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity Data No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

Environment Not toxic to aquatic or terrestrial life.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Cylinders should be returned to the manufacturer 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. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.



CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

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UN No.	1072	DG Class	2.2	Subsidiary Risk(s)	5.1
Packing Group	None Allocated	Hazchem Code	2S	EPG	2C6

15. REGULATORY INFORMATION

Poison Schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

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

ABBREVIATIONS:
ADB - Air-Dry Basis.
BEI - Biological Exposure Indice(s)
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EINECS - European INventory of Existing Commercial chemical Substances.
IARC - International Agency for Research on Cancer.

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M - moles per litre, a unit of concentration.
mg/m³ - Milligrams per cubic metre.
NOS - Not Otherwise Specified.
NTP - National Toxicology Program.
OSHA - Occupational Safety and Health Administration.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
TWA/ES - Time Weighted Average or Exposure Standard.

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 Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert 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.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts 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.

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End of Report