



OXYGEN (Compressed)

MATERIAL SAFETY DATA SHEET (MSDS Number – MGC P020011) Effective Date: August 2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Oxygen
CHEMICAL NAME: Oxygen
FORMULA: O₂
SYNONYMS: Molecular oxygen;
Oxygen molecule; Pure oxygen; O₂;
CAS No. : 7782-44-7
[USE]: Welding, Cutting, instrument fuel

NAME AND ADDRESS:

Motukea Gas Company Limited,
Motukea Island, Porebada Road,
Port Moresby, PNG
Contact Telephone: (675) 321-8187

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT NAME: Oxygen Gas
PERCENTAGE: > 99.5%
OSHA PEL: None
ACGIH TLV: xxx
[LD50]: None. **[LC50]:** None.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Gaseous
DANGER: Oxidizer.
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
CONTENTS UNDER PRESURE
DO NOT PUNCTURE OR INCINERATE CONTAINER
MAY CAUSE SEVERE FROSTBITE

POTENTIAL HEALTH EFFECTS INFORMATION-

ROUTES OF EXPOSURE:

INHALATION: Respiratory system irritation after overexposure to high oxygen concentrations.
EYE CONTACT: May cause eye irritation. Contact with rapidly expanding gas may cause burns or frostbite.
SKIN CONTACT: May cause skin irritation. Contact with rapidly expanding gas may cause burns or frostbite.

[SKIN ABSORPTION]: None.

[INGESTION]: None.

MEDICAL CONDITIONS AGGRAVATED BY

OVEREXPOSURE: None

OTHER EFFECTS OF OVEREXPOSURE:

None.

CARCINOGENICITY:

Oxygen is not listed by NTP, OSHA or IARC.

4. FIRST AID MEASURES

INHALATION: Remove person to fresh air.
If not breathing, administer artificial respiration.
If breathing is difficult, obtain medical attention.
EYE CONTACT: Never introduce ointment or oil into the eyes without medical advice. Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
SKIN CONTACT: Remove contaminated clothing and flush affected areas with lukewarm water. If irritation persists, seek medical attention.
INGESTION: Not applicable.
NOTES TO PHYSICIAN: None.

5. FIRE FIGHTING MEASURES

FLASH POINT: Not applicable; gas. **AUTOIGNITION:** None

FLAMMABLE LIMITS IN AIR BY VOLUME:NA

EXTINGUISHING MEDIA: Use an extinguishing agent suitable for the surrounding fire

SPECIAL FIRE FIGHTING INSTRUCTIONS: Shut off source of oxygen if possible. Extinguish fire only if flow of oxygen can be stopped. Keep adjacent cylinders cool by spraying large amounts of water until the fire burns itself out and the cylinders are cool.

Contains gas under pressure

Contact with combustible material may cause fire. This material increases the risk of fire and may aid combustion. In a fire or if heated, a pressure increase will occur and the container may burst or explode

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Cylinders may rupture violently if sidewalls are exposed to direct flame impingement.

Cylinders exposed to fire should not be moved until they have reached ambient temperature in the event internal decomposition is taking place.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Immediately contact emergency personnel. Keep unnecessary personnel away. Evacuate immediate area. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Shut off source of oxygen, if possible. Isolate any leaking cylinder. If leaking from cylinder, valve, or pressure relief device. Never enter a confined space or other area where the concentration is high.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Cylinders should be separated from other gas fuels by a minimum distance of 20 ft. or by a barrier of non-combustible material at least 5 ft. high having a fire resistance rating of at least 1/2 hour. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling or being

knocked over. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Post "No Smoking" or "Open Flames" signs in the storage areas. There should be no sources of ignition. High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Oxygen should not be used as a substitute for compressed air in pneumatic equipment since this type generally contains flammable lubricants. Use a first-in, first out inventory system to prevent full containers from being stored for long periods of time.

PRECAUTIONS TO BE TAKEN IN HANDLING: Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Leak check with soapy water; never use a flame. Never insert an object (e.g., wrench, pry bar, screwdriver, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Do not strike cap with a hammer. Use an adjustable strap wrench to remove over-tight or rusted caps. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. For additional precautions in using oxygen cylinder gas see Section 16 - Other Information. When used in welding and cutting: Read and understand the manufacturer's instructions and the precautionary label on the products. See American National Standard Institute (ANSI) Z49.1 *Safety in Welding and Cutting* published by the American Welding Society, P.O. Box 351040, Miami, Florida 33135 and National Fire Protection Association (NFPA) 51 *Oxygen Fuel Gas Welding and Cutting*.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

VENTILATION: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or

other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits

RESPIRATORY PROTECTION (SPECIFY TYPE):

General Use: None required.

PROTECTIVE GLOVES: Work gloves are recommended when handling cylinders.

EYE PROTECTION: Safety glasses are recommended when handling cylinders.

OTHER PROTECTIVE EQUIPMENT: Safety shoes are recommended when handling cylinders.

PRECAUTIONS: Do not wear oily clothes. Do not use oily or greasy cloth for cleaning oxygen cylinder or valves.

9. PHYSICAL AND CHEMICAL PROPERTIES

MOLECULAR WEIGHT: 32 g/mole
BOILING POINT (1 ATM): -183°C (-297.4°F)
FREEZING POINT/MELTING POINT: -218.8°C (-361.9°F)

VAPOR PRESSURE: Above critical temp.

GAS DENSITY: At 68°F (20°C) and 1 atm:
0.083 lb./cu ft

SOLUBILITY IN WATER Slightly soluble

EXPANSION RATIO, Liquid to gas:

BP to 68°F (20°C) : 1 to 860.

[pH]: Not applicable

APPEARANCE, ODOR AND STATE:

Colorless gas. Oxygen is odorless

[COEFFICIENT OF WATER/OIL DISTRIBUTION]:

Not available

10. STABILITY AND REACTIVITY

STABILITY: The product is stable.

CONDITIONS TO AVOID: Cylinders should not be exposed to sudden shock or sources of heat.

INCOMPATIBILITY (Materials to Avoid):

Incompatible with the following materials: oxidizing materials, reducing materials and all combustible materials.

REACTIVITY: Extremely reactive

A) HAZARDOUS DECOMPOSITION PRODUCTS:

None

B) HAZARDOUS POLYMERIZATION:

Will not occur.

11. TOXICOLOGICAL INFORMATION

[Toxicity]: No specific information is available in our database regarding the other toxic effects of this material to humans.

[IRRITANCY OF MATERIAL]: None. **[SENSITIZATION TO MATERIAL]:** None.

[REPRODUCTIVE EFFECTS]: None.

[TERATOGENICITY]: None.

[MUTAGENICITY]: None.

[SYNERGISTIC MATERIALS]: None

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

Ecotoxicity effects

Aquatic toxicity: No data available.

Toxicity to other organisms: No data available.

Bioaccumulation: No data available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities.

Return cylinder properly labeled to Motukea Gas Company. Unserviceable cylinders should be returned for safe and proper disposal.

14. TRANSPORT INFORMATION

DOT/IMO SHIPPING NAME:

OXYGEN, COMPRESSED

HAZARD CLASS: 2.2

IDENTIFICATION NUMBER: UN 1072

PRODUCT RQ: None.

SHIPPING LABEL(s):

NONFLAMMABLE GAS, OXIDIZER

PLACARD (When required): Oxygen Compressed

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards and should be discouraged.

15. REGULATORY INFORMATION

The following information concerns selected regulatory requirements potentially applicable to this product. Not all such requirements are identified. Users of this product are responsible for their own regulatory compliance on a federal, state [provincial], and local level.

16. OTHER INFORMATION

SPECIAL PRECAUTIONS: OXIDIZER.

CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.

CONTENTS UNDER PRESURE.

DO NOT PUNCTURE OR INCINERATE CONTAINER.

OTHER INFORMATION:

NFPA RATINGS: HMIS RATINGS:

HEALTH= 0	HEALTH: = 1
FLAMMABILITY= 4	FLAMMABILITY:= 4
REACTIVITY: = 3	REACTIVITY: = 3
SPECIAL:	None

CYLINDER INFORMATION / DIMENSIONS AND WEIGHTS

OUTSIDE DIAMETER:	232 mm
THICKNESS:	> 5 mm
OXYGEN FILLING PRESSURE:	Max 15 MPa
CAPACITY: water capacity =	47L
COLOUR:	BLACK
TARE WEIGHT:	56 kg (max.)
VALVE MODEL:	QF-2D or F-4A1(GB5099-94)
OUTLET THREAD:	G 5/8-14-RH-INT
MARKING:	MOTUKEA O2

[INFORMATION PREPARED BY]:
Motukea Gas Company Limited
Motukea Island, Porebada Road
Port Moresby, PNG

MOTUKEA
Gas

Further information about acetylene can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA),
1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703) 412-0900.
G-1.1 *Commodity Specification for Acetylene*
G-1 *Acetylene*
P-1 *Safe Handling of Compressed Gases in Containers*
SB-4 *Handling Acetylene Cylinders in Fire Situations*
SB-8 *Use of Oxy-fuel Gas Welding and Cutting Apparatus*

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