

# SAFETY DATA SHEET

**OXYGEN**

Infosafe No.: LQ96K  
Version No.: 1.0  
ISSUED Date : 13/02/2020  
ISSUED by: Bromic Industrial

## 1. IDENTIFICATION

### GHS Product Identifier

OXYGEN

### Company Name

Bromic Industrial

### Address

18 Technology Drive Irvine  
California 92618 UNITED STATES

### Telephone/Fax Number

Telephone: 1800 301 1293

### Emergency phone number

24/7 emergency contact: CHEMTREC 1800 424 9300

### E-mail Address

plumbing@bromic.com

### Recommended use of the chemical and restrictions on use

Brazing applications.

## 2. HAZARD IDENTIFICATION

### GHS classification of the substance/mixture

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Oxidizing Gases: Category 1

Gases under Pressure: Compressed Gas

### Signal Word (s)

DANGER

### Hazard Statement (s)

May cause or intensify fire; oxidizer. Contains gas under pressure; may explode if heated.

### Pictogram (s)

Gas cylinder, Flame over circle



### Precautionary statement – Prevention

Keep/Store away from clothing and other combustible materials. Keep reduction valves/valves and fittings free from oil and grease.

### Precautionary statement – Response

In case of fire: Stop leak if safe to do so.

### Precautionary statement – Storage

Protect from sunlight. Store in a well-ventilated place.

### Other Information

Contact with liquefied gas may cause frostbite.

May react violently with combustible materials.

Continuous inhalation of high concentrations of may cause chest tightness, burning pains and coughing. Other symptoms of hyperoxia include cramps, nausea, dizziness, hypothermia, loss of vision, fainting spells and convulsions.

HMIS rating: Not available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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#### Ingredients

Name	CAS	EINECS	Proportion
Oxygen	7782-44-7	231-956-9	100 %

### 4. FIRST-AID MEASURES

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#### Inhalation

If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

#### Ingestion

Not considered a potential route of exposure.

#### Skin

Remove all contaminated clothing immediately. Clothing frozen to the skin should be thawed before being removed. Wash affected area thoroughly with soap and water. For Frostbite: Flush affected areas with lukewarm water. Do not use hot water. Treat as thermal burns. Seek immediate medical attention.

#### Eye contact

If eye tissue is frozen, seek IMMEDIATE medical attention. If tissue is not frozen, immediately irrigate with copious amounts of water for at least 15 minutes. Remove contact lenses. Eyelids to be held open. Seek medical attention.

#### First Aid Facilities

Eyewash and normal washroom facilities.

#### Advice to Doctor

Treat symptomatically.

#### Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once.

### 5. FIRE-FIGHTING MEASURES

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#### Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam, water fog or water mist.

#### Unsuitable Extinguishing Media

Do not use water jet as an extinguisher, as this will spread the fire.

#### Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes and gases.

#### Specific Hazards Arising From The Chemical

Contents under pressure. Pressurized container may explode when exposed to heat or flame.

Greatly increases the burning rate of combustible materials. Fire may produce irritating, corrosive and/or toxic gases. During fire, gases hazardous to health may be formed.

#### Decomposition Temperature

Not available

#### Precautions in connection with Fire

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode.

In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapors. This product should be prevented from entering drains and watercourses.

Oxygen strongly supports combustion.

In case of fire: Stop leak if safe to do so. Allow gas to burn if flow cannot be shut off immediately.

Apply water from safe distance to cool container and protect surrounding area.

Cylinders can burst violently when heated, due to excess pressure build-up. Remove pressurized gas cylinders from the immediate vicinity. Move containers from fire area if you can do so without risk. Do not direct water at source of leak or safety devices as icing may occur. Use water spray to cool unopened containers. Evacuate area and fight fire from a safe distance.

Greatly increases the burning rate of combustible materials.

#### **Other Information**

NFPA rating:

Health Hazards: 1

Flammability: 0

Instability: 3

Special Hazards: OX

## **6. ACCIDENTAL RELEASE MEASURES**

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### **Emergency Procedures**

Remove all sources of ignition. Increase ventilation. Evacuate all unprotected personnel. Use self-contained breathing apparatus (S.C.B.A) and full protective clothing to minimise exposure. Allow gas to vent safely to atmosphere, preferably in well ventilated, remote location. Monitor oxygen concentration in confined spaces. Check for leaks using pressure drop test or soapy water on joints and outlets. Shut cylinder valve to stop leak if possible and safe to do so. Check gas concentration to ensure area is safe before removing protective equipment. Damaged gas cylinders should be returned to the supplier.

## **7. HANDLING AND STORAGE**

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### **Handling and storage**

Use in a well ventilated area. Wear appropriate personal protective equipment and clothing to prevent exposure. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Keep away from combustible material. Use smallest possible amounts in designated areas with adequate ventilation. Maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities. DO NOT enter confined spaces where gas may have collected. Suck back of water into the container must be prevented. Do not allow back feed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's container handling instructions. Do not eat, drink or smoke when using this product. Routinely wash work clothing and protective equipment to remove contaminants.

### **Precautions for Safe Handling**

Protect containers against physical damage. Store in a cool, dry, well-ventilated place, low fire risk area. Protect from extremes of temperature and weather. Keep material away from sparks, flames and other ignition sources. Protect against direct sunlight. Keep away from foodstuffs, drinks and tobacco. Do not allow any part of a cylinder to be exposed above 50 °C (122 °F). Storage areas should be kept clean and free from flammable materials. Do not store near combustible materials. Take precautionary measures against static discharge. Ensure that containers are properly vented to prevent build up of pressure. Ensure that storage conditions comply with applicable local and national regulations.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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### **Occupational exposure limit values**

No exposure standards have been established for the mixture. However, over-exposure to some chemicals may result in enhancement of pre-existing adverse medical conditions and/or allergic reactions and should be kept to the least possible levels.

### **Biological Limit Values**

No biological limits allocated.

### Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapors away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of vapors/mists below the exposure standards, suitable respiratory protection must be worn.

### Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

### Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

### Hand Protection

Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

### Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Form

Compressed gas

### Appearance

Colorless gas

### Color

Colorless

### Odor

Odorless

### Decomposition Temperature

Not available

### Boiling Point

-182.96 °C to -183 °C  
(-297.33 °F to -297.4 °F)

### Solubility in Water

0.0489 (21 °C)  
(69.8 °F)

### Specific Gravity

1.1049 (21 °C)  
(69.8 °F)

### pH

Not available

### Vapor Pressure

4053 kPa (-124.1 °C)  
(-191.4 °F)

### Vapor Density (Air=1)

1.43  
1.105

### Coefficient Water/Oil Distr.

Not available

### Odor Threshold

Not available

### Viscosity

Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity



**Partition Coefficient: n-octanol/water**

Not available

**Density**

0.001 g/cm<sup>3</sup>

1.14 g/cm<sup>3</sup>

71.23 lb/ft<sup>3</sup> (Liquid Density & Boiling Point)

**Flash Point**

Not applicable

**Flammability**

Non flammable

**Auto-Ignition Temperature**

Not available

**Explosion Limit - Upper**

Not applicable

**Explosion Limit - Lower**

Not applicable

**Molecular Weight**

32 g/mol

**Oxidizing Properties**

Oxidizing.

**Kinematic Viscosity**

Not available

**Dynamic Viscosity**

Not available

**Melting/Freezing Point**

-218.4 °C

(-361.12 °F)

**Other Information**

Critical temperature: -118.6 °C (-181.48 °F)

Molecular formula: O<sub>2</sub>

## 10. STABILITY AND REACTIVITY

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**Chemical Stability**

Stable under normal conditions of storage and handling.

**Reactivity and Stability**

Reacts with incompatible materials.

**Conditions to Avoid**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Extremes of temperature and direct sunlight. Keep away from combustible material.

**Incompatible materials**

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. Metals can be ignited and will continue to burn in pure oxygen atmospheres under specific conditions of temperature and pressure. Strong reducing agents.

**Hazardous Decomposition Products**

Greatly increases the burning rate of combustible materials. Fire may produce irritating, corrosive and/or toxic gases. During fire, gases hazardous to health may be formed.

**Hazardous Polymerization**

Will not occur.

## 11. TOXICOLOGICAL INFORMATION

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### **Toxicology Information**

No toxicity data available for this material.

### **Ingestion**

Ingestion unlikely due to form of product.

### **Inhalation**

Inhalation of product vapors may cause irritation of the nose, throat and respiratory system.

Continuous inhalation of high concentrations of may cause chest tightness, burning pains and coughing. Other symptoms of hyperoxia include cramps, nausea, dizziness, hypothermia, loss of vision, fainting spells and convulsions.

### **Skin**

May be irritating to skin. The symptoms may include redness, itching and swelling. May cause frostbite injuries to skin due to uncontrolled release of compressed gas resulting in redness, tissue destruction.

### **Eye**

May be irritating to eyes. The symptoms may include redness, itching and tearing. May cause frostbite injuries to eyes due to uncontrolled release of compressed gas resulting in stinging, tearing, blurred vision and possibly permanent damage to eyes.

### **Respiratory sensitisation**

Not expected to be a respiratory sensitiser.

### **Skin Sensitisation**

Not expected to be a skin sensitiser.

### **Germ cell mutagenicity**

Not considered to be a mutagenic hazard.

### **Carcinogenicity**

Not considered to be a carcinogenic hazard.

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

### **Reproductive Toxicity**

Not considered to be toxic to reproduction.

### **STOT-single exposure**

Not expected to cause toxicity to a specific target organ.

### **STOT-repeated exposure**

Not expected to cause toxicity to a specific target organ.

### **Aspiration Hazard**

Not expected to be an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

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### **Ecotoxicity**

No ecological data available for this material.

### **Persistence and degradability**

Not available

### **Mobility**

Not available

### **Bioaccumulative Potential**

Not available

### **Other Adverse Effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### **Environmental Protection**

Prevent this material entering waterways, drains and sewers.

## 13. DISPOSAL CONSIDERATIONS

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### Disposal considerations

The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

## 14. TRANSPORT INFORMATION

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### UN Number (Air Transport, ICAO)

1072

### IATA/ICAO Proper Shipping Name

OXYGEN, COMPRESSED

### IATA/ICAO Hazard Class

2.2

### IATA/ICAO Sub Risk

5.1

### IATA/ICAO Symbol

Non Flammable, Non Toxic Gas, Oxidizing Agent

### IMDG UN No

1072

### IMDG Proper Shipping Name

OXYGEN, COMPRESSED

### IMDG Hazard Class

2.2

### IMDG Sub. Risk

5.1

### IMDG Marine pollutant

No

### DOT UN NO

1072

### DOT Proper Shipping Name

OXYGEN, COMPRESSED

### DOT Class

2.2

### DOT Special Requirements (Special)

110,A14

### DOT Exceptions (Exceptions)

306

### DOT Subsidiary Risk

5.1

### DOT Non-Bulk Requirements (NON\_BULK)

302

### DOT Bulk Requirements (BULK)

314,315

### DOT Max. Passgr. Air/Rail. (MAXAIR)

75 kg

### DOT Max. Cargo Only Air/Rail. (MAXCARGO)

150 kg

### DOT Stowage (Stowage)

A

**Transport in Bulk**

Not available

**Special Precautions for User**

Not available

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**15. REGULATORY INFORMATION**

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**California Proposition 65**

Not Listed

**SARA Section 302**

Not Listed

**SARA (311,312) Hazard Class**

Oxidizer

Gas under pressure (compressed gas)

**SARA (313) Chemicals**

Not Listed

**USA (TSCA)**

All components of this product are listed on the Inventory or exempted.

**Reportable Quantity**

Not Listed

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**16. OTHER INFORMATION**

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**Date of preparation or last revision of SDS**

SDS Created: February 2020

**References**

ANSI Z400.1/Z129.1-2010. American National Standard for Hazardous Workplace Chemicals – Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation.

Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

OSHA Table Z-1 Limits for Air Contaminants (June 30, 1993)(29 CFR 1910.1000)(1971 Permissible Exposure Limits (PELs)).

**Contact Person/Point**

Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, Bromic Pty. Ltd., makes no representations as to the completeness or accuracy thereof. Information is supplied on the conditions that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Bromic Pty. Ltd. or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the SDS.

**END OF SDS**

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