1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Oxygen
Product Number : 295604
Brand : Aldrich
Supplier : Sigma-Aldrich
          3050 Spruce Street
          SAINT LOUIS MO  63103
          USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
                         Product Safety - Americas Region
                         1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Compressed Gas

GHS Classification
Oxidising gases (Category 1)
Gases under pressure (Compressed gas)

GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)
H270 May cause or intensify fire; oxidiser.
H280 Contains gas under pressure; may explode if heated.

Precautionary statement(s)
P220 Keep/Store away from clothing/combustible materials.
P410 + P403 Protect from sunlight. Store in a well-ventilated place.

HMIS Classification
Health hazard: 0
Flammability: 0
Physical hazards: 0

NFPA Rating
Health hazard: 0
Fire: 0
Reactivity Hazard: 0
Special hazard: OX

Potential Health Effects

Inhalation : May be harmful if inhaled. May cause respiratory tract irritation.
Skin  
May be harmful if absorbed through skin. May cause skin irritation.

Eyes  
May cause eye irritation.

Ingestion  
May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Oxygen</td>
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<tr>
<td>CAS-No.</td>
<td>7782-44-7</td>
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<tr>
<td>EC-No.</td>
<td>231-956-9</td>
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<td>Index-No.</td>
<td>008-001-00-8</td>
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Molecular Weight  
32.00 g/mol

4. FIRST AID MEASURES

General advice  
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact  
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact  
Flush eyes with water as a precaution.

If swallowed  
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability  
Not flammable or combustible.

Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters  
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products  
no data available

Further information  
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions  
Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up  
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling  
Keep away from sources of ignition - No smoking.

Conditions for safe storage  
Keep container tightly closed in a dry and well-ventilated place.
Contents under pressure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

- Form: Compressed gas
- Colour: colourless

**Safety data**

- pH: no data available
- Melting point/freezing point: Melting point/range: -218 °C (-360 °F) - lit.
- Boiling point: -183 °C (-297 °F) - lit.
- Flash point: no data available
- Ignition temperature: no data available
- Autoignition temperature: no data available
- Lower explosion limit: no data available
- Upper explosion limit: no data available
- Vapour pressure: no data available
- Density: no data available
- Water solubility: no data available
- Partition coefficient: no data available
- Relative vapour density: 1.1
  - (Air = 1.0)
  1.1
  - (Air = 1.0)
Odour: odourless
Odour Threshold: no data available
Evaporation rate: no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Phosphorus, Organic materials, Powdered metals

Hazardous decomposition products
no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
no data available

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available
Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects
- **Inhalation**: May be harmful if inhaled. May cause respiratory tract irritation.
- **Ingestion**: May be harmful if swallowed.
- **Skin**: May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes**: May cause eye irritation.

Signs and Symptoms of Exposure
Nausea, Dizziness, Unconsciousness, May be harmful.

Synergistic effects
no data available

Additional Information
RTECS: RS2060000

12. ECOLOGICAL INFORMATION

- **Toxicity**
  no data available

- **Persistence and degradability**
  no data available

- **Bioaccumulative potential**
  no data available

- **Mobility in soil**
  no data available

- **PBT and vPvB assessment**
  no data available

- **Other adverse effects**
  no data available

13. DISPOSAL CONSIDERATIONS

- **Product**
  Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

- **Contaminated packaging**
  Dispose of as unused product.

14. TRANSPORT INFORMATION

- **DOT (US)**
  UN number: 1072  Class: 2.2 (5.1)
  Proper shipping name: Oxygen, compressed
  Marine pollutant: No
  Poison Inhalation Hazard: No
IMDG
UN number: 1072  Class: 2.2 (5.1)  EMS-No: F-C, S-W
Proper shipping name: OXYGEN, COMPRESSED
Marine pollutant: No

IATA
UN number: 1072  Class: 2.2 (5.1)
Proper shipping name: Oxygen, compressed

15. REGULATORY INFORMATION

OSHA Hazards
Compressed Gas

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Sudden Release of Pressure Hazard

Massachusetts Right To Know Components

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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
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