



# Material Safety Data Sheet

## Oxygen

### Section 1 : PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Oxygen

**Synonyms:** Oxygen, Compressed, Oxygen USP

**Supplier/ Manufacturer:** Premier Medical Corporation  
5055 East 48<sup>th</sup> Avenue  
Denver, CO 80226

**Business Phone:** (303) 650-4400.

**Emergency phone:** Chem-Tel 1-800-255-3924.

### Section 2 : COMPOSITION / INGREDIENT INFORMATION

Ingredient Name	C.A.S.	CONCENTRATION %
OXYGEN	7782-44-7	> 99%

### Section 3 : HAZARD IDENTIFICATION

**Emergency Overview:** Oxygen is a colorless, odorless gas.

The chief physical hazard associated with releases of the gas is its oxidizing power which can greatly accelerate the burning rate for both common and exotic combustible materials. Emergency personnel must practice extreme caution when approaching oxygen releases because of the potential for intense fire.

**Route of entry:** Inhalation.

#### **Effects of acute exposure**

**Eye contact:** No adverse effects expected.

**Skin contact:** No adverse effects expected. .

**Inhalation:** Breathing oxygen at atmospheric pressure and high oxygen concentrations (80% or more) for prolonged periods (more than a few hours) may cause nasal stuffiness or respiratory system irritation.

May cause cough, sore throat, chest pain, breathing difficulty, peripheral vasoconstriction, or seizures.

**Ingestion:** Not a likely route of exposure.

**Effects of chronic exposure:** None known.  
**Exposure Limits:** No  
**Irritant:** No  
**Sensitization:** No  
**Teratogen:** No  
**Reproductive Hazard:** No  
**Mutagen:** No  
**Synergistic Effects:** None known  
**OSHA Regulatory Status** This material is classified as hazardous under OSHA regulations.

#### **Section 4 : FIRST AID MEASURES**

**Skin contact:** None required.  
**Eye contact:** None required.  
**Inhalation:** Remove victim(s) to fresh air, as quickly as possible. If not breathing qualified personnel should administer artificial respiration. Get medical attention.  
Keep person warm and at rest.  
**Ingestion:** No first aid should be needed.  
Not considered a potential route of exposure.

#### **Section 5 : FIRE FIGHTING MEASURES**

**Flammability:** Oxidizer.  
**Conditions of flammability:** Contact with flammable materials.  
Vigorously accelerates combustion.  
**Extinguishing media:** Use appropriate extinguishing media for surrounding fire.  
**Special procedures:** Self-contained breathing apparatus may be required.  
Firefighters should wear the usual protective gear.  
Cool fire exposed containers with water spray.  
Personnel should be evacuated, if necessary, to upwind area.  
Remove containers from fire area if without risk.  
**Auto-ignition temperature:** Not applicable.  
**Flash point (°C), method:** Not applicable.  
**Lower flammability limit (% vol):** Not applicable.  
**Upper flammability limit (% vol):** Not applicable.

## **Explosion Data**

**Sensitivity to mechanical impact:** Avoid impact against container.

**Explosive power:** Closed containers may rupture or explode due to pressure build-up when exposed to extreme heat.  
Cylinders are equipped with temperature and pressure relief devices but may still rupture under fire conditions.

## **Section 6 : ACCIDENTAL RELEASE MEASURES**

**Leak/Spill:** Evacuate all non-essential personnel.  
Shut off flow and/or stop leak if without risk.  
Remove all flammable materials from vicinity.  
Oxygen equipment (cylinders, fittings, valves, tubing) must not come in contact with any oily surface, greasy clothes, petroleum based product, or other combustible materials.  
Ventilate area or move cylinder to a well ventilated area.

## **Section 7 : HANDLING AND STORAGE**

**Handling procedures and equipment:** Protect cylinders and system components from damage.  
Use adequate ventilation.  
Use only DOT or ASME code containers. Cylinders must not be recharged except by or with the consent of owner.  
Never work on a pressurized system.  
Oxygen is not to be used as a substitute for compressed air.

**Storage requirements:** Use storage containers, piping, valves and fittings designed for storage and distribution of Gaseous Oxygen. Store in cool, dry, well-ventilated, fireproof area, away from flammable materials and corrosive atmospheres. Store away from heat and ignition sources and out of direct sunlight. Do not store near elevators, corridors or loading docks. Do not allow area where cylinders are stored to exceed 52°C (125°F).

Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Store large (40+ size) cylinders upright and firmly secured with a chain or in a rack or stand designed for that purpose. Store smaller (15+, 20+, 30+, M-6+, etc.) cylinders in a rack (horizontal or vertical) or stand designed for that purpose, or store lying flat on the ground secured to prevent rolling and out of the path of any foot or other traffic. Leave the valve protection cap in place (where provided) until cylinder is placed into service and after it is taken out of service.

Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the

discharge rate of the product from the cylinder. Use check valve or trap in discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas-handling fittings or equipment.

After use, close main cylinder valve. Replace valve protection cap (where provided). Mark empty cylinders %EMPTY+.

Refer to local fire codes for storage requirements.

## Section 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

### Precautionary Measures

**Gloves/Type:** Wear work gloves when handling cylinders.

**Respirator/Type:** None required under normal use.

**Eye/Type:** Wear safety glasses when handling cylinders.

**Footwear/Type:** Safety shoes are recommended when handling cylinders.

**Clothing/Type:** Wear protective clothes appropriate for task.

**Ventilation requirements:** Use with adequate ventilation. Mechanical ventilation is satisfactory. Ensure oxygen concentration remains above 19.5% and below 23.5%.  
Local exhaust at points of emission preferred.

## Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Gas

**Appearance & odor:** Colorless, odorless gas.

**Odor threshold (PPM):** N/A.

**Vapor pressure :** Gas@ 70°F (21°C)

**Vapor sp. Gravity (air=1):** 1.11 @ 70°F (21°C)

**Volatiles (% by volume)** 100%

**Boiling point :** -183°C (760 mmHg)  
-297.4°F

**Freezing point :** -218.8°C  
-361.8°F

**Solubility in water (%):** Slight.

## Section 10 : STABILITY AND REACTIVITY

**Chemical stability:** Product is stable.

**Conditions of reactivity:** Heat

**Hazardous polymerization:** Will not occur.

**Incompatible substances:** Combustible materials.  
Oils or grease.  
Flammable materials.

**Hazardous decomposition products:** None.

### Section 11 : TOXICOLOGICAL INFORMATION

**Acute Dose Effects:** Oxygen poses no toxicity hazards at atmospheric concentration and pressure. At high concentrations, newborn premature infants may suffer delayed retinal damage (retrolental fibroplasia) that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 hours or more) or at pressures exceeding atmospheric pressure. All individuals exposed for long periods to oxygen at high pressure and all who exhibit overt oxygen toxicity should be examined by a physician.

### Section 13 : DISPOSAL CONSIDERATIONS

**Waste disposal:** Gas will dissipate in air. Cylinders should be returned in the original shipping container, properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place.

### Section 14 : TRANSPORT INFORMATION

**DOT/ TDG classification:** For cylinder shipments:  
Oxygen, compressed  
UN1072  
Class 2.2 (Non-Flammable Gas)  
with subsidiary risk 5.1 (Oxidizer)



**North American  
Emergency Response  
Guidebook 2008 Number:** 122

### Section 15 : REGULATORY INFORMATION

**Disclaimer:** The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this

product are solely responsible for compliance with all applicable federal, state, and local regulations.

**U.S. CERCLA Reportable Quantity (RQ):** Not applicable.

**U.S. SARA Reporting Requirements:** Oxygen is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act. Oxygen is subject to the reporting requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (40CFR 370.21).

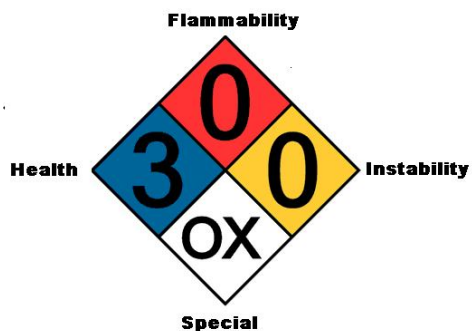
**U.S. SARA Threshold Planning Quantity:** Not applicable.

**Requirements:**  
**U.S. TSCA Inventory Status:** Oxygen is listed on the TSCA inventory.

**FDA:** Oxygen USP is regulated by the FDA as a prescription drug.

**Section 16 : OTHER INFORMATION**

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CLASSIFICATION:**



NFPA Rating Explanation Guide					
RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD	RATING SYMBOL	SPECIAL HAZARD
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	COR	Corrosive
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	OX	Oxidizing
0	No hazard	Will not burn	Stable	☢	Radioactive
				W	Reacts violently or explosively with water
				W OX	Reacts violently or explosively with water and oxidizing

This chart for reference only - For complete specifications consult the NFPA 704 Standard

## HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS) CLASSIFICATION:

<b>3</b>	<b>HEALTH</b>
<b>0</b>	<b>FLAMMABILITY</b>
<b>0</b>	<b>REACTIVITY</b>
<b>X</b>	<b>PPE</b>
<b>SEE SECTION 8</b>	

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