

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): None required under normal use. However, air-supplied respirators are required while working in confined spaces with this product. The respiratory protection use must conform with OSHA rules as specified in 29 CFR 1910.134.

VENTILATION	LOCAL EXHAUST —Use local exhaust system, if necessary, to prevent the build up of oxygen concentration.
	MECHANICAL (general)—Acceptable
	SPECIAL —Not applicable
	OTHER —Not applicable

PROTECTIVE GLOVES: Preferred for cylinder handling.

EYE PROTECTION: Select in accordance with OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133.

IX. SPECIAL PRECAUTIONS

WARNING: High pressure gas. Vigorously accelerates combustion. Avoid contact with oils, greases and other flammable materials. Never use manifolds for oxygen cylinders unless specifically designed for such use. Use only with equipment conditioned for oxygen service. Use piping and equipment adequately designed to withstand pressures to be encountered. Protect container against physical damage. Isolate from combustible gas installations and combustible materials by adequate distance or by gas-tight, fire-resistive barriers. Protect against over-heating. Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire. Note: Reverse flow into cylinder may cause rupture. Use a check valve or other protective apparatus in any line or piping from the cylinder to prevent reverse flow.

MIXTURES: When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death. Be sure to read and understand all labels and other instructions supplied with all containers of this product.

NOTE: Compatibility with plastics should be confirmed prior to use. For safety information on general handling of compressed gas cylinders, obtain a copy of pamphlet P-1, "Safe Handling of Compressed Gas in Containers" from the Compressed Gas Association, Inc., 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202.

OTHER HANDLING AND STORAGE CONDITIONS: Never work on a pressurized system. If there is a leak, close the cylinder valve, blow down the system by venting to a safe place, then repair the leak. Never lubricate oxygen valves, regulators, etc., with any combustible substance.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.



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IV. HEALTH HAZARD DATA**THRESHOLD LIMIT VALUE:** None currently established.**EFFECTS OF SINGLE (ACUTE) OVEREXPOSURE:****SWALLOWING**—No evidence of adverse effects from available information.**SKIN ABSORPTION**—No evidence of adverse effects from available information.**INHALATION**—Breathing 80% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular twitching, unconsciousness and convulsions. Breathing oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.**SKIN CONTACT**—No evidence of adverse effects from available information.**EYE CONTACT**—No evidence of adverse effects from available information.**EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:** No evidence of adverse effects from available information.**OTHER EFFECTS OF OVEREXPOSURE:** See "Notes to Physician."**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** See "Notes to Physician."**SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:** None currently known.**EMERGENCY AND FIRST AID PROCEDURES:****SWALLOWING**—This product is a gas at normal temperature and pressure.**SKIN**—No emergency care anticipated.**INHALATION**—Remove to fresh air. Give artificial respiration if not breathing. Keep victim warm and at rest. Call a physician.**EYES**—No emergency care anticipated.

NOTES TO PHYSICIAN: Supportive treatment should include immediate sedation, anti-convulsive therapy if needed, and rest. Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increases the susceptibility to toxicity from oxygen at high concentrations or pressures. Animal studies also indicate that vitamin E deficiency may increase susceptibility to oxygen toxicity.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the eustachian tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce "vacuum-type" headache.

Newborn premature infants exposed to high oxygen concentrations may suffer delayed retinal damage which can progress to retinal detachment and blindness (retrolental fibroplasia). Retinal damage can also occur in adults exposed to 100% oxygen under greater than atmospheric pressure, particularly in individuals whose retinal circulation has been previously compromised.

All individuals exposed for long periods to oxygen at high pressure and all who exhibit overt oxygen toxicity should have ophthalmologic examinations.

WHEN USED IN WELDING AND CUTTING: Read and understand the manufacturer's instructions and the precautionary label on the product. See American Standard Z49.1 "Safety In Welding and Cutting" published by the American Welding Society, PO Box 351040, Miami, Florida 33135 and OSHA Publication 2206 (29CFR1910), US Government Printing Office, Washington, DC 20402 for more detail. For further SAFETY AND HEALTH information, refer to Praxair's free publication, L-52-529, "Precautions and Safe Practices for Electric Welding and Cutting," as well as L-2035, "Precautions and Safe Practices for Gas Welding, Cutting, and Heating." You may obtain copies from your local supplier.

NOTE: Suitability for use as a component in underwater breathing gas mixtures is to be determined by or under the supervision of personnel experienced in the use of underwater breathing gas mixtures and familiar with the effects, methods, frequency and duration of use, hazards, side effects and precautions to be taken.