



1	Product	Liquid Oxygen
2	Hazard Identification	Extremely cold liquid which can cause frostbite in case of direct contact. May react violently with combustible material. Keep oil, grease and combustible material away
3	Potential Health Effects	
3.1	Breathing	Breathing 75 % or more oxygen at atmospheric pressure for more than few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing pure oxygen may cause lung damage and effect to central nervous system
3.2	Contact	Direct contact with liquid may cause cold burns / severe frostbite
4	Aggravated Medical Condition	If oxygen is administered to patients with chronic obstructive pulmonary disease, raising the oxygen concentration in the blood depresses their breathing and raises retained carbon dioxide to a dangerous level
5	First Aid Measures	
5.1	Eye Contact	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Keep eyes wide open while rinsing
5.2	Skin Contact	In case of direct contact, rinse immediately with plenty of water for at least 15 minutes while removing contaminated clothes and shoes. Do not rub frozen parts as skin tissue may get damaged. Cover wound with sterile dressing. As soon as possible, place effected area in warm water bath not exceeding 40 °C (105 °F)
6	Fire Fighting Measures	
6.1	General	Vapour cloud may obscure visibility. Keep area evacuated and free from any ignition source until spilled liquid gets evaporated (Ground free from frost). Move away from container and cool with water from a protected position. Don't direct water spray at container vent. If possible, stop flow of product. Wear self - contained breathing apparatus for fire fighting if necessary. Fire resistant clothing may burn and offer no protection in oxygen rich atmospheres
6.2	Specific Hazard	Combustibles in contact with liquid may explode on ignition or impact. Some material which are non-combustible in air may burn in the presence of oxidizer. Contact with organic and most inorganic materials may cause fire.
7	Accidental Release Measures	Clothing exposed to high concentrations may retain oxygen for 30 minutes or more and can cause a potential fire hazard. Stay away from ignition source and evacuate personnel to safe areas. Ventilate the area and monitor oxygen level if possible. Spilled Liquid oxygen will rapidly vaporize forming an oxygen rich cloud. Oxygen Gas / vapours are heavier than air and may accumulate in confined spaces particularly at or below ground level. So, Ventilate the area and remove any ignition sources until all the spilled liquid has been evaporated
8	Handling & Storage	All gauges, valves, regulators, piping and equipment to be used on oxygen must be cleaned for oxygen service. Oxygen should never be used for substitute for compressed air. Never use oxygen for cleaning purposes of any sort, especially clothing, as it creates the potential hazard of fire. Only trained and qualified persons should handle the liquid oxygen. Never attempt to repair or modify container valves or safety relief devices. Prevent entrapment of cryogenic liquid in closed systems not protected with relief devices. Only equipment designed for liquid oxygen must be used for oxygen. Equipment free from oil, grease and combustible material may be used only. Liquid containers should be located away from the heat and ignition source. Where necessary oxygen containers and oxidants should be separated from flammable gases by a fire resistant partition. Cryogenic Containers are equipped with pressure relief devices to control internal pressure. Under normal conditions these containers periodically vent product.
9	Personal Protective Equipment	
9.1	Hands Protection	Loose fitted thermal insulated or leather gloves to be used for Liquid Oxygen and Work Gloves are recommended when handling cylinders
9.2	Eyes Protection	Protect eyes, face and skin from liquid splashes. Safety Glasses are recommended for eyes protection
9.3	Skin & Body Protection	Persons who have been exposed to high concentrations of oxygen would stay in well ventilated or open areas for 30 minutes before going into confined spaces or near an ignition source. Never allow any unprotected part of the body to touch uninsulated pipes or vessels which contain cryogenic liquids. The extremely cold metal will cause the flesh to stick fast and tear when one attempts to withdraw from it. Safety Shoes are recommended for handling cylinders. Ensure adequate ventilation in confined areas.
10	Physical & Chemical Properties	
10.1	Physical Status	Liquefied Gas
10.2	Colour	Blue
10.3	Odour	No Odour
10.4	Boiling Point	-183 °C (-297 °F)
11	Stability & Reactivity	Stable under normal conditions. Avoid oil, grease & combustible materials. Flammable Materials, Organic Materials, Finely divided aluminium and carbon steel to be avoided