Fine Gas Company Limited

Material Safety Data Sheet: Oxygen (O2)

1	**Product**	Oxygen (O_2)
2	**Hazard Identification**	High pressure oxidizing gas. Keep Oil, grease and Combustible material away. React violently with combustible material.
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**	Nil
4	**Aggravted 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**	Move to fresh air. If breathing is stopped or irregular, administer artificial respiration. Get medical advice immediately. Keep patient warm and rested
5.1	**Eye Contact**	Seek medical advice
5.2	**Skin Contact**	Wash with water and soap as a precaution
6	**Fire Fighting Measures**	
6.1	**General**	Some materials which are non-combustible in air may burn in the presence of an oxygen enriched atmosphere (Oxygen greater than 23 %). Fire resistant cloth may burn in oxygen rich environment and will offer no protection. Move away from the cylinder & cool it with water from a protected position. Stop flow of product if possible. Keep adjacent cylinders cool by spraying large amount of water until the fire is extinguished or burns itself
6.2	**Specific Hazard**	Combustibles in contact with oxygen may explode on ignition or impact. Some material which are non-combustible in air may burn in the presence of oxygen. Contact with organic and most inorganic materials may cause fire. Wear self contained breathing apparatus for fire fighting / rescue operation if necessary
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. 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. Prevent leakage if safe to do so. Don't discharge in areas in which gas can get accumulated
8	**Handling & Storage**	Don't allow storage area temperature to reach more than 50 °C (122 °F). Only experienced and trained personnel are allowed to handle compressed gases. Use trolley or cart for moving cylinder even for a shorter distance. Ensure complete gas system has been checked for leakages, pressure rating and materials before use. Never pressurize the system at once. Use only with equipment cleaned for oxygen service and rated for cylinder pressure. Open valve of the cylinder slowly. In case, the user feels any difficulty in the operation of the cylinder valve, never use the cylinder or try to repair / modify its valves or safety relief devices. Close valve after use or when cylinder is empty. Don't subject cylinder to any mechanical shock or lifting it by its valve. Don't use cylinders for uses for which they are not designed or specified. Never strike an arc on a compressed gas cylinder or making it a part of the electrical circuit. Don't allow any ignition, spark or flame in the cylinder handling & storage area. Never recompress the gas or its mixture or transfer gas from one cylinder to another. Never use any electrical or any other heating device to raise the pressure of the gas cylinder. Cylinders should be stored in a purpose built compound which should be well ventilated, preferably in an open air. Stored cylinders should be periodically checked for general condition or leakage. Always safe guard cylinders from rust and extreme weather conditions. Full and empty cylinders should be properly segregated in the storage area. Display board should be hanged outside storage & handling area of "No Smoking / Open Flames". Never permit oil, grease and other combustible materials on cylinder valve /spindle Secure cylinder vertically & properly to prevent them from toppling Use cylinders on First In First Out basis. Flammable Gases storage should be separated from oxygen and other oxidizers by a minimum distance of 20 ft or by a non-combustible material barrier for at least 5 ft. All electrical equipment in the storage area should be compatible with flammable materials stored. 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.
9	**Personal Protective Equipment**	
9.1	**Hands Protection**	Work gloves are recommended while handling cylinders
9.2	**Eyes Protection**	Safety Glasses are recommended for eyes protection
9.3	**Skin & Body Protection**	Wear appropriate personal protective equipment like Safety Shoes when handling cylinders
10	**Physical & Chemical Properties**	
10.1	**Physical Status**	Compressed Gas
10.2	**Colour**	Colourless
10.3	**Odour**	Odourless
10.4	**Boiling Point**	-183 °C (-297 °F)
11	**Stability & Reactivity**	Stable under normal conditions. Materials to be avoid are Flammable & Organic Materials. Also avoid oil, grease and all other combustible materials

Prepared By: ***Quality Control & Safety Department - FG***