Tel: 514-956-7503
Fax: 514-956-7504
Internet: www.megs.ca
Email : support@megs.ca

Montreal	St-Laurent	Tel : 514-956-7503	Fax : 514-956-7504
Ottawa	Nepean	Tel : 613-226-4228	Fax : 613-226-4229
Quebec	Quebec	Tel : 418-834-7447	Fax : 418-834-3774

MSDS: Oxygen

PRODUCT INFORMATION

PRODUCT: Oxygen
TRADE NAME: Oxygen
CHEMICAL NAME: Oxygen
SYNONYMS: Oxygen Compressed
FORMULA: O_2
CHEMICAL FAMILY: Gaseous oxidizer
SUPPLIER'S NAME: MEGS Inc.
SUPPLIER'S ADDRESS: 2675 De Miniac
Ville St-Laurent, Qc, H4S 1E5
EMERGENCY PHONE NUMBER: (514) 956-7503
MOLECULAR WEIGHT: 32.00
PRODUCT USE: Various
PRODUCT IDENTIFICATION NUMBER: UN 1072

HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Oxygen	>99.5%	7782-44-7	None	None

PHYSICAL DATA

PHYSICAL STATE: Gas under pressure
APPEARANCE: Colorless gas
ODOR: Odorless
ODOR THRESHOLD: Not applicable
SPECIFIC GRAVITY (H_2O = 1): See Vapor Density (air = 1)
VAPOR PRESSURE: Not applicable (gas)
VAPOR DENSITY (air = 1): 1.11
EVAPORATION RATE: Not applicable (gas)

BOILING POINT:	-182.97°C
FREEZING POINT:	-218.57°C
pH:	Not applicable (gas)
GAS DENSITY:	1.353 kg/m³ @ 15°C, 101.3 kPa
COEFFICIENT OF WATER/OIL DISTRIBUTION:	@ 15°C, Bunsen Coefficient = 0.0342

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY:	Nonflammable gas
MEANS OF EXTINCTION:	Copious quantities of water for fires with oxygen as the oxidizer.
FLASHPOINT AND METHOD OF DETERMINATION:	Nonflammable gas
UPPER EXPLOSION LIMIT (% BY VOL):	Nonflammable gas
LOWER EXPLOSION LIMIT (% BY VOL):	Nonflammable gas
AUTO-IGNITION TEMPERATURE:	Nonflammable gas
FLAMMABILITY CLASSIFICATION:	Nonflammable gas
HAZARDOUS COMBUSTION PRODUCTS:	Nonflammable gas
EXPLOSION DATA:	Nonflammable gas
SENSITIVITY TO STATIC DISCHARGE:	None

REACTIVITY DATA

CHEMICAL STABILITY:	Stable as to decomposition
INCOMPATIBLE MATERIALS:	All flammable materials, grease or oils
CONDITIONS OF REACTIVITY:	Reactive under various conditions, temperature and pressure. All elements, with the exception of the inert gases react directly with oxygen to form oxides. Reactivity increases with temperature.
HAZARDOUS DECOMPOSITION PRODUCTS:	None

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT: None

SKIN ABSORPTION: None

EYE: None

INHALATION: Breathing high concentrations greater than 75 molar per cent causes symptoms of hyperoxia which include cramps, nausea, dizziness, hypothermia, ambylopia, respiratory difficulties, bradycardia, fainting spells and convulsions capable of leading to death. For additional data on hyperoxia as it relates to oxygen pressure and exposure duration refer to Liquid Air's Gas Encyclopedia.
Also known as a central nervous system toxin at concentrations of 100% O2 and at elevated atmospheric pressures.

INGESTION: None

ACUTE OVER EXPOSURE EFFECTS: The property is that of hyperoxia which leads to pneumonia. Concentrations between 25 and 75 molar percent present a risk of inflammation of organic matter in the body.

CHRONIC OVER EXPOSURE EFFECTS: None

EXPOSURE LIMITS: No TWA is established (ACGIH 1995-1996). Oxygen is the "vital element" in the atmosphere in which we live and breath (approximately 21 molar % of the atmosphere).

IRRITANCY OF PRODUCT: None

SENSITIZATION TO MATERIAL: None

CARCINOGENICITY, REPRODUCTIVE EFFECTS: None

TERATOGENICITY, MUTAGENICITY: None

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Leather gloves. Safety goggles or glasses. Safety shoes .

SPECIFIC ENGINEERING CONTROLS: Carbon steels and low alloy steels are acceptable for use at lower pressures. For high pressure applications use stainless steels, copper and its alloys, nickel and its alloys, brass, bronze, silicon alloys, Monel®, Inconel® or beryllium. Lead and silver or lead and tin alloys are good gasketing materials. Teflon and Kel-F® are the preferred nonmetal gaskets.

Special Note: It should be recognized that the ignition temperature of metals and nonmetals in pure oxygen service decreases with increasing oxygen pressure. For additional information refer to Liquid Air's Gas Encyclopedia.

LEAK AND SPILL PROCEDURES: EVACUATE ALL PERSONNEL FROM AFFECTED AREA.
Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

WASTE DISPOSAL: Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

HANDLING PROCEDURES AND EQUIPMENT: USE ONLY IN WELL-VENTILATED AREAS.
Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Close valve after each use and when empty.

STORAGE REQUIREMENTS: Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.

TDG CLASSIFICATION: 2.2 (5.1)

WHMIS CLASSIFICATION: A, C

SPECIAL SHIPPING INFORMATION: Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

FIRST AID MEASURES

SPECIFIC FIRST AID PROCEDURES: PROMPT MEDICAL ATTENTION IS

MANDATORY IN ALL CASES OF OVER EXPOSURE TO OXYGEN. RESCUE PERSONNEL SHOULD BE COGNIZANT OF EXTREME FIRE HAZARD ASSOCIATED WITH OXYGEN-RICH ATMOSPHERES.

INHALATION: Conscious persons should be assisted to an uncontaminated area and breathe fresh air. They should be kept warm and quiet. The physician should be informed that the victim is experiencing (has experienced) hyperoxia.

Unconscious persons should be moved to an uncontaminated area and given assisted respiration. When breathing has been restored, treatment should be as above. Continued treatment should be symptomatic and supportive.

EYE CONTACT: Not applicable

SKIN CONTACT: Not applicable

PREPARATION INFORMATION

PREPARED BY: Safety Department

DATE PREPARED: 09/01/1999

LAST REVISION DATE: 04/01/2008