

INTERNATIONAL_GASES_AND_CHEMICALS_LTD

MATERIAL SAFETY DATA SHEETS

DATE: 3/12/04

SUPPLIER ADDRESS: SPEEDWELL RD
PARKHOUSE EAST
NEWCASTLE-U-LYME

EMERGENCY PHONE: (178) 256-5556
NUMBER

1. CHEMICAL PRODUCT

PRODUCT NAME: OXYGEN

SYNONYMS: None

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS#	Concentration	Exposure Limits (PPM)			
				ACGIH TLV	OSHA PEL	MAC	Other STEL
OXYGEN	O2	7782-44-7	99+%	NE	NE	NE	NE

Note: NE = NONE ESTABLISHED

3. HAZARD IDENTIFICATION

*** EMERGENCY OVERVIEW ***
High pressure oxidizing gas.
Vigorously accelerates combustion.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation

ACUTE EFFECTS: Extended exposures to oxygen at higher pressures may be hazardous. A variety of central nervous system effects may result from breathing oxygen greater than 2 atm. Symptoms include dizziness, impaired coordination, visual and hearing disturbances and seizures. Can cause frostbite and burns to skin and eyes.

CHRONIC EFFECTS: Prolonged breathing of very cold atmospheres can cause lung damage. Prolonged exposure to cold areas can result in hypothermia.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US Only):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

Continued ...

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Remove victim from source of contact. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

SKIN CONTACT: Do not apply direct heat. Do not rub frozen area. Flush affected area with tepid water.

INGESTION: None

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

5. FIRE FIGHTING MEASURES

FLASH POINT: Nonflammable

AUTOIGNITION TEMPERATURE: N/Av

FLAMMABLE LIMITS: Nonflammable

LOWER:

UPPER:

EXTINGUISHING MEDIA: Use extinguish media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray. If possible, stop the product flow. Move container from fire area if possible.

HAZARDOUS COMBUSTION PRODUCTS: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cylinder rupture may occur under fire conditions. High oxidizing atmosphere increases the likelihood of fires. Oxygen vigorously supports combustion.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Shut off source if possible and remove source of heat.

SPECIALIZED EQUIPMENT: None

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders. Use only oxygen cleaned equipment. Avoid oils and greases. Oxygen reacts violently with hydrocarbons particularly at high pressure.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas away from combustibles. Keep valve protection cap on cylinders when not in use.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation.

PERSONAL PROTECTION

EYE/FACE PROTECTION: Safety glasses

SKIN PROTECTION: None

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Odorless

PHYSICAL STATE: Gas

VAPOR PRESSURE: N/Av

VAPOR DENSITY (AIR=1): @25 deg.C: 1.105

BOILING POINT (C): -183

SOLUBILITY IN WATER: 4.89 cm³/100 cm³

SPECIFIC GRAVITY (H₂O=1): Gas

EVAPORATION RATE: Gas

ODOR THRESHOLD: None

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10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Reacts violently with phosphine, hydrazine, ethers, alcohols, hydrogen sulfide, and hydrocarbons.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: None

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): None established

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/ap

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Non-returnable cylinders must not be refilled. Dispose of non-refillable cylinders in accordance with federal, state, and local regulations. Allow gas to discharge at a moderate rate. Return cylinders to supplier with any valve outlet plugs or caps secured and valve protection cap in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: Oxygen, compressed

HAZARD CLASS: 2.2 (nonflammable)

IDENTIFICATION NUMBER: UN1072

REPORTABLE QUANTITIES: None

LABELING: NONFLAMMABLE, OXIDIZING GAS

ADR/RID (EU Only): Class 2, 1o

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Materials are not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemicals.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: 231-956-9

NUMBER IN ANNEX 1 OF DIR 67/548: Not listed in annex 1.

EU CLASSIFICATION: N/Av

R: 8A

S: 9,17A

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS:

N/Ap - Not Applicable

N/Av - Not Available

SA - Simple Asphyxiant

NE - None Established

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