

Safety Data Sheet

Oxygen, refrigerated liquid

United States Cylinder Gas

11618 S Mayfield Ave, Alsip, Illinois, 60803

Emergency Phone: CHEMTREC 1-800-424-9300

www.uscylgas.com

Section 1: Product and Company Identification

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(708) 389-1402

Emergency Phone: CHEMTREC 1-800-424-9300

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Product Code: **Oxygen, refrigerated liquid**

Part Number: OXYVGL50

Synonyms: Liquid O2, Cryogenic Oxygen

Recommended Use: Industrial use. Medical applications. Use as directed.

Usage Restrictions:

Section 2: Hazards Identification



Danger

Hazard Classification:

Gases Under Pressure, H281

Oxidizing Gas (Category 1), H270

Hazard Statements:

H281: Contains refrigerated gas; may cause cryogenic burns or injury

H270: May cause or intensify fire; oxidizer

CGA-HG01: MAY CAUSE FROSTBITE.

Precautionary Statements

P202: Do not handle until all safety precautions have been read and understood.

P220: Store away from clothing and other combustible materials.

P244: Keep valves and fittings free from oil and grease.

P262: Do not get in eyes, on skin, or on clothing.

P271+P403: Use and store only outdoors or in a well-ventilated place.

P280: Wear protective gloves, protective clothing, eye protection, and/or face protection.

P282: Wear cold insulating gloves, and either face shield or eye protection.

P370+P376: In case of fire: Stop leak if safe to do so.

P403: Store in a well ventilated place.

CGA-PG05: Use a back flow preventive device in the piping.

CGA-PG06: Close valve after each use and when empty.

CGA-PG10+CGA-PG20: Use only with equipment of compatible materials of construction and rated for cylinder pressure.

CGA-PG12: Do not open valve until connected to equipment prepared for use.

CGA-PG21: Open valve slowly.
CGA-PG22: Use only equipment cleaned for oxygen service.
CGA-PG23: Always keep container in upright position.
CGA-PG24: DO NOT change or force fit connections.
CGA-PG27: Read and follow the Safety Data Sheet (SDS) before use.

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Oxygen	7782-44-7	100%

	Trade Names
Oxygen	O Oxygen Molecular oxygen oxygen molecule Dioxygen Pure oxygen

Section 4: First Aid Measures

IF ON SKIN: Get immediate medical advice/attention. Thaw frosted parts with lukewarm water. Do not rub affected area.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media:

Use suitable extinguishing material for surrounding fire.

Protection of Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

	Products of Combustion
Oxygen	Miscellaneous decomposition products

Section 6: Accidental Release Measures

Personal Precautions:

Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

Environmental Precautions:

Keep away from drains, surface and ground water. Avoid heat, flames, sparks and other sources of ignition.

Methods for Containment and Cleanup:

Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. If necessary, cover drains. Absorb large spills, dispose in appropriate containers.

Section 7: Handling and Storage

Handling:

See precautions in Section 2. Only trained personnel should handle this product. Always use approved personal protective equipment.

Storage:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Keep separated from incompatible substances.

	Incompatibilities	Conditions to avoid
Oxygen	Combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials, alkaline earth and alkali metals	Avoid contact with combustible materials. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines	Threshold Limit Value -TLV (ppm)
Oxygen	Not Available

Engineering Controls

No specific controls are needed.

Eye Protection	Wear splash resistant safety goggles.
Skin Protection	Wear chemical protective clothing, including gloves.
Respiratory Protection	Use self-contained breathing apparatus.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

	Physical State / Physical Form	Appearance / Color	Odor	Flash Point	Flammability	Partition Coefficient
Oxygen	Gas	Colorless	Odorless	Not flammable	False	0

	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits	Boiling Point	Freezing Point	Vapor Pressure
Oxygen	Nonflammable	Not Available	Not Available	-297 F (-183 C)	-360 F (-218 C)	Not Available

	Vapor Density	Specific Gravity	Water Solubility	pH	Evaporation Rate	Viscosity
Oxygen	1.1	Not applicable	3.2% @ 25 C	0	Not applicable	0.02075 cP @ 25 C

	Molecular Weight	Molecular Formula	Density	Volatility	Solvent Solubility
Oxygen	31.998	O2	Not Available	Not applicable	Soluble : Alcohol

Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
Oxygen	Stable at normal temperatures and pressure.	Avoid contact with combustible materials. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.	Combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials, alkaline earth and alkali metals

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Oxygen	Miscellaneous decomposition products	Will not polymerize.

Section 11: Toxicology Information

The toxicology information is calculated for the mixture.

Acute Toxicity Estimates (ATE) of the mixture.

Oral ATE (mg/kg)	Not Available
Inhalation ATE (ppm)	Not Available
Dermal ATE (mg/kg)	Not Available

Additional health hazards:

Skin Corrosion/Irritation	Not Available
Eye Damage/Irritation	Not Available
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Carcinogenicity	Not Available
Reproductive Toxicity	Not Available
STOT – single exposure	Not Available
STOT – repeated exposure	Not Available
Aspiration Hazard	Not Available

Section 12: Ecological Information

Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Oxygen	Fish toxicity: 0 Invertebrate toxicity: Algal toxicity: Phyto toxicity: Other toxicity:	Not available	Low bioaccumulation	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Do not dispose in sewers or waterways. Recycle if possible to do so. Return to manufacturer for disposal if needed.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Oxygen	Oxygen, Compressed	UN1072	Not available	Not available	Not available	Not available	Not available

Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
Oxygen	Oxygen, Compressed	UN1072	Not Available	Not Available

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
Oxygen	Not Regulated.	Not Regulated.	Not Regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
Oxygen	No	No	Yes	No	Yes

SARA 372.65

Oxygen	Not Regulated.
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OSHA Process Safety

Oxygen	Not regulated.
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State Regulations

	CA Proposition 65
Oxygen	Not regulated.

Canadian Regulations

	WHMIS Classification
Oxygen	A,C

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Oxygen	Oxygen	Not listed.	Listed on DSL.

Section 16: Other Information

	NFPA Rating
Oxygen	Health = 3, Flammability = 0, Instability = 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard