

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

OXYGEN, LIQUID

Synonyms

MTG MSDS 242; LIQUID OXYGEN; LOX; OXYGEN; OXYGEN, PRESSURIZED LIQUID; UN 1073; O2; OXYGEN (CRYOGENIC LIQUID)

Chemical Family inorganic,

Gas

Product Use

Industrial and Specialty Gas Applications

Restrictions on Use None known.

Details of the supplier of the safety data sheet

Lake Welding Supplies, Inc.

1415 W Ave A

Belle Glade, FL 33430

General Information: 561-996-6666

Emergency #: 1-800-633-8253 (PERS)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Oxidizing Gases - Category 1

Gases Under Pressure - Refrigerated liquefied gas

Specific Target Organ Toxicity - Single Exposure - Category 3

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

May cause or intensify fire; oxidizer.

Contains refrigerated gas; may cause cryogenic burns or injury.

May cause respiratory irritation.

Precautionary Statement(s)

Prevention

Keep valves and fittings free from oil and grease.

Keep/Store away from clothing/combustible materials.

Use only outdoors or in a well-ventilated area.

Wear cold insulating gloves/face shield/eye protection.

Avoid breathing dust/fume/gas/mist/vapors/spray.



Response

In case of fire: stop leak if safe to do so.
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
Thaw frosted parts with lukewarm water. Do not rub affected area.
Call a POISON CENTER or doctor if you feel unwell.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up. **Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

May cause frostbite upon sudden release of liquefied gas.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS		
CAS	Component Name	Percent
7782-44-7	OXYGEN, LIQUID	100.0

Section 4 - FIRST AID MEASURES

Inhalation

If adverse effects occur, remove to uncontaminated area. Get medical attention.

Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention. **Eyes**

Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media Suitable Extinguishing Media carbon dioxide, regular dry chemical,
Large fires: Use regular foam or flood with fine water spray. **Unsuitable Extinguishing Media**
None known.

Special Hazards Arising from the Chemical

Oxidizer. May ignite or explode on contact with combustible materials. Containers may rupture or explode if exposed to heat.

Hazardous Combustion Products

miscellaneous decomposition products. **Fire**

Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile).

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.



Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures Wear

personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Avoid contact with combustible materials. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Do not direct water at spill or source of leak. Keep unnecessary people away, isolate hazard area and deny entry. Isolate area until gas has dispersed. Ventilate closed spaces before entering.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin, or on clothing. Protect from physical damage. Damaged cylinders should be handled only by specialists. When not in use, keep containers tightly closed. Keep valves and fittings free from oil and grease. Keep/Store away from clothing/combustible materials. Wear cold insulating gloves/face shield/eye protection.

Conditions for Safe Storage, Including any Incompatibilities Store

in a well-ventilated place. Keep container tightly closed.

Store locked up.

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.104. Protect from physical damage. Keep separated from incompatible substances. Store in a cool, dry place. Store outside or in a detached building. **Incompatible Materials**

combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits. **ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)** There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. **Skin Protection**

Skin Protection

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

Respiratory Protection

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. **Glove Recommendations** Wear insulated gloves. **Protective Materials**

leather

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Not available	Physical State	gas
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Odor	odorless	Color	blue
Odor Threshold	Not available	pH	Not available
Melting Point	-218 °C (-360 °F)	Boiling Point	-183 °C (-297 °F)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not flammable
Autoignition Temperature	Not available	Flash Point	Not available
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	760 mmHg @ -183 °C
Vapor Density (air=1)	1.1	Specific Gravity (water=1)	1.1407 at -183 °C
Water Solubility	3.2 % (@ 25 °C)	Partition coefficient: n-octanol/water	Not available
Viscosity	0.156 cp	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	Not available
Physical Form	cryogenic liquid	Molecular Formula	O ₂
Molecular Weight	31.9988		

Solvent Solubility
Soluble alcohol

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions Will not polymerize. **Conditions to Avoid**

Avoid contact with combustible materials. Containers may rupture or explode if exposed to heat.

Incompatible Materials

combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials

Hazardous decomposition products miscellaneous decomposition products

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure



Inhalation irritation, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, Disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions, chest pain, lung damage

Skin Contact

blisters, frostbite

Eye Contact frostbite,

blurred vision

Ingestion

ingestion of harmful amounts is unlikely, frostbite

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Product Toxicity Data

Acute Toxicity Estimate No

data available. **Immediate**

Effects Frostbite.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data No data

available. **Respiratory Sensitization** No

data available. **Dermal Sensitization** No

data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity No

data available.

Tumorigenic Data

No data available

Reproductive Toxicity No

data available.

Specific Target Organ Toxicity - Single Exposure No

target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified. **Aspiration hazard** No

data available.

Medical Conditions Aggravated by Exposure No

data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

No data available.

Bioaccumulative Potential No

data available.

Mobility No data

available.



Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations. **Component**

Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: OXYGEN, REFRIGERATED LIQUID

Hazard Class: 2.2

UN/NA #: UN1073

Required Label(s): 2.2, 5.1

IMDG Information:

Shipping Name: OXYGEN, REFRIGERATED LIQUID

Hazard Class: 2.2

UN#: UN1073

Required Label(s): 2.2, 5.1

TDG Information:

Shipping Name: OXYGEN, REFRIGERATED LIQUID

Hazard Class: 2.2

UN#: UN1073

Required Label(s): 2.2

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Gas Under Pressure; Oxidizer; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
OXYGEN, LIQUID	7782-44-7	No	Yes	No	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Not listed under California Proposition 65.

Component Analysis - Inventory

OXYGEN, LIQUID (7782-44-7)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
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Yes	DSL	Yes	Yes	EIN	Yes	No	Yes	No
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KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 3 Fire: 0 Instability: 0 Other: OX

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

New SDS:01/19/2016 **Key**

/ Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne-Nonspecific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH-Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information Disclaimer:



Safety Data Sheet
Material Name: OXYGEN, LIQUID

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