

Safety Data Sheet

Material Name: OXYGEN, COMPRESSED GAS

SDS ID: MAT12831

*** Section 1 - PRODUCT AND COMPANY IDENTIFICATION ***

Material Name: OXYGEN, COMPRESSED GAS

Manufacturer Information

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

Chemical Family

inorganic, gas

Synonyms

MTG MSDS 71; OXYGEN; DIOXYGEN; MOLECULAR OXYGEN; OXYGEN MOLECULE; PURE OXYGEN; UN 1072; LOX; HYPEROXIA; O₂; RTECS: RS2060000

*** Section 2 - HAZARDS IDENTIFICATION ***

EMERGENCY OVERVIEW

Color: colorless

Physical Form: gas

Odor: odorless

Health Hazards: No significant target effects reported.

Physical Hazards: Containers may rupture or explode if exposed to heat. May ignite combustibles.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, chest pain, cough, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions

Long Term: irritation, cough, chest pain, lung damage

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Skin

Short Term: frostbite, blisters

Long Term: no information on significant adverse effects

Eye

Short Term: irritation, frostbite, blurred vision

Long Term: no information on significant adverse effects

Ingestion

Short Term: ingestion of a gas is unlikely

Long Term: ingestion of a gas is unlikely

*** Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS ***

| CAS | Component | Percent |
|-----------|------------------------|---------|
| 7782-44-7 | OXYGEN, COMPRESSED GAS | 100 |

*** 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.

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*** Section 5 - FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0

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

Flammable Properties

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

Extinguishing Media

carbon dioxide, regular dry chemical

Large fires: Use regular foam or flood with fine water spray.

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. Use extinguishing agents appropriate for surrounding fire. Cool containers with water. Apply water from a protected location or from a safe distance.

*** Section 6 - ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release

Stop leak if possible without personal risk. Avoid contact with combustible materials. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

*** Section 7 - HANDLING AND STORAGE ***

Storage Procedures

Store and handle in accordance with all current regulations and standards. Protect from physical damage. Avoid heat, flames, sparks and other sources of ignition. Store in a clean, cool, dry place. Store in a well-ventilated area. Store below 125 F. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

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*** Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ***

Component Analysis

ACGIH, OSHA and NIOSH have not developed exposure limits for any of this product's components.

Component Biological Limit Values

There are no biological limit values for any of this product's components.

Ventilation

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

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

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.

Protective Clothing

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

Glove Recommendations

Wear insulated gloves.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

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*** Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ***

| | | | |
|------------------------------------|-------------------------|--------------------------------|--------------------|
| Physical State: | Gas | Appearance: | Not available |
| Color: | colorless | Physical Form: | gas |
| Odor: | odorless | Odor Threshold: | Not available |
| Taste: | tasteless | Melting/Freezing Point: | -218.4 °C |
| Boiling Point: | -182.96 °C | Vapor Pressure: | 760 mmHg @ -183 °C |
| Vapor Density (air = 1): | 1.43 | Density: | 1.309 g/L @ 25 °C |
| Specific Gravity (water=1): | 1.14 @ -183 °C (liquid) | Water Solubility: | 3.2 % @ 25 °C |
| Viscosity: | 0.02075 cP @ 25 °C | Molecular Weight: | 31.9988 |
| Molecular Formula: | O ₂ | | |

Solvent Solubility

Soluble: alcohol

*** Section 10 - STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid contact with combustible materials. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

Materials to Avoid

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

Decomposition Products

miscellaneous decomposition products

Possibility of Hazardous Reactions

Will not polymerize.

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*** Section 11 - TOXICOLOGICAL INFORMATION ***

Component Analysis - LD50/LC50

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

Component Carcinogenicity

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

*** Section 12 - ECOLOGICAL INFORMATION ***

Component Analysis - Aquatic Toxicity

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

*** Section 13 - DISPOSAL CONSIDERATIONS ***

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

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, compressed

UN/NA #: UN1072 **Hazard Class:** 2.2

Required Label(s): 2.2, 5.1

TDG Information

Shipping Name: Oxygen, compressed

UN #: UN1072 **Hazard Class:** 2.2

Required Label(s): 2.2, (5.1)

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*** Section 15 - REGULATORY INFORMATION ***

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312

Acute Health: Yes **Chronic Health:** No **Fire:** Yes **Pressure:** Yes **Reactive:** No

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 | RI |
|------------------------|-----------|----|-----|----|-----|-----|-----|
| OXYGEN, COMPRESSED GAS | 7782-44-7 | No | Yes | No | Yes | Yes | Yes |

Not regulated under California Proposition 65

Component Analysis - Inventory

| Component | CAS | US | CA | EU | AU | PH | JP | KR | CN | NZ |
|------------------------|-----------|-----|-----|-----|-----|-----|----|-----|-----|-----|
| OXYGEN, COMPRESSED GAS | 7782-44-7 | Yes | DSL | EIN | Yes | Yes | No | Yes | Yes | Yes |

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*** Section 16 - OTHER INFORMATION ***

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; 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; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

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End of Sheet MAT12831