



Safety Data Sheet

Oxygen, Liquid

Allied Gases & Welding Supplies, Inc.
945 E. Curry Rd.
Tempe, AZ 85281
(480) 894-6000
alliedgases.com

Section 1: Product and Company Identification

Allied Gases & Welding Supplies, Inc.
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Product Code: Oxygen, Liquid
SDS Number: 9013

Section 2: Hazards Identification



Danger

Hazard Classification:

Gases Under Pressure
Oxidizing Gas (Category 1)

Hazard Statements:

Contains gas under pressure; may explode if heated
May cause or intensify fire; oxidizer

Precautionary Statements

Prevention:

Keep reduction valves/valves and fittings free from oil and grease.
Keep and store away from clothing and combustible materials.

Response:

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

Storage:

Protect from sunlight.
Store in well-ventilated place.

Section 3: Composition/Information on Ingredients

CAS #

7782-44-7

| Chemical Substance | Chemical Family | Trade Names |
|--------------------|-----------------|--|
| OXYGEN, LIQUID | inorganic, gas | LIQUID OXYGEN; LOX; OXYGEN; OXYGEN, PRESSURIZED LIQUID; UN 1073; O2; OXYGEN (CRYOGENIC LIQUID) |

Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
|--|---|------------------------|---|--------------------|
| Immediately flush with plenty of lukewarm water, or wrap affected area in blankets. Get immediate medical attention. | Flush eyes with plenty of water for at least 15 minutes. Get medical attention. | Get medical attention. | Remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention. | None |

Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters |
|---|----------------------------|---|
| Non-flammable. Use extinguishing agent appropriate for the material which is burning. Use water in large quantities for fires involving oxygen. | Oxides of burning material | <ul style="list-style-type: none">Respiratory protection may be needed for frequent or heavy exposure.None |

Section 6: Accidental Release Measures

| Personal Precautions | Environmental Precautions | Methods for Containment |
|--|---|--|
| Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. | Avoid contact with combustible materials. | Stop leak if possible without personal risk. |

| Methods for Cleanup | Other Information |
|-------------------------|-------------------|
| Stop leak and ventilate | None |

Section 7: Handling and Storage

| Handling | Storage |
|---|--|
| Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. | Keep separated from incompatible substances. |

Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines |
|--|
| OXYGEN, LIQUID: No occupational exposure limits established. |

Engineering Controls

Handle only in fully enclosed systems.

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| Eye Protection | Skin Protection | Respiratory Protection |
|---------------------------------------|--|--|
| Wear splash resistant safety goggles. | Wear appropriate protective, cold insulating clothing. | Respiratory protection may be needed for frequent or heavy exposure. |

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 | Appearance | Color | Change in Appearance | Physical Form | Odor | Taste |
|----------------|------------|-------|----------------------|---------------|----------|-----------|
| Gas | Clear | Blue | N/A | Gas | Odorless | Tasteless |

| Flash Point | Flammability | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|---------------|---------------|-----------------------|--------------------------|------------------------|------------------------|
| Not flammable | Not available | Not available | Nonflammable | Nonflammable | Nonflammable |

| Boiling Point | Freezing Point | Vapor Pressure | Vapor Density | Specific Gravity | Water Solubility | pH | Odor Threshold | Evaporation Rate | Viscosity |
|-----------------|-----------------|-------------------|---------------|------------------|------------------|----------------|----------------|------------------|-------------------|
| -297 F (-183 C) | -360 F (-218 C) | 760 mmHg @ -183 C | 1.1 (Air=1) | 1.1407 @ -183 C | 3.2% @ 25 C | Not applicable | Not available | Not applicable | 0.156 cP @ -173 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility |
|------------------|-------------------|------------------|-------------------|----------------------|----------------|--------------------|
| 31.9988 | O2 | 1.309 g/L @ 25 C | Not available | Not applicable | Not applicable | Soluble: Alcohol |

Section 10: Stability and Reactivity

| Stability | Conditions to Avoid | Incompatible Materials |
|---|---|---|
| Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | 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 |
|--------------------------------------|------------------------------------|
| Miscellaneous decomposition products | Will not polymerize. |

Section 11: Toxicology Information

Acute Effects

| Oral LD50 | Dermal LD50 | Inhalation |
|-----------------|-----------------|--|
| Not established | Not established | Irritation, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions |

| Eye Irritation | Skin Irritation | Sensitization |
|---------------------------|---------------------|---|
| Frostbite, blurred vision | Blisters, frostbite | No significant target effects reported. |

Chronic Effects

| Carcinogenicity | Mutagenicity | Reproductive Effects | Developmental Effects |
|-----------------|--------------|----------------------|-----------------------|
| Not known. | Available. | Available. | No data |

Section 12: Ecological Information

Fate and Transport

| Eco toxicity | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
|--------------|-----------------------------|--------------------------------|-------------------------|
|--------------|-----------------------------|--------------------------------|-------------------------|

| | | | |
|---|---------------|---------------------|---------------|
| Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available | Not available | Low bioaccumulation | Not available |
|---|---------------|---------------------|---------------|

Section 13: Disposal Considerations

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

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

| Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
|-----------------------------|-----------|--------------------------|---------------|-----------------------|--|--|---------------------------------|
| Oxygen, refrigerated liquid | UN1073 | 2.2 | Not available | 2.2; 5.1 | Forbidden | Forbidden | N/A |

Canadian Transportation of Dangerous Goods

| Shipping Name | UN Number | Class | Packing Group / Risk Group |
|-----------------------------|-----------|----------|----------------------------|
| Oxygen, refrigerated liquid | UN1073 | 2.2; 5.1 | Not applicable |

Section 15: Regulatory Information

U.S. Regulations

| CERCLA Sections | SARA 355.30 | SARA 355.40 |
|-----------------|----------------|----------------|
| Not regulated. | Not regulated. | Not regulated. |

SARA 370.21

| Acute | Chronic | Fire | Reactive | Sudden Release |
|-------|---------|------|----------|----------------|
| No | No | Yes | No | Yes |

SARA 372.65

Not regulated.

OSHA Process Safety

Not regulated.

State Regulations

CA Proposition 65

Not regulated.

Canadian Regulations

WHMIS Classification

Not determined.

National Inventory Status

| US Inventory (TSCA) | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
|----------------------|------------------------------|-----------------------------|
| Listed on inventory. | Not listed. | Not determined. |

Section 16: Other Information

| |
|------------------------------|
| NFPA Rating |
| HEALTH=3 FIRE=0 REACTIVITY=0 |

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