



# 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: 9014

### 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"><li>Respiratory protection may be needed for frequent or heavy exposure.</li><li>None</li></ul> |

## 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<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>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

|                              |
|------------------------------|
| <b>NFPA Rating</b>           |
| HEALTH=3 FIRE=0 REACTIVITY=0 |

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