

Safety Data Sheet Oxygen

Section 1: Product and Company Identification

Minneapolis Oxygen Company 3842 Washington Avenue North Minneapolis, MN 55412 612-588-8855

PERS 1-800-633-8253 CONTRACT #529

Product Code: Oxygen

Section 2: Hazards Identification



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, COMPRESSED GAS | Inorganic gases | OXYGEN; DIOXYGEN; MOLECULAR OXYGEN; OXYGEN MOLECULE; PURE OXYGEN; UN 1072; O2 |

Section 4: First Aid Measures

| Skin Contact | Eye Contact | Ingestion | Inhalation | Note to Physicians |
|-----------------|----------------|---------------------|--|-----------------------|
| None | None | Not likely route of | If adverse effects occur, remove to uncontaminated area. Give artificial | None |
| expected | expected | exposure | respiration if not breathing. Get immediate medical attention. | |

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 | Oxides of burning material | Respiratory protection may be needed for frequent or heavy exposure. |
| oxygen. | | None |

Section 6: Accidental Release Measures

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

| Methods for Cleanup | | | |
|-------------------------|------|--|--|
| 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: | Keep separated from incompatible |
| U.S. OSHA 29 CFR 1910.101. | substances. |

Section 8: Exposure Controls/Personal Protection

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

Engineering Controls

Handle only in fully enclosed systems.

| Trainale Grify in fairly chologed dystems. | | | | | | | |
|--|-----------------|------------------------|--|--|--|--|--|
| Eye Protection | Skin Protection | Respiratory Protection | | | | | |

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| Eye Protection | Skin Protection | Respiratory Protection | | |
|----------------------------------|----------------------------|--|--|--|
| Eye protection not required, but | Protective clothing is not | Respiratory protection may be needed for frequent or heavy | | |
| recommended. | required. | 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 | Colorless | 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 | рH | Odor Threshold | Evaporation Rate | Viscosity |
|------------------|-------------------|-------------------|------------------|---------------------|---------------------|------------|-------------------|------------------|-----------|
| -297 F | -360 F (- | 760 | 1.1 | Not | 3.2% @ | Not | Not | Not | 0.02075 |
| (-183 | 218 C) | mmHg @ | (Air=1) | applicable | 25 C | applicable | available | applicable | cP @ 25 |
| C) | | -183 C | | | | | | | С |

| 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 | Stable at normal | Combustible materials, halo carbons, metals, bases, reducing agents, amines, |
| temperatures and pressure. | temperatures and pressure. | 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 |
|---|---|---|
| No information on significant adverse effects | No information on significant adverse effects | 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 |
|--------------|-----------------------------|--------------------------------|-------------------------|

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| Fish toxicity: Not available | Not available | Low bioaccumulation | Not available | ı |
|--------------------------------------|---------------|---------------------|---------------|---|
| Invertibrate toxicity: Not available | | | | ı |
| Algal toxicity: Not available | | | | ı |
| Phyto toxicity: Not available | | | | ı |
| Other toxicity: Not available | | | | i |

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, compressed | UN1072 | 2.2 | Not available | 2.2; 5.1 | 75 kg or L | 150 kg | N/A |

Canadian Transportation of Dangerous Goods

| Shipping Name | UN Number | Class | Packing Group / Risk Group |
|--------------------|-----------|----------|----------------------------|
| Oxygen, compressed | UN1072 | 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 A,C

National Inventory Status

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

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Section 16: Other Information

NFPA Rating

HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=OX

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