



# Safety Data Sheet

Helium 78.5-99% / Oxygen 1-21.5%

In Case of Emergency: Chemtrec 800-424-9300

## Section 1: Product and Company Identification

### Gas and Supply

125 Thruway Park  
Broussard, LA 70518  
877-441-7311  
Fax: 337-839-8235  
www.gasandsupply.com

Product Code: Helium 78.5-99% / Oxygen 1-21.5%

### Synonyms:

**Recommended Use:** Synthetic/Analytical chemistry.

**Usage Restrictions:**

## Section 2: Hazards Identification



**Warning**

### Hazard Classification:

Gases Under Pressure

### Hazard Statements:

Contains gas under pressure; may explode if heated

### Precautionary Statements

### Storage:

Protect from sunlight.  
Store in well-ventilated place.

## Section 3: Composition/Information on Ingredients

|        | CAS #     | Concentration |
|--------|-----------|---------------|
| Helium | 7440-59-7 | 78.5-99%      |
| Oxygen | 7782-44-7 | 1-21.5%       |

|        | Chemical Substance     | Chemical Family | Trade Names                                                                   |
|--------|------------------------|-----------------|-------------------------------------------------------------------------------|
| Helium | HELIUM                 | Inorganic gases | HELIUM GAS; HELIUM COMPRESSED; HELIUM-4; ATOMIC HELIUM; UN 1046; He           |
| Oxygen | 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               |
|---------------|----------------------------------------|----------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Helium</b> | Wash exposed skin with soap and water. | Flush eyes with plenty of water. | If a large amount is swallowed, get medical attention. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention. | For inhalation, consider oxygen. |
| <b>Oxygen</b> | None expected                          | None expected                    | Not likely route of exposure                           | If adverse effects occur, 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                                                                                                           |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Helium</b> | Non-flammable. Use suitable extinguishing media for surrounding fire.                                                                           | Non-flammable              | <ul style="list-style-type: none"> <li>Non-flammable</li> <li>Non-flammable</li> </ul>                                               |
| <b>Oxygen</b> | 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                      |
|---------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------|
| <b>Helium</b> | Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.   | Avoid soil, waterways, drains and sewers  | Stop leak if possible without personal risk. |
| <b>Oxygen</b> | 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 |
|---------------|--------------------------------------------------------|-------------------|
| <b>Helium</b> | Stop leak, evacuate area. Contact emergency personnel. | None              |
| <b>Oxygen</b> | Stop leak and ventilate                                | None              |

## Section 7: Handling and Storage

|               | Handling                                                                                                                              | Storage                                      |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Helium</b> | 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. |
| <b>Oxygen</b> | 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                                                  |
|---------------|----------------------------------------------------------------------|
| <b>Helium</b> | HELIUM: ACGIH (simple asphyxiant)                                    |
| <b>Oxygen</b> | OXYGEN, COMPRESSED GAS: No occupational exposure limits established. |

### Engineering Controls

Handle only in fully enclosed systems or with adequate ventilation.

|               | Eye Protection                                | Skin Protection                      | Respiratory Protection                                               |
|---------------|-----------------------------------------------|--------------------------------------|----------------------------------------------------------------------|
| <b>Helium</b> | Eye protection not required, but recommended. | Protective clothing is not required. | Non-flammable                                                        |
| <b>Oxygen</b> | Eye protection not required, but recommended. | Protective clothing is not required. | 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     |
|--------|----------------|------------|-----------|----------------------|---------------|----------|-----------|
| Helium | Gas            | Colorless  | Colorless | N/A                  | Gas           | Odorless | Tasteless |
| Oxygen | Gas            | Clear      | Colorless | N/A                  | Gas           | Odorless | Tasteless |

|        | Flash Point   | Flammability  | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|--------|---------------|---------------|-----------------------|--------------------------|------------------------|------------------------|
| Helium | Not flammable | Not available | Not available         | Nonflammable             | Nonflammable           | Nonflammable           |
| Oxygen | 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           |
|--------|-----------------|--------------------------|--------------------|---------------|------------------|------------------|----------------|----------------|------------------|---------------------|
| Helium | -452 F (-269 C) | -458 F (-272 C) @ 26 atm | 1719 mmHg @ -268 C | 0.138 (Air=1) | Not applicable   | 0.94% @ 0 C      | Not applicable | Not available  | Not applicable   | 0.02012 cP @ 26.8 C |
| Oxygen | -297 F (-183 C) | -360 F (-218 C)          | 760 mmHg @ -183 C  | 1.1 (Air=1)   | Not applicable   | 3.2% @ 25 C      | Not applicable | Not available  | Not applicable   | 0.02075 cP @ 25 C   |

|        | Molecular Weight | Molecular Formula | Density          | Weight per Gallon | Volatility by Volume | Volatility     | Solvent Solubility       |
|--------|------------------|-------------------|------------------|-------------------|----------------------|----------------|--------------------------|
| Helium | 4.0026           | He                | 0.1785 g/L @ 0 C | Not available     | 100%                 | Not applicable | Insoluble: Not available |
| Oxygen | 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                                                                                                                          |
|--------|---------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Helium | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | No data available.                                                                                                                              |
| Oxygen | 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 |
|--------|--------------------------------------|------------------------------------|
| Helium | Miscellaneous decomposition products | Will not polymerize.               |
| Oxygen | Miscellaneous decomposition products | Will not polymerize.               |

## Section 11: Toxicology Information

### Acute Effects

|        | Oral LD50       | Dermal LD50     | Inhalation                                                                                                                                                                                                                   |
|--------|-----------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Helium | Not available   | Not available   | Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, disorientation, emotional disturbances, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma |
| Oxygen | 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        |
|--------|-----------------------------------|-------------------|----------------------|
| Helium | Liquid: frostbite, blurred vision | Liquid: frostbite | Difficulty breathing |

|        | Eye Irritation                                | Skin Irritation                               | Sensitization                           |
|--------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------|
| Oxygen | 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 |
|--------|-----------------|---------------|----------------------|-----------------------|
| Helium | Not available   | Not available | Not available        | No data               |
| Oxygen | Not known.      | Available.    | Available.           | No data               |

## Section 12: Ecological Information

### Fate and Transport

|        | Eco toxicity                                                                                                                                                            | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------|-------------------------|
| Helium | 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               | Not available                  | Not available           |
| Oxygen | 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

|        |                                                                                                                                               |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Helium | Dispose in accordance with all applicable regulations.                                                                                        |
| Oxygen | 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

#### DOT Information For This Mixture

|                    |                                         |
|--------------------|-----------------------------------------|
| Shipping Name      | Compressed gas, n.o.s. (Helium, Oxygen) |
| UN Number          | UN1956                                  |
| Hazard Class       | 2.2                                     |
| Hazard Information | Non-Flammable Gas                       |

### Individual Component Information

|        | 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 |
|--------|----------------------|-----------|--------------------------|----------------|-----------------------|----------------------------------------------------|------------------------------------------|---------------------------------|
| Helium | Helium, compressed   | UN1046    | 2.2                      | Not applicable | 2.2                   | 75 kg or L                                         | 150 kg                                   | N/A                             |
| Oxygen | 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 |
|--------|--------------------|-----------|----------|----------------------------|
| Helium | Helium, compressed | UN1046    | 2.2      | Not applicable             |
| Oxygen | Oxygen, compressed | UN1072    | 2.2; 5.1 | Not applicable             |

## Section 15: Regulatory Information

### U.S. Regulations

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

### SARA 370.21

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

### SARA 372.65

|        |                |
|--------|----------------|
| Helium | Not regulated. |
| Oxygen | Not regulated. |

### OSHA Process Safety

|        |                |
|--------|----------------|
| Helium | Not regulated. |
| Oxygen | Not regulated. |

### State Regulations

|        | CA Proposition 65 |
|--------|-------------------|
| Helium | Not regulated.    |
| Oxygen | Not regulated.    |

### Canadian Regulations

|        | WHMIS Classification |
|--------|----------------------|
| Helium | A                    |
| Oxygen | A,C                  |

### National Inventory Status

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

## Section 16: Other Information

|        | NFPA Rating                             |
|--------|-----------------------------------------|
| Helium | HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA |
| Oxygen | HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=OX |

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

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