SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Formula: Non-flammable, Non-oxidizing gas mixture containing one or more of the following components: Carbon Dioxide, Sulfur Hexafluoride, Nitrous Oxide, Nitrogen Trifluoride, Oxygen, Argon, Helium, Nitrogen.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Calibration / Reference Material
Use of the substance/mixture: Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

PortaGas (Praxair, Inc.)
1202 E Sam Houston Pkwy S
Pasadena, TX 77503 - USA
T +1 713-928-6477 - F +1 713-928-9961
www.praxair.com

1.4. Emergency telephone number

Emergency number: Onsite Emergencies: 1-800-645-4633
CHEMTREC: USA 1-800-424-9300, International 001-703-527-3887 (Collect calls accepted, contract 17729)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Compressed gas H280
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US): 

Signal word (GHS-US): WARNING
Hazard statements (GHS-US): H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
Precautionary statements (GHS-US): P403 - Use and store only outdoors or in a well-ventilated place.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).
CGA-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG10 - Use only with equipment rated for cylinder pressure.
CGA-PG21 - Open valve slowly.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles.
CGA-PG27 - Read and follow the Safety Data Sheet (SDS) before use.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture
**Name** | **Product identifier** | **%** | **Classification (GHS-US)**
---|---|---|---
Argon | (CAS No) 7440-37-1 | 0 - 99.9999 | Compressed gas, H280
Helium | (CAS No) 7440-59-7 | 0 - 99.9999 | Compressed gas, H280
Nitrogen | (CAS No) 7727-37-9 | 0 - 99.9999 | Compressed gas, H280
Carbon dioxide | (CAS No) 124-38-9 | 0 - 75 | Compressed gas, H280
Oxygen | (CAS No) 7782-44-7 | 0 - 20.9 | Ox. Gas 1, H270 Compressed gas, H280
Nitrous oxide | (CAS No) 10024-97-2 | 0 - 10 | Ox. Gas 1, H270 Liquefied gas, H280
Sulfur hexafluoride | (CAS No) 2551-62-4 | 0 - 5 | Liquefied gas, H280
Nitrogen trifluoride | (CAS No) 7783-54-2 | 0 - 2 | Liquefied gas, H280 Acute Tox. 4 (Inhalation:gas), H332

Full text of H-phrases: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**First-aid measures after inhalation**: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.

**First-aid measures after skin contact**: Adverse effects not expected from this product.

**First-aid measures after eye contact**: Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.

**First-aid measures after ingestion**: Ingestion is not considered a potential route of exposure.

#### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

#### 4.3. Indication of any immediate medical attention and special treatment needed

None.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

#### 5.2. Special hazards arising from the substance or mixture

**Reactivity**: No reactivity hazard other than the effects described in sub-sections below.

#### 5.3. Advice for firefighters

**Firefighting instructions**: Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

**Special protective equipment for fire fighters**: Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

**Emergency procedures**: Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

#### 6.3. Methods and material for containment and cleaning up

No additional information available

#### 6.4. Reference to other sections

See also sections 8 and 13.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Compound</th>
<th>ACGIH (ACGIH TLV-TWA (ppm))</th>
<th>OSHA (OSHA PEL (TWA) (mg/m³))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>5000 ppm</td>
<td></td>
</tr>
<tr>
<td>ACGIH TLV-STEL (ppm)</td>
<td>30000 ppm</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>9000 mg/m³</td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (TWA) (ppm)</td>
<td>5000 ppm</td>
<td></td>
</tr>
<tr>
<td>Sulfur hexafluoride (2551-62-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>6000 mg/m³</td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (TWA) (ppm)</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>Nitrous oxide (10024-97-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>50 ppm</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Argon (7440-37-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Appropriate engineering controls: Provide adequate general and local exhaust ventilation. Ensure exposure is below occupational exposure limits (where available).

Personal protective equipment: Gloves. Safety glasses.

Eye protection: Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.

Skin and body protection: Wear metatarsal shoes for container handling. Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.

Respiratory protection: When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA). Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

Thermal hazard protection: Wear cold insulating gloves when transferring or breaking transfer connections. Standard EN 511 - Cold insulating gloves.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Gas</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (ether=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>None.</td>
</tr>
</tbody>
</table>
PTG-4007
Safety Data Sheet

Vapor pressure : Not applicable.
Relative density : No data available
Relative vapor density at 20 °C : No data available
Solubility : Water: No data available
Log Pow : Not applicable.
Log Kow : Not applicable.
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : No data available
Viscosity, kinematic : Not applicable.
Viscosity, dynamic : Not applicable.

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
None.

10.4. Conditions to avoid
None.

10.5. Incompatible materials
None.

10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

**Nitrous oxide (10024-97-2)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>&gt; 250 ppm/4h</td>
</tr>
</tbody>
</table>

**Nitrogen trifluoride (7783-54-2)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>6700 ppm/1h</td>
</tr>
<tr>
<td>ATE US (gases)</td>
<td>3350,000 ppmV/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Not classified
pH: Not applicable.

Serious eye damage/irritation : Not classified
pH: Not applicable.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified
PTG-4007
Safety Data Sheet

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : No known ecological damage caused by this product.

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTG-4007</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Sulfur hexafluoride (2551-62-4)</td>
<td>Not applicable for inorganic gases.</td>
</tr>
<tr>
<td>Nitrous oxide (10024-97-2)</td>
<td>Not applicable for inorganic gases.</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Argon (7440-37-1)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Helium (7440-59-7)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Nitrogen trifluoride (7783-54-2)</td>
<td>Not applicable for inorganic gases.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTG-4007</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td>(no bioaccumulation)</td>
</tr>
<tr>
<td>Sulfur hexafluoride (2551-62-4)</td>
<td>1.68</td>
</tr>
<tr>
<td>Nitrous oxide (10024-97-2)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Argon (7440-37-1)</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
### Helium (7440-59-7)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>Not applicable for inorganic gases.</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

### Nitrogen (7727-37-9)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

### Nitrogen trifluoride (7783-54-2)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>Not applicable for inorganic gases.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Compound</th>
<th>Mobility in soil</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTG-4007</td>
<td>No data available.</td>
<td></td>
</tr>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur hexafluoride (2551-62-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
<tr>
<td>Nitrous oxide (10024-97-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argon (7440-37-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helium (7440-59-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen trifluoride (7783-54-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecology - soil</td>
<td></td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
</tbody>
</table>

#### 12.5. Other adverse effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on ozone layer</td>
<td>None.</td>
</tr>
<tr>
<td>Effect on the global warming</td>
<td>Contains fluorinated greenhouse gases covered by the Kyoto protocol. Calculated GWP of mixture : 1298.48 For quantities refer to cylinder label.</td>
</tr>
</tbody>
</table>

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations: Do not attempt to dispose of residual or unused quantities. Return container to supplier.

### SECTION 14: Transport information

**Department of Transportation (DOT)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport document description</td>
<td>UN1956 Compressed gas, n.o.s., 2.2</td>
</tr>
<tr>
<td>UN-No. (DOT)</td>
<td>UN1956</td>
</tr>
<tr>
<td>Proper Shipping Name (DOT)</td>
<td>Compressed gas, n.o.s.</td>
</tr>
</tbody>
</table>
PTG-4007
Safety Data Sheet

Transport hazard class(es) (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT) : 2.2 - Non-flammable gas

DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305
DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
DOT Symbols : G - Identifies proper shipping name (PSN) requiring the addition of technical name(s) in parentheses following the PSN.

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 172.101 HMT, Column 9a) : 75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 172.101 HMT, Column 9b) : 150 kg
DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Additional information
Emergency Response Guide (ERG) Number : 126
Other information : No supplementary information available.
Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver’s compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.

ADR
Transport document description : UN 1956 COMPRESSED GAS, N.O.S. (Helium, Nitrous oxide), 2.2, (E)
Class (ADR) : 2 - Gases
Hazard identification number (Kemler No.) : 20
Classification code (ADR) : 1A
Hazard Class Labels (ADR) : 2.2 - Non-flammable compressed gas

Orange plates : 20
1956

Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 120ml
Excepted quantities (ADR) : E1

Transport by sea
UN-No. (IMDG) : 1956
Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.
Class (IMDG) : 2.2 - Non-flammable, non-toxic gases
Limited quantities (IMDG) : 120ml
EmS-No. (1) : F-C
MFAG-No : 620
EmS-No. (2) : S-V
## Air transport
- **UN-No. (IATA)**: 1956
- **Proper Shipping Name (IATA)**: COMPRESSED GAS, N.O.S.
- **Class (IATA)**: 2
- **Instruction "cargo" (ICAO)**: 200
- **Instruction "passenger" (ICAO)**: 200
- **Instruction "passenger" - Limited quantities (ICAO)**: FORBIDDEN

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Chemical</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbon dioxide (124-38-9)</strong></td>
<td>Class A - Compressed Gas</td>
</tr>
<tr>
<td><strong>Sulfur hexafluoride (2551-62-4)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td><strong>Nitrous oxide (10024-97-2)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td><strong>Oxygen (7782-44-7)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td><strong>Argon (7440-37-1)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td><strong>Helium (7440-59-7)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td><strong>Nitrogen (7727-37-9)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td><strong>Nitrogen trifluoride (7783-54-2)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

### 15.2. International regulations

#### CANADA

<table>
<thead>
<tr>
<th>Chemical</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbon dioxide (124-38-9)</strong></td>
<td>Class A - Compressed Gas</td>
</tr>
<tr>
<td><strong>Sulfur hexafluoride (2551-62-4)</strong></td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td><strong>Nitrous oxide (10024-97-2)</strong></td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td><strong>Oxygen (7782-44-7)</strong></td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td><strong>Argon (7440-37-1)</strong></td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td><strong>Helium (7440-59-7)</strong></td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td><strong>Nitrogen (7727-37-9)</strong></td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
</tbody>
</table>
Nitrogen trifluoride (7783-54-2)
Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class A - Compressed Gas
Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects

EU-Regulations

Carbon dioxide (124-38-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Sulfur hexafluoride (2551-62-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitrous oxide (10024-97-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Oxygen (7782-44-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Argon (7440-37-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Helium (7440-59-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitrogen (7727-37-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitrogen trifluoride (7783-54-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ox. Gas 1 H270
Liquefied gas H280
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
No additional information available

National regulations

Carbon dioxide (124-38-9)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)

Sulfur hexafluoride (2551-62-4)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)

Nitrous oxide (10024-97-2)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Canadian IDL (Ingredient Disclosure List)
### Oxygen (7782-44-7)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### Argon (7440-37-1)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### Helium (7440-59-7)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### Nitrogen (7727-37-9)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### Nitrogen trifluoride (7783-54-2)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Japanese ISHL (Industrial Safety and Health Law)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on the Canadian IDL (Ingredient Disclosure List)

### 15.3. US State regulations

#### Nitrous oxide (10024-97-2)

<table>
<thead>
<tr>
<th>State</th>
<th>Prop 65 - Carcinogens</th>
<th>Prop 65 - Developmental Toxicity</th>
<th>Prop 65 - Reproductive Toxicity - Female</th>
<th>Prop 65 - Reproductive Toxicity - Male</th>
<th>NSRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>California - Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

#### Carbon dioxide (124-38-9)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

#### Sulfur hexafluoride (2551-62-4)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

#### Nitrous oxide (10024-97-2)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

#### Oxygen (7782-44-7)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List
### Argon (7440-37-1)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

### Helium (7440-59-7)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

### Nitrogen (7727-37-9)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

### Nitrogen trifluoride (7783-54-2)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

### SECTION 16: Other information

**Revision date**: 07/01/2015

**Other information**: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product. Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information. The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product. Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc., P.O. Box 44, Tonawanda, NY 14151-0044). PRAXAIR and the Flowing Airstream design are trademarks or registered trademarks of Praxair Technology, Inc. in the United States and/or other countries.

**Full text of H-phrases:**

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Inhalation:gas)</th>
<th>Acute toxicity (inhalation:gas) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressed gas</td>
<td>Gases under pressure Compressed gas</td>
</tr>
<tr>
<td>Liquefied gas</td>
<td>Gases under pressure Liquefied gas</td>
</tr>
<tr>
<td>Ox. Gas 1</td>
<td>Oxidizing gases Category 1</td>
</tr>
<tr>
<td>H270</td>
<td>MAY CAUSE OR INTENSIFY FIRE; OXIDIZER</td>
</tr>
<tr>
<td>H280</td>
<td>CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED</td>
</tr>
<tr>
<td>H332</td>
<td>HARMFUL IF INHALED</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.