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: Hydrogen Sulfide, Carbon Monoxide, Carbon Dioxide, Methane, Oxygen, Nitrogen.

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

Use of the substance/mixture : Calibration / Reference
Use of the substance/mixture : Industrial use

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
PTG-4001
Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>(CAS No) 7727-37-9</td>
<td>&lt;= 99.9999</td>
<td>Compressed gas, H280</td>
</tr>
<tr>
<td>Oxygen</td>
<td>(CAS No) 7782-44-7</td>
<td>0.0001 - 20.9</td>
<td>Ox, Gas 1, H270 Compressed gas, H280</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>(CAS No) 124-38-9</td>
<td>0.0001 - 8.5</td>
<td>Compressed gas, H280</td>
</tr>
<tr>
<td>Methane</td>
<td>(CAS No) 74-82-8</td>
<td>0.0001 - 3.5</td>
<td>Compressed gas, Aquatic Acute 3, H402</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>(CAS No) 7783-06-4</td>
<td>0.0001 - 1</td>
<td>Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 Aquatic Acute 1, H400</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>(CAS No) 630-08-0</td>
<td>0.0001 - 0.0999</td>
<td>Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331</td>
</tr>
</tbody>
</table>

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

Symptoms/injuries: Effects are due to lack of oxygen. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Prolonged exposure to low concentrations of carbon monoxide can kill. Inhalation.

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

Fire hazard: Not flammable.

Explosion hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

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.

Other information: Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.).
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

Technical measures: Comply with applicable regulations.

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></th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Hydrogen sulfide (7783-06-4)</th>
<th>OSHA</th>
<th>Carbon monoxide (630-08-0)</th>
<th>OSHA</th>
<th>Oxygen (7782-44-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTG-4001</td>
<td></td>
<td></td>
<td>ACGIH TLV-TWA (ppm)</td>
<td></td>
<td>ACGIH TLV-TWA (ppm)</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Not applicable</td>
<td></td>
<td>1 ppm</td>
<td></td>
<td>25 ppm</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH TLV-STEL (ppm)</td>
<td></td>
<td>55 mg/m³</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL (TWA) (ppm)</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
**PTG-4001**  
**Safety Data Sheet**  

### Nitrogen (7727-37-9)

<table>
<thead>
<tr>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### Carbon dioxide (124-38-9)

<table>
<thead>
<tr>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TLV-TWA (ppm) 5000 ppm</td>
</tr>
<tr>
<td>ACGIH</td>
<td>ACGIH TLV-STEL (ppm) 30000 ppm</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³) 9000 mg/m³</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (ppm) 5000 ppm</td>
</tr>
</tbody>
</table>

### Methane (74-82-8)

<table>
<thead>
<tr>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td>Not applicable</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**: Safety glasses. Gloves.

- **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 transfilling or breaking transfer connections.

#### 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>Rotten eggs</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>&gt; 3 ppm Hydrogen Sulfide</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>

07/01/2015 EN (English US) SDS ID: PTG-4001 4/12
**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**

**Likely routes of exposure**

- Inhalation

**Acute toxicity**

- Not classified

**PTG-4001**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>≈</td>
</tr>
<tr>
<td>Hydrogen sulfide (7783-06-4)</td>
<td></td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>0.99 mg/l (Exposure time: 1 h)</td>
</tr>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>356 ppm/4h</td>
</tr>
<tr>
<td>ATE US (gases)</td>
<td>356.000 ppm/4h</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>0.990 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>0.990 mg/l/4h</td>
</tr>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td></td>
</tr>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>3760 ppm/1h</td>
</tr>
<tr>
<td>ATE US (gases)</td>
<td>1880.000 ppm/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
**PTG-4001**  
**Safety Data Sheet**  

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Hydrogen sulfide (7783-06-4)**

- **LC50 fish 1**: 0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
- **LC50 fish 2**: 0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

#### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PTG-4001</strong></td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td><strong>Hydrogen sulfide (7783-06-4)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Oxygen (7782-44-7)</strong></td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td><strong>Nitrogen (7727-37-9)</strong></td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td><strong>Carbon dioxide (124-38-9)</strong></td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td><strong>Methane (74-82-8)</strong></td>
<td>The substance is biodegradable. Unlikely to persist.</td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PTG-4001</strong></td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td><strong>Hydrogen sulfide (7783-06-4)</strong></td>
<td>(no bioaccumulation expected)</td>
</tr>
<tr>
<td><strong>Oxygen (7782-44-7)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Nitrogen (7727-37-9)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Carbon dioxide (124-38-9)</strong></td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
Carbon dioxide (124-38-9)
Bioaccumulative potential: No ecological damage caused by this product.

Methane (74-82-8)
Log Pow: 1.09
Bioaccumulative potential: Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

PTG-4001

Mobility in soil: No data available.

Hydrogen sulfide (7783-06-4)
Mobility in soil: No data available.
Ecology - soil: Because of its high volatility, the product is unlikely to cause ground or water pollution.

Carbon monoxide (630-08-0)
Mobility in soil: No data available.

Oxygen (7782-44-7)
Mobility in soil: No data available.
Ecology - soil: No ecological damage caused by this product.

Nitrogen (7727-37-9)
Mobility in soil: No data available.
Ecology - soil: No ecological damage caused by this product.

Carbon dioxide (124-38-9)
Mobility in soil: No data available.
Ecology - soil: No ecological damage caused by this product.

Methane (74-82-8)
Ecology - soil: Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effect on ozone layer: None.
Effect on the global warming: Contains greenhouse gas(es) not covered by 842/2006/EC.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods: Do not attempt to dispose of residual or unused quantities. Return container to supplier.
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)
In accordance with DOT
Transport document description: UN1956 Compressed gas, n.o.s., 2.2
UN-No.(DOT): UN1956
Proper Shipping Name (DOT): Compressed gas, n.o.s.
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**: 75 kg
- **Cargo aircraft only**: 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. (Nitrogen, Hydrogen sulfide), 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
- **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 - 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
- **Civil Aeronautics Law**: Gases under pressure/Gases nonflammable nontoxic under pressure
**SECTION 15: Regulatory information**

### 15.1. US Federal regulations

**PTG-4001**
- Listed on the United States SARA Section 302
- Subject to reporting requirements of United States SARA Section 313
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Hydrogen sulfide (7783-06-4)**
- Listed on the United States TSCA (Toxic Substances Control Act) inventory
- Listed on the United States SARA Section 302
- Subject to reporting requirements of United States SARA Section 313

<table>
<thead>
<tr>
<th>SARA Section 302 Threshold Planning Quantity (TPQ)</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 313 - Emission Reporting</td>
<td>1.0 %</td>
</tr>
</tbody>
</table>

**Carbon monoxide (630-08-0)**
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Oxygen (7782-44-7)**
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Nitrogen (7727-37-9)**
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Carbon dioxide (124-38-9)**
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Methane (74-82-8)**
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

**PTG-4001**
- Listed on the Canadian DSL (Domestic Substances List)
- WHMIS Classification Class A - Compressed Gas

**Hydrogen sulfide (7783-06-4)**
- Listed on the Canadian DSL (Domestic Substances List)
- WHMIS Classification
  - Class A - Compressed Gas
  - Class B Division 1 - Flammable Gas
  - Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects
  - Class D Division 2 Subdivision B - Toxic material causing other toxic effects

**Carbon monoxide (630-08-0)**
- Listed on the Canadian DSL (Domestic Substances List)
- WHMIS Classification
  - Class A - Compressed Gas
  - Class B Division 1 - Flammable Gas
  - Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects
  - Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

**Oxygen (7782-44-7)**
- Listed on the Canadian DSL (Domestic Substances List)
- WHMIS Classification
  - Class A - Compressed Gas
  - Class C - Oxidizing Material

**Nitrogen (7727-37-9)**
- Listed on the Canadian DSL (Domestic Substances List)
- WHMIS Classification Class A - Compressed Gas

**Carbon dioxide (124-38-9)**
- Listed on the Canadian DSL (Domestic Substances List)
- WHMIS Classification Class A - Compressed Gas
Methane (74-82-8)
Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification
Class A - Compressed Gas
Class B Division 1 - Flammable Gas

EU-Regulations

**Hydrogen sulfide (7783-06-4)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**Carbon monoxide (630-08-0)**
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)

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

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

**Methane (74-82-8)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Class</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Gas</td>
<td>H220</td>
</tr>
<tr>
<td>Ox. Gas</td>
<td>H270</td>
</tr>
<tr>
<td>Compressed gas</td>
<td>H280</td>
</tr>
<tr>
<td>Acute Tox. 3</td>
<td>H331</td>
</tr>
</tbody>
</table>

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

**Hydrogen sulfide (7783-06-4)**
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)

**Carbon monoxide (630-08-0)**
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)

**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)

**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)
PTG-4001
Safety Data Sheet

### 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 NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on the Canadian IDL (Ingredient Disclosure List)

### Methane (74-82-8)
- 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)

### 15.3. US State regulations

#### PTG-4001

<table>
<thead>
<tr>
<th>Substance</th>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

#### Hydrogen sulfide (7783-06-4)

<table>
<thead>
<tr>
<th>Substance</th>
<th>U.S. - Massachusetts - Right To Know List</th>
<th>U.S. - New Jersey - Right to Know Hazardous Substance List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Oxygen (7782-44-7)

<table>
<thead>
<tr>
<th>Substance</th>
<th>U.S. - Massachusetts - Right To Know List</th>
<th>U.S. - New Jersey - Right to Know Hazardous Substance List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) List</th>
</tr>
</thead>
</table>

#### Nitrogen (7727-37-9)

<table>
<thead>
<tr>
<th>Substance</th>
<th>U.S. - Massachusetts - Right To Know List</th>
<th>U.S. - New Jersey - Right to Know Hazardous Substance List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) List</th>
</tr>
</thead>
</table>

#### Carbon dioxide (124-38-9)

<table>
<thead>
<tr>
<th>Substance</th>
<th>U.S. - Massachusetts - Right To Know List</th>
<th>U.S. - New Jersey - Right to Know Hazardous Substance List</th>
<th>U.S. - Pennsylvania - RTK (Right to Know) List</th>
</tr>
</thead>
</table>
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. 2 (Inhalation:gas)</th>
<th>Acute toxicity (inhalation:gas) Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3 (Inhalation:gas)</td>
<td>Acute toxicity (inhalation:gas) Category 3</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment - Acute Hazard Category 1</td>
</tr>
<tr>
<td>Aquatic Acute 3</td>
<td>Hazardous to the aquatic environment - Acute Hazard Category 3</td>
</tr>
<tr>
<td>Compressed gas</td>
<td>Gases under pressure Compressed gas</td>
</tr>
<tr>
<td>Flamm. Gas 1</td>
<td>Flammable gases Category 1</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>H220</td>
<td>EXTREMELY FLAMMABLE GAS</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>H330</td>
<td>FATAL IF INHALED</td>
</tr>
<tr>
<td>H331</td>
<td>TOXIC IF INHALED</td>
</tr>
<tr>
<td>H400</td>
<td>VERY TOXIC TO AQUATIC LIFE</td>
</tr>
<tr>
<td>H402</td>
<td>HARMFUL TO AQUATIC LIFE</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.