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

1.1. Product identifier

Product form: Mixture
Product name: Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance


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

Use of the substance/mixture: Test gas/Calibration gas.

1.3. Details of the supplier of the safety data sheet

U.S. Supplier: Industrial Scientific Corporation
1 Life Way
Pittsburgh, PA 15205-7500
Phone (412) 788-4353
TOLL-FREE 800-DETECTS
Fax (412) 788-8353

MANUFACTURER: CALGAZ
821 Chesapeake Drive
Cambridge, MD 21613

1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300
Internationally: 1-703-527-3887

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): GHS04
Signal word (GHS-US): Warning
Hazard statements (GHS-US): H280 - Contains gas under pressure; may explode if heated
Precautionary statements (GHS-US): P202 - Do not handle until all safety precautions have been read and understood
P271 - Use only outdoors or in a well-ventilated area
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P313 - Get medical advice/attention
P403 - Store in a well-ventilated place
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG06 - Close valve after each use and when empty
CGA-PG10 - Use only with equipment rated for cylinder pressure
CGA-PG14 - Approach suspected leak area with caution
CGA-PG21 - Open valve slowly
**Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%)** in Nitrogen Balance

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### 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

<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>73.885 - 99.9965</td>
<td>Compressed gas, H280</td>
</tr>
<tr>
<td>Oxygen</td>
<td>(CAS No) 7782-44-7</td>
<td>0.0015 - 23.5</td>
<td>Ox. Gas 1, H270</td>
</tr>
<tr>
<td>Methane</td>
<td>(CAS No) 74-82-8</td>
<td>0.0005 - 2.5</td>
<td>Flam. Gas 1, H220 Compressed gas, H280</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>(CAS No) 630-08-0</td>
<td>0.0005 - 0.09</td>
<td>Flam. Gas 1, H220 Acute Tox. 3 (Inhalation:gas), H331 Repr. 1A, H360 STOT RE 1, H372</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>(CAS No) 7783-06-4</td>
<td>0.001 - 0.025</td>
<td>Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 STOT SE 3, H335 Aquatic Acute 1, H400</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: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- First-aid measures after skin contact: Adverse effects not expected from this product.
- First-aid measures after eye contact: Adverse effects not expected from this product.
- 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 after inhalation: May displace oxygen and cause rapid suffocation. Adverse effects not expected from this product.
- Symptoms/injuries after skin contact: Adverse effects not expected from this product.
- Symptoms/injuries after eye contact: Adverse effects not expected from this product.
- Symptoms/injuries after ingestion: Ingestion is not considered a potential route of exposure.
- Chronic symptoms: Adverse effects not expected from this product.

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

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen. Obtain medical attention if breathing difficulty persists.

---

**SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

- Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media: Do not use water jet.

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

- Fire hazard: The product is not flammable.
- Explosion hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Product is not explosive.
- Reactivity: None known.
5.3. Advice for firefighters

Firefighting instructions: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters.

Specific methods: Exposure to fire may cause containers to rupture/explose. Continue water spray from protected position until container stays cool. Move containers away from the fire area if this can be done without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment: Wear protective equipment consistent with the site emergency plan.


6.1.2. For emergency responders

Protective equipment: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.

Emergency procedures: Evacuate and limit access. Ventilate area.

6.2. Environmental precautions

Try to stop release if safe to do so. Stop leak if safe to do so.

6.3. Methods and material for containment and cleaning up

For containment: Try to stop release if safe to do so. Stop leak if safe to do so.

Methods for cleaning up: Dispose of this material and its container in accordance with local regulations.

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Pressurized container: Do not pierce or burn, even after use. Use equipment rated for cylinder pressure.

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.

Safe handling of the gas receptacle: Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Safe use of the product: The substance must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Hygiene measures: Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations.

Storage conditions: Do not expose to temperatures exceeding 52°C (125°F). Keep container closed when not in use. Protect cylinder from physical damage. Store in well ventilated area. Store locked up.

Incompatible products: None known.

Incompatible materials: None known. Flammable materials.

Storage area: Store away from heat. Store in a well-ventilated place.

7.3. Specific end use(s)

See Section 1.2.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Compound</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Methane (74-82-8)</td>
<td>ACGIH TWA (ppm) 1000 ppm</td>
<td>OSHA Not applicable</td>
</tr>
<tr>
<td>Hydrogen sulfide (7783-06-4)</td>
<td>ACGIH TWA (ppm) 1 ppm</td>
<td>ACGIH STEL (ppm) 5 ppm</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td>ACGIH TWA (ppm) 25 ppm</td>
<td>OSHA OSHA PEL (TWA) (mg/m³) 55 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
- Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Consider work permit system e.g. for maintenance activities. Ensure exposure is below occupational exposure limits.

Hand protection:

Eye protection:

Skin and body protection:
- Wear suitable protective clothing, e.g. - lab coats, coveralls or flame resistant clothing.

Respiratory protection:
- None necessary during normal and routine operations. See Sections 5 & 6.

Thermal hazard protection:
- None necessary during normal and routine operations.

Environmental exposure controls:
- Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

Other information:

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>Appearance</td>
<td>Clear, colorless gas.</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable for gas-mixtures.</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>
</tbody>
</table>
Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance
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Relative evaporation rate (butyl acetate=1) : No data available
Relative evaporation rate (ether=1) : Not applicable for gas-mixtures.
Flammability (solid, gas) : See Sect. 2.1 & 2.2
Explosion limits : Not applicable - not flammable
Explosive properties : Not applicable - not flammable.
Oxidizing properties : Not combustible but enhances combustion of other substances. Supports combustion. None.
Vapor pressure : Not applicable.
Relative density : No data available
Relative vapor density at 20 °C : No data available
Molecular mass : Not applicable for gas-mixtures.
Relative gas density : Heavier than air.
Solubility : Water: Solubility in water of component(s) of the mixture:
  • : 20 mg/l   • : 26 mg/l   • : 3980 mg/l   • : 39 mg/l   • : Insoluble
Log Pow : Not applicable for gas-mixtures.
Log Kow : Not applicable for gas-mixtures.
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : Not applicable.
Viscosity, kinematic : Not applicable.
Viscosity, dynamic : Not applicable.

9.2. Other information
Additional information : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity
None known.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
None known. Can form explosive mixtures with flammable materials.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products
Under normal conditions of storage and use hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 inhalation rat (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>820000 ppm/4h</td>
</tr>
<tr>
<td>Methane (74-82-8)</td>
<td>820000 ppm/4h</td>
</tr>
<tr>
<td>Hydrogen sulfide (7783-06-4)</td>
<td>0.99 mg/l (Exposure time: 1 h)</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>356 ppm/4h</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>800000 ppm/4h</td>
</tr>
</tbody>
</table>
**Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance**

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<table>
<thead>
<tr>
<th>Carbon monoxide (630-08-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (ppm)</td>
</tr>
<tr>
<td>ATE US (gases)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>pH: Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
</tr>
<tr>
<td>pH: Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
</tr>
<tr>
<td>Carcinogenicity</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
</tr>
<tr>
<td>Aspiration hazard</td>
</tr>
<tr>
<td>Symptoms/injuries after inhalation</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
</tr>
<tr>
<td>Symptoms/injuries upon intravenous administration</td>
</tr>
<tr>
<td>Chronic symptoms</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

**12.1. Toxicity**

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

<table>
<thead>
<tr>
<th>Hydrogen sulfide (7783-06-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC50 fish 2</td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**

**Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance**

Persistence and degradability: No data available.

**Nitrogen (7727-37-9)**

Persistence and degradability: No ecological damage caused by this product.

**Methane (74-82-8)**

Persistence and degradability: The substance is biodegradable. Unlikely to persist. No data available.

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

Persistence and degradability: Not applicable for inorganic gases.

**Oxygen (7782-44-7)**

Persistence and degradability: No ecological damage caused by this product.

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


**12.3. Bioaccumulative potential**

**Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance**

Log Pow: Not applicable for gas-mixtures.
### Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Log Kow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>Not applicable for gas-mixtures.</td>
<td></td>
</tr>
<tr>
<td>Nitrogen</td>
<td>No data available.</td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>Not applicable for gas mixtures</td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>Not expected to bioaccumulate due to the low log Kow (log Kow &lt; 4). Refer to section 9.</td>
<td></td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Mobility in soil</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>No data available.</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>No ecological damage caused by this product.</td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>No data available.</td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
<td></td>
</tr>
</tbody>
</table>

### 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**: Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded.

- **Waste disposal recommendations**: Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at www.cganet.com for more guidance on suitable disposal methods.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

- **In accordance with DOT**: UN1956 Compressed gas, n.o.s., 2.2
Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance

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UN-No.(DOT) : UN1956
Proper Shipping Name (DOT) : Compressed gas, n.o.s.
Department of Transportation (DOT) Hazard Classes : 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 PSN requiring a technical name
DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 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

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., 2.2
Class (ADR) : 2 - Gases
Hazard labels (ADR) : 2.2 - Non-flammable compressed gas

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

Air transport
UN-No.(IATA) : 1956
Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

Nitrogen (7727-37-9)
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
Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance

Safety Data Sheet

Hydrogen sulfide (7783-06-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the United States SARA Section 302
Listed on United States SARA Section 313
SARA Section 302 Threshold Planning Quantity (TPQ) 500
SARA Section 313 - Emission Reporting 1.0 %

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

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

15.2. International regulations

**CANADA**

Nitrogen (7727-37-9)
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

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

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

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

**EU-Regulations**

Nitrogen (7727-37-9)
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)

Hydrogen sulfide (7783-06-4)
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)

Carbon monoxide (630-08-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**
Not classified

**Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]**
No additional information available
Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance

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<table>
<thead>
<tr>
<th>National regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nitrogen (7727-37-9)</strong></td>
</tr>
<tr>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
<tr>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td>Listed on the Korean ECL (Existing Chemicals List)</td>
</tr>
<tr>
<td>Listed on NZIoC (New Zealand Inventory of Chemicals)</td>
</tr>
<tr>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Methane (74-82-8)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
<tr>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td>Listed on the Japanese ENCS (Existing &amp; New Chemical Substances) inventory</td>
</tr>
<tr>
<td>Listed on the Korean ECL (Existing Chemicals List)</td>
</tr>
<tr>
<td>Listed on NZIoC (New Zealand Inventory of Chemicals)</td>
</tr>
<tr>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
</tr>
</tbody>
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<thead>
<tr>
<th><strong>Hydrogen sulfide (7783-06-4)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
<tr>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
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<th><strong>Oxygen (7782-44-7)</strong></th>
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<table>
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<tr>
<th>15.3. US State regulations</th>
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<tbody>
<tr>
<td><strong>Carbon monoxide (630-08-0)</strong></td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
</tr>
<tr>
<td>No</td>
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</table>

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<thead>
<tr>
<th><strong>Nitrogen (7727-37-9)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
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<tr>
<th><strong>Methane (74-82-8)</strong></th>
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<tbody>
<tr>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
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<tr>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
</table>
Oxygen (0.0015-23.5%), Methane (0.0005-2.5%), Carbon Monoxide (0.001-0.09%), Hydrogen Sulfide (0.001-0.025%) in Nitrogen Balance

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hydrogen sulfide (7783-06-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard 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

Carbon monoxide (630-08-0)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Indication of changes: Revised safety data sheet in accordance with OSHA final rule on GHS implementation promulgated March 26, 2012.

Revision date: 03/12/2015

Other information: This Safety Data Sheet is offered pursuant to OSHA’s Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases:

- Acute Tox. 2 (Inhalation:gas) Acute toxicity (inhalation:gas) Category 2
- Acute Tox. 3 (Inhalation:gas) Acute toxicity (inhalation:gas) Category 3
- Aquatic Acute 1 Hazardous to the aquatic environment - Acute Hazard Category 1
- Compressed gas Gases under pressure Compressed gas
- Flam. Gas 1 Flammable gases Category 1
- Liquefied gas Gases under pressure Liquefied gas
- Ox. Gas 1 Oxidizing gases Category 1
- Repr. 1A Reproductive toxicity Category 1A
- STOT RE 1 Specific target organ toxicity (repeated exposure) Category 1
- STOT SE 3 Specific target organ toxicity (single exposure) Category 3
- H220 Extremely flammable gas
- H270 May cause or intensify fire; oxidizer
- H280 Contains gas under pressure; may explode if heated
- H330 Fatal if inhaled
- H331 Toxic if inhaled
- H335 May cause respiratory irritation
- H360 May damage fertility or the unborn child
- H372 Causes damage to organs through prolonged or repeated exposure
- H400 Causes damage to skin from prolonged exposure

SDS US (GHS HazCom 2012)

This Safety Data Sheet is offered pursuant to OSHA’s Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this gas mixture. To the best of Calgaz’s knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.