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 50018

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

Date of issue: 03/12/2015          Revision date: 03/12/2015          Supersedes: 07/09/2014          Version: 1.1

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

Calgaz, division of Air Liquide
821 Chesapeake Drive
Cambridge, 21613 - USA
T 1-410-228-6400 - F 1-410-228-4251
info@Calgaz.com - www.Calgaz.com

1.4. Emergency telephone number

Emergency number : CHEMTRÉC: 1-800-424-6300
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)

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

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
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

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) 74-92-9</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), H350 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.
- Symptoms/injuries upon intravenous administration: Not known.
- 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>Substance</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>
</tbody>
</table>

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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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8.1. 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.

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.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state: Gas
Appearance: Clear, colorless gas.
Molecular mass: Not applicable for gas-mixtures.
Color: Colorless
Odor: Odorless
Odor threshold: No data available
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Relative evaporation rate (ether=1): No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): See Sec. 2.1 & 2.2
Vapor pressure: Not applicable.
Relative vapor density at 20 °C: No data available
Relative density: No data available

ACGIH | ACGIH TWA (ppm) | 1000 ppm
OSHA | Not applicable

ACGIH | ACGIH TWA (ppm) | 1 ppm
ACGIH | ACGIH STEL (ppm) | 5 ppm
OSHA | OSHA PEL (Ceiling) (ppm) | 20 ppm

ACGIH | ACGIH TWA (ppm) | 25 ppm
OSHA | OSHA PEL (TWA) (mg/m³) | 55 mg/m³
OSHA | OSHA PEL (TWA) (ppm) | 50 ppm

03/12/2015 EN (English US) SDS ID: 50518
**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>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative gas density</td>
<td>Heavier than air.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Solubility in water of component(s) of the mixture:</td>
</tr>
<tr>
<td></td>
<td>• 20 mg/l • 26 mg/l • 3980 mg/l • 39 mg/l • Insoluble</td>
</tr>
<tr>
<td>Log Pow</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable - not flammable.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not combustible but enhances combustion of other substances. Supports combustion. None.</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable - not flammable.</td>
</tr>
</tbody>
</table>

**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: Toxological information**

**11.1. Information on toxiological effects**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>LC50 inhalation rat (ppm) 820000 ppm/4h</td>
</tr>
<tr>
<td>Methane (74-82-8)</td>
<td>LC50 inhalation rat (ppm) 820000 ppm/4h</td>
</tr>
<tr>
<td>Hydrogen sulfide (7783-06-4)</td>
<td>LC50 inhalation rat (mg/l) 0.99 mg/l (Exposure time: 1 h)</td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (ppm) 356 ppm/4h</td>
</tr>
<tr>
<td></td>
<td>ATE US (gases) 100,000 ppm/4h</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>LC50 inhalation rat (ppm) 800000 ppm/4h</td>
</tr>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td>LC50 inhalation rat (ppm) 1880 ppm/4h</td>
</tr>
<tr>
<td></td>
<td>ATE US (gases) 1880.000 ppm/4h</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>pH: Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>pH: Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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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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Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified

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.

SECTION 12: Ecological information

12.1. Toxicity

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

Hydrogen sulfide (7783-06-4)

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

EC50 Daphnia 1: 0.022 mg/l (Exposure time: 96 h - Species: Gammarus pseudolimnaeus)

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

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 (603-08-0)


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.

Log Kow: Not applicable for gas-mixtures.

Bioaccumulative potential: No data available.

Nitrogen (7727-37-9)

Log Pow: Not applicable for inorganic gases.

Bioaccumulative potential: No ecological damage caused by this product.

Methane (74-82-8)

Log Pow: Not applicable for gas mixtures

Log Kow: Not applicable for gas mixtures

Bioaccumulative potential: Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.
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>Hydrogen sulfide (7783-06-4)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>(no bioaccumulation expected)</td>
</tr>
<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>

<table>
<thead>
<tr>
<th>Oxygen (7782-44-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>Not applicable for inorganic gases.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carbon monoxide (630-08-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>1.78</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not expected to bioaccumulate due to the low log Kow (log Kow &lt; 4). Refer to section 9.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>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</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methane (74-82-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydrogen sulfide (7783-06-4)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
<td>Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxygen (7782-44-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
<td>No ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carbon monoxide (630-08-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</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

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

In accordance with DOT
Transport document description : UN1956 Compressed gas, n.o.s. (Nitrogen, Oxygen), 2.2
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 Symbols : G - Identifies PSN requiring a technical name
DOT Packaging Non Bulk (49 CFR 173.xxx) : 302,305

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| DOT Packaging Bulk (49 CFR 173.xxx) | 314,315 |
| 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

**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

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#### 15.2. International regulations

**CANADA**

<table>
<thead>
<tr>
<th>Substance</th>
<th>WHMIS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td></td>
<td>WHMIS Classification Class A - Compressed Gas</td>
</tr>
<tr>
<td>Methane (74-82-8)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td></td>
<td>WHMIS Classification Class A - Compressed Gas Class B Division 1 - Flammable Gas</td>
</tr>
<tr>
<td>Hydrogen sulfide (7783-06-4)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td></td>
<td>WHMIS Classification Class A - Compressed Gas Class C - Oxidizing Material</td>
</tr>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
</tbody>
</table>

**EU-Regulations**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EINECS (European Inventory of Existing Commercial Chemical Substances)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Listed on the EEC Inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
<tr>
<td>Methane (74-82-8)</td>
<td>Listed on the EEC Inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
<tr>
<td>Hydrogen sulfide (7783-06-4)</td>
<td>Listed on the EEC Inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
<tr>
<td>Oxygen (7782-44-7)</td>
<td>Listed on the EEC Inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
<tr>
<td>Carbon monoxide (630-08-0)</td>
<td>Listed on the EEC Inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
</tbody>
</table>

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

Not classified

**Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]**

**15.2.2. National regulations**

<table>
<thead>
<tr>
<th>Substance</th>
<th>AICS (Australian Inventory of Chemical Substances)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
<tr>
<td></td>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td></td>
<td>Listed on the Korean ECL (Existing Chemicals List)</td>
</tr>
<tr>
<td></td>
<td>Listed on NZIoC (New Zealand Inventory of Chemicals)</td>
</tr>
<tr>
<td></td>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
</tr>
<tr>
<td>Methane (74-82-8)</td>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
<tr>
<td></td>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td></td>
<td>Listed on the Japanese ENCS (Existing &amp; New Chemical Substances) inventory</td>
</tr>
<tr>
<td></td>
<td>Listed on the Korean ECL (Existing Chemicals List)</td>
</tr>
<tr>
<td></td>
<td>Listed on NZIoC (New Zealand Inventory of Chemicals)</td>
</tr>
<tr>
<td></td>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</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)
- Listed on AICS (Australian Inventory of Chemical Substances)
- Listed on IECS (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on 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 Canadian IDL (Ingredient Disclosure List)

### Oxygen (7782-44-7)
- Listed on AICS (Australian Inventory of Chemical Substances)
- Listed on IECS (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### Carbon monoxide (630-08-0)
- Listed on AICS (Australian Inventory of Chemical Substances)
- Listed on IECS (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on 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 Canadian IDL (Ingredient Disclosure List)

### 15.3. US State regulations

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

<table>
<thead>
<tr>
<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 significance risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### 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

#### Methane (74-02-6)
- 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

#### 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.

03/12/2015
EN (English US) SDS ID: 50018
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

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:

<table>
<thead>
<tr>
<th>H-number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 2</td>
<td>Acute toxicity (inhalation:gas) Category 2</td>
</tr>
<tr>
<td>Acute Tox. 3</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>Compressed gas</td>
<td>Gases under pressure Compressed gas</td>
</tr>
<tr>
<td>Flam. 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>Repr. 1A</td>
<td>Reproductive toxicity Category 1A</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>Specific target organ toxicity (repeated exposure) Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</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>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
</tbody>
</table>

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 CalGas’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.