Chlorine (0.0001 % - 0.04%) in Nitrogen
Safety Data Sheet 50020 / P/N 3483
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 09/22/2014 Revision date: 08/19/2016 Supersedes: 09/22/2014 Version: 1.1

SECTION 1: Identification

1.1. Identification
Product form : Mixtures
Product name : Chlorine (0.0001 % - 0.04%) in Nitrogen
ISC Part No. : 1810-1758, 1810-2806, 1810-3697, 1810-5007, 1810-6955, 1810-7482, 1810-9082, 1810-9115, 1810-9585

1.2. Recommended use and restrictions on use
Use of the substance/mixture : Test gas/ Calibration gas.

1.3. Supplier
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: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
Gases under pressure H280 Contains gas under pressure; may explode if heated
Compressed gas
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements
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) : P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification : Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
**Chlorine (0.0001 % - 0.04%) in Nitrogen**

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<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>(CAS:No.) 7727-57-9</td>
<td>99.96 - 99.999</td>
<td>Press. Gas (Comp.), H280</td>
</tr>
<tr>
<td>Chlorine</td>
<td>(CAS:No.) 7782-50-5</td>
<td>0.0001 - 0.04</td>
<td>Ox. Gas 1, H270, Press. Gas (Liq.), H280, Acute-Tox. 2 (Inhalation gas), H330, Skin Corr. 1A, H314, Eye Dam. 1, H318, STOT SE 3, H335, Aquatic Acute 1, H400</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : 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. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

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 (acute and delayed)

Symptoms/effects after inhalation: May displace oxygen and cause rapid suffocation.

Symptoms/effects after skin contact: Adverse effects not expected from this product.

Symptoms/effects after eye contact: Adverse effects not expected from this product.

Symptoms/effects after ingestion: Ingestion is not considered a potential route of exposure.

Symptoms/effects upon intravenous administration: Not known.

Most important symptoms and effects, both acute and delayed: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Refer to section 11.

Chronic symptoms: Adverse effects not expected from this product.

4.3. Immediate medical attention and special treatment, if necessary

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

**SECTION 5: Fire-fighting measures**

5.1. Suitable (and unsuitable) extinguishing media

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

Unsuitable extinguishing media: Do not use water jet to extinguish.

5.2. Specific hazards arising from the chemical

Fire hazard: The product is not flammable.

Explosion hazard: Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: None known.

Hazardous combustion products: None.

5.3. Special protective equipment and precautions for fire-fighters

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

Special protective equipment for fire fighters: In confined space use self-contained breathing apparatus. Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Standard EN 469 - Protective clothing for fire fighters. Standard - EN 659: Protective gloves for firefighters.
Specific methods: Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Exposure to fire may cause containers to rupture/explode. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. 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: Try to stop release. Evacuate area. Monitor concentration of released product. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. 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 without risk. Try to stop release.

6.3. Methods and material for containment and cleaning up

For containment: Try to stop release if without risk.

Methods for cleaning up: Dispose of contents/container in accordance with local/regional/national/international regulations.

Methods and material for containment and cleaning up: Ventilate area.

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 only with equipment rated for cylinder pressure. Close valve after each use and when empty.

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. Refer to supplier’s container handling instructions. Do not allow backfeed into the container. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should be stored in the vertical position and properly secured to prevent them from falling over.

Safe use of the product: The product 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 smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Hygiene measures: Do not eat, drink or smoke when using this product.
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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 cylinders from physical damage; do not drag, roll, slide or drop. Store in well-ventilated area.

Incompatible products:
None known.

Incompatible materials:
None known.

Conditions for safe storage, including any incompatibilities:
Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Nitrogen (7727-37-9)</th>
<th>Chlorine (7782-50-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (ppm)</td>
</tr>
<tr>
<td>Local name Nitrogen</td>
<td>0.1 ppm</td>
</tr>
<tr>
<td>ACGIH Remark (ACGIH)</td>
<td>ACGIH STEL (ppm)</td>
</tr>
<tr>
<td>Simple Asphyxiant</td>
<td>0.4 ppm</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (Ceiling) (mg/m³)</td>
</tr>
<tr>
<td>OSHA PEL (Ceiling) (ppm)</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>OSHA PEL (Ceiling) (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>IDLH</td>
<td>US IDLH (ppm)</td>
</tr>
<tr>
<td>NIOSH REL (ceiling) (mg/m³)</td>
<td>1.45 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (ceiling) (ppm)</td>
</tr>
<tr>
<td></td>
<td>0.5 ppm</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls:
Ensure exposure is below occupational exposure limits (where available). Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider the use of a work permit system e.g. for maintenance activities. Ensure exposure is below occupational exposure limits (where available).

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

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Eye protection:

Skin and body protection:
Wear suitable protective clothing, e.g. lab coats, overalls 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.

**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>irritating/pungent odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Odor threshold is subjective and inadequate to warn for overexposure</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable for gas-mixtures.</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 for gas-mixtures.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>See Section 2.1 and 2.2</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative gas density</td>
<td>Lighter or similar to air</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable for gas-mixtures.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable (non-flammable gas).</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>None.</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

**Additional information**: None.

### 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.

#### 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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute toxicity (oral)</th>
<th>Acute toxicity (dermal)</th>
<th>Acute toxicity (inhalation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Not classified</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Chlorine (7782-50-5)</td>
<td>Not classified</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

#### Nitrogen (7727-37-9)
- **LC₅₀ inhalation rat (ppm):** 820000 ppm/4h
- **ATE US (gases):** 820000 ppmV/4h

#### Chlorine (7782-50-5)
- **LD₅₀ oral rat:** 6800 mg/kg
- **LC₅₀ inhalation rat (ppm):** 146.5 ppm/4h
- **ATE US (oral):** 6800 mg/kg body weight
- **ATE US (gases):** 146.5 ppmV/4h

#### Skin corrosion/irritation
- Not classified
- pH: Not applicable for gas-mixtures.

#### Serious eye damage/irritation
- Not classified
- pH: Not applicable for gas-mixtures.

#### Respiratory or skin sensitization
- Not classified

#### Germ cell mutagenicity
- Not classified

#### Carcinogenicity
- Not classified

#### Reproductive toxicity
- Not classified

#### Specific target organ toxicity – single exposure
- Chlorine (7782-50-5): May cause respiratory irritation.
- Specific target organ toxicity – repeated exposure: Not classified

#### Aspiration hazard
- Not classified

#### Viscosity, kinematic
- No data available

#### Symptoms/effects after inhalation
- May displace oxygen and cause rapid suffocation.

#### Symptoms/effects after skin contact
- Adverse effects not expected from this product.

#### Symptoms/effects after eye contact
- Adverse effects not expected from this product.

#### Symptoms/effects after ingestion
- Ingestion is not considered a potential route of exposure.

#### Symptoms/effects upon intravenous administration
- Not known.

#### Most important symptoms and effects, both acute and delayed
- In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Refer to section 11.

#### Chronic symptoms
- Adverse effects not expected from this product.

### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Classification criteria are not met.</td>
</tr>
<tr>
<td>Chlorine (7782-50-5)</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

#### Chlorine (7782-50-5)
- **Specific target organ toxicity – single exposure:** May cause respiratory irritation.
- **Specific target organ toxicity – repeated exposure:** Not classified
- **Aspiration hazard:** Not classified
- **Viscosity, kinematic:** No data available
- **Symptoms/effects after inhalation:** May displace oxygen and cause rapid suffocation.
- **Symptoms/effects after skin contact:** Adverse effects not expected from this product.
- **Symptoms/effects after eye contact:** Adverse effects not expected from this product.
- **Symptoms/effects after ingestion:** Ingestion is not considered a potential route of exposure.
- **Symptoms/effects upon intravenous administration:** Not known.

#### Most important symptoms and effects, both acute and delayed
- In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Refer to section 11.

#### Chronic symptoms
- Adverse effects not expected from this product.
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (0.0001 % - 0.04%) in Nitrogen</td>
<td>No data available.</td>
</tr>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Chlorine (7782-50-5)</td>
<td>Not applicable for inorganic products</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (0.0001 % - 0.04%) in Nitrogen</td>
<td>Log Pow: Not applicable for gas-mixtures. Log Kow: Not applicable for gas-mixtures. Bioaccumulative potential: No data available.</td>
</tr>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>Log Pow: Not applicable for inorganic products. Bioaccumulative potential: No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Chlorine (7782-50-5)</td>
<td>BCF fish 1: (no bioaccumulation expected) Log Pow: Not applicable for inorganic products. Bioaccumulative potential: No data available.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substance</th>
<th>Mobility in soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (0.0001 % - 0.04%) in Nitrogen</td>
<td>No data available</td>
</tr>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>No ecological damage caused by this product.</td>
</tr>
<tr>
<td>Chlorine (7782-50-5)</td>
<td>Ecology - soil: Because of its high volatility, the product is unlikely to cause ground or water pollution.</td>
</tr>
</tbody>
</table>

### 12.5. Other adverse effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on ozone layer</td>
<td>No known effects from this product.</td>
</tr>
<tr>
<td>Effect on global warming</td>
<td>No known effects from this product.</td>
</tr>
</tbody>
</table>

### Chlorine (7782-50-5)

1990 Hazardous Air Pollutant (Clean Air Act) Yes

### SECTION 13: Disposal considerations

#### 13.1. Disposal 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. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at http://www.eiga.org for more guidance on suitable disposal methods.

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

- **Additional information**: None.

- **List of hazardous wastes**: 16 05 05 : Gases in pressure containers other than those mentioned in 16 05 04.

### SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

- **Transport document description**: UN1956 Compressed gas, n.o.s. (Nitrogen, Chlorine), 2.2
- **UN-No. (DOT)**: UN1956
- **Proper Shipping Name (DOT)**: Compressed gas, n.o.s.
**Chlorine (0.0001 % - 0.04%) in Nitrogen**

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| Class (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 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. |
| 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. |

**Transportation of Dangerous Goods**

| Transport document description | UN1956 Compressed gas, n.o.s., 2.2 |
| UN-No. (TDG) | UN1956 |
| Proper Shipping Name | Compressed gas, n.o.s. |
| TDG Primary Hazard Classes | 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas. |
TDG Special Provisions : 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (DANGEROUS GOODS SAFETY MARKS). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a)UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; (b)UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; (c)UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; (d)UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or (e)UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the ‘Food and Drugs Act’. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a)UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b)UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS. SOR/2014-306,148 - (1) Part 5 (Means of Containment) does not apply to radiation detectors that contain these dangerous goods in non-refillable pressure receptacles if (a)the working pressure in each receptacle is less than 5 000 KPa; (b)the capacity of each receptacle is less than 12 L; (c)each receptacle has a minimum burst pressure of (i)at least 3 times the working pressure, when the receptacle is fitted with a relief device, or (ii)at least 4 times the working pressure, when the receptacle is not fitted with a relief device; (d)each receptacle is manufactured from material that will not fragment upon rupture; (e)each detector is manufactured under a quality assurance program; ISO 9001:2008 is an example of a quality assurance program. (f)the detectors are transported in strong outer means of containment; and (g) a detector in its outer means of containment is capable of withstanding a 1.2 m drop test without breakage of the detector or rupture of the outer means of containment. (2) Part 5 (Means of Containment) does not apply to radiation detectors that contain these dangerous goods in non-refillable pressure receptacles and that are included in equipment, if (a)the conditions set out in paragraphs (1)(a) to (e) are met; and (b)the equipment is contained in a strong outer means of containment or the equipment affords the detectors with protection that is equivalent to that provided by a strong outer means of containment. (3) These Regulations, except for Part 1 (coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to radiation detectors that contain these dangerous goods in non-refillable pressure receptacles, including detectors in radiation detection systems, if the detectors meet the requirements of subsection (1) or (2), as applicable, and the capacity of the receptacles that contain the detectors is less than 50 mL. SOR/2014-306

Explosive Limit and Limited Quantity Index : 0.125 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 75 L

Transport by sea

Transport document description (IMDG) : UN 1956 COMPRESSED GAS, N.O.S., 2.2
UN-No. (IMDG) : 1956
Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.
Class (IMDG) : 2.2 - Non-flammable, non-toxic gases
Limited quantities (IMDG) : 120 ml

Air transport

Transport document description (IATA) : UN 1956 COMPRESSED GAS, N.O.S., 2.2
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
**Chlorine (0.0001 % - 0.04%) in Nitrogen**

Safety Data Sheet

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

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (7727-37-9)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td>Chlorine (7782-50-5)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
</tbody>
</table>

**15.2. International regulations**

**CANADA**

- **Nitrogen (7727-37-9)**
  - Listed on the Canadian DSL (Domestic Substances List)

- **Chlorine (7782-50-5)**
  - Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

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

- **Chlorine (7782-50-5)**
  - Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**National regulations**

- **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)
  - Listed on INSDQ (Mexican National Inventory of Chemical Substances)
  - Listed on the TCSI (Taiwan Chemical Substance Inventory)

- **Chlorine (7782-50-5)**
  - 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)
  - Japanese Poisonous and Deleterious Substances Control Law
  - Listed on INSDQ (Mexican National Inventory of Chemical Substances)
  - Listed on CICR (Turkish Inventory and Control of Chemicals)
  - Listed on the TCSI (Taiwan Chemical Substance Inventory)

**15.3. US State regulations**

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</table>

**SECTION 16: Other information**

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

- Revision date : 08/19/2016
- Training advice : Receptacle under pressure.
Chlorine (0.0001 % - 0.04%) in Nitrogen
Safety Data Sheet

Other information: This Safety Data Sheet has been established in accordance with the applicable European Union legislation. Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H270</th>
<th>May cause or intensify fire; oxidizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>H280</td>
<td>Contains gas under pressure; may explode if heated</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</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 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.