SAFETY DATA SHEET

Oxidizing Gas Mixture: Carbon Dioxide / Desflurane / Nitrous Oxide / Oxygen

Section 1. Identification

<table>
<thead>
<tr>
<th>GHS product identifier</th>
<th>Oxidizing Gas Mixture: Carbon Dioxide / Desflurane / Nitrous Oxide / Oxygen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means of identification</td>
<td>Not available.</td>
</tr>
<tr>
<td>Product type</td>
<td>Gas</td>
</tr>
<tr>
<td>Product use</td>
<td>Synthetic/Analytical chemistry.</td>
</tr>
<tr>
<td>SDS #</td>
<td>006414</td>
</tr>
<tr>
<td>Supplier's details</td>
<td>Airgas USA, LLC and its affiliates</td>
</tr>
<tr>
<td></td>
<td>259 North Radnor-Chester Road</td>
</tr>
<tr>
<td></td>
<td>Suite 100</td>
</tr>
<tr>
<td></td>
<td>Radnor, PA 19087-5283</td>
</tr>
<tr>
<td></td>
<td>1-610-687-5253</td>
</tr>
<tr>
<td>24-hour telephone</td>
<td>1-866-734-3438</td>
</tr>
</tbody>
</table>

Section 2. Hazards identification

<table>
<thead>
<tr>
<th>OSHA/HCS status</th>
<th>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification of the substance or mixture</td>
<td>OXIDIZING GASES - Category 1</td>
</tr>
<tr>
<td></td>
<td>GASES UNDER PRESSURE - Compressed gas</td>
</tr>
<tr>
<td></td>
<td>SKIN IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td>RESPIRATORY SENSITIZATION - Category 1</td>
</tr>
<tr>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3</td>
</tr>
</tbody>
</table>

GHS label elements

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Pictogram" /></td>
</tr>
</tbody>
</table>

Signal word: Danger

Hazard statements:

- May cause or intensify fire; oxidizer.
- Contains gas under pressure; may explode if heated.
- Causes skin irritation.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause drowsiness or dizziness.
- May increase respiration and heart rate.

Precautionary statements

General:

- Read and follow all Safety Data Sheets (SDS’S) before use. Read label before use.
- Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Open valve slowly. Use only with equipment cleaned for Oxygen service.

Prevention:

- Wear protective gloves. Wear respiratory protection. Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves, valves and fittings free from oil and grease. Use only outdoors or in a well-ventilated area. Avoid breathing gas. Wash hands thoroughly after handling.

Date of issue/Date of revision: 8/6/2019
Date of previous issue: 8/16/2016
Version: 0.02

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Section 2. Hazards identification

**Response**
In case of fire: Stop leak if safe to do so. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention.

**Storage**
Store locked up. Protect from sunlight. Store in a well-ventilated place.

**Disposal**
Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified**
None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Other means of identification</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td>Not available.</td>
<td>006414</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>oxygen</td>
<td>23.5 - 99</td>
<td>7782-44-7</td>
</tr>
<tr>
<td>nitrous oxide</td>
<td>0.0001 - 76.5</td>
<td>10024-97-2</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>2 - 20</td>
<td>124-38-9</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact**
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

**Skin contact**
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**
As this product is a gas, refer to the inhalation section.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

**Eye contact**
Contact with rapidly expanding gas may cause burns or frostbite.

**Inhalation**
Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Date of issue/Date of revision: 8/6/2019
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Section 4. First aid measures

Skin contact: Causes skin irritation. Contact with rapidly expanding gas may cause burns or frostbite.
Frostbite: Try to warm up the frozen tissues and seek medical attention.
Ingestion: Can cause central nervous system (CNS) depression. As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms
Eye contact: Adverse symptoms may include the following:, pain or irritation, watering, redness
Inhalation: Adverse symptoms may include the following:, wheezing and breathing difficulties, asthma, nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness
Skin contact: Adverse symptoms may include the following:, irritation, redness
Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary
Notes to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments: No specific treatment.
Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media
Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical
Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds.

Hazardous thermal decomposition products
Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds.

Special protective actions for fire-fighters
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk.

Special protective equipment for fire-fighters
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Section 6. Accidental release measures

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions: Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill: Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill: Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Contain gas under pressure. Do not get in eyes or on skin or clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Empty containers retain product residue and can be hazardous. Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves free from grease and oil.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe handling, including any incompatibilities: Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Store locked up. Separate from reducing agents and combustible materials. Store away from grease and oil. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>oxygen</td>
<td>None.</td>
</tr>
<tr>
<td>nitrous oxide</td>
<td>ACGIH TLV (United States, 3/2017). TWA: 90 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2016). TWA: 46 mg/m³ 10 hours. TWA: 25 ppm 10 hours.</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant]. STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes.</td>
</tr>
</tbody>
</table>
Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Oxidizing Gas Mixture: Carbon Dioxide / Desflurane / Nitrous Oxide / Oxygen</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA: 9000 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>TWA: 5000 ppm 8 hours.</td>
</tr>
<tr>
<td><strong>NIOSH REL (United States, 10/2016).</strong></td>
</tr>
<tr>
<td>STEL: 54000 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td>STEL: 30000 ppm 15 minutes.</td>
</tr>
<tr>
<td>TWA: 9000 mg/m³ 10 hours.</td>
</tr>
<tr>
<td>TWA: 5000 ppm 10 hours.</td>
</tr>
<tr>
<td><strong>OSHA PEL (United States, 6/2016).</strong></td>
</tr>
<tr>
<td>TWA: 9000 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>TWA: 5000 ppm 8 hours.</td>
</tr>
<tr>
<td><strong>OSHA PEL 1989 (United States, 3/1989).</strong></td>
</tr>
<tr>
<td>STEL: 54000 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td>STEL: 30000 ppm 15 minutes.</td>
</tr>
<tr>
<td>TWA: 18000 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>TWA: 10000 ppm 8 hours.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>desflurane</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
</tr>
</tbody>
</table>

### Appropriate engineering controls
- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Environmental exposure controls
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Appropriate techniques should be used to remove potentially contaminated clothing.
- Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

##### Hand protection
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### Body protection
- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Other skin protection
- Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Respiratory protection
- Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Gas.</td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>-90.8°C (-131.4°F) This is based on data for the following ingredient: Nitrous Oxide. Weighted average: -162.78°C (-261°F)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>Lowest known value: -118.15°C (-180.7°F) (oxygen).</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower and upper explosive limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Highest known value: 1.53  (Air = 1)  (Nitrous Oxide).  Weighted average: 1.31  (Air = 1)</td>
</tr>
<tr>
<td>Gas Density (lb/ft³)</td>
<td>Weighted average: 0.09</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flow time (ISO 2431)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following: contact with combustible materials Reactions may include the following: risk of causing fire</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Highly reactive or incompatible with the following materials: combustible materials reducing materials grease oil</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>
Section 10. Stability and reactivity

Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity
Not available.

Irritation/Corrosion
Not available.

Sensitization
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrous oxide</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrous oxide</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>desflurane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure
Not available.

Potential acute health effects

Eye contact: Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact: Causes skin irritation. Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion: Can cause central nervous system (CNS) depression. As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following; pain or irritation, watering, redness

Inhalation: Adverse symptoms may include the following; wheezing and breathing difficulties, asthma, nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness

Skin contact: Adverse symptoms may include the following; irritation, redness

Date of issue/Date of revision: 8/6/2019
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Section 11. Toxicological information

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects
Not available.

General: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates
Not available.

Section 12. Ecological information

Toxicity
Not available.

Persistence and degradability
Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>oxygen</td>
<td>0.65</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>nitrous oxide</td>
<td>0.36</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>0.83</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil

- Soil/water partition coefficient (K<sub>oc</sub>): Not available.

Other adverse effects
No known significant effects or critical hazards.
Section 13. Disposal considerations

**Disposal methods**: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>DOT</th>
<th>TDG</th>
<th>Mexico</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3156</td>
<td>UN3156</td>
<td>UN3156</td>
<td>UN3156</td>
<td>UN3156</td>
<td>UN3156</td>
</tr>
</tbody>
</table>

**UN proper shipping name**: COMPRESSED GAS, OXIDIZING, N.O.S. (oxygen, Nitrous Oxide)

**Transport hazard class(es)**: 2.2 (5.1)

**Transport in bulk according to Annex II of MARPOL and the IBC Code**: Not available.

**Transport within user's premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code**: Not available.

**TDG Classification**: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.23-2.25 (Class 5).

**Explosive Limit and Limited Quantity Index**: 0

**ERAP Index**: 3000

**Passenger Carrying Ship Index**: Forbidden

**Passenger Carrying Road or Rail Index**: 75

**Environmental hazards**: No.

**Special precautions for user**: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Additional information**: "Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

**Section 15. Regulatory information**

**U.S. Federal regulations**:
- **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
- **Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)**: Not listed

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**Date of issue/Date of revision**: 8/6/2019
**Date of previous issue**: 8/16/2016
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Section 15. Regulatory information

Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304
Composition/information on ingredients
No products were found.

SARA 304 RQ : Not applicable.
SARA 311/312 Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations
Massachusetts : The following components are listed: OXYGEN (LIQUID); NITROUS OXIDE; CARBON DIOXIDE
New York : None of the components are listed.
New Jersey : The following components are listed: OXYGEN; NITROUS OXIDE; NITROGEN OXIDE (N2O); CARBON DIOXIDE; CARBONIC ACID GAS
Pennsylvania : The following components are listed: OXYGEN; NITROUS OXIDE; CARBON DIOXIDE

California Prop. 65
WARNING: This product can expose you to Nitrous oxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrous oxide</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

International regulations
Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol (Annexes A, B, C, E)
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list
Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : Not determined.
Malaysia : Not determined.

Date of issue/Date of revision : 8/6/2019  Date of previous issue : 8/16/2016  Version : 0.02  10/12
Section 15. Regulatory information

New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OXIDIZING GASES - Category 1</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>GASES UNDER PRESSURE - Compressed gas</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>SKIN IRRITATION - Category 2</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>RESPIRATORY SENSITIZATION - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

History

Date of printing : 8/6/2019
Date of issue/Date of revision : 8/6/2019
Date of previous issue : 8/16/2016
Version : 0.02
Oxidizing Gas Mixture: Carbon Dioxide / Desflurane / Nitrous Oxide / Oxygen

Section 16. Other information

Key to abbreviations

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- UN = United Nations

References

- Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.