SAFETY DATA SHEET

Liquefied Gas Mixture: 1,1,2,2-Tetrafluoroethane / 1,1,3,3,3-Pentafluoropropene / 1,1-Difluoroethane (R152A) / Chlorodifluoromethane (R22) / Chlorofluoromethane / Methyl Chloride / Tetrafluoroethane (R134A) / Vinyl Chloride

Section 1. Identification

GHS product identifier : Liquefied Gas Mixture: 1,1,2,2-Tetrafluoroethane / 1,1,3,3,3-Pentafluoropropene / 1,1-Difluoroethane (R152A) / Chlorodifluoromethane (R22) / Chlorofluoromethane / Methyl Chloride / Tetrafluoroethane (R134A) / Vinyl Chloride

Other means of identification : Not available.

Product use : Synthetic/Analytical chemistry.

SDS # : 020434

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : GASES UNDER PRESSURE - Liquefied gas

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Contains gas under pressure; may explode if heated. May cause frostbite.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Always keep container in upright position.

Prevention : Not applicable.

Response : Not applicable.

Storage : Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Date of issue/Date of revision : 4/5/2017

Date of previous issue : 4/5/2017

Version : 2
# Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-tetrafluoroethane</td>
<td>99</td>
<td>811-97-2</td>
</tr>
<tr>
<td>1,1,2,2-tetrafluoroethane</td>
<td>0.0001 - 0.1</td>
<td>359-35-3</td>
</tr>
<tr>
<td>1,1,3,3,3-pentafluoropropene</td>
<td>0.0001 - 0.0999</td>
<td>690-27-7</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>0.0001 - 0.0999</td>
<td>75-45-6</td>
</tr>
<tr>
<td>Chlorodifluoromethane</td>
<td>0.0001 - 0.0999</td>
<td>75-37-6</td>
</tr>
<tr>
<td>1,1-difluoroethane</td>
<td>0.0001 - 0.0999</td>
<td>74-87-3</td>
</tr>
<tr>
<td>Methyl Chloride</td>
<td>0.0001 - 0.0999</td>
<td>593-70-4</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 if irritation occurs.

### Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 adverse health effects persist or are severe. 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.

### Skin contact
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

### Ingestion
Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. 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.

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

#### Potential acute health effects
- **Eye contact**: No known significant effects or critical hazards.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Frostbite**: Try to warm up the frozen tissues and seek medical attention.
- **Ingestion**: No known significant effects or critical hazards.

#### Over-exposure signs/symptoms
- **Eye contact**: No specific data.
- **Inhalation**: No specific data.
- **Skin contact**: No specific data.
- **Ingestion**: No specific data.
Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. 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
- halogenated compounds

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

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
## Section 6. Accidental release measures

**Large spill**: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**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 storage, including any incompatibilities**: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-tetrafluoroethane</td>
<td>AIHA WEEL (United States, 10/2011). TWA: 1000 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 3/2016). TWA: 1 ppm 8 hours.</td>
</tr>
<tr>
<td>1,1,2,2-tetrafluoroethane</td>
<td>OSHA PEL (United States, 6/2016). STEL: 5 ppm 15 minutes.</td>
</tr>
<tr>
<td>vinyl chloride</td>
<td>TWA: 1 ppm 8 hours.</td>
</tr>
<tr>
<td>chlorodifluoromethane</td>
<td>ACGIH TLV (United States, 3/2016). TWA: 3540 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1000 ppm 8 hours.</td>
</tr>
<tr>
<td>1,1-difluoroethane</td>
<td>NIOSH REL (United States, 10/2013). STEL: 4375 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 3/2016). TWA: 3500 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1000 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>Absorbed through skin.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 4/5/2017
Date of previous issue: 4/5/2017
Version: 2
4/12
Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Liquefied Gas Mixture</th>
<th>Chloroform / Chlorodifluoromethane / Chlorofluoromethane / Methyl Chloride / Tetrafluoroethane (R134A) / Vinyl Chloride</th>
</tr>
</thead>
</table>

**TWA:** 50 ppm 8 hours.
**TWA:** 103 mg/m³ 8 hours.
**STEL:** 100 ppm 15 minutes.
**STEL:** 207 mg/m³ 15 minutes.
**OSHA PEL 1989 (United States, 3/1989).**
**TWA:** 50 ppm 8 hours.
**TWA:** 105 mg/m³ 8 hours.
**STEL:** 100 ppm 15 minutes.
**STEL:** 210 mg/m³ 15 minutes.
**OSHA PEL Z2 (United States, 2/2013).**
**TWA:** 100 ppm 8 hours.
**CEIL:** 200 ppm
**AMP:** 300 ppm 5 minutes.

**Environmental exposure controls**

- Chlorofluoromethane: None.

**Appropriate engineering controls**

- Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**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: safety glasses with side-shields.

**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**

- Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Date of issue/Date of revision: 4/5/2017
Date of previous issue: 4/5/2017
Version: 2
5/12
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Gas.</td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>-108°C (-162.4°F) This is based on data for the following ingredient: 1,1,1,2-Tetrafluoroethane.</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>Lowest known value: 100.9°C (213.6°F) (1,1,1,2-Tetrafluoroethane).</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>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Burning time</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Burning rate</td>
<td>Not applicable.</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 (flammable) 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: 3.5 (Air = 1) (1,1,1,2-Tetrafluoroethane).</td>
</tr>
<tr>
<td>Gas Density (lb/ft³)</td>
<td>Only known value: 0.2697 (1,1,1,2-Tetrafluoroethane).</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>SADT</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

### Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reactivity</strong></td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td><strong>Chemical stability</strong></td>
<td>The product is stable.</td>
</tr>
<tr>
<td><strong>Possibility of hazardous reactions</strong></td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td><strong>Conditions to avoid</strong></td>
<td>No specific data.</td>
</tr>
<tr>
<td><strong>Incompatible materials</strong></td>
<td>No specific data.</td>
</tr>
<tr>
<td><strong>Hazardous decomposition products</strong></td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
<tr>
<td><strong>Hazardous polymerization</strong></td>
<td>Under normal conditions of storage and use, hazardous polymerization will not occur.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-tetrafluoroethane</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>1500 g/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>Methyl Chloride</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>8300 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td>chlorodifluoromethane</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>4500 ppm</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

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>chlorodifluoromethane</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Methyl Chloride</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>chlorodifluoromethane</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>vinyl chloride</td>
<td>+</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
</tr>
</tbody>
</table>

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>vinyl chloride</td>
<td>Category 2</td>
<td>Not determined</td>
<td>liver central nervous system (CNS)</td>
</tr>
<tr>
<td>Methyl Chloride</td>
<td>Category 2</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

Aspiration hazard

Not available.

Information on the likely routes of exposure: Not available.

Potential acute health effects

Eye contact: No known significant effects or critical hazards.

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.

Inhalation: No specific data.
Section 11. Toxicological information

Skin contact : No specific data.
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 : No known significant effects or critical hazards.
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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Chloride</td>
<td>Acute LC50 270000 µg/l Marine water</td>
<td>Fish - Menidia beryllina</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

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>1,1,1,2 - tetrafluoroethane</td>
<td>1.06</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>vinyl chloride</td>
<td>1.38</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>chlorodifluoromethane</td>
<td>1.11 to 1.16</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>1,1 - difluoroethane</td>
<td>1.13</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Methyl Chloride</td>
<td>0.91</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>chlorofluoromethane</td>
<td>0.51</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. 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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>UN3163</td>
<td>UN3163</td>
<td>UN3163</td>
<td>UN3163</td>
<td>UN3163</td>
<td>UN3163</td>
</tr>
</tbody>
</table>

**UN proper shipping name**
- Liquefied Gas, N.O.S. (R134A TETRAFLUOROETHANE, 1,1,2,2 TETRAFLUOROETHANE)
- Liquefied Gas, N.O.S. (R134A TETRAFLUOROETHANE, 1,1,2,2 TETRAFLUOROETHANE)
- Liquefied Gas, N.O.S. (R134A TETRAFLUOROETHANE, 1,1,2,2 TETRAFLUOROETHANE)
- Liquefied Gas, N.O.S. (R134A TETRAFLUOROETHANE, 1,1,2,2 TETRAFLUOROETHANE)
- Liquefied Gas, N.O.S. (R134A TETRAFLUOROETHANE, 1,1,2,2 TETRAFLUOROETHANE)

**Transport hazard class(es)**
- 2.2
- 2.2
- 2.2
- 2.2
- 2.2

**Packing group**
- -
- -
- -
- -
- -

**Environment**
- No.
- No.
- No.
- No.
- No.

**Additional information**
- **Reportable quantity**
  1001 lbs / 454.45 kg
  Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
  - Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
  - Explosive Limit and Limited Quantity Index
    0.125
  - Passenger Carrying Road or Rail Index
    75

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

**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.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
- Not available.
Section 15. Regulatory information

U.S. Federal regulations

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed

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

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): Not determined.

Clean Water Act (CWA) 307: Methyl Chloride; vinyl chloride

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed

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: Sudden release of pressure

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,2 - tetrafluoroethane</td>
<td>99</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>1,1,2,2 - tetrafluoroethane</td>
<td>0.0001 - 0.1</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>vinyl chloride</td>
<td>0.0001 - 0.0999</td>
<td>Yes.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>chlorodifluoromethane</td>
<td>0.0001 - 0.0999</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>1,1 - difluoroethane</td>
<td>0.0001 - 0.0999</td>
<td>Yes.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Methyl Chloride</td>
<td>0.0001 - 0.0999</td>
<td>Yes.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
</tr>
<tr>
<td>chlorofluoromethane</td>
<td>0.0001 - 0.0999</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

State regulations

Massachusetts: None of the components are listed.

New York: None of the components are listed.

New Jersey: None of the components are listed.

Pennsylvania: None of the components are listed.

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Chloride</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>vinyl chloride</td>
<td>Yes.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

International regulations

International lists

National inventory

Date of issue/Date of revision: 4/5/2017
Date of previous issue: 4/5/2017
Version: 2

10/12
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Canada</td>
<td>Not determined.</td>
</tr>
<tr>
<td>China</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Europe</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Japan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Canada</td>
<td>CEPA Toxic substances: The following components are listed: Volatile organic compounds</td>
</tr>
<tr>
<td></td>
<td>Canadian ARET: None of the components are listed.</td>
</tr>
<tr>
<td></td>
<td>Canadian NPRI: The following components are listed: Volatile organic compounds</td>
</tr>
<tr>
<td></td>
<td>Alberta Designated Substances: None of the components are listed.</td>
</tr>
<tr>
<td></td>
<td>Ontario Designated Substances: None of the components are listed.</td>
</tr>
<tr>
<td></td>
<td>Quebec Designated Substances: None of the components are listed.</td>
</tr>
</tbody>
</table>

Section 16. Other information

Canada Label requirements: Class A: Compressed gas.

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Physical hazards</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 are not required on SDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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
Section 16. Other information

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
</table>

History

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Version : 2

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

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.

Indicates information that has changed from previously issued version.

Other special considerations : WARNING: Contains, CHLOROFLUOROMETHANE, R22  
                              CHLORODIFLUOROMETHANE, a substance that harms public health and environment by destroying ozone in the upper atmosphere.

References : Not available.