**SECTION 1: Identification**

1.1. Identification

- **Product form**: Substance
- **Substance name**: 1,1-Dichloro-1-fluoroethane
- **CAS No**: 1717-00-6
- **Product code**: 1100-7-21
- **Formula**: C2H3Cl2F
- **Other means of identification**: MFCD00042461

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

- Use of the substance/mixture: Laboratory chemicals, Manufacture of substances, Scientific research and development

1.3. Details of the supplier of the safety data sheet

- SynQuest Laboratories, Inc.
- P.O. Box 309
- Alachua, FL 32615 - United States of America
- T (386) 462-0788 - F (386) 462-7097
- info@synquestlabs.com - www.synquestlabs.com

1.4. Emergency telephone number

- Emergency number: (844) 523-4086 (3E Company - Account 10069)

**SECTION 2: Hazard(s) identification**

2.1. Classification of the substance or mixture

- **Classification (GHS-US)**
  - Simple Asphy: H380 - May displace oxygen and cause rapid suffocation
  - Liquefied gas: H280 - Contains gas under pressure; may explode if heated
  - Skin Irrit. 2: H315 - Causes skin irritation
  - Eye Irrit. 2A: H319 - Causes serious eye irritation
  - STOT SE 3: H335 - May cause respiratory irritation
  - Ozone 1: H420 - Harms public health and the environment by destroying ozone in the upper atmosphere

- Full text of H-phrases: see section 16

2.2. Label elements

- **GHS-US labeling**
  - **Hazard pictograms (GHS-US)**: ![](image)

- **Signal word (GHS-US)**: Warning

- **Hazard statements (GHS-US)**:
  - H280 - Contains gas under pressure; may explode if heated
  - H315 - Causes skin irritation
  - H319 - Causes serious eye irritation
  - H335 - May cause respiratory irritation
  - H380 - May displace oxygen and cause rapid suffocation
  - H420 - Harms public health and the environment by destroying ozone in the upper atmosphere

- **Precautionary statements (GHS-US)**:
  - P261 - Avoid breathing fumes, gas, mist, spray, vapors
  - P264 - Wash skin thoroughly after handling
  - P271 - Use only outdoors or in a well-ventilated area
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection
  - P302+P352 - If on skin: Wash with plenty of soap and water
  - P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
  - P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
  - P312 - Call a POISON CENTER or doctor/physician if you feel unwell
  - P321 - Specific treatment (see supplemental first aid instructions on this label)
  - P332+P313 - If skin irritation occurs: Get medical advice/attention
1,1-Dichloro-1-fluoroethane
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance
Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1-Dichloro-1-fluoroethane (Main constituent)</td>
<td>(CAS No) 1717-00-6</td>
<td>&lt;= 100</td>
<td>Simple Asphy, H380</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Liquefied gas, H280</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ozone 1, H420</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixture
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.

First-aid measures after skin contact: Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. Immediately flush eyes thoroughly with water for at least 15 minutes. Get medical advice/attention.

First-aid measures after ingestion: Due to its physical form, exposure to this chemical is not likely. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Symptoms/injuries after inhalation: May cause drowsiness or dizziness.

Symptoms/injuries after skin contact: Contact with the liquid the may cause cold burns/frostbite.

Symptoms/injuries after eye contact: Direct contact with the liquefied gas may cause severe and possibly permanent eye injury due to frostbite from rapid liquid evaporation.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

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

5.2. Special hazards arising from the substance or mixture

Explosion hazard: Contains gas under pressure; may explode if heated. Use water spray or fog for cooling exposed containers. May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters
Firefighting instructions: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection during firefighting: Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Evacuate unnecessary personnel. Ensure adequate air ventilation. May cause suffocation by reducing oxygen available for breathing. Do not breathe gas, fumes, vapor or spray.

6.1.1. For non-emergency personnel

Emergency procedures: Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. Consider the risk of potentially explosive atmospheres. Eliminate every possible source of ignition.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment: Stop leak if safe to do so.
Methods for cleaning up: Ventilate area.
Other information: For disposal of solid materials or residues refer to section 13: "Disposal considerations".

6.4. Reference to other sections

No additional information available

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. Handle empty containers with care because residual vapors are flammable. Close valve after each use and when empty.
Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, gas, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from ignition sources (including static discharges). Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools.

Safe handling of the gas receptacle: Securely chain cylinders when in use and protect against physical damage.
Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations.
Storage conditions: Protect from sunlight. Do not expose to temperatures exceeding 50 °C. Keep container closed when not in use. Keep away from ignition sources.
Incompatible materials: Refer to Section 10 on Incompatible Materials.
Storage area: Store in dry, cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls: Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Systems under pressure should be regularly checked for leakage. Oxygen detectors should be used when asphyxiating gases may be released.

Eye protection: Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection: Wear suitable protective clothing.
Thermal hazard protection: Cold insulating gloves.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- **Physical state**: Liquid
- **Color**: No data available
- **Odor**: No data available
- **Odor threshold**: No data available
- **pH**: No data available
- **Melting point**: -103.5 °C
- **Freezing point**: No data available
- **Boiling point**: 32 °C
- **Flash point**: No data available
- **Relative evaporation rate (butyl acetate=1)**: No data available
- **Flammability (solid, gas)**: No data available
- **Explosion limits**: No data available
- **Explosive properties**: No data available
- **Oxidizing properties**: No data available
- **Vapor pressure**: 69 kPa (@ 20 °C)
- **Relative density**: No data available
- **Relative vapor density at 20 °C**: No data available
- **Specific gravity / density**: 1.25 g/ml (@ 10 °C)
- **Molecular mass**: 116.95 g/mol
- **Solubility**: No data available
- **Log Pow**: No data available
- **Auto-ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Viscosity**: No data available
- **Viscosity, kinematic**: No data available
- **Viscosity, dynamic**: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Alkali metals. Finely divided metals (Al, Mg, Zn). Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

- **Acute toxicity**: Not classified

  **1,1-Dichloro-1-fluoroethane (1717-00-6)**

  | LD50 oral rat | > 5 g/kg |

12/06/2016  EN (English US)  SDS ID: 1100721
1,1-Dichloro-1-fluoroethane
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Table: 1,1-Dichloro-1-fluoroethane (1717-00-6)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LC50 inhalation rat (ppm)</strong></td>
<td>56700 ppm (Exposure time: 6 h)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/injuries after inhalation</td>
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<td>Direct contact with the liquefied gas may cause severe and possibly permanent eye injury due to frostbite from rapid liquid evaporation.</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

12.1. **Toxicity**

No additional information available

12.2. **Persistence and degradability**

No additional information available

12.3. **Bioaccumulative potential**

No additional information available

12.4. **Mobility in soil**

No additional information available

12.5. **Other adverse effects**

Class II ozone-depleting substance.

**SECTION 13: Disposal considerations**

13.1. **Waste treatment methods**

No additional information available

**SECTION 14: Transport information**

**Department of Transportation (DOT)**

In accordance with DOT

Not regulated for transport

**TDG**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

**SECTION 15: Regulatory information**

15.1. **US Federal regulations**

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting | 1.0 %
1,1-Dichloro-1-fluoroethane
Safety Data Sheet
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15.2. International regulations

CANADA
- 1,1-Dichloro-1-fluoroethane (1717-00-6)
  Listed on the Canadian DSL (Domestic Substances List)
  WHMIS Classification: Uncontrolled product according to WHMIS classification criteria

EU-Regulations
- 1,1-Dichloro-1-fluoroethane (1717-00-6)
  Listed on ELINCS (European List of Notified Chemical Substances)

National regulations
- 1,1-Dichloro-1-fluoroethane (1717-00-6)
  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 Japanese ENCS (Existing & New Chemical Substances) inventory
  Listed on the Japanese ISHL (Industrial Safety and Health Law)
  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 Pollutant Release and Transfer Register Law (PRTR Law)
  Listed on INSQ (Mexican national Inventory of Chemical Substances)
  Listed on Turkish inventory of chemical

15.3. US State regulations

- 1,1-Dichloro-1-fluoroethane (1717-00-6)
  State or local regulations: U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Full text of H-phrases:

- Eye Irrit. 2A: Serious eye damage/eye irritation Category 2A
- Liquefied gas: Gases under pressure Liquefied gas
- Ozone 1: Hazardous to the ozone layer Category 1
- Simple Asphy: Simple Asphyxiant
- Skin Irrit. 2: Skin corrosion/irritation Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) Category 3
- H280: Contains gas under pressure; may explode if heated
- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation
- H380: May displace oxygen and cause rapid suffocation
- H420: Harms public health and the environment by destroying ozone in the upper atmosphere

SDS US (GHS HazCom 2012)

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones which exist. SynQuest shall not be held liable or any damage resulting from handling or from contact with the above product.