

Common Name: **1,1-DIFLUOROETHANE**

Synonyms: Ethylidene Fluoride; Freon 152A; Genetron 100

CAS No: 75-37-6

Molecular Formula: C<sub>2</sub>H<sub>4</sub>F<sub>2</sub>

RTK Substance No: 0715

Description: Colorless and odorless gas used as a liquefied compressed gas

## HAZARD DATA

| Hazard Rating                                                                                                                                                   | Firefighting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Reactivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1 - Health</b><br><b>4 - Fire</b><br><b>0 - Reactivity</b><br><b>DOT#:</b> UN 1030<br><b>ERG Guide #:</b> 115<br><b>Hazard Class:</b> 2.1<br>(Flammable gas) | <b>FLAMMABLE GAS.</b><br>Stop flow and use dry chemical, CO <sub>2</sub> , water spray or foam as extinguishing agents.<br>If flow cannot be stopped, let fire burn.<br><b>POISONOUS GASES ARE PRODUCED IN FIRE,</b> including <i>Hydrogen Fluoride</i> and <i>Carbonyl Fluoride</i> .<br><b>CONTAINERS MAY EXPLODE IN FIRE.</b><br>Use water spray to keep fire-exposed containers cool.<br>Vapors may travel to a source of ignition and flash back.<br>Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source. | <b>1,1-Difluoroethane</b> may react violently with <b>OXIDIZING AGENTS</b> (such as <b>PERCHLORATES</b> , <b>PEROXIDES</b> , <b>PERMANGANATES</b> , <b>CHLORATES</b> , <b>NITRATES</b> , <b>CHLORINE</b> , <b>BROMINE</b> and <b>FLUORINE</b> ), and forms explosive compounds with <b>BARIUM</b> ; <b>SODIUM</b> ; <b>POTASSIUM</b> ; and other <i>divalent light METALS</i> and <b>METALLIC AZIDES</b> .<br><b>1,1-Difluoroethane</b> is not compatible with <i>powdered</i> <b>ALUMINUM</b> and <b>MAGNESIUM</b> , and their <b>ALLOYS</b> ; <b>LIQUID OXYGEN</b> ; <b>BRASS</b> ; and <b>STEEL</b> . |

## SPILL/LEAKS

### Isolation Distance:

Small Spill: 100 meters (300 feet)

Large Spill: 800 meters (1/2 mile)

Fire: 1,600 meters (1 mile)

Stop flow of gas.

Keep **1,1-Difluoroethane** out of confined spaces, such as sewers, because of the possibility of an explosion.

May be toxic to aquatic life. Considered to be an *Ozone* depleting substance.

## PHYSICAL PROPERTIES

|                          |                            |
|--------------------------|----------------------------|
| <b>Odor Threshold:</b>   | Odorless                   |
| <b>LEL:</b>              | 3.7%                       |
| <b>UEL:</b>              | 18%                        |
| <b>Vapor Density:</b>    | 2.4 (air = 1)              |
| <b>Vapor Pressure:</b>   | 4,437 mm Hg at 77°F (25°C) |
| <b>Specific Gravity:</b> | 0.95 (water = 1)           |
| <b>Water Solubility:</b> | Very slightly soluble      |
| <b>Boiling Point:</b>    | -16.6°F (-27°C)            |
| <b>Melting Point:</b>    | -179°F (-117°C)            |
| <b>Molecular Weight:</b> | 66.1                       |

## EXPOSURE LIMITS

No occupational exposure limits have been established for **1,1-Difluoroethane**.

## PROTECTIVE EQUIPMENT

|                    |                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------|
| <b>Gloves:</b>     | Insulated Neoprene or Rubber                                                               |
| <b>Coveralls:</b>  | DuPont Tychem® CSM, Responder®, and TK; Kappler Zytron® 400; and Saint-Gobain ONESuit® TEC |
| <b>Respirator:</b> | Supplied air                                                                               |

## HEALTH EFFECTS

|                    |                                                                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eyes:</b>       | Irritation. Contact with liquid can cause frostbite.                                                                                        |
| <b>Skin:</b>       | Irritation, drying and cracking of the skin<br>Contact with liquid can cause frostbite                                                      |
| <b>Inhalation:</b> | Nose, throat and lung irritation with coughing, wheezing and/or shortness of breath<br>Headache, dizziness, lightheadedness and passing out |

## FIRST AID AND DECONTAMINATION

**Remove** the person from exposure.  
**Flush** eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.  
**Immerse** affected part in warm water. Seek medical attention.  
**Transfer** to a medical facility.  
**Medical** observation is recommended as symptoms may be delayed.