



### Section 3 - Hazards Identification

#### ☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Gas. Compressed gas that may cause frostbite. Acute Effects: possible CNS effects

#### HMIS

H 2  
F 1  
R 0

PPE B

See Sect. 8

#### Potential Health Effects

**Primary Entry Routes:** Inhalation

**Target Organs:** Bone (in persons capable of metabolizing most 1, 1, 1, 2-tetrafluoroethane to F-).

**Inhalation:** No data found.

**Eye:** Eye contact with compressed gas may cause frostbite.

**Skin:** Skin contact with compressed gas may cause frostbite.

**Ingestion:** No data found.

**Carcinogenicity:** IARC, NTP, and OSHA do not list this product as a carcinogen.

**Chronic Effects:** Overexposure may cause nervous system damage. Overexposure may cause lung damage.

### Section 4 - First Aid Measures

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, Get immediate medical attention.

**Eye Contact:** The compressed gas can cause frostbite. Immerse exposed skin in tepid (104°F/40°C) water until completely rewarmed. Do not rub affected area or apply dry heat. Flush eyes flooding amounts of tepid water for at least 15 min. consult a physician.

**Skin Contact:** No data found.

**Ingestion:** Get medical attention immediately. If swallowed, do not induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

*After first aid, get appropriate in-plant, paramedic, or community medical support.*

### Section 5 - Fire-Fighting Measures

**Flash Point:** 111.2 °F

**Flash Point Method:** CC

**Burning Rate:** NE

**Auto ignition Temperature:** ND

**LEL:** 1.2 % v/v

**UEL:** 23.0 % v/v

**Extinguishing Media:** Nonflammable Gas

**Unusual Fire or Explosion Hazards:** DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.

### Section 6 - Accidental Release Measures

**Spill /Leak Procedures:** Absorb with inert material (e.g. dry sand or earth), then place in a chemical waste container.

**Containment:** For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

### Section 7 - Handling and Storage

**Handling Precautions:** No special precautions needed. Never eat, drink, or smoke in work areas. Practice good personal hygiene.

**Storage Requirements:** Keep away from heat, sparks and flame. Keep from freezing.

## Section 8 - Exposure Controls / Personal Protection

### Engineering Controls:

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

### Administrative Controls:

**Respiratory Protection:** For fluorocarbons in general, it is recommended that the ambient air concentration does not exceed 1000 ppm.

**Protective Clothing/Equipment:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance and Odor:** Clear and No Odor

**Odor Threshold:** ND

**Vapor Density (Air=1):** Is heavier than air

**Density:** 6.617 lb/gal 793 g/l

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** 0.790

**Boiling Point:** -15 - 514°F

**Viscosity:** ND

**Refractive Index:** ND

**% Volatile Wt:** 95 %

**% Volatile Less Exempts Wt:** 35 %

**VOC:** 2.28 lb/gal

## Section 10 - Stability and Reactivity

**Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Polymerization:** Hazardous polymerization cannot occur.

**Chemical Incompatibilities:** Acids or acid fumes.

**Conditions to Avoid:** All sources of ignition, welding arcs, and open flames.

**Hazardous Decomposition Products:** None known.

## Section 11- Toxicological Information

### Toxicity Data:

	<u>LD50</u>	<u>LC50</u>
<b>R134A:</b>	N/E	N/E
<b>Diethylene Glycol Monoethyl Ether:</b>	N/E	N/E
<b>Diethanolamine:</b>	710 mg/kg	N/E
<b>Formaldehyde:</b>	100 mg/kg	N/E

## Section 12 - Ecological Information

**Ecotoxicity:** N/E

**Environmental Fate:** N/E

**Environmental Degradation:** N/E

**Soil Absorption/Mobility:** N/E

## Section 13 - Disposal Considerations

**Disposal:** Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

## Section 14 - Transport Information

### DOT Transportation Data (49 CFR 172.101):

**Shipping Name:** Aerosol – Consumer Commodity  
**Hazard Class:** 2.2- Non-flammable compressed gas  
**DOT UN/NA #.:** UN1950  
**Packing Group:**  
**Label:** ORM-D

## Section 15 - Regulatory Information

### EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)  
 RCRA Hazardous Waste Classification: Not classified  
 CERCLA Hazardous Substance (40 CFR 302.4) listed CAA, Sec. 112  
 SARA 313: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Formaldehyde	50-00-0	<1 %
Diethanolamine	111-42-2	<1 %

### Toxic Substances Control Act:

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

### U.S. State Regulations: As Follows:

#### California Proposition 65:

Warning: The chemical noted below and contained in this product, is known to the state of California to cause cancer, birth defects or other reproductive harm.

Formaldehyde	50-00-0	<1 %
--------------	---------	------

### OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Listed.

Formaldehyde	50-00-0	<1 %
--------------	---------	------

## Section 16 - Other Information

**Prepared By:** Angela H. Jones

**Revision Notes:** This revision includes updated regulatory and additional hazard rating information.

**Disclaimer:** Do not handle until the manufacturer's safety precautions have been read and understood. Regulations require that all employees be trained on Material Safety Data Sheets for all products with which they come in contact. While we believe that the data contained herein is accurate and derived from qualified sources, the data are not to be taken as warranty or representation for which we assume legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, provincial and local laws and regulations.