

MATERIAL SAFETY DATA SHEET

R-134a

SECTION 1 - COMPANY IDENTIFICATION/CHEMICAL PRODUCT

Recycler: Refrigerants, Inc.
2575 W. Barberry Pl.
Denver, CO 80204
303-629-1222

Prepared by: Refrigerants, Inc.
INFOTRAC
EMERGENCY RESPONSE # (800) 535-5053
Date Prepared: 11-28-09

Corporate MSDS Number: MSDSR134a

Formula: CH₂FCF₃

CAS Name: "SUVA" 134a

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS Number	%
* ETHANE, 1,1,1,2 -Tetrafluoro (HFC-134a)	811-97-2	100

* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and

Reauthorization Act of 1986 and 40 CFR part 372.

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	: -26.5 C (-15.7 F) @ 736 mm Hg	Odor	
Vapor Pressure	: 96 psia at 25 deg C (77 deg F)	Form	: Slight ethereal
Vapor Density	: .3.6 (Air = 1) @ 25 C (77 F)	Color	: Liquified gas
Density	: 1.21 g/cm ³ at 25 deg C (77 deg F)	% Volatiles	: Colorless
Solubility in Water	: 0.15WT% 5C(77degF) 14.7psia		: 100 WT%

SECTION 4 - FIRE FIGHTING MEASURES

Flammable Properties

Flash Point : Will not burn.

Flammable limits in Air, % by volume

LEL : Not Applicable

UEL : Not Applicable

Autoignition : >743 C (>1369 F)

HFC-134a is not flammable at ambient temperatures and atmospheric pressure. However, HFC-134a has been shown in tests to be combustible at pressure as low as 5.5 psig at 177 C (351 F) when mixed with air at concentrations of generally more than 60 volume % air. At lower temperatures, higher pressures are required for combustibility. Experimental data have also been reported which indicate combustibility of HFC-134a in the presence of certain concentrations of chlorine.

Fire and Explosion Hazards: Cylinders may rupture under fire conditions. Decomposition may occur. Contact of welding or soldering torch flame with high concentrations of refrigerant can result in visible changes in the size and color of the torch flame. This flame effect will only occur in concentrations of products well above the recommended exposure limit, therefore stop all work and ventilate the area before proceeding. Use force ventilation to disperse refrigerant vapors from the work area before using any open flame.

Use water spray or fog to cool containers. Self-contained breathing apparatus (SCBA) is required if cylinders rupture or discharge under fire conditions.

Extinguishing Media: as appropriate for combustibles in area.

SECTION 5 - HAZARDS IDENTIFICATION

Potential Health Effects:

Inhalation: Ethane, 1, 1, 1, 2-Tetrafluoro. Gross overexposure may cause: Central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness. Irregular heart beat with a "heart thumping" apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death. Suffocation, if air is displaced by vapors.

Skin Contact: Ethane, 1, 1, 1, 2-Tetrafluoro. Immediate effects of overexposure may include: frostbite, if liquid or escaping vapor contacts the skin.

Eye Contact: Ethane, 1, 1, 1, 2-Tetrafluoro. "Frostbite-like" effects may occur if the liquid or escaping vapors contact the eye.

Additional Health Effects: Ethane, 1, 1, 1, 2-Tetrafluoro. Increased susceptibility to the effects of this material may be observed in persons with pre-existing disease of the central nervous system or cardiovascular system.

Carcinogenicity Information: None of the components present in this material at concentrations equal to or greater than 0.1 % are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation: If inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Skin Contact: In case of contact, flush skin with water. Remove clothing and wash before reuse. Treat for frostbite if necessary by gently warming affected area. Call a physician.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Ingestion: Ingestion is not considered a potential route of exposure.

Notes to Physician:

Because of a possible disturbance of cardiac rhythm, catecholamine drugs, such as epinephrine, should only be used with special caution in situations of emergency life support.

SECTION 6- STABILITY AND REACTIVITY

Chemical Stability: Material is stable. However, avoid open flames and high temperatures.

Incompatibility with other Materials: Incompatible with alkali or alkaline earth metals - powdered Al, Zn, Be, etc.

Polymerization: Polymerization will not occur.

Decomposition: Decomposition products are hazardous. "FREON" 134a Refrigerant can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids and possibly carbonyl halides.

SECTION 7- CONTROL AND PROTECTIVE MEASURES

Engineering Controls: Normal ventilation for standard manufacturing procedures is generally adequate. Keep container tightly closed. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places. Refrigerant concentration monitors may be necessary to determine vapor concentrations in work areas prior to use of torches or other open flames, or if employees are entering enclosed areas.

Personal Protective Equipment: Impervious gloves and chemical splash goggles should be used when handling liquid. Under normal manufacturing conditions, no respiratory protection is required when using this product. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines

"SUV A"-

134a

PEL (OSHA): None established

WEEL (AIHA) : 1000 ppm, 8 hr. TW A

TLV (ACGIH): None established

SECTION 8- HANDLING/STORAGE/WASTE DISPOSAL

Waste disposal method: Comply with Federal, State, and local regulations. Reclaim by distillation or remove to a permitted waste facility.

Handling: Avoid breathing vapors and liquid contact with the skin and eyes. Use with sufficient ventilation to keep employee exposure below recommended limits. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form. HFC-134a should not be mixed with air for leak testing or used for any other purpose above atmospheric pressure. Contact with chlorine or other strong oxidizing agents should also be avoided.

Storage: Clean, dry area. Do not heat above 52 deg C (126 deg F).

Accidental Release Measures: Ventilate area, especially low or enclosed places where heavy vapors might collect.

Do not flush into sewers. Dike spill. Collect on absorbent material and transfer to steel drums for recovery or disposal. Use self-contained breathing apparatus (SCBA) for large spills.

SHIPPING INFORMATION

Shipping Name : 1, 1, 1, 2-TETRAFLUOROETHANE

Hazard Class : 2.2

UN No. : 3159

DOT/IMO Label: NONFLAMMABLE GAS

Shipping Containers: Tank Cars, Tank Trucks, Tank Trucks and Cylinders

U.S. FEDERAL REGULATIONS

TSCA Inventory Status : Reported/Included

TITLE III HAZARDOUS CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes

Reactivity: No

Chronic : Yes

Pressure : Yes

Fire : No

HAZARDOUS CHEMICAL LISTS

SARA E-1/Extremely Hazardous Substance - No

SARA Toxic Chemical - No

CERCLA Hazardous Substance - No

OTHER INFORMATION

NFPA, NPCA-HMIS

NPCA-HMIS Rating

Health : 1

Reactivity : 1

Flammability : 0

Personal Protection rating to be supplied by user depending on use condition.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

ADDITIONAL INFORMATION:

MEDICAL USE: CAUTION: Do not use in medical applications involving permanent implantation in the human body.