



Material Safety Data Sheet

1. Product and Company Identification

Product name : **1,1,1,2-Tetrafluoroethane**
Chemical formula : CF₃CH₂F
Synonyms : Freon 134A, "SUVA" Tran A/C
Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611
Telephone : 419-729-7732
Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
1,1,1,2-Tetrafluoroethane	811-97-2	100%

3. Hazards Identification

Emergency Overview

Liquid and gas under pressure.
Can cause rapid suffocation.
May cause frostbite.

Potential Health Effects

Routes of entry : Inhalation.
Acute effects : Inhalation of high concentration of vapors is harmful and may cause heart irregularities, unconsciousness or death. Vapors reduce oxygen available for breathing. Liquid may cause frostbite.
Chronic effects : None known.
Medical conditions aggravated by overexposure : None known.
Other effects of overexposure : None known.

4. First Aid Measures

General advice : None.
Eye contact : Immediately flush with copious amount of water for at least 15 minutes.
Skin contact : If frostbite occurs, flush affected areas with lukewarm water.
Ingestion : None.
Inhalation : Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

5. Fire-Fighting Measures

Suitable extinguishing media : Use what is appropriate for surrounding fire.
Specific hazards : Cylinder rupture may occur under fire conditions. Emits toxic fumes under fire conditions.
Special protective equipment for fire-fighters : Wear self contained breathing apparatus and full protective clothing. Stay upwind.

6. Accidental Release Measures

Personal precautions : None.
Environmental precautions : None.
Methods for cleaning up : Evacuate and ventilate area. Shut off source if possible and remove source of heat.
Additional advice : None.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

8. Exposure Controls / Personal Protection

Engineering measures

Provide adequate general and local exhaust ventilation.

Personal protective equipment

Respiratory protection : In case of leakage, use self-contained breathing apparatus.
Hand protection : Protective gloves to prevent contact with cold equipment.
Eye protection : Safety glasses.
Skin and body protection : Safety shoes are recommended when handling cylinders.
Special instructions for protection and hygiene : None.
Remarks : None.

9. Physical and Chemical Properties

Form : Liquefied gas.
Color : Colorless.
Odor : Slight ethereal odor.
Vapor pressure : @ 25 deg. C: 96 psig.
Vapor density : 3.18 (air = 1)
Boiling point (C) : -26.5
Water solubility : @25 deg C: 0.15 wt. %
Specific gravity : Gas (H₂O = 1)
Evaporation rate : Gas

10. Stability and Reactivity

Stability : Stable under normal conditions.
Conditions to avoid : Storage in poorly ventilated areas. Storage near heat source.
Materials to avoid : Alkali, alkaline earth metals, and molten salts.
Hazardous decomposition products : Decomposition products are hazardous. Can be decomposed by temperature (open flame or glowing metal surface) forming hydrofluoric acid and possibly carbonyl fluoride.

11. Toxicological Information

Acute Health Hazard

Ingestion : Not available.
Inhalation : Not available.
Skin : Not available.

12. Ecological Information

Further information

No adverse ecological effects are expected.

13. Disposal Considerations

Waste from residues / unused products : Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.
Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name : 1,1,1,2-Tetrafluoroethane
Class : 2.2
UN/ID No. : UN3159
Labeling : Nonflammable gas

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

15. Regulatory Information

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es)

Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TCSA

Material is listed in TSCA inventory.

SARA

The threshold planning quantity for material is 10,000 lbs.

Number in Annex 1 of DIR 67/548

Not listed in annex 1.

16. Other Information

Prepared by : Specialty Gases of America, Inc.
For additional information, please visit our website at www.americangasgroup.com.