

SAFETY DATA SHEET**R-134a – 1,1,1,2-Tetrafluoroethane****1. IDENTIFICATION**

Product Name:	R-134a
Chemical / Other Names:	1,1,1,2-Tetrafluoroethane; HFC-134a; Refrigerant gas R134a; Norflurane
Product Use:	Refrigerant gas
Restrictions on Use:	For use only by qualified / certified technicians in accordance with applicable regulations.
Distributor:	CRefri, 5160 Commerce Dr, Baldwin Park, CA 91706
For More Information Call:	(+1) 626-830-6001
In Case of Emergency Call:	(+1) 626-613-4419

2. HAZARD(S) IDENTIFICATION

GHS Classification:	Gases under pressure – Liquefied gas. (ASHRAE 34 Safety Group: A1)
Signal Word:	WARNING
Hazard Symbol(s):	Gas cylinder

Hazard Statement(s):

- Contains gas under pressure; may explode if heated.

Precautionary Statement(s):

- Protect from sunlight. Store in a well-ventilated place.
- Do not puncture, drop, or expose cylinders to open flame or excessive heat.

Emergency Overview: Colorless, volatile liquefied gas with a faint ethereal odor. Non-flammable material under ambient conditions. Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result. Vapors displace air and can cause asphyxiation in confined spaces. At high temperatures (>250 °C), decomposition products may include Hydrofluoric Acid (HF).

Potential Health Hazards:

- **Skin:** Rapid evaporation of the liquid may cause frostbite. Defatting action may cause irritation.
- **Eyes:** Liquid contact can cause severe irritation and frostbite; mist may irritate.
- **Inhalation:** Low acute toxicity. When oxygen in air is reduced by displacement, symptoms of asphyxiation, loss of coordination, increased pulse rate and deeper respiration will occur. At high levels, cardiac arrhythmia may occur.
- **Ingestion:** Unlikely due to the low boiling point of the material.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Weight %
1,1,1,2-Tetrafluoroethane	811-97-2	100

4. FIRST-AID MEASURES

- **Skin:** Promptly flush skin with water until all chemical is removed. For frostbite, bathe (do not rub) with lukewarm (not hot) water. Get medical attention if symptoms persist.
- **Eyes:** Immediately flush with large amounts of water for at least 15 minutes, lifting eyelids occasionally. Get medical attention.
- **Inhalation:** Immediately move to fresh air. If breathing has stopped, give artificial respiration. Use oxygen as required. Get medical attention immediately. **DO NOT give epinephrine (adrenaline).**
- **Ingestion:** Unlikely; do not induce vomiting unless instructed by a physician.

- **Advice to Physician:** Because of possible disturbances of cardiac rhythm, catecholamine drugs such as epinephrine should be used with special caution and only in emergency life-support situations.

5. FIRE-FIGHTING MEASURES

Flash Point:	Gas, not applicable per DOT regulations
Autoignition Temperature:	> 750 °C
Flammable Limits (vol% in air):	None (per ASHRAE Standard 34 with match ignition)
Extinguishing Media:	Use any standard extinguishing agent suitable for the surrounding fire (the material itself is not flammable).

Unusual Fire & Explosion Hazards: R-134a is not flammable at ambient temperature and atmospheric pressure. However, it may become combustible when mixed with air under pressure and exposed to strong ignition sources. Contact with certain reactive metals may cause exothermic reactions under specific conditions. Cylinders may rupture if exposed to fire or excessive heat.

Special Precautions: Firefighters should wear self-contained, NIOSH-approved breathing apparatus and full protective clothing. Use water spray to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Evacuate unprotected personnel. Provide ventilation. Product dissipates upon release. Protected personnel should shut off the leak if without risk. Unprotected personnel should not return until air has been tested and determined safe, including low-lying areas (vapors are heavier than air).

Spills and releases may have to be reported to Federal and/or local authorities (see Section 15). Do not vent refrigerant to the atmosphere.

7. HANDLING AND STORAGE

Normal Handling: Avoid breathing vapors and liquid contact with eyes, skin, or clothing. Do not puncture or drop cylinders or expose them to open flame or excessive heat. Use authorized cylinders only. Follow standard safety precautions for handling compressed gas cylinders. Do not mix with air above atmospheric pressure for leak testing or any other purpose.

Storage: Store in a cool, well-ventilated area of low fire risk, out of direct sunlight. Protect cylinders and fittings from physical damage. Avoid subsurface storage. Close valve tightly after use and when empty.

Incompatibilities: Freshly abraded aluminum surfaces; reactive metals such as potassium, calcium, powdered aluminum, magnesium, and zinc.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:	Provide local ventilation at filling zones and areas where leakage is probable. General mechanical ventilation may be adequate for other areas.
Exposure Guideline:	1,000 ppm (8-hr TWA, AIHA WEEL)
OSHA PEL / ACGIH TLV:	None established for the principal ingredient(s).
Decomposition Limit:	Hydrogen Fluoride: ACGIH TLV 2 ppm ceiling, 0.5 ppm TLV-TWA.

Skin: General work gloves; insulated PVA, neoprene or butyl-rubber gloves where liquid contact is anticipated. **Eyes:** Safety glasses; chemical goggles where liquid contact is likely. **Respiratory:** None generally required for adequately ventilated areas; for confined-space or non-ventilated release above the exposure limit, use a self-contained or supplied-air respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless liquefied gas
Physical State:	Gas at ambient temperature
Odor:	Faint ethereal odor
Molecular Weight:	102.03
Chemical Formula:	CF ₃ CH ₂ F
Boiling Point:	-26.1 °C (-15.0 °F)
Freezing / Melting Point:	-103.3 °C (-153.9 °F)
Vapor Pressure:	71 psig / 85.8 psia @ 70 °F (21 °C)
Vapor Density (air = 1):	3.5 (air = 1)
Specific Gravity / Relative Density:	1.21 @ 25 °C (water = 1)
Solubility in Water:	0.15 wt% @ 25 °C

Flammability:	Not flammable (ASHRAE A1)
Autoignition Temperature:	> 750 °C
Decomposition Temperature:	> 250 °C
% Volatiles:	100

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions of use and storage.
Conditions to Avoid:	high temperatures; do not mix with air/oxygen above atmospheric pressure.
Incompatible Materials:	Freshly abraded aluminum; reactive metals (potassium, calcium, powdered aluminum, magnesium, zinc).
Hazardous Decomposition Products:	Hydrofluoric acid (HF), halogens, halogen acids, and possibly carbonyl halides.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Effects: Low acute inhalation toxicity. Cardiac sensitization is the principal acute hazard at very high airborne concentrations. Rapid evaporation of the liquid may cause frostbite.

Chronic Effects: No significant chronic effects are expected under recommended handling conditions. Vapors are heavier than air and can displace oxygen, causing difficulty breathing or suffocation.

Carcinogenicity: Not listed by NTP, IARC, or OSHA for the principal ingredient(s).

12. ECOLOGICAL INFORMATION

Ozone Depletion Potential (ODP):	0
Global Warming Potential (GWP):	1430 (IPCC AR4)
Degradability:	A gas at room temperature; unlikely to remain in water.

Do not vent to the atmosphere.

13. DISPOSAL CONSIDERATIONS

Recover, reclaim, or recycle in accordance with U.S. EPA Clean Air Act Section 608 (40 CFR Part 82) and applicable state/local regulations. The unused product, as shipped, is not defined as a RCRA hazardous waste. Do not vent to the atmosphere. Disposal must comply with federal, state, and local laws.

14. TRANSPORT INFORMATION

UN / ID Number:	UN3159
Proper Shipping Name:	1,1,1,2-Tetrafluoroethane or Refrigerant gas R 134a
Hazard Class (US DOT):	2.2
Packing Group:	Not applicable
Marine Pollutant:	No

For additional information on shipping regulations affecting this material, contact the information number in Section 1.

15. REGULATORY INFORMATION

TSCA Inventory Status:	All ingredients are listed on, or exempt from, the U.S. TSCA inventory.
SARA 311/312 Hazard Class:	Sudden Release of Pressure
SARA 313:	Not listed for the principal ingredient(s).
RCRA:	Unused product is not a hazardous waste.

R-134a is a hydrofluorocarbon (HFC) subject to phasedown under the U.S. AIM Act (40 CFR Part 84) and to Clean Air Act Section 608 recycling requirements. Do not vent to the atmosphere.

WARNING: DO NOT vent to the atmosphere. To comply with the U.S. Clean Air Act, any residual must be recovered. Contains a greenhouse gas which may contribute to global warming.

16. OTHER INFORMATION

Current Issue Date:	July 2026
HMIS Ratings (H / F / R):	1 / 1 / 0
NFPA Ratings (H / F / R):	2 / 1 / 0
ANSI/ASHRAE 34 Safety Group:	A1

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