



Material Safety Data Sheet

Section 1: Product & Company Identification

Product Name: Refrigerant 134a

Product Number (s): 09852

Manufactured By:

CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com

General Information	(215) 674-4300
Technical Assistance	(800) 521-3168
Customer Service	(800) 272-8963
24-Hr Emergency (CHEMTREC)	(800) 424-9300

Section 2: Hazards Identification

Emergency Overview

Appearance & Odor:

Expelled product is a clear gas with a faint ethereal odor. Pressurized product is a liquefied gas.

CAUTION

Contents Under Pressure.

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Potential Health Effects:

EYE: Contact with dispersed gas is not expected to cause negative effects. Contact with liquid product can cause severe irritation, redness, tearing, blurred vision, and possible freeze burns.

SKIN: Contact with dispersed gas is not expected to cause negative effects. Contact with liquid product or concentrated expelled gas can cause frostbite, irritation and dermatitis.

INHALATION: Inhalation of dispersed gas is not expected to cause negative effects. Inhalation of concentrated vapor may produce anesthetic effects and feeling of euphoria. Prolonged exposure can cause rapid breathing, headache, dizziness, narcosis, and unconsciousness. Deliberately inhaling this product can lead to death from asphyxiation depending on concentration and time of exposure.

INGESTION: Ingestion of liquid product may cause frostbite to mouth and throat. Liquid product may pose aspiration hazard.

CHRONIC EFFECTS: Unknown

TARGET ORGANS: None known

Medical Conditions Aggravated by Exposure: None known

See Section 11 for toxicology and carcinogenicity information on product ingredients.

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Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	100

Section 4: First Aid Measures

Eye Contact: For liquid contact, immediately flush with plenty of water for 15 minutes. Call a physician if frostbite occurs.

Skin Contact: For liquid contact, warm area gradually and get medical attention if there is evidence of tissue damage. Flush area with plenty of water. Treat as frostbite.

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

Ingestion: Do not induce vomiting. Contact a physician immediately.

Note to Physicians: None

Section 5: Fire-Fighting Measures

Flammable Properties: This product is nonflammable in accordance with aerosol flammability definitions (16 CFR 1500.3(c)(6)).

Flash Point:	None (COC)	Upper Explosive Limit:	NA
Autoignition Temperature:	ND	Lower Explosive Limit:	NA

Suitable Extinguishing Media: As appropriate for combustibles in area

Products of Combustion: oxides of carbon, halogen acids (thermal decomposition)

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Stop the release of material if possible. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Ventilate area to disperse the vapor plume.

Methods for Containment & Clean-up: Eliminate sources of ignition. Ventilate the area with plenty of fresh air, especially low areas where vapors may accumulate. If in confined space or if a large plume has been emitted, workers should wear appropriate respiratory protection.

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Section 7: Handling and Storage

Handling Procedures: Avoid breathing vapors. Vapors are heavier than air and may travel along the ground. High vapor concentrations may lead to asphyxiation.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing. Keep out of reach of children.

Aerosol Storage Level: I

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
1,1,1,2-Tetrafluoroethane (HFC-134a)	NE	NE	NE	NE	1000	AIHA	ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Engineering Controls: Area should have ventilation to provide fresh air. Use local exhaust to prevent accumulation of vapors. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations

Respiratory Protection: None required for normal work where adequate ventilation is provided. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as insulated rubber. Also, use impervious clothing if there is potential for contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: dispensed product is a gas; pressurized product is a liquefied gas

Color: colorless

Odor: ethereal

Specific Gravity: 1.24

Initial Boiling Point: - 15.5 F

Freezing Point: ND

Vapor Pressure: 70 psig @ 70 F

Vapor Density: 3.5 (air = 1)

Evaporation Rate: > 1 (ether = 1)

Solubility: 0.95% (in water) at 70 F

pH: NA

Volatile Organic Compounds: wt %: 0 (exempt) g/L: 0 lbs./gal: 0

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Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: High heat, open flame.

Incompatible Materials: Alkali or alkaline earth metals (such as Na, K, or Ba); finely divided metals; magnesium and alloys containing more than 2% magnesium

Hazardous Decomposition Products: Halogen acids

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

ACUTE EFFECTS

<u>Component</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
1,1,1,2-tetrafluoroethane	LC50	1500 g/m ³ /4H	Inhalation	Rat

CHRONIC EFFECTS

Carcinogenicity:

	<u>Component</u>	<u>Result</u>
OSHA:	None listed	
IARC:	None listed	
NTP:	None listed	

Mutagenicity: No information available

Other: None

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	No information available
Persistence / Degradability:	No information available
Bioaccumulation / Accumulation:	No information available
Mobility in Environment:	No information available

Section 13: Disposal Considerations

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Disposal: This product, as packaged, is a RCRA hazardous waste for reactivity. Waste code: D003. (See 40 CFR Part 261.20 – 261.33)
Dispensed product is not a hazardous waste. Empty containers may be recycled.

All disposal activities must comply with federal, state and local regulations. Local regulations may be more stringent than state or national requirements.

Section 14: Transport Information

Proper shipping description:

US DOT (ground): Consumer Commodity, ORM-D

Special Provisions: DOT-SP 11614: In accordance with this special permit, the product container is marked with DOT-SP11614 instead of 2Q. This packaging is approved for shipping as a Consumer Commodity.

Section 15: Regulatory Information

U.S. Federal

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: None

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	No
	Reactive Hazard	No
	Release of Pressure	Yes
	Acute Health Hazard	Yes
	Chronic Health Hazard	No

Section 313 Toxic Chemicals: 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:
None

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

State Regulations

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California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: None

State Right to Know:

New Jersey: 811-97-2
Pennsylvania: 811-97-2
Massachusetts: 811-97-2
Rhode Island : 811-97-2

Additional Regulatory Information: None

Section 16: Other Information

NFPA: Health: 1 Flammability: 0 Reactivity: 1
HMIS: Health: 1 Flammability: 0 Reactivity: 1 PPE: B

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CRC #: 282
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Changes since last revision: MSDS reformatted in accordance with ANSI Z400.1-2004

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label.

CAS:	Chemical Abstract Service	NA:	Not Applicable
ppm:	Parts per Million	ND:	Not Determined
TCC:	Tag Closed Cup	NE:	Not Established
PMCC:	Pensky-Martens Closed Cup	g/L:	grams per Liter
PPE:	Personal Protection Equipment	lbs./gal:	pounds per gallon
TWA:	Time Weighted Average	STEL:	Short Term Exposure Limit
OSHA:	Occupational Safety and Health Administration		
ACGIH:	American Conference of Governmental Industrial Hygienists		
NIOSH:	National Institute of Occupational Safety & Health		
AIHA:	American Industrial Hygiene Association		