



Material Safety Data Sheet

R-422B

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: R-422B
DISTRIBUTOR: National Refrigerants, Inc.
661 Kenyon Avenue
Bridgeton, New Jersey 08302

FOR MORE INFORMATION CALL:
(Monday-Friday, 8:00am-5:00pm)
1-800-262-0012

IN CASE OF EMERGENCY CALL:
CHEMTREC: 1-800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
1,1,1,2,2-Pentafluoroethane (HFC - 125)	354-33-6	55%
1,1,1,2-Tetrafluoroethane (HFC - 134A)	811-97-2	42%
Isobutane (HC - 600A)	75-28-5	3%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Overexposure may cause dizziness and loss of concentration. At higher levels, central nervous system depression and cardiac arrhythmia may result. Vapors displace air and may cause asphyxiation in confined spaces. Volatile liquid with faint sweetish odor.

POTENTIAL HEALTH HAZARDS:

EYE: Liquid may cause frostbite. Mist may irritate.

SKIN: Irritation can result from a defatting action on tissue. Liquid contact may cause frostbite.

INGESTION: Unlikely route of exposure. Should it result, discomfort in the gastrointestinal tract would occur.

INHALATION: Overexposure may cause dizziness and loss of concentration. At higher levels, central nervous system depression and cardiac arrhythmia may result.

CHRONIC (CANCER) INFORMATION: None of the components are designated as carcinogens by IARC, NTP, OSHA, or ACGIH.

TERATOLOGY (BIRTH DEFECT) INFORMATION: No hazard expected.

4. FIRST AID MEASURES

INHALATION: Remove to fresh air. If not breathing, give artificial respiration administer oxygen and call a physician.

DO NOT give epinephrine or similar drugs.

SKIN CONTACT: Warm the area gradually by flushing with plenty of water. Get medical attention if there is evidence of tissue damage.

EYE CONTACT: Irrigate eyes with running water for at least 15 minutes. Get medical attention.

INGESTION: Do not induce vomiting. Get medical attention.



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Avoid contact with skin or eyes. Avoid breathing vapors. Use with sufficient ventilation to keep exposure below recommended exposure limit. Utilize mechanical ventilation in case of low or enclosed spaces, or release of large quantity.

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Goggles or face shield.

RESPIRATORS: Use if exposure level is above PEL.

PROTECTIVE CLOTHING: Impervious.

HYGIENE MEASURES: Do not drink, eat, or smoke in work place.

EXPOSURE GUIDELINES

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMITS
Pentafluoroethane	None	None	*1000 ppm TWA (8hr)
1,1,1,2-Tetrafluoroethane	None	None	*1000 ppm TWA (8hr)
Isobutane	1000 ppm TWA (8hr)	None	** 800 ppm TWA (10hr)

* = Workplace Environmental Exposure Level (AIHA).

**= National Institute of Occupational Safety & Health (NIOSH).

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colorless
PHYSICAL STATE:	Gas at ambient temperature
FREEZING POINT:	Not determined
ODOR:	Slight ethereal
pH:	Neutral
BOILING POINT:	Dew @ 1 atm. -32.15 deg. F Bubble @ 1 atm. -40.86 deg. F
DENSITY:	Liquid @ 1atm. 87.25 lb/ft ³ Vapor @ 1 atm. .3633 lb/ft. ³
VAPOR PRESSURE:	@ 68 deg. F 116.0 psia @ 140 deg. F 328.0 psia
SOLUBILITY IN WATER:	Not Determined
MOECULAR WEIGHT:	108.53 g/mol
% VOLITILES:	100

10. STABILITY AND REACTIVITY

CHEMICAL STABLILITY:

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

DECOMPOSITION:

Decomposition products are hazardous. High temperatures or flames will cause decomposition by products forming halogens, halogen acids and possible carbonyl halides.



POLYMERIZATION:

Will not occur.

OTHER HAZARDS:

Cylinders of used product may contain oil as well as refrigerant. A leak or venting during a fire will produce a cloud of oil mist that is flammable.

11. TOXICOLOGICAL INFORMATION

Immediate (Acute) Effects:

As Blended: Untested

HFC-134a:

LC50: 4hr. (rat) >769,000 ppm
NOEL 75,000 ppm

HFC-125:

LC50: 4hr. (rat) >359,000 ppm
NOEL (dog) 49,800 ppm

HC-600a:

LC50: 2hr. (mouse) >520,000 ppm

12. ECOLOGICAL INFORMATION

DEGRADABILITY:

Refrigerant 422B is a gas at room temperature. It is unlikely to remain in water.

Octanol Water Partition Coefficient: As blended N/A

Components: R-134a – Log Pow = 1.06
R-125 – Log Pow = 1.48
R-600a – Log Pow = 2.8

Aquatic Toxicity: R-134a
48 hrs. LC50 – daphnia magna: mg/L
96 hrs. LC50 rainbow trout: 450 mg/L

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Disposal must comply with federal, state, and local regulations. Refrigerant 422B is subject to Clean Air Act Regulations Section 608 in 40 CFR Part 82 concerning refrigerant recycling.

RCRA: Not a hazardous waste.

Alteration to the product such as mixing with other material may change the characteristics of the material and alter the RCRA classification and the proper disposal method.



14. TRANSPORT INFORMATION

DOT/IMO/IATA: US DOT PROPER SHIPPING NAME: Liquefied Gas, n.o.s (Pentafluoroethane, 1,1,1,2-Tetrafluoroethane)
 US DOT HAZARD CLASS: 2.2
 SHIPPING LABEL: Nonflammable Gas

US DOT ID NUMBER: UN3163
 (ICOA-IATA): Cargo aircraft: Packing instruction: 200 Quantity: 150 kg
 Passenger aircraft: Packing instruction: 200 Quantity: 75 kg

15. REGULATORY INFORMATION

TOXIC SUBSTANCE CONTROL ACT (TSCA)

Components: Listed on Inventory

SARA TITLE III/CERCLA: Components:

Reportable Quantities (RQs):	No components listed
Threshold Planning Quantities (TPQs):	No components listed
Section 311 Hazard Class:	IMMEDIATE PRESSURE
Section 313 Toxic Chemical:	No components listed

WHMIS Classification (Canada): This product has been evaluated with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

ADDITIONAL REGULATORY INFORMATION: U. S. Clean Air Act – 40 CFR Part 82

16. OTHER INFORMATION

HMIS Classification:

Health	1
Flammability	1
Reactivity	0

NFPA Classification:

Health	2
Flammability	1
Reactivity	0

OSHA Regulations for compressed gases: 29CFR 1910.11
ANSI/ASHRAE: Standard 34 Safety Designation – A1

DOT Classification per 49 CFR 172.101

CURRENT ISSUE DATE: November, 2010

PREVIOUS ISSUE DATE: February, 2009

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