Material Safety Data Sheet
(HFC 125)

Information in this format is provided as a service to our customers and is intended only for their use. Others may use it at their own discretion and risk. It is subject to revision as additional knowledge and experience are gained. Please return to us for the most current version.

HFC 125

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number: HFC 125 CAS Number: 354-33-6
Product Name R-125
Chemical Formula CHF2-CF3
Chemical Name Pentafluoroethane
Product Use Refrigerant, fire extinguishant

Company Identification

MANUFACTURER/DISTRIBUTOR: Cosutin Industrial CO., Limited
Add: Unit B, 10/F Lee May Building 788-790 Nathan Road, Mongkok, Kowloon, H.K.
Tel.: +852 21395855 Fax: +852 81673777
PHONE NUMBERS Product Information: +86 136 31481545
Transport Emergency: +86 136 31481545
Medical Emergency: +86 136 31481545

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names: Pentafluoroethane
Chemical Family: HALOGENATED HYDROCARBON
UN No. 3220

Ingredient Name	CAS No.	Typical Wt. %
Pentafluoroethane	354-33-6	100%

3. HAZARDS IDENTIFICATION

Potential Health Effects

INHALATION

Gross overexposure may cause: Central nervous system depression with dizziness, confusion,

incoordination, drowsiness or unconsciousness. Suffocation, if air is displaced by vapors. Based on animal data, this material may cause: Irregular heart beat with a strange sensation in the chest, "heart thumping", apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death.

Skin contact: Immediate effects of overexposure may include: Frostbite, if liquid or escaping vapor contacts the skin. Significant skin permeation, and systemic toxicity, after contact appears unlikely. There are no reports of human sensitization.

Additonal health effects: Increased susceptibility to the effects of this material may be observed in persons with pre-existing disease of the: 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.

4. FIRST AID MEASURES

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 1 minutes. Call a physician.

Skin contact: Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.

Ingestion: Not a probable route. However, in case of accidental ingestion, call a physician.

Inhalation: If concentrations above the recommended levels are inhaled, immediately move person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Notes to physician: THIS MATERIAL MAY MAKE THE HEART MORE SUSCEPTIBLE TO ARRHYTHMIAS. Catecholamines such as adrenaline, and other compounds having similar effects, should be reserved for emergencies and then used only with special caution.

5. FIRE FIGHTING MEASURES

Flammable Properties
NOTE: HFC-125 is used as a fire extinguishant.
Flash point: No flash point
Flammable Limits in air, % by Volume:
LEL : None per ASTM E681
UEL : None per ASTM E681
Extinguishing Media
Use media appropriate for surrounding material.
Fire Fighting Instructions
Evacuate personnel to a safe area. Wear self-contained breathing apparatus (SCBA) and full protective equipment. Cool tank/container with water spray.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel):
NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.
Accidental Release Measures: Ventilate area, especially low or enclosed places where heavy vapors might collect. Do not reoccupy area until the HFC-125 vapor concentration is within recommended levels and the room atmosphere is safe. Extinguish open flames or eliminate sources of extremely high temperature that may produce decomposition products. Comply with Federal, State, and local regulations on reporting releases.

7. HANDLING AND STORAGE

Handling (Personnel): Avoid breathing high concentrations of vapor. Use with sufficient ventilation to keep employee exposure below recommended limits. Avoid contact with skin, eyes, and clothing.
Storage: Clean, dry area. Do not store above 52 deg C (125 deg F).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places.
Personal protective equipment
Impervious gloves should be used to avoid prolonged or repeated exposure. Chemical splash goggles should be available for use as needed to prevent eye contact. 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
Exposure Limit Values
HFC-125
PEL (OSHA): None Established
TLV (ACGIH): None Established
WEEL (AIHA) : 1000 ppm, 4900 mg/m3, 8 Hr. TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA
Boiling Point: -48.5 C (-55.3 F)
Vapor Pressure: 1377 kPa 200 psia at 25 deg C (77 deg F)
Vapor Density: 4.2 (Air = 1)
Freezing Point: -103 C (-153 F)
% Volatiles: 100 WT%
Solubility in Water: 0.09 WT% @ 25 C (77 F)
Odor: Slight ethereal
Form: Liquefied gas

Color: Clear, colorless
Density: 1.248 g/cc at 20 deg C (68 deg F) – Liquid

10. STABILITY AND REACTIVITY

Stability: Material is stable under normal storage conditions. In the presence of open flames or extemely high temperatures, decomposition may occur.

Incompatibility with Other Materials

Incompatible with alkali or alkaline earth metals- powdered Al, Zn, Be, etc.

Decomposition

Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride.

As in the case with all HFC fire extinguishants, there is a potential to produce hazardous thermal decomposition products. Appropriate caution must be used to ensure that safe levels of fire extinguishant and decomposition products exist before allowing personnel to enter the area without appropriate personal protective equipment.

Polymerization

Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Animal Data
EYE: This material has not been tested for eye irritation.
SKIN: LD50: No information found.
This material has not been tested for skin irritation or sensitization.
INGESTION: LD50: No information found.
INHALATION: 4 hour, ALC, rat: > 709,000 ppm (Very low toxicity).

Single exposure to high doses caused: Lethargy. Labored breathing. Weak cardiac sensitization, a potentially fatal disturbance of heart rhythm caused by a heightened sensitivity to the action of epinephrine. Lowest-Observed-Adverse-Effect-Level for cardiac sensitization: 100,000 ppm.

Repeated exposure caused: No significant toxicological effects.
No-Observed-Adverse-Effect-Level (NOAEL): 75,000 ppm.
ADDITIONAL TOXICOLOGICAL EFFECTS:

No animal data are available to define the following effects of this material: carcinogenicity, reproductive toxicity. In animal testing this material has not caused developmental toxicity. Tests have shown that this material does not cause genetic damage in bacterial or mammalian cell cultures, or in animals. This material has not been tested for its ability to cause permanent genetic damage in reproductive cells of mammals (not tested for heritable genetic damage).

12. ECOLOGICAL INFORMATION

No Data

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State, and local regulations.

14. TRANSPORTATION INFORMATION

DOT UN number: 3220
Proper shipping name: Pentafluoroethane
Class: 2.2
Labelling: Nonflammable Gas

IATA_C UN number: 3220
Proper shipping name: Pentafluoroethane
Class: 2.2
Labelling: Nonflammable Gas

IMDG UN number: 3220
Proper shipping name: Pentafluoroethane
Class: 2.2
Labelling: Nonflammable Gas

15. REGULATORY INFORMATION

U.S. Federal Regulations
TSCA Inventory Status: Reported/Included.
TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312
Acute: Yes
Chronic: No
Fire: No
Reactivity: No
Pressure: Yes
LISTS:
SARA Extremely Hazardous Substance -No
CERCLA Hazardous Substance -No
SARA Toxic Chemical -No

16. OTHER INFORMATION

NFPA, NPCA-HMIS
NPCA-HMIS Rating
Health: 1
Flammability: 0
Reactivity: 1
Personal Protection rating to be supplied by user depending on use conditions.
Before use read safety information.
The information provided in this Safety Data Sheet is correct to the best of our knowledge,

information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information

Revision Data	01 Aug 2008
Supercedes Revision Dated	02-Aug-2008

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

End of MSDS