



FORWARD MATERIAL CO., LTD

Add: Hi-tech Industrial Area, Yumin Road, Zibo City, Shandong Province, China

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Material Safety Data Sheet

R407c

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO/IATA

Proper Shipping name: Refrigerant Gas R407c

Hazard Class: 2.2

UN No.: 3340

Label(s): Nonflammable Gas

Shipping Containers: Tank cars, Cylinders, Ton tanks

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
PENTAFLUOROETHANE HFC-125	354-33-6	25
ETHANE, 1,1,1,2-TETRAFLUORO- HFC-134a	811-97-2	52
DIFLUOROMETHANE (HFC-32)	75-10-5	23

HAZARD IDENTIFICATION

Potential Health Effects

Inhalation of high concentrations of vapor is harmful and may cause heart irregularities, unconsciousness, or death. Intentional misuse or deliberate inhalation may cause death without warning. Vapor reduce oxygen available for breathing and is heavier than air. Liquid contact cause frostbite.

HUMAN HEALTH EFFECTS:

Overexposure to the vapors by inhalation may include temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness. Higher exposure to the vapors may activity alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation, Gross overexposure may be fatal. Skin contact with the toxicity of increased exposures.

FIRST AID MEASURES

First Aid

INHALATION

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

SKIN CONTACT

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

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, call a physician.



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INGESTION

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

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point: No flash point

Fire and explosion Hazards:

Cylinders may rupture under fire conditions.

R407c is not flammable in air at temperatures up to 100 °C at atmospheric pressure. However, mixtures of R407c with high concentrations of air at elevated pressure and/or temperature can become combustible in the presence of an ignition source. In general, R407c should not be allowed to exist with air above atmospheric pressure or at high temperatures, or in an oxygen enriched environment. For example, R407c should not be mixed with air under pressure for leak testing or other purposes.

ACCIDENTAL RELEASE MEASURES

Safeguards

NOTE: Review FIRE FIGHTING MEASURES and HANDLING(PERSONAL) 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. Remove open flames. Use self-contained breathing apparatus for large spills or releases.

HANDLING AND STORAGE

Handling

Avoid breathing vapor. Avoid liquid contact with eyes and skin. Use with sufficient ventilation to keep employee exposure below recommended limits. Contact with chlorine or other strong oxidizing agents should also be avoided. See Fire and Explosion Data section.

Storage

Clean, dry area, Do not heat above 52 °C.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Avoid breathing vapors. Avoid contact with skin or eyes. Use with sufficient ventilation to keep employee exposure below the recommended exposure limit. Local exhaust should be used if large amounts are released. Mechanical ventilation should be used in low or enclosed places.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling point -43.9 °C Average

Vapor Pressure 171.8 psia 25 °C



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Evaporation Rate C14=1 Greater than 1

Solubility in Water Not determined

Odor Slight ethereal

Form Liquefied gas

Color Clear, colorless

Specific Gravity 1.136 @ 25 °C

STABILITY AND REACTIVITY

Chemical Stability

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

Incompatibility with Other Materials

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

Decomposition

Decomposition products are hazardous.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

The blend is untested

HFC-125

Inhalation 4 hours ALC: >709,000 ppm in rats.

HFC-134A

Inhalation 4 hours LC50: 567.000 ppm in rats

HFC-32

Inhalation: 4-hours ALC: >520,000 ppm in rate.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO

Proper Shipping Name : LIQUEFIED GAS, N.O.S.

(PENTAFLUOROETHANE , DIFLUOTOMETHANE and Tetrafluoroethane)

Hazard Class : 2.2

UN No. : 3340

DOT/IMO Label : NONFLAMMABLE GAS

Shipping Containers

Tank Cars.

Cylinders

Ton Tanks

Other information

Do not use in medical applications involving permanent implantation in the human body.

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