

The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

DuPont
Material Safety Data Sheet

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2003FR "FREON" 13 Refrigerant
Revised 9-MAY-1995

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"Freon" is a registered trademark of DuPont.

Corporate MSDS Number : DU001069
Formula : CClF3
Grade : REFRIGERANT

Tradenames and Synonyms

CHLOROTRIFLUOROMETHANE
REFRIGERANT 13

Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont
Fluoroproducts
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information : 1-800-441-7515 (outside the U.S.
302-774-1000)
Transport Emergency : CHEMTREC 1-800-424-9300(outside U.S.
703-527-3887)
Medical Emergency : 1-800-441-3637 (outside the U.S.
302-774-1000)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
*METHANE, CHLOROTRIFLUORO- ("FREON" 13 REFRIGERANT)	75-72-9	100

* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

HAZARDS IDENTIFICATION

Potential Health Effects

Inhalation of high concentrations of vapor is harmful and may cause heart irregularities, unconsciousness or death. Intentional misuse can be fatal. Vapor reduces oxygen available for breathing and is heavier than air. Liquid contact can cause frostbite.

HUMAN HEALTH EFFECTS

Overexposure by inhalation may include temporary nervous system depression with anaesthetic effects such as dizziness, headache, confusion, incoordination and loss of consciousness; or possibly with gross overexposure (>20%), temporary alteration of the heart's electrical activity with irregular pulse, palpitations or inadequate circulation. Eye or skin contact with the liquid may cause frostbite.

Individuals with preexisting diseases of the central nervous or cardiovascular system may have increased susceptibility to the toxicity of excessive exposures.

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.

FIRST AID MEASURES

First Aid

INHALATION

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

SKIN CONTACT

Flush with plenty of water. Treat for frostbite if necessary.

EYE CONTACT

Immediately flush eyes with plenty of water. Call a physician.

INGESTION

Ingestion is not considered a potential route of exposure.

(FIRST AID MEASURES - Continued)

Notes to Physicians

Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution only in situations of emergency life support.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point : Will not burn
Flammable limits in Air, % by Volume
LEL : Not applicable
UEL : Not applicable
Autoignition : Not determined
Autodecomposition : >800 C (>1472 F)

Fire and Explosion Hazards:

Use water spray or fog to cool containers. Although cylinders are equipped with pressure and temperature relief devices, they may still rupture under fire conditions. Decomposition may occur.

Extinguishing Media

Non-flammable. As appropriate for combustibles in area.

Fire Fighting Instructions

Self-contained breathing apparatus (SCBA) is required if cylinders rupture or discharge under fire conditions.

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 places where heavy vapors might collect. Remove open flames. Use self-contained breathing apparatus (SCBA) for large spills.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing vapors and liquid contact with the skin and eyes. Use with sufficient ventilation to keep employee exposure below recommended limits.

Storage

Clean, dry area. Do not heat above 125 deg F.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Normal ventilation for standard procedures is generally adequate. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low places.

Personal Protective Equipment

Lined neoprene gloves and chemical splash goggles should be used when handling liquid. Under normal manufacturing conditions, no respiratory protection is required when using this product. Self-contained breathing apparatus (SCBA) is required if a spill occurs.

Exposure Guidelines

Exposure Limits

"FREON" 13 Refrigerant

PEL (OSHA) : None Established
TLV (ACGIH) : None Established

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling Point : -81.4 C (-114.5 F)
Vapor Pressure : 485 psia @ 25 deg C (77 deg F)
Vapor Density : 3.6 at 25 deg C (77 deg F) (Air = 1)
% Volatiles : 100 WT%
Evaporation Rate : >1 (CCl4 = 1)
Solubility in Water : 0.009 WT% @ 25 C (77 F)
pH : Neutral
Odor : Slight ethereal
Form : Gas
Color : Clear, colorless

Liquid Density : 1.3 g/cc at -30 degC (-22 degF)

STABILITY AND REACTIVITY

Chemical Stability

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

Polymerization

Polymerization will not occur.

Other Hazards

Incompatibility : Alkali or alkaline earth metals - powdered
Al, Zn, Be, etc.

Decomposition : "Freon" 13 can be decomposed by high
temperatures (open flames, glowing metal
surfaces, etc.) forming hydrochloric and
hydrofluoric acids, and possible carbonyl
halides.

TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 2 hour LC50: >600,000 ppm in rats

No observed adverse effects were seen in animals exposed by inhalation at concentrations as high as 20% (v/v). Cardiac sensitization was observed in beagle dogs exposed to 800,000 ppm for 5 minutes and challenged with epinephrine. No animal test reports are available to define carcinogenic, mutagenic, embryotoxic, or reproductive hazards.

DISPOSAL CONSIDERATIONS

Waste Disposal

Reclaim by distillation or remove to permitted waste disposal facility. Comply with Federal, State and Local regulations.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : CHLOROTRIFLUOROMETHANE
Hazard Class : 2.2
UN No. : 1022
Special Information : IMO/ICAO LABEL

(TRANSPORTATION INFORMATION - Continued)

NONFLAMMABLE GAS

Shipping Containers

Cylinders

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:

Extremely Hazardous Substance - No
CERCLA Hazardous Substance - No
Toxic Chemicals - No-----
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.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.Responsibility for MSDS : MSDS Coordinator
> : DuPont Fluoroproducts
Address : Wilmington, DE 19898
Telephone : (800) 441-7515

Indicates updated section.

(Continued)

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS