



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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2007FR "FREON" 14 Refrigerant
Revised 7-JAN-1997

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"FREON" is a registered trademark of DuPont.

Corporate MSDS Number : DU001071
Formula : CF4

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	%
TETRAFLUOROMETHANE ("FREON" 14 REFRIGERANT)	75-73-0	100

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 causes frostbite.

HUMAN HEALTH EFFECTS

Overexposure by inhalation may include temporary central nervous system depression with such effects as dizziness, headache, confusion, incoordination, and loss of consciousness; or with gross overexposure (>20%), temporary

(HAZARDS IDENTIFICATION - Continued)

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 systems 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

Treat for frostbite. Seek medical assistance.

EYE CONTACT

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

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	: >1100 C (>2012 F)

(FIRE FIGHTING MEASURES - Continued)

Fire and Explosion Hazards:

Cylinders are equipped with pressure and temperature relief devices but may still rupture under fire conditions.

Extinguishing Media

As appropriate for combustibles in the area.

Fire Fighting Instructions

Use water spray or fog to cool container. Self-contained breathing apparatus (SCBA) is required if cylinders rupture or release 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. For large releases, wear self-contained breathing apparatus (SCBA).

HANDLING AND STORAGE

Handling (Personnel)

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

Storage

Store in clean, dry area. Do not heat above 52 C (125 F).

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 places.

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

Personal Protective Equipment

Lined neoprene gloves should be used when transferring gas. 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 Limits

"FREON" 14 Refrigerant

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

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling Point	: -127.9 C (-198.2 F)
Vapor Pressure	: 529 psig @ -45.6 C (-50.1 F) Critical Temperature (-50 degF) Critical Temp
Vapor Density	: 3.03 (Air=1.0)
% Volatiles	: 100 WT%
Solubility in Water	: 0.0015 WT% @ 25 C (77 F)
Odor	: None
Form	: Compressed gas
Color	: Clear, colorless
Liquid Density	: 1.317 g/cm3 @ -80 C (-112 F)

STABILITY AND REACTIVITY

Chemical Stability

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

Incompatibility with Other Materials

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

Decomposition

"FREON" 14 Refrigerant decomposes at high temperatures (open flames, glowing metal surface, etc.) forming hydrofluoric acid.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 15 minute ALC: 895,000 ppm in rats.

Effects observed in animals from exposure by inhalation to concentrations of >89%, v/v include central nervous system depression and death. Exposure by inhalation at concentrations as high as 22.4% resulted in no observed adverse effects. No animal test reports are available to define carcinogenic, mutagenic, embryotoxic, or reproductive hazards.

DISPOSAL CONSIDERATIONS

Waste Disposal

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

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO/IATA

Proper Shipping Name : TETRAFLUOROMETHANE, COMPRESSED
Hazard Class : 2.2
UN No. : 1982
Shipping Label : 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

(REGULATORY INFORMATION - Continued)

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.

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