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

Material Safety Data Sheet

"FREON" 12 (Discontinued)

CEF0IN12 Revised 19-APR-2004

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"FREON" is a registered trademark of DuPont.

Corporate MSDS Number : DU001065
Formula : CCl2F2

Tradenames and Synonyms

BAN DUST
MS-240 QUICK FREEZE
QUICK FREEZE, MS-240
DICHLORODIFLUOROMETHANE
FREON 12
FALCON DUST-OFF (FALCON SAFETY)
AERO-DUSTER (FREON 12) (MILLER-STEPHENSON)
ISOTRON 12 (BLOW HARD) (PENNWALT)
FALCON BLOW HORN
CLEAN SWEEP (G.C. ELECTRONICS)
FREON 12, R 12 (ANSUL FIRE PROTECTION)
REFRIGERANT 12 (RACON)
GENETRON 12 (ALLIED CORP)
CC0112

Company Identification

MANUFACTURER/DISTRIBUTOR
E.I. du Pont Canada Company
P.O. Box 2200
Streetsville
Mississauga, Ontario L5M 2H3

PHONE NUMBERS
Product Information : 1-800-387-2122
Transport Emergency : 1-613-348-3616 (24 HOURS)
Medical Emergency : 1-613-348-3616 (24 HOURS)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
*METHANE, DICHLORODIFLUORO- ("FREON" 12) *	75-71-8	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

Skin contact with liquid may include frostbite or mild skin irritation with discomfort. Significant skin permeation, and systemic toxicity, after contact appears unlikely. The compound has been infrequently associated with skin sensitization in humans.

Eye contact with the liquid or high vapor concentrations may include irritation with discomfort, tearing, or blurring of vision.

Higher exposures may cause irritation of the upper respiratory passages, with coughing and discomfort; temporary nervous system depression with anaesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness; temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation. Gross overexposure may cause fatality.

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
If high concentrations are 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
In case of contact, flush skin with water. Treat for frostbite if necessary by gently warming affected area.

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

INGESTION
Ingestion is not considered a potential route of exposure.

(FIRST AID MEASURES - Continued)

Notes to Physicians

Because of a possible disturbance of cardiac rhythm, catecholamine drugs, such as epinephrine, should only be used with special caution 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	: >750 C (>1382 F)

Fire and Explosion Hazards:

Cylinders may rupture under fire conditions. Decomposition may occur.

Extinguishing Media

As appropriate for combustibles in area.

Fire Fighting Instructions

Use water spray or fog to cool containers. Self-contained breathing apparatus (SCBA) is required if cylinders rupture and contents are released under fire conditions. Water runoff should be contained and neutralized prior to release.

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. Remove open flames. Use self-contained breathing apparatus (SCBA) for large spills.

HANDLING AND STORAGE

Handling (Personnel)

Use with sufficient ventilation to keep employee exposure below recommended limits.

Storage

Clean, dry area. Do not heat above 52 deg C (125 deg 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 or enclosed places.

Personal Protective Equipment

Impervious 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 large release occurs.

Exposure Guidelines

Applicable Exposure Limits
METHANE, DICHLORODIFLUORO- ("FREON" 12)

PEL (OSHA)	: 1,000 ppm, 4,950 mg/m3, 8 Hr. TWA
TLV (ACGIH)	: 1,000 ppm, 4,950 mg/m3, 8 Hr. TWA, A4
AEL * (DuPont)	: None Established

* AEL is DuPont’s Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling Point	: -29.8 C (-21.6 F)
Vapor Pressure	: 94.5 psia at 25 deg C (77 deg F)
Vapor Density	: 4.26 (Air = 1.0) at 25 deg C (77 deg F)
% Volatiles	: 100 WT%
Solubility in Water	: 0.028 WT% @ 25 C (77 F) at 1 atm
pH	: Neutral
Odor	: Slight ethereal
Form	: Liquified gas

(PHYSICAL AND CHEMICAL PROPERTIES - Continued)

Color	: Clear, colorless
Density	: 1.315 g/cc at 25 deg C (77 deg F) - Liquid

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

Decomposition products are hazardous. "Freon" 12 can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, and possibly carbonyl halides. These materials are toxic and irritating. Contact should be avoided.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 30 minute LC50: 800,000 ppm in rats
Oral ALD: >1000 mg/kg in rats

No significant irritation was seen when a mixture containing CFC-12 was sprayed onto the skin and eyes of animals. This material is untested for animal sensitization.

Effects in animals from single high exposure by inhalation include anesthesia and irregular heartbeat (cardiac arrythmias) due to the heart being made more sensitive to adrenalin (cardiac sensitization). Repeated high exposures caused tremors, incoordination, reduced reflexes and altered respiratory function. Long-term studies showed no significant clinical, blood chemistry, or pathological effects following repeated or long term exposures.

Effects in animals from repeated or long-term ingestion of this material include slight alterations in blood chemistry and body weight gain. No other clinical, biochemical or pathological signs of toxicity have been observed.

(TOXICOLOGICAL INFORMATION - Continued)

Tests in animals demonstrate no carcinogenic activity and no developmental or reproductive toxicity. The compound does not produce heritable genetic damage in animals or genetic damage in bacterial and mammalian cell cultures.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

48 hour EC50 - Daphnia magna: 95 mg/L

DISPOSAL CONSIDERATIONS

Waste Disposal

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

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : DICHLORODIFLUOROMETHANE
Hazard Class : 2.2
UN No. : 1028
DOT/IMO Label : NONFLAMMABLE GAS

Shipping Containers

Tank Cars.

Cylinders
Ton Tanks
Reportable Quantity : 5,000 lbs./2,270 kg.

Shipping Information -- Canada

TDG
Proper Shipping Name : DICHLORODIFLUOROMETHANE
UN # : 1028
TDG Class : 2.2

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

HAZARDOUS CHEMICAL LISTS

SARA Extremely
Hazardous Substance - No
CERCLA Hazardous Substance - Yes
SARA Toxic Chemical - See Components Section

Superfund reportable discharge = 5000 lb.

Canadian Regulations

WHMIS Classification:

CLASS A Compressed Gas

CEPA Status : DSL: REPORTED/INCLUDED.

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

FLUOROPRODUCTS
DuPont Canada Inc.

(Continued)

Box 2200, Streetsville
Mississauga, Ontario, L5M 2H3
(905) 821-5925.

# 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