

July 1993

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SECTION I

GENERAL INFORMATION

Distributor's Name and Address:

PerfectData Corporation
110 West Easy Street
Simi Valley, California 93065-1689
(805) 581-4000

PRODUCT NAME: PERFECTDUSTER II (104910-1)
PERFECTDUSTER II PLUS (105160-1)
PERFECTDUSTER II 4 OZ. (105489-1)

NFPA Hazard Rating
Health 1
Flammability 1
Reactivity 1
Special None

EMERGENCY CONTACT: CHEMTREC (800) 424-9300

SECTION II

HAZARDOUS COMPONENTS

MATERIAL(S)	CAS #	ACGIH TLV	OSHA PEL	APPROX%	STEL
Chlorodifluoromethane (FREON [®] 22)	75-45-6	3500 mg/m ³	1000 ppm	100	1250 ppm/4375 mg/m ³

SECTION III

PHYSICAL DATA

MELTING POINT: N/A
BOILING POINT: -40.80C(-41.40F)
LIQUID DENSITY: 1.194 g/cc at 250C(770F)
SOLUBILITY IN WATER: 0.30% BY WT. AT 250C(770F)
SPECIFIC GRAVITY (H₂O =1): 1.194 (5. 5. AT 770F)
EVAPORATION RATE (CC1₄ = 1): >1
VAPOR PRESSURE: 7046
VAPOR DENSITY(AIR =1): 3.03 AT 250C(770F)
ODOR: Slight Ethereal
APPEARANCE: Clear, colorless liquid gas
PERCENT VOLATILE BY VOLUME: 100

SECTION IV

FIRE AND EXPLOSION DATA

FLASH POINT: None
METHOD USED: TOC

MATERIAL SAFETY DATA SHEET
PERFECTDUSTER II
SECTION IV (Cont'd)

AUTOIGNITION TEMPERATURE N/A

AUTODECOMPOSITION
TEMPERATURE 632° C (1170° F)

FIRE AND EXPLOSION HAZARDS

Use water spray or fog to cool containers. Cylinders are equipped with pressure and temperature relief devices but may rupture under fire conditions. Decomposition may occur, providing hazardous/toxic by products.

EXTINGUISHING MEDIA

As appropriate for combustibles in area. Extinguishant for other burning material in area is sufficient to stop burning

FLAMMABLE LIMITS UPPER: N/A LOWER: NA

SPECIAL FIRE FIGHTING PROCEDURES

Self-contained breathing apparatus (SCBA) is required if cylinders rupture or contents are released under fire conditions. Cool fire exposed containers with water spray.

SECTION V

REACTIVITY

STABILITY

Material is stable.
However, avoid open flames and high temperatures, contact with hot(glowing) metal surfaces, etc.

INCOMPATIBILITY

Alkali or alkaline earth metals – powdered Al, Zn, Be, etc.

DECOMPOSITION

Can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids – possibly carbonyl halides.

POLYMERIZATION

Will not occur

SECTION VI

HEALTH HAZARD INFORMATION

PRINCIPAL HEALTH HAZARDS

(including significant routes, effects symptoms of overexposure and medical conditions aggravated by exposure)

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.

INHALATION 4-HOUR LC50 220,000 ppm in rats.

INGESTION Not considered a likely route of exposure

MATERIAL SAFETY DATA SHEET
PERFECTDUSTER II
SECTION VI (Cont'd)

The compound is untested for skin and eye irritancy, and is untested for animal sensitization. Toxicity described in animals exposed by inhalation to concentrations ranging from 5% to 70% include effects on the central nervous system, liver, lungs, kidneys, spleen; cardiac sensitization; decreased body weight gain; and partial anesthesia. In chronic inhalation studies, FC-22 produced a small, but statistically significant, increase of tumors in male rats, but not female rats or male or female mice, at a concentration of 50,000 ppm (v/v). In the same studies, no carcinogenic effects were seen in either species at concentrations of 10,000 ppm or 1000 ppm (v/v). FC-22 was mutagenic in whole animal assays. A slight, but significant, increase in developmental toxicity (eye malformations, decreased fetal weights) has been observed in the offspring of rats exposed to high concentrations (50,000 ppm) of FC-22, a concentration which was also maternally toxic; no effects on the fetus or the maternal rats were seen at 1000 or 100 ppm. Developmental toxicity studies in rabbits at 50,000, 1000 and 10 ppm FC-22 were negative. Studies of the effects of FC-22 on male reproductive performance have been negative. Specific studies to evaluate the effect on female reproductive performance have not been conducted, however, limited information obtained from studies on developmental toxicity do not indicate adverse effects on female reproductive performance at concentrations up to 50,000 ppm (v/v).

Human health effects of 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 exposures to the vapors may cause temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation; or fatality from gross overexposure. 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

Not listed as a carcinogen by IARC, NTP, OSHA or ACGIH. But see Principal Health Hazards Section above.

FIRST AID

IF LARGE CONCENTRATIONS ARE INHALED

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 water. Treat for frostbite if necessary.

EYE CONTACT

IMMEDIATELY flush eyes with plenty of water. **CALL A PHYSICIAN.**

IF SWALLOWED

Ingestion is not considered a potential route of exposure.

NOTE TO PHYSICIANS

BECAUSE OF POSSIBLE DISTURBANCES OF CARDIAC RHYTHM, CATECHOLAMINE DRUGS, SUCH AS EPINEPHRINE, SHOULD BE USED WITH SPECIAL CAUTION IN SITUATIONS OF EMERGENCY LIFE SUPPORT

SECTION VII

PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL, LEAK OR RELEASE

Ventilate area, especially low places where heavy vapors might collect. Remove open flames. Use self-contained breathing apparatus (SCBA) for large spills or releases. Product is highly volatile, rapidly evaporates

**MATERIAL SAFETY DATA SHEET
PERFECTDUSTER II
SECTION VII (Cont'd)**

WASTE DISPOSAL

Comply with Federal, State and local regulations.

HANDLING AND STORAGE

Store in a clean, dry area, out of direct sunlight, away from high temperatures, open flames, incompatibles. Store at temperatures under 120°F.

SAFETY PRECAUTIONS

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

SECTION VIII

CONTROL MEASURES

GENERALLY APPLICABLE CONTROL MEASURES

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.

PERSONAL PROTECTIVE EQUIPMENT

Lined butyl 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.

WORK/HYGIENIC PRACTICES

General hygienic practices include washing of hands with soap and water after use, before eating, drinking or smoking.

SECTION IX

SHIPPING INFORMATION

DOT (172.101)

DOT/IMO (172.102)

PROPER SHIPPING NAME
Chlorodifluoromethane

PROPER SHIPPING NAME
Chlorodifluoromethane

HAZARD CLASS
Nonflammable Gas

HAZARD CLASS
Nonflammable Gas, 2.2

UN NO.
1018

UN NO.
1018

DOT LABEL
Nonflammable Gas

IMO/ICAO LABEL
Nonflammable Gas

DOT PLACARD
Nonflammable Gas

SHIPPING CONTAINERS
Cylinders, tank trucks, tank cars

SECTION X

ADDITIONAL INFORMATION

Personal Protection rating to be supplied by user depending on use conditions.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

<u>Product Hazard Categories</u>		<u>Lists</u>	
Chronic Health	No	Extremely Hazardous Substance	No
Acute Health	Yes	CERCLA Hazardous Substance	No
Fire Hazard	No	Toxic Chemicals	No
Pressure Hazard	Yes		
Reactivity Hazard	No		

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