

MATERIAL SAFETY 3M
DATA SHEET 3M Center
St. Paul, Minnesota
55144-1000
1-800-364-3577 or (651) 737-6501 (24 hours)

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DIVISION: 3M SPECIALTY MATERIALS
TRADE NAME:

FX-8A FLUORAD (TM) BRAND PERFLUOROOCCTANE SULFONYL FLUORIDE
ID NUMBER/U.P.C.:
ZF-0002-1129-0 - - -
ISSUED: January 04, 2000
SUPERSEDES: February 22, 1999
DOCUMENT: 07-2643-0

1. INGREDIENT	C.A.S. NO.	PERCENT
C8F17SO2F (PERFLUOROOCCTANE SULFONYLFLUORIDE).....	307-35-7	> 95.5
PERFLUOROALKYL(C4-C7)SULFONYLFLUORIDES +++.....	335-71-7	< 4.5

The components of this product are in compliance with the chemical
notification requirements of TSCA. All applicable chemical
ingredients in this material are listed on the European Inventory of
Existing Chemical Substances (EINECS), or are exempt polymers whose
monomers are listed on EINECS.

+++ CONTAINS SMALL AMOUNTS OF CAS 375-72-4 + CAS 375-81-5 + CAS
423-50-7.

2. PHYSICAL DATA

BOILING POINT:..... 154 C
VAPOR PRESSURE:..... < 10 mmHg
Calc. at 20C
VAPOR DENSITY:..... > 1.0 Air=1
Calc. @ 20C
EVAPORATION RATE:..... < 1.0 BuOAc=1
SOLUBILITY IN WATER:..... neglig.
SPECIFIC GRAVITY:..... ca. 1.8 Water=1
PERCENT VOLATILE:..... nil
pH:..... N/A
VISCOSITY:..... N/D

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

2. PHYSICAL DATA (continued)

MELTING POINT:..... N/A

APPEARANCE AND ODOR:
Clear liquid.

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... > 100 C Setaflash
FLAMMABLE LIMITS - LEL:..... N/A
FLAMMABLE LIMITS - UEL:..... N/A
AUTOIGNITION TEMPERATURE:..... N/A

EXTINGUISHING MEDIA:
Water, Carbon dioxide, Dry chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES:
Wear full protective clothing, including helmet, self-contained,
positive pressure or pressure demand breathing apparatus, bunker coat
and pants, bands around arms, waist and legs, face mask, and
protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
See Hazardous Decomposition section for products of combustion.

4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:
Strong Bases, Amines.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon Monoxide and Carbon Dioxide, Oxides of Sulfur, Hydrogen
Fluoride, Toxic Vapors, Gases or Particulates.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:
Observe precautions from other sections. Ventilate area. Contain
spill. Cover with absorbent material. Collect spilled material.
Clean up residue with an appropriate organic solvent. Read and follow

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5. ENVIRONMENTAL INFORMATION (continued)

safety precautions on the solvent label and MSDS. Place in a closed container.

RECOMMENDED DISPOSAL:

Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF.
Disposal alternative: Dispose of completely absorbed waste product in a facility permitted to accept chemical wastes.

ENVIRONMENTAL DATA:

COD=500-720 mg/kg; BOD20=Nil; 96-Hr. LC50 Fathead minnow (Pimephales promelas) - >1000 mg/L. No acute inhibition of microbial oxygen uptake at 1000 mg/L.

REGULATORY INFORMATION:

Volatile Organic Compounds: N/A.
VOC Less H2O & Exempt Solvents: N/A.

Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous).

OTHER ENVIRONMENTAL INFORMATION:

This product contains one or more organic fluorochemicals that have the potential to resist degradation and persist in the environment.

EPCRA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: No CHRONIC: No

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush eyes with large amounts of water. Get immediate medical attention.

SKIN CONTACT:

Flush skin with large amounts of water. If irritation persists, get medical attention.

INHALATION:

If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

IF SWALLOWED:

Drink two glasses of water. Call a physician.

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7. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Avoid eye contact with vapor, spray, or mist. Wear vented goggles.

SKIN PROTECTION:

Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: butyl rubber. Use one or more of the following personal protection items as necessary to prevent skin contact: coveralls.

RECOMMENDED VENTILATION:

If exhaust ventilation is not adequate, use appropriate respiratory protection. Provide ventilation adequate to control vapor concentrations below recommended exposure limits and/or control spray or mist.

RESPIRATORY PROTECTION:

Avoid breathing of airborne material. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half-mask organic vapor respirator with dust/mist prefilter.

PREVENTION OF ACCIDENTAL INGESTION:

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash hands after handling and before eating.

RECOMMENDED STORAGE:

Store away from areas where product may come into contact with food or pharmaceuticals. Do not store containers on their sides. Store away from heat. Allow material to return to room temperature before use. Keep container closed when not in use. Keep container in well-ventilated area.

FIRE AND EXPLOSION AVOIDANCE:

Nonflammable.

OTHER PRECAUTIONARY INFORMATION:

No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of the hazardous decomposition products mentioned in the Reactivity Data section of this MSDS.

7. PRECAUTIONARY INFORMATION (continued)

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
C8F17SO2F (PERFLUOROOCCTANE SULFONYLFLUORIDE).....	0.1	MG/M3	TWA	3M	Y
PERFLUOROALKYL(C4- C7)SULFONYLFLUORIDES +++.....	0.1	MG/M3	TWA	3M	Y

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- 3M: 3M Recommended Exposure Guidelines

8. HEALTH HAZARD DATA

EYE CONTACT:

Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

SKIN CONTACT:

Product is not expected to be irritating to the skin.

May be absorbed through the skin and produce effects similiar to those caused by inhalation and/or ingestion.

INHALATION:

Single overexposure, above recommended guidelines, may cause:

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

IF SWALLOWED:

Animal studies conducted on organic fluorochemicals which are present in this product indicate effects including liver disturbances, weight loss, loss of appetite, lethargy, and neurological, pancreatic, adrenal and hematologic effects. There are no known human health effects from anticipated exposure to these organic fluorochemicals when used as intended and instructed.

OTHER HEALTH HAZARD INFORMATION:

This product contains one or more organic fluorochemicals that have the potential to be absorbed and remain in the body for long periods of time, either as the parent molecule or as metabolites, and may accumulate with repeated exposures. There are no known human health

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8. HEALTH HAZARD DATA (continued)

effects from anticipated exposure to these organic fluorochemicals when used as intended and instructed.

The presence of organic fluorochemicals in the blood of the general population and subpopulations, such as workers, has been published dating back to the 1970's. 3M's epidemiological study of its own workers indicates no adverse effects.

SECTION CHANGE DATES

INGREDIENTS SECTION CHANGED SINCE February 22, 1999 ISSUE
ENVIRONMENTAL INFO. SECTION CHANGED SINCE February 22, 1999 ISSUE

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