

EXHIBIT S116 TO DECLARATION OF
STEPHEN G. SCHWARZ IN SUPPORT OF
PLAINTIFFS' MOTION FOR CLASS
CERTIFICATION

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110
Duns No.: 00-617-3082

MATERIAL SAFETY
DATA SHEET



DIVISION: INDUSTRIAL CHEMICAL PRODUCTS DIVISION

TRADE NAME:

FC-143 FLUORAD Brand Fluorochemical Surfactant

3M I.D. NUMBER: ZF-0002-0378-4 98-0211-0008-0 98-0211-0367-0 98-0211-0891-9
98-0211-1522-9 98-0211-5489-7

ISSUED: AUGUST 12, 1991

SUPERSEDES: DECEMBER 18, 1990

DOCUMENT: 10-3808-2

1. INGREDIENT	C.A.S. NO.	PERCENT	EXPOSURE VALUE UNIT	LIMITS TYPE AUTH
Ammonium Perfluoroalkyl Carboxylate	3825-26-1	93.0 - 97.0	0.1 mg/m3	TWA ACGIH
Ammonium Perfluoroalkyl Carboxylate	6130-43-4	1.0 - 4.0	0.1 mg/m3	TWA 3M
Ammonium Perfluoroalkyl Carboxylate	21615-47-4	1.0 - 4.0	0.1 mg/m3	TWA 3M
Ammonium Perfluoroalkyl Carboxylate	68259-11-0	< 2.0	0.1 mg/m3	TWA 3M

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- 3M: 3M Medical Department Guideline

2. PHYSICAL DATA

BOILING POINT:..... N/A
VAPOR PRESSURE:..... N/A
VAPOR DENSITY: N/A
EVAPORATION RATE:..... N/A
SOLUBILITY IN WATER: > 10 %
SP. GRAVITY:..... 0.400-0.500
(Bulk)
PERCENT VOLATILE: N/A
VOLATILE ORGANICS: N/D
pH: ca. 5.00
(0.5% Aqueous)
VISCOSITY: N/D
APPEARANCE AND ODOR: Light colored powder; slight odor.

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... None
FLAMMABLE LIMITS - LEL: N/A
FLAMMABLE LIMITS - UEL: N/A
AUTOIGNITION TEMPERATURE: ... N/D
EXTINGUISHING MEDIA:
Water, Foam, CO2, Dry Chemical
SPECIAL FIRE FIGHTING PROCEDURES:
Full protective clothing including self-contained breathing apparatus,
coat, pants, gloves, boots, and bands around legs, arms and waist
should be provided. No skin surface should be exposed.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Heat of fire may release ammonia and HF.
NFPA-HAZARD-CODES: HEALTH 3 FIRE 0 REACTIVITY 0
UNUSUAL REACTION HAZARD: N

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

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4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS TO AVOID:

Not Applicable

HAZARDOUS POLYMERIZATION: Will Not Occur

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition may produce toxic materials including HF.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Observe precautions from other sections. Use toxic dust mask. Use wet sweeping compound, or water to avoid dusting. Collect spilled material. Place in a closed container.

RECOMMENDED DISPOSAL:

Mix with flammable material and incinerate in an industrial or commercial incinerator. Combustion products will include HF. Discharge spent solutions to a wastewater treatment system. Reduce discharge rate if foaming occurs. Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste No.: None

ENVIRONMENTAL DATA:

Chemical Oxygen Demand (COD): Nil (700 mg/Kg); 20-Day Biochemical Oxygen Demand (BOD20): Nil; 96-Hr. LC50, Bluegill Sunfish (*Lepomis macrochirus*): 569 mg/L; 96-Hr. LC50, Fathead Minnow (*Pimephales promelas*): 766 mg/L; 48-Hr EC50, *Daphnia magna*: 632 mg/L; 14-Day EC50 (cell dry weight), Green Algae (*Selenastrum capricornutum*) 73 mg/L.

SARA HAZARD CLASS:

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

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush with plenty of water. Continue for 10 minutes. Call a physician.

SKIN CONTACT:

Wash affected area with soap and water.

INHALATION:

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

IF SWALLOWED:

DO NOT INDUCE VOMITING. Give copious amounts of water. IMMEDIATELY call a physician or Poison Control Center.

OTHER FIRST AID:

NONE

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7. PRECAUTIONARY INFORMATION

Use only in well ventilated areas with sufficient local exhaust ventilation to maintain airborne levels at recognized health and safety levels. Do not breathe dust. Do not get powder or airborne dust in eyes; wear personal eye protection. Do not get on skin; wear impervious gloves and protective clothing. Wash hands thoroughly after use before eating or drinking. Do not take internally. Launder contaminated clothing before re-use. NOTE: FC-143 was fed to albino rats for 2 years; no compound induced carcinogenicity was found in the study. There were statistically significant compound related benign testicular tumors. Based on current knowledge, the findings have no human health implications. ***PREVENT MOISTURE CONTAMINATION TO KEEP POWDER FREE FLOWING.***

SPECIAL PROTECTION:

EYE PROTECTION: Safety Goggles

SKIN PROTECTION: Rubber gloves, protective clothing.

VENTILATION: Local exhaust ventilation should be used to control airborne dust.

RESPIRATORY PROTECTION: Toxic dust or supplied air respirator if dust is not well controlled.

ADDITIONAL EXPOSURE LIMITS

INGREDIENTS	EXPOSURE LIMITS		LIMITS	
	VALUE	UNIT	TYPE	AUTH
Ammonium Perfluoroalkyl Carboxylate	0.1	mg/m ³	TWA	3M

SOURCE OF EXPOSURE LIMIT DATA:

- 3M: 3M Medical Department Guideline

8. HEALTH HAZARD DATA

EYE CONTACT: FC-143 can be irritating to the eyes upon direct contact. Animal studies indicate FC-143 is moderately irritating to the eyes. Airborne FC-143 may cause eye injury consisting of corneal opacity.

SKIN CONTACT: FC-143 may be absorbed through the skin. Slightly toxic when absorbed through the skin. FC-143 is non-irritating to the skin.

INHALATION: FC-143 may cause respiratory system irritation from inhalation of dust. FC-143 can be considered moderately toxic by inhalation on a single exposure; a median lethal concentration for a 4-hour exposure in the albino rat is 980 milligrams per cubic meter. Repeated inhalation exposure produced liver changes and elevated blood organofluoride levels in rats.

INGESTION: FC-143 is considered moderately toxic from a single oral exposure. The acute oral LD50 (rat) is 540 milligrams per kilogram of body weight. FC-143 is not teratogenic (rats or rabbits). See precautions for results of 2 year study.

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The information on this Data Sheet represents our current data and best opinion as to the proper use in handling of this material under normal conditions. Any use of the material which is not in conformance with this Data Sheet or which involves using the material in combination with any other material or any other process is the responsibility of the user.

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