



3. FIRE AND EXPLOSION HAZARD DATA (continued)

EXTINGUISHING MEDIA:

Water, Foam, CO₂, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES:

None Known

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Heat of fire may release ammonia and HF.

4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS TO AVOID:

NA

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. Cover with absorbent material. Collect spilled material. Place in an approved metal container, and seal.

RECOMMENDED DISPOSAL:

Discharge spent solutions and small product quantities, (5 gal., to a wastewater treatment system. Incinerate bulk product in an industrial or commercial facility. Combustion products will include HF. Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste No.: None

ENVIRONMENTAL DATA:

Data for product solids: 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.

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.

INGESTION:

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

OTHER FIRST AID:

NONE

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

Exhibit
1356

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

3MA00202500

1356.0001



6. SUGGESTED FIRST AID

7. PRECAUTIONARY INFORMATION

General safe practice requires that contact with the skin/eyes and breathing of vapors, fumes, mists, or dusts should be avoided. When not in use, the container should be kept tightly closed. Avoid prolonged/repeated breathing of concentrated vapors. Use only in areas sufficiently ventilated to prevent vapor buildup. NOTE: Ammonium perfluoroalkyl carboxylate was fed to albino rats for 2 years, no compound induced carcinogenicity was found in the study; statistically significant compound related benign testicular tumors. Based on current knowledge, the findings have no human health implications.

SPECIAL PROTECTION:

EYE PROTECTION: Safety Goggles.

SKIN PROTECTION: Rubber gloves, protective clothing.

VENTILATION: Local exhaust ventilation is recommended.

RESPIRATORY PROTECTION: Air supplied respirator where local exhaust ventilation is not available.

ADDITIONAL EXPOSURE LIMITS

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

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- 3M: 3M Exposure Guidelines
- NONE: None Established

8. HEALTH HAZARD DATA

EYE CONTACT: No toxicity data for FC-118. Ammonium perfluoroalkyl carboxylate can be irritating to the eye and may cause eye injury from airborne exposure.

SKIN CONTACT: No toxicity data for FC-118. Ammonium perfluoroalkyl carboxylate is slightly toxic when absorbed through the skin; it is non-irritating to the skin.

INHALATION: No toxicity data for FC-118. Ammonium perfluoroalkyl carboxylate may cause respiratory system irritation from inhalation; 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: No toxicity data for FC-118. Ammonium perfluoroalkyl carboxylate is considered moderately toxic from a single oral exposure; acute oral LD50 (rat) is 540 mg. per kg. of body weight. See precaution section for results of 2 year study.

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

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

Product Information

Fluorad™

3M

Fluorochemical Surfactant

• **FC-118**

Fluorad™ Fluorochemical Surfactant FC-118

Introduction

Fluorad Fluorochemical Surfactant FC-118 is an aqueous solution of ammonium perfluorooctanoate, an anionic fluorochemical surfactant. Highly fluorinated micelles can be formed in aqueous systems - a property that has led to extensive use of FC-118 in the emulsion polymerization of fluorinated monomers.

Typical Properties (Not for Specification Purposes)

Form	Light colored liquid
Composition	20% aqueous solution
pH	5
Specific Gravity	1.18

Surface Tension

Although FC-118 is soluble in certain polar organic solvents such as ethanol and acetone, solubility can be limited in inorganic systems, but there is generally sufficient solubility to enable FC-118 to significantly reduce surface tension. FC-118 is not active in 100% organic systems.

Solvent	Surface Tension at 25 °C (dynes/cm)			
	Grams of FC-118/100 Grams of Solvent			
	0.0	0.005	0.05	0.5
Distilled Water	72	60	53	44
Hydrochloric Acid, 18.5%	72	59	51	26*
Hydrochloric Acid, 37%	67	65	59	30*
Nitric Acid, 10%	71	56	31	19
Nitric Acid, 40%	68	56	40	22
Nitric Acid 70%	56	54	47	25*
Sulfuric Acid, 10%	73	48	29	22*
Sulfuric Acid, 50%	76	72	69	25*
Sulfuric Acid, 95%	58	57	55	32
Potassium Hydroxide, 10%	77	43	23	20*
Potassium Hydroxide, 30%	83	22	19	18*

*Not all dissolved

Storage

FC-118 should be stored at or near room temperature. Frozen containers should be warmed to room temperature and the solution stirred until all solids are redissolved.

Product Safety

Please refer the Material Safety Data Sheet and product label. Material Safety Data Sheets are available through your local sales representatives.

Please see important notice on back page.

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Representative Locations

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