

Product Information

Fluorad™

3M

Fluorochemical Surfactant

FC-143

RJZ010412

EID935821

P000032164

Exhibit

1338

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

STATE_07543938

1338.0001

Fluorad™ Fluorochemical Surfactant FC-143

Introduction

Fluorad™ Fluorochemical Surfactant FC-143 is an anionic fluorochemical surfactant particularly useful as an emulsifier in the polymerization of fluorinated monomers where its surface activity and highly fluorinated nature of micelles formed in aqueous media combine to give this unique utility. It is also an effective wetting agent in alkaline media. FC-143 may be described chemically as ammonium perfluorooctanoate.

Typical Properties (Not for Specification Purposes)

Form.....Light Colored Powder
 Composition.....100% Ammonium Perfluoroalkyl Carboxylates
 pH (0.5 Aqueous Soln).....~5
 Melting Point.....Decomposes at 130°C (266°F)
 Bulk Density (Grams/cc).....0.4-0.5

Solubility

FC-143 is quite soluble in polar solvents such as water, alcohol, and acetates or ethyl acetate.

**Solubility of FC-143 at 25°C
(grams of FC-143/100 grams of solvent)**

Solvent	grams of FC-143/100 grams of solvent
Carbon Tetrachloride	0
Perchloroethylene	0
Heptane	0
Toluene	0
Nitric Acid, 40%	.3
Sulfuric Acid, 95%	.3
Distilled Water	> 100
Ethyl Alcohol	> 100
Acetone	> 100

Surface Tension

Although FC-143 is soluble in certain organic solvents, it is surface active only in aqueous systems. Solubility is limited in inorganic acids, however, sufficient solubility does exist to allow FC-143 to act as a surface tension depressant in these systems.

**Surface Tension at 25°C
(dynes/cm)**

Solvent	grams of FC-143/100 grams of solvent			
	0.0	0.001	0.01	0.1
Distilled Water:	72	60	53	44
Hydrochloric Acid, 16.5%	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%	63	22	19	18*

*Not all checked

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*Listed in USA with 3M official photos. See also photos, 072211 *

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