

# DuPont™ Capstone® Fluorosurfactant FS-51

## TECHNICAL INFORMATION

### Description

FS-51 is an amphoteric amine oxide-based fluorosurfactant that significantly reduces the surface tension of aqueous solutions and is also useful in providing sustained foam. FS-51 enables the formation of a thin low surface tension aqueous film, which is useful for creating surface defect-free films over low surface tension or contaminated substrates.

### Applications

FS-51 is recommended as a surface tension reducing and foaming agent for use in:

- Oilfield operations
- Industrial and institutional cleaning
- Floor care applications
- Latex paints and alkyd emulsions

### Typical Properties

Appearance	Clear amber-colored liquid
Chemical structure	Amine oxide partially fluorinated surfactant
Composition	40% solids in water/ethanol
Density at 20 °C (68 °F)	1.07
Thermal stability	Stable up to 175 °C (347 °F)
pH	6–8
Flash point (closed cup)	25 °C (77 °F)
Solubility at 25 °C (77 °F)	Soluble in water, ethanol and ethylene glycol
Shelf life	5 years

### Surface Tension at 25 °C (77 °F) in DI Water (dynes/cm)

0.01% (A.I.)	0.05% (A.I.)	0.1% (A.I.)
19.0	15.5	15.4

### Ross-Miles Foaming Data

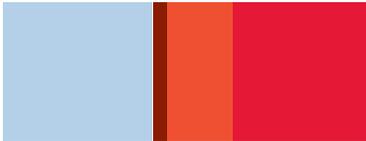
FS-51 (0.05% A.I.)	mL of Foam After		
	30 sec	3 min	5 min
Deionized water	350	340	340
10% NaCl in distilled water	120	120	120

### Personal Safety, First Aid, Storage, and Handling

Like any other chemical product, fluorinated surfactants must be handled and used with care (any contact with skin and eyes is to be avoided). Please refer to the material Safety Data Sheet (SDS) for product specific information. Mix well before using. Warm the product to room temperature before use after cold storage.



*The miracles of science™*



## DuPont™ Capstone® Fluorosurfactant FS-51

### DuPont™ Capstone® Repellents and Surfactants:

- Deliver more sustainable solutions with maximum performance
- Are short-chain molecules that cannot break down to PFOA in the environment
- Are supported by an in-depth foundation of data
- Are in compliance with REACH requirements
- Are listed on TSCA inventory
- Meet the goals of the U.S. Environmental Protection Agency 2010/15 PFOA Stewardship Program

**For questions regarding technical data, commercialization, and sampling:**

### DuPont Fluoropolymer Solutions

#### Technical Inquiries

Asia Pacific	+8621.2892.1097
Europe	+33.1.30.92.82.12
Latin America	+52.55.5722.1150
North America	+1.866.828.7009

#### Regional Technical Centers

##### Customer Service Center, Americas

DuPont Experimental Station  
200 Powder Mill Road  
Wilmington, DE 19803  
U.S.A.  
+1.866.828.7009

##### Customer Service Center, Europe/Middle East/Africa

Mantes Technical & Expertise Center  
DuPont de Nemours (France) SAS  
1 Allée de Chantereine  
78711 Mantes la Ville, France  
+33.1.30.92.82.12

##### Customer Service Center, Asia Pacific

DuPont (China) R&D Center  
Shanghai, China  
+8621.2892.1097

[www.capstone.dupont.com](http://www.capstone.dupont.com)



*The miracles of science™*

The information set forth herein is furnished free of charge and based on technical data that DuPont believes to be reliable. It is intended for use by persons having technical skill, at their own risk. Because conditions of use are outside our control, DuPont makes no warranties, express or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as license to operate under or a recommendation to infringe any patents.

Copyright © 2012 DuPont. The DuPont Oval Logo, DuPont™, The miracles of science™, and Capstone® are registered trademarks or trademarks of E.I. du Pont de Nemours and Company or its affiliates. All rights reserved.

K-02044-2 (05/12) Printed in the U.S.A.