

# DuPont™ Capstone™ 1157

## AFFF FLUORINATED SURFACTANT

### TECHNICAL INFORMATION

#### Description

DuPont™ Capstone™ 1157 is an amphoteric perfluorinated surfactant that significantly reduces the surface tension of aqueous solutions. It is based on six fluorinated carbon molecules that cannot break down to PFOA in the environment.

#### Features

Capstone™ 1157 enables the formation of an aqueous film that is distributed over the entire surface of the hydrocarbon. It:

- Meets the goals of the voluntary U.S. EPA 2010/15 PFOA Stewardship Program
- Targeted below LOD\* for PFOA

#### Applications

DuPont™ Capstone™ 1157 is a film-forming fluorinated surfactant used in aqueous film-forming foam (AFFF), film-forming fluoroprotein foam (FFFP), and alcohol-resistant foams AFFF-AR/FFFP-AR (against hydrocarbons and polar liquid fires.)

#### Physical Characteristics

Please refer to product specifications data sheet for guaranteed commercial specifications.

Appearance	Clear amber-colored liquid
Chemical structure	Perfluoroalkyl betaine
Active matter, wt%	27
Solvent	Ethanol/water
Density at 20°C (68°F)	1.03
pH	5.5
Flash point (closed cup)	25°C (77°F)

\*Below the limit of detection (LOD) based on the published analytical method found in *The Journal of Chromatography A*, 1110 (2006) 117–124.

#### General Properties

Solubility at ambient temperature:

Water	Soluble
Ethanol	Soluble
Ethylene glycol	Soluble

Viscosity at 20°C (68°F) 6 mPa·s

#### Surface Tension at 25°C (77°F) in Aqueous Solution (mN/m)

Capstone™ 1157	0.01%	0.05%	0.1%
Surface tension	20.5	16.0	15.5

#### Ross-Miles Foaming Data

Concentration of Capstone™ 1157 at 0.5 g/L	mL of Foam After		
	30 sec	3 min	5 min
Deionized water	540	510	485
Tap water	330	310	310
Artificial sea water	185	180	180

#### Interfacial Tension at 25°C (77°F) (mN/m)

	Cyclohexane	Essence F-5	n-Heptane	n-Hexane
Water	40.5	44.5	47.5	48
Water + 1 g/L of 1157	4.2	4.1	3.7	3.3

#### Precautions – Toxicity

Like any other chemical product, fluorinated surfactants must be handled and used with care (any contact with the skin and eyes is to be avoided).

A safety data sheet is available on request.



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## Personal Safety, First Aid, Storage and Handling

See the Material Safety Data Sheet (MSDS) for specific product information. Normal care should be taken to avoid skin and eye contact. Before using this product, please read the current MSDS and the precautionary statement on the product package. Follow all applicable directions.

## Ordering Information

To place an order for DuPont™ Capstone™ 1157, for help in selecting or evaluating these products for your application or for additional literature or a product sample, please contact the local DuPont representative office in your region.

## DuPont Chemical Solutions Enterprise

### Customer Service Center

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