

DuPont™ Capstone™ WM

ADDITIVE FOR WATER MIST SYSTEMS

TECHNICAL INFORMATION

Description

DuPont™ Capstone™ WM is a blend of specially designed perfluorinated molecules, hydrocarbon surfactants and rheology modifiers. An additive used in the water of water mist systems, Capstone™ WM is based on six fluorinated carbon molecules that cannot break down to PFOA in the environment.

Features

Capstone™ WM enhances the efficiency of a water mist system on a class A fire (paper, wood, etc.) but more specifically on a class B fire (flammable liquids). It:

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

Physical Characteristics

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

Appearance	Clear brown liquid
Active matter, wt%	10
Solvent	Water/Dowanol DPM
Density at 20°C (68°F)	1.025
pH	8.5
Refractive index at 23°C (68°F)	1.0353

General Properties

Solubility at room temperature:

Soluble in water at any concentration.

Surface tension at 25°C (77°F) in aqueous solution:

Aqueous solution at 2% Capstone™ WM: 16.2 mN/m

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

Storage

Stored in	Shelf life
Original packaging	5 years
Cartridge (pressurized or not)	1 to 5 years
Premix	1 to 5 years

Applications

Capstone™ WM is added to the water of water mist systems. It can be used as a premix or released when the system is activated. The recommended concentration is 2% of commercial product in tap water. Capstone™ WM can be used to improve performance of systems installed for the protection of closed rooms where a potential class A or B fire can occur (for example, engine rooms on ships, storage rooms, etc.).

Extinction

This additive gives a faster extinction. In given configurations where the fire is too small or the room ventilation too high, regular water mist systems control the fire without extinction. In those difficult conditions, it has been shown that Capstone™ favors the extinction of class B fires.

Burnback, re-ignition resistance

After the extinction of a class B fire, it is critical to prevent re-ignition that could be induced by any warm metallic part or any electrostatic discharge.

By generating a foam blanket on top of the flammable liquid, Capstone™ WM prevents re-ignition so the area can be secured.

Application example

Well-ventilated 9 m³ room

Nozzle:	AM4 aquamist
Pressure:	180 psi (12 bars)
Water flow rate:	6 gpm (22.7 L/min)
Fire:	0.25 m ² of Heptane
Preburn period:	60 sec
Capstone™ WM concentration in tap water:	2%



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Results:

Without DuPont™ Capstone™ WM: no extinction.

With Capstone™ WM: extinction within 90 seconds and burnback resistance during 10 minutes.

For fire test description and more information, download technical papers on www.firesuppression.dupont.com or www.capstone.dupont.com.

Inhalation Toxicity Data

DuPont Report, 2005 – Inhalation Study on Rats.

Under the conditions of this study, a dilution containing 0.21% Capstone™ WM active ingredient is considered to have very low toxicity by inhalation. The 4-hour inhalation median lethal concentration (LC50) in rats for the dilution was greater than 5.9 mg/L.

On the basis of the nature of effects observed in this study, and according to the guide for the labelling of dangerous substances published in the Official Journal of the European Communities (EEC Directive 93/21), a dilution containing 0.21% Capstone™ WM active ingredient is not classifiable (LC50 > 5 mg/L).

A concentration of 0.21% Capstone™ WM active ingredient is equivalent to the recommended use rate of 2% Capstone™ WM as-sold diluted in tap water.

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™ WM, 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.

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