

# DuPont™ Forafac® WM

## ADDITIVE FOR WATER MIST SYSTEMS

### TECHNICAL INFORMATION

DuPont™ Forafac® WM is a blend of specially designed perfluorinated molecules, hydrocarbon surfactants and rheology modifiers. Forafac® WM is an additive used in the water of water mist systems.

Forafac® 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).

### 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% Forafac® WM: 16.2 mN/m

### Storage

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

### Applications

Forafac® WM is added to the water of the 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. Forafac® WM can be used to improve systems performance 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 Forafac® favors the extinction of Class B fires.

### Burnback, re-ignition resistance

After the extinction of a class B fire it is critical to prevent its 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, Forafac® WM prevents re-ignition so that the area can be secured.

### Example of application:

Well ventilated 9 m<sup>3</sup> room

|   |                                |
|---|--------------------------------|
| Nozzle:                                 | AM4 aquamist                   |
| Pressure:                               | 180 psi (12 bars)              |
| Water flow rate:                        | 6 gpm (22.7 L/minute)          |
| Fire:                                   | 0.25 m <sup>2</sup> of Heptane |
| Preburn period:                         | 60 sec                         |
| Forafac® WM concentration in tap water: | 2%                             |

### Results:

Without Forafac® WM: no extinction.

With Forafac® 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](http://www.firesuppression.dupont.com)



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## Inhalation Toxicity Data

DuPont Report, 2005 — Inhalation Study on Rats.

Under the conditions of this study, a dilution containing 0.21% Forafac® 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% Forafac® WM active ingredient is not classifiable (LC50 > 5 mg/L).

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

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