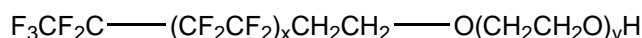


Masurf[®] FS-1700 Series

FS-1700/FS-1740I/FS-1725EB



Fluoroaliphatic Surfactants

Overview

MASURF FS-1700 SERIES is characterized as fluoroaliphatic polyoxyethylene fluorosurfactants in a range of 100% active to various water/alcohol/glycol ether solutions. FS-1700 SERIES is a low foam nonionic fluorosurfactant with the ability to contribute exceptional wetting, spreading and leveling properties to a wide range of systems. With typical use levels of 50-500ppm, MASURF FS-1700 SERIES is effective at very low concentrations, and together with traditional hydrocarbon surfactants, can contribute properties not possible with either material alone.

MASURF FS-1700 SERIES products are stable in anionic and cationic systems, effective in high or low pH, and recommended in a wide range of applications. With unique surface diffusion properties, FS-1700 SERIES imparts anti-soiling and improved weatherability when formulated into **Adhesives, Caulks, Coatings and Sealers**. Useful in **Water-Based Latex Paints** to extend open-time (wet-edge time). In **Performance Polymer Systems**, FS-1700 SERIES acts as coupling agents for fillers, and imparts anti-soiling performance. In **Plating Applications**, FS-1700 SERIES improves stability of bath and contributes to brightness and adhesion. In **Ink** (flexographic or gravure) applications, overall performance can be improved by using a blend of Masurf FS-1700 SERIES with acetylenic surfactants, and is useful in avoiding "solvent shock" in ink/solvent letdowns.

Compare to Zonyl* FSN-100, FSN, FSH, FSO.

Typical Properties

	<u>FS-1700</u>	<u>FS-1740I</u>	<u>FS-1725EB</u>
Physical form	Tan paste	Tan liquid	Tan liquid
Actives content	100 wt%	40 wt%	25 wt%
Flash point (TCC)	Self Extinguishing	72°F/22°C	>200°F/93°C
VOC content %	0	30 (Isopropanol)	25 (2-Butoxyethanol)
Specific gravity @25°C	1.35±0.04	1.06±0.04	1.06±0.04
pH	6.0±1.5	6.0±1.5	6.0±1.5
Aqueous surface tension @25°C dynes/cm	24@0.001%, 22@ 0.01% actives		
Interfacial tension (0.1%aq./cyclohexane)	10 dynes/cm		
Storage	Store above 32°F and below 100°F		

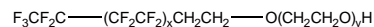
Handling Information

Refer to the Material Safety Data Sheet (MSDS) available from Mason Chemical Company for information on the safe use, handling and disposal of this product.

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** Zonyl is a Registered Trademark of DuPont*

Masurf[®] FS-1700 Series



MASURF FS-1725 is characterized as a 25% active fluoroaliphatic polyoxyethylene fluorosurfactant in a water/2-butoxyethanol solution. FS-1725 is an effective wetting and interfacial tension reducing agent with very good alkaline stability. The formulation below illustrates this effect.

Scrubless Floor Stripper

Ingredients:	%Wt.
Water.....	64.9
Sodium Hydroxide, 50% ⁽¹⁾	3.0
Potassium Hydroxide, 45% ⁽¹⁾	2.5
Sodium Silicate, "N" Clear ⁽¹⁾	7.5
Na ₄ EDTA, 38%.....	2.0
Nonylphenol 9.5ETO.....	1.0
Sodium Xylene Sulfonate, 40%	4.0
Monoethanolamine ⁽²⁾	5.0
Ethylene glycol monobutylether ⁽³⁾	2.0
Diethylene glycol monobutylether ⁽³⁾	8.0
Masurf FS-1725	0.1

Notes:

Mix in order listed.

- (1) Mixtures of Sodium and Potassium contribute to improved stability of highly alkaline, built formulations.
- (2) Monoethanolamine breaks the "zinc interlock" in high durability floor finishes
- (3) Mixtures of solvents for softening of "burnished" floor finishes

When formulating Hard Surface cleaners, the acronym "TACT" should be kept in mind: T (Time), A (Agitation), C (Concentration) and T (Temperature). Leverage any component of TACT for improved cleaning performance and efficiency. MASURF FS-1725 is effective at reducing the required contact time (T) by increasing wetting performance and penetration, and increasing the effective concentration (C) by lowering the interfacial tension between the detergent surfactants, monoethanolamine, solvents and the polymer floor finish.

Ink (flexographic or gravure) applications-

Unlike many fluorosurfactants, Masurf FS-1725 is a low foamer and performs in inks to deliver improvements in flow, wetting, leveling, gloss, and reduction of surface imperfections.

Acetylenic alcohol based surfactants provide exceptional dynamic surface tension reduction, getting to their minimum surface tension faster than most fluorosurfactants. However, the acetylenic alcohol based materials can only reduce the surface tension to a level like most hydrocarbon surfactants. In ink applications (whether flexographic or gravure), performance improvements can be made by using a blend of fluorosurfactants with the acetylenic alcohol based surfactants to get the instant reduction, followed in the next instant by the fluorosurfactant surface reduction to the lowest possible surface tension possible. Dynamic surface tension reduction data consistently show that the way to get the fastest reduction AND the greatest magnitude of reduction (which ultimately is what improves leveling and decreases ink wicking the most) is to use a 0.1% concentration of a 1:1 mixture of Masurf FS-1725 in combination with an acetylenic alcohol based surfactant (500ppm FS-1725/500 ppm Acetylenic Surfactant).

Additionally, Masurf FS-1725 is often helpful in avoiding "solvent shock," when ink concentrates are "letdown" to final concentrations. Mixing in a small amount of FS-1725 to the concentrate immediately prior to letting it down can avoid solids coming out of solution.

Masurf FS-Fluorosurfactant evaluation guidelines-

Masurf FS-Fluorosurfactants are effective at very low concentrations, typically 50-500 ppm, and can act synergistically with hydrocarbon and/or silicone surfactants. Evaluate in aqueous formulations at 0.1% active Masurf FS-Fluorosurfactant initially, then optimize by successively reducing the FS concentration by ½.

Masurf FS-Fluorosurfactants and Masurf FP-Fluoropolymers do not contain PFOS. Masurf FS and FP products are manufactured with telomerization process fluoroaliphatic intermediates that do not contain, release or have been shown to degrade to perfluorooctane sulfonate (PFOS).