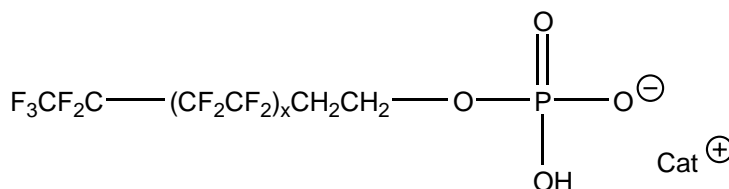


# Masurf<sup>®</sup> FS-115/FS-130



## FDA Approved Fluoroaliphatic Oil Resistant Agent

### Overview

MASURF FS-115 and FS-130 are characterized as a 14% and 28% active aqueous fluoroaliphatic phosphate ester fluorosurfactant solutions. MASURF FS-115/FS130 is an FDA approved for Food Contact applications. FS-115/FS-130 is a water dispersible fluoroaliphatic agent that imparts a high degree of oil and grease resistance to paper and paperboard and a wide range of surfaces and substrates.

MASURF FS-115/FS-130 can be applied by the size press, gravure or roll coating methods, or as internal sizing. Oil and Water resistance is obtained through normal drying. Curing at high temperature after drying is not necessary. It also imparts a sizing effect, and water resistance. The addition of MASURF FS-115 finish to paper and paperboard does not affect texture, color, lubricity, air permeability or strength of the paper.

Masurf FS-115/FS-130 is a versatile Surfactant and Soil Resistant agent for use in a wide range of applications. As a **Surfactant**, Masurf FS-115/FS-130 exhibits unique foaming, solubilizing and dispersant properties in non-aqueous, polar organic solvent and non-aqueous mixed systems. In **Personal Care** products, MASURF FS-115/FS-130 adds unique conditioning, wetting, lubricity and oil/sebum resistance properties.

**INCI Name: DEA-C8-18 Perfluoroalkylethyl Phosphate**

### Typical Properties

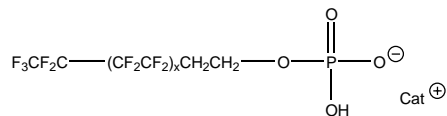
	<b>FS-115</b>	<b>FS-130</b>
Actives content % .....	14.5 wt% minimum	28 wt% minimum
Physical form .....	Light tan dispersion, with mild odor	
Aqueous surface tension @25°C dynes/cm ....	50.5@0.001%, 37.4@0.01%, 37.4 lowest	
Specific gravity @25°C.....	1.05±0.04	
pH .....	9.0±1.5	
Viscosity @25°C.....	<100 cps	
Flash point .....	None	
VOC content (volatile-water) .....	0	
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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# Masurf<sup>®</sup> FS-115/FS-130



## FDA CLEARANCE

MASURF FS-115/FS-130 is identified as a substance generally recognized as safe in 21 CFR §176.170 (Components of paper and paperboard in contact with aqueous and fatty foods), and may be safely used as a component of the uncoated or coated food-contact surface of paper and paperboard intended for use in producing, manufacturing, packaging, processing, preparing, treating, packing, transporting, or holding aqueous and fatty foods, subject to the provisions of the section.

MASURF FS-115/FS-130 is certified to comply with the following guidelines as listed in 21 CFR §176.170, where this product is represented as: Diethanolamine salts of mono- and bis (1H, 1H, 2H, 2H-fluoroaliphatic) phosphates where the alkyl group is even numbered in the range of C8-C18 and the salts have a fluorine content of 52.4% to 54.4% as determined on a solids basis.

For use only as an oil and water repellent at a level not to exceed 0.17 pound (0.09 pound of fluorine) per 1,000 square feet of treated paper or paperboard, as determined by analysis for total fluorine in the treated paper or paperboard without correction for any fluorine which might be present in the untreated paper or paperboard, when such paper or paperboard is used in contact with nonalcoholic foods under the conditions of use described in paragraph (c) of this section, table 2, conditions of use (B) through (H).

## MANUFACTURING METHOD

The fluoroaliphatic component of MASURF FS-115/FS-130 is manufactured by the "telomerization" process, which differs significantly from the Simon Cell electrochemical fluorination (ECF) manufacturing process utilized by the 3M Company. MASURF fluoroaliphatic products are chemically different from 3M's and do not contain, do not release, and have not been shown to degrade to the products found and cited by 3M in their press release and reports to the EPA, namely perfluorooctane sulfonate (PFOS).

## PERFORMANCE ILLUSTRATION

Substrate: Non-sized bleached Kraft paper 40g/m<sup>2</sup>  
Application Method: Horizontal type test size press 23g/m<sup>2</sup>(Wet)  
Drying Conditions: 100°C x 10sec/drum dryer

Masurf FS-115 (solids basis)	Oxidized Starch	Kit Value	Stockigt Size (sec)
0.3%	None	6	4
0.6%	None	9	8
0.15%	3%	6	2
0.3%	3%	8	4
0.45%	3%	10	4
0.6%	3%	11	9

## ECOLOGICAL/REGULATORY INFORMATION

Based on data reported for similar products, this product has low toxicity - 96 hour TL<sub>50</sub> (Rainbow Trout): >1,000 mg/L; 48 hour EC<sub>50</sub> (Daphnia Magna): >1,000 mg/L (not toxic).

MASURF FS-115/FS-130 is Non-Flammable, and does not contain or release ozone depleting chlorofluorocarbons (CFC's) or alkylphenol ethoxylates (APE's).

Masurf FS-115/130 complies with the requirements of the following chemical inventories: US (TSCA, FIFRA), Canada (DSL), Australia (AICS), Korea (ECL) and Europe (EINECS).