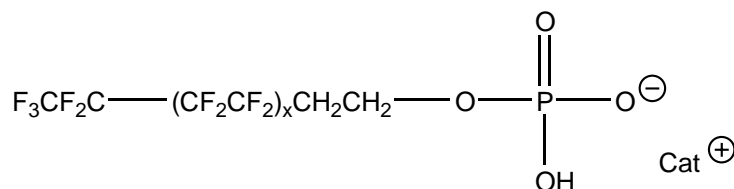


Masurf[®] FS-130EB



Fluoroaliphatic Phosphate Ester Fluorosurfactant

Overview

MASURF FS-130EB is characterized as a 30% active fluoroaliphatic phosphate ester fluorosurfactant in water/ethyleneglycol monobutylether solution. MASURF FS-130EB is an FDA approved, water dispersible fluoroaliphatic agent that imparts a high degree of oil and grease resistance to paper and paperboard.

MASURF FS-130EB identified as a substance generally recognized as safe in 21 CFR §176.170, 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-130EB finish to paper and paperboard does not affect texture, color, lubricity, air permeability or strength of the paper.

Masurf FS-130EB is a versatile Surfactant and Soil Resistant agent for use in a wide range of applications. As an **Oil Well Stimulation Fluid** ingredient, MASURF FS-130EB is an effective foaming agent for alcohol/water mixtures; i.e. methanol, ethanol, isopropanol in the presence of brine and hydrocarbon contamination. Compare to Fluorad* FC-742.

MASURF FS-130EB is Non-Flammable, and does not contain or release ozone depleting chlorofluorocarbons (CFC's), alkylphenol ethoxylates (APE's), and does not release formaldehyde. FS-130EB does not contain, release or degrade to perfluorooctane sulfonate (PFOS) or perfluorooctanoic acid (PFOA).

Typical Properties

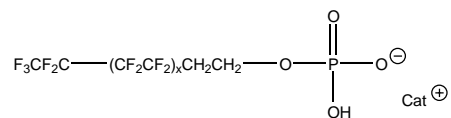
Physical form	Light tan liquid, with mild odor
Actives content %	28 wt% minimum
Aqueous surface tension @25°C dynes/cm	50.5@0.001%, 37.4@0.01%, 37.4 lowest
Specific gravity @25°C.....	1.10±0.04
pH	10.0±1.5
Viscosity @25°C.....	<100 cps
Flash point	>200°F
VOC content (volatile-water)	0
Storage	Store above 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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FDA CLEARANCE

MASURF FS-130EB 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-130EB 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-130EB 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) and perfluorooctanoic acid (PFOA). Additionally, the manufacturing facility for MASURF FS-130EB does not utilize the EFC process in any of the products manufactured, and there is no product or component contact with any EFC derived materials in any step of the manufacture and/or distribution that may result in PFOS/PFOA contamination.

PERFORMANCE ILLUSTRATION

Substrate: Non-sized bleached Kraft paper 40g/m²
Application Method: Horizontal type test size press 23g/m²(Wet)
Drying Conditions: 100°C x 10sec/drum dryer

Masurf FS-130EB (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

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