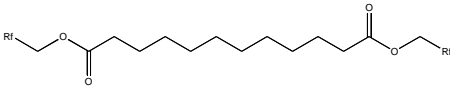


Masurf[®] FS-Fluorosurfactants

With economical typical use concentrations of 50-500ppm, Fluorosurfactants provide predictable wetting, leveling and surface tension reduction properties not possible with hydrocarbon, acetylenic or silicone surfactants for use in floor finishes and coatings, sealers/caulks, specialty cleaners and personal care products. Fluorosurfactants are also unmatched for chemical and thermal stability for use in high acid or alkaline formulations, or extreme conditions.

Grade	Structure	Related Products*	Description/Attributes
Masurf FS-130A	$\text{F}_3\text{CF}_2\text{C}-(\text{CF}_2\text{CF}_2)_x\text{CH}_2\text{CH}_2-\text{O}-\text{P}(=\text{O})(\text{OH})\text{O}^-$	Zonyl* FSP, FSJ, Zonyl 7950	MASURF FS-130A is a 30% active ammonium fluoroaliphatic phosphate ester in an aqueous solution. FS-130A contributes oil and grease resistance, conditioning, wetting and lubricity. FS-130A is free of alcohols and solvents. INCI Name: Ammonium-C6-16 Perfluoroalkylethyl Phosphate
Masurf FS-115 FS-130EB	$\text{F}_3\text{CF}_2\text{C}-(\text{CF}_2\text{CF}_2)_x\text{CH}_2\text{CH}_2-\text{O}-\text{P}(=\text{O})(\text{OH})\text{O}^-$	Zonyl* RP, Zonyl 9027, 9361 Fluorad* FC-807 Fluorad FC-742	MASURF FS-115 is a 15% active fluoroaliphatic phosphate ester in an aqueous solution. MASURF FS-115 is FDA approved (21 CFR §176.170) for imparting oil and grease resistance in food contact packaging. FS-130EB is 30% active in water/EB. INCI Name: DEA-C8-18 Perfluoroalkylethyl Phosphate
Masurf FS-230	$\text{F}_3\text{CF}_2\text{C}-(\text{CF}_2\text{CF}_2)_x\text{CH}_2\text{CH}_2-\text{N}(\text{CH}_3)_2\text{O}$	Fluorad* FC-99, FC-120, FC-129, FC-170-C Zonyl FC-750/751/754 Zonyl* FSO, FS-300	MASURF FS-230 is a 30% active fluoroaliphatic amine oxide in an isopropanol/water solution. FS-230 is exceptional for reducing surface tension for wetting and leveling performance in floor finishes and cleaners. Use in difficult to wet coatings and high performance cleaners.
Masurf FS-330	$\text{F}_3\text{CF}_2\text{C}-(\text{CF}_2\text{CF}_2)_x\text{CH}_2\text{CH}_2-\text{N}^+(\text{CH}_3)_2-\text{CH}_2-\text{C}(=\text{O})\text{O}^-$	Fluorad* FC-100 Zonyl* FSK	MASURF FS-330 is a 30% active fluoroaliphatic betaine in an isopropanol/water solution. FS-330 is a superior surface tension reduction agent for wetting, exhibiting high foam with high electrolyte tolerance. INCI Name: C8-18 Perfluoroalkylethyl Betaine

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Grade	Structure	Related Products*	Description/Attributes
Masurf FS-1725 FS-1700	$F_3CF_2C-(CF_2CF_2)_xCH_2CH_2-O(CH_2CH_2O)_yH$	Fluorad* FC-170-C, FC-760 Zonyl* FSO, FSN	MASURF FS-1725 is a 25% active fluoroaliphatic polyoxyethylene fluorosurfactant in a water/glycol ether solution. FS-1725 is stable in anionic and cationic systems, effective in high or low pH. FS-1700 is 100% active.
Masurf FS-1825 FS-1800	$F_3CF_2C-(CF_2CF_2)_xCH_2CH_2-O(CH_2CH_2O)_yH$	Fluorad* FC-170-C, FC-760 Zonyl* FSO, FSN	MASURF FS-1825 is a 25% active fluoroaliphatic polyoxyethylene fluorosurfactant in a water/glycol ether solution. FS-1825 is recommended for low surface tension applications. FS-1800 is 100% active.
Masurf FS-1900		Zonyl* FTS	MASURF FS-1900 is characterized as a 100% active fluoroaliphatic stearate ester fluorosurfactant. FS-1900 imparts a low-surface energy film from bulk-loading or solution-coating applications. Effective surfactant in hydrocarbon systems.
Masurf FS-2000	Fluoroaliphatic polymeric esters	Fluorad* FC-430	MASURF FS-2000 is a 100% active nonionic polymeric fluorochemical surfactant with excellent activity and compatibility in a variety of liquid resin, water reducible, solvent based and high solids systems.

*Fluorad, Zonyl and Lodyne are Registered Trademarks of the 3M Company, the E.I. du Pont de Nemours and Company and Ciba. Masurf is a Registered Trademark of Mason Chemical Company.

