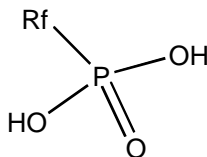


# Masurf<sup>®</sup> FS-710 & FS-780



## Non-Foaming Anionic Fluorosurfactant

### Overview

MASURF<sup>®</sup> FS-710 is characterized as 7% active mixed anionic fluorosurfactant in an aqueous solution. MASURF FS-780 is 80% active. MASURF FS-710 provides low, fast breaking foam with superior surface tension and interfacial tension reduction for wetting and leveling performance unobtainable with other fluorinated or traditional alkyl surfactants. FS-710 exhibits exceptional surface activity in acidic and oxidizing systems, with excellent water solubility. FS-710 is stable in anionic and nonionic systems, and effective in high or low pH. FS-710 is shipped as the free acid, allowing neutralization with any alkali of choice.

When formulated into **Carpet and Upholstery Cleaners**, MASURF FS-710 provides effective wetting, eliminates the need for separate anti-foams, and imparts resoil resistance. Use FS-710 to improve wetting of difficult to wet surfaces such as plastics, oily substrates, waxy and silicone treated surfaces, and fluoropolymer treated fabrics. The **hypochlorite stability** and **anti-resoil** performance of MASURF FS-710 adds a demonstrable plus to **Cleaning Products**, such as **Tile, Tub and Bowl Cleaners**. In **Plating** applications, FS-710 is stable in hot chromic acid plating solutions for effective surface tension reduction for **Hard Chrome fume suppression**.

### Compare to Fluorad<sup>®</sup> FC-99, Zonyl<sup>®</sup> FS-62, Fluowet<sup>®</sup> PL 80

### Typical Properties

	<u>FS-710</u>	<u>FS-780</u>
Classification .....	Aqueous surfactant dispersion	
Charge.....	Anionic	
Activity .....	7%	80%
Physical form.....	Hazy Amber Liquid	Grayish/green/brown
Specific gravity (25°C).....	1.02±0.04	1.67±0.04
Viscosity, Brookfield (25°C).....	<5cps	>10,000cps
pH (5% aq.) .....	2.0±1.0	2.0±1.0 (1% aq.)
Boiling Point .....	212°F(100°C)	
Flash point.....	>212°F(100°C)	
Inherent Biodegradability (OECD 302B) .....	Readily Biodegradable (>80%)	

### 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.

**Note:** Some settling/sedimentation can form after prolonged storage; homogenize by shaking or stirring at ambient temperature before use.

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*Fluorad is a Registered Trademark of the 3M Company, Zonyl is a Registered Trademark of DuPont, Fluowet is a Registered Trademark of Clariant.*

# Masurf<sup>®</sup> FS-710 & FS-780

MASURF FS-710 is a low foam/no foam anionic fluorosurfactant with wetting and leveling properties ideal for use in Specialty Cleaning products and aqueous coatings. The formulation below illustrates this effect:

## Carpet Spotter/Bonnet Buff Cleaner

Ingredients:	Wt.%
Water.....	83.9
Na <sub>4</sub> EDTA, 38%.....	1.0
Ammonium Hydroxide.....	0.4
Sodium Lauryl Sulfate, 30%.....	6.6
<b>Masurf SP-740</b> .....	4.0
Ethylene glycol butyl ether.....	2.0
Diethylene glycol butyl ether.....	2.0
<b>Masurf FS-710</b> .....	0.1
Dye, Fragrance, Optical Brightener.....	q.s.

### Notes:

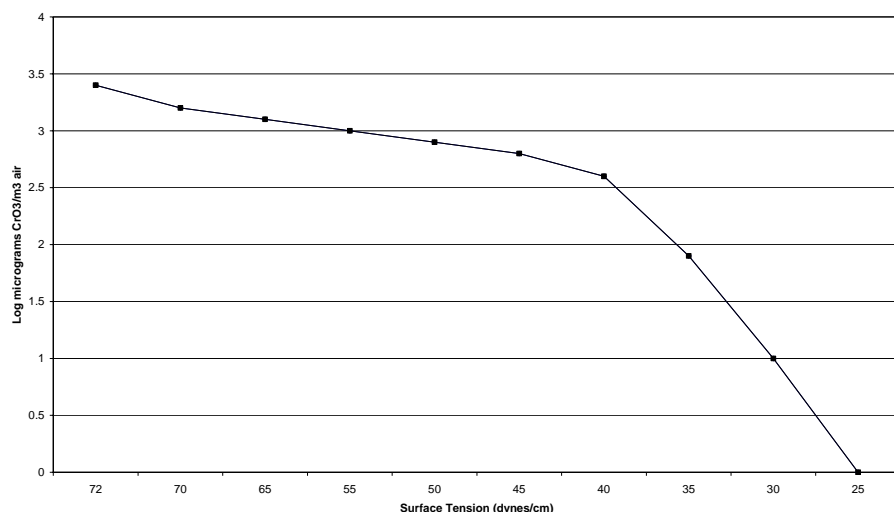
Mix in order listed.

When formulated into Carpet Care products, MASURF SP-740 imparts stain block, embrittling and soil anti-redeposition properties, and MASURF FS-710 provides improved cleaning performance with an additional anti-resoiling effect.

## Hard Chrome Fume Suppression and Control

A wetting agent fume suppressant (WA/FS) reduces the surface tension of a liquid. When wetting agents lower the surface tension of a plating bath, gases escape at the surface of the solution with a diminished "bursting" effect, causing less mist formation. In essence, a wetting agent reduces bubble size, and smaller bubbles burst with less impact on the surface, with a reduction in emissions with reduction in surface tension.

Surface Tension vs. chromic acid emissions (USEPA, 1993)



FS-710 WA/FS Fume Suppression differs from foam blanket fume suppression where a layer of foam is generated across the surface or the treating solution. In contrast, foam blanket foam suppression does not prevent the formation of chromic acid mist, they trap the mist under a blanket of foam. Literature references report that foam blanket type fume suppressants can entrap hydrogen gas, which may pose a risk of explosion (Maricopa, 1997).

Masurf FS-710 is stable throughout a wide range of operating temperatures, current densities, chromic acid concentrations, and oxidation-reduction reactions while maintaining a low plating bath surface tension. Masurf FS-710 exhibits exceptional stability in the extreme environment found in electroplating and anodizing solutions. Concentrations of FS-710 as low as 0.05% reduce surface tension of 25% sulfuric, 25% nitric, and 10% hydrochloric acid solutions into the mid-30s dynes/cm, and to high-teens with concentrations of 0.5% FS-710.

### Masurf FS-Fluorosurfactant evaluation guidelines in chrome plating baths-

Evaluate Masurf FS-710 at concentrations of 0.5-1.5%, as supplied, depending on specific bath composition. The surface tension of a standard chrome plating bath was reduced from 91 dynes/cm to 33 dynes/cm with the addition of 0.75% FS-710. For compliance purposes, the surface tension of the bath must be monitored every four hours with Wetting Agent/Fume Suppressant method, and every hour for foam thickness with Foam Blanket suppression method.

The components of Masurf FS-710/FS-780 are listed on the following Inventories: US (TSCA), Canada (DSL), Europe (EINECS), Philippines (PICCS), Australia (AICS), Korea (ECL).