

# Masurf<sup>®</sup> FS-910

## Fluoroaliphatic Polyacrylate Oligomer Fluorosurfactant Optimized for Ambient and Low Temperature Application

### Overview

MASURF FS-910 is characterized as 11% active fluoroaliphatic polymeric esters in a hydrocarbon solution. MASURF FS-910 is effective at very low concentrations, reducing critical surface tension of treated surfaces for durable water & oil repellency, and reducing solution surface tension of non-polar organic solvents.

MASURF FS-910 is a solvent-based fluorosurfactant that can be used as a **Surface Protectant** to impart water and oil repellency with soil and stain protection to fabrics, including upholstery and carpeting, and hard surfaces, including stone and tile used as building materials (i.e., kitchens, flooring and bathrooms), after ambient temperature dry/cure. FS-910 is also recommended for protection of wood, decks, concrete, marble, tile, stone and other hard surfaces. Use Masurf FS-910 to increase hydrophobicity of waxes.

As a **Surfactant**, MASURF FS-910 controls surface tension in organic systems during the application of a solvent based coating and also during the dynamic phase of drying and resin cross-linking in **Solvent Based Urethane Coatings, Specialty Inks, and Adhesive Systems**. MASURF FS-910 has been found to be an effective **replacement for Fluorad<sup>1</sup> FC-430** in non-aqueous applications.

In **Oil Well Stimulation Fluid** applications, MASURF FS-910 is an effective foaming agent and **Paraffin Solubilizer** in non-polar solvents, and can increase the interfacial tension between hydrocarbon and salt solutions. Use FS-910 to **Foam Kerosene, Diesel** and other **Hydrocarbons**, and **d-Limonene** at concentrations of 0.5-2.0% as a **replacement for Fluorad FC-740**. Masurf FS-920 available as a 22% active solution.

### Typical Properties

Classification .....	Fluoroacrylate copolymer solution
Charge.....	Nonionic
Physical form.....	Clear to slightly hazy bluish liquid
Specific gravity (25°C).....	0.75±0.04
Boiling point.....	320°F(160°C)
Freezing Point.....	Gels at 9°F(-13°C), restore by warming.
VOC content.....	89%
Solubility .....	Kerosene, Heptane, etc. >80%
Solubility .....	Water, Isopropanol, etc. <1%
Evaporation rate (n-butyl acrylate =1).....	0.1 (dries to the touch in 30-120 minutes depending on application, and achieves maximum repellency in 16 to 24 hours)
Shipping .....	Class 3 Combustible liquid

### 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.

*Masurf is a Registered Trademark of Mason Chemical Company.*

*(1) Fluorad is a Registered Trademark of the 3M Company*

# Masurf<sup>®</sup> FS-910

MASURF FS-910 is an 11% active fluoroaliphatic polyacrylate oligomer nonionic fluorosurfactant with surface activity in non-polar liquids, and effective as a Water & Oil Repellent Surface Protectant. The examples below illustrate this effect:

## Fabric Protection

Mix FS-910 1:10 with Odorless Mineral Spirits and apply 1-1.5 ounces/square yard of diluted product. FS-910 is ideal for ambient and low temperature applications.

## Oil Repellent Concrete Sealer

Ingredients	Wt. %
Odorless Mineral Spirits .....	80.0
DC-477 <sup>(1)</sup> .....	5.0
<b>Masurf FS-910.....</b>	<b>15.0</b>

### Notes:

Mix in order listed.  
Apply at 1 gallon per 400-600 square feet for decking and concrete.

(1) Dow Corning reactive silicone/siloxane

## PRODUCT DISCUSSION

MASURF FS-910 is a high performance fluorooligomer that will impart water & oil repellency to protect virtually any surface from both water and oil based soils and stains. MASURF FS-910 will not change the appearance, hand, color or impart an odor to treated surfaces. Use this product to protect fabrics, including fine silks, carpeting and upholstery, and porous and non-porous hard surfaces such as decking and tile.

The high ionization potential of fluorine and its low polarizability leads to extremely weak inter- and intramolecular interactions, and the extremely low surface energy of fluorine treated surfaces. It is the extremely low surface energy of fluoroaliphatic polymers, such as MASURF FS-910, that allow treated surfaces to repel both water and oil, thus imparting soil and stain protection. Other surface treatment chemistries that don't rely on fluorine, such as waxes and silicones, result in a much higher surface energy, that while repelling water, actually attract oil based soils and stains. Additionally, FS-910 treated surfaces maintain breathability and moisture vapor transfer, impart soil resistance, and exhibit exceptional wash fastness.

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).

## HANDLING/PACKAGING INFORMATION

Wear safety glasses with side shields or goggles to avoid eye contact. Wear appropriate gloves to avoid skin contact. In operations where mists, vapors, or fumes are generated, wear a respirator selected by a technically qualified person for the specific work to avoid inhalation. Suitable ventilation must be used during application. Based on properties displayed by similar materials, the fluoroaliphatic component of this solution, if dispersed as a fine particle, may have the potential to induce a pneumonia-like condition.

Masurf FS-910 is a fluoroacrylate copolymer solution, and as such, can produce fine (respirable, inhalable) particles depending on the application method employed. In spray applications, use a coarse spray device that does not produce fine particles such as a trigger sprayer or pressurized dispenser with particle size production of greater than 15 microns. Adjust spray pressure to keep particle size greater than 15 microns. Do not aerosolize or atomize. For further Safety Information, please refer to the Material Safety Data Sheet.

Available in 55 gallon steel drums (350# net) and 5 gallon plastic pails (32# net). DOT Proper Shipping Name: Petroleum Distillates, N.O.S., Combustible Liquid UN 1268, PG III. Note: In containers of 119 gallons or less, this product is not regulated by DOT.