

# Masurf<sup>®</sup> SP-135 & Masurf<sup>®</sup> SP-245

## StayClean<sup>™</sup> Hard Surface Protectors

### Overview

Masurf SP-135 and Masurf SP-245 are functionalized “smart” polymers designed to impart surface protectant and soil resistance and release properties to treated surfaces, optimized for Surface Protection of bathroom, shower and related surfaces subject to soap-film and similar soils. Utilizing **Mason StayClean<sup>™</sup> Technology**, Masurf SP-135 and Masurf SP-245 treated surfaces repel soap-film, soap-scum, and bathroom grime build-up by creating a highly effective invisible soil barrier. Masurf SP-135 and Masurf SP-245 treatment leaves surfaces shiny with no dulling residue while effectively repelling soils to keep bathroom surfaces cleaner longer.

Effective over the pH range <1 to 14, these products are well suited for use in **Household Products** that would compete in the **Bathroom Cleaning** categories. When used on hard surfaces such as glazed ceramic tile, shower doors, plastic, chrome, fiberglass, glazed porcelain, synthetic marble, painted surfaces, polished stone and glass, SP-135 will create an “invisible barrier” that repels soils and protects against build-up. Use SP-135/SP-245 to create highly hydrophilic surfaces that sheet water for **Anti-Fog Glass Cleaners and Spotless Car Wash Detergents**.

### Compare with Polyquart<sup>®</sup> Pro.

### Typical Properties

Classification .....	Functionalized polymer
Charge.....	Amphoteric
Physical form.....	Clear amber solution
Non-volatile (1hr. @105°C, %).....	SP-135:35.0±1.0; SP-245: 45.0±1.0
Specific gravity (25°C).....	1.15±0.04
pH.....	SP-135: 2.0±0.5; SP-245: 7.5±0.5
Flash point.....	>200°F (PMCC)
Shipping .....	Non-Red Label
Storage.....	Store at 32°F(0°C) to 100°F (38°C)

### Handling Information

Refer to and follow the guidelines in 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® SP-135/SP-245

Masurf SP-135 and Masurf SP-245 offer formulators the option of developing specific products for a range of applications. For **Surface Protection**, prepare a 1-5% aqueous solution of Masurf SP-135, adjust ionic strength with acid, alkali or salt to just the limits of solubility to maximize deposition onto treatment surfaces. For **Surface Protection with Cleaning**, prepare a 5% aqueous solution of Masurf SP-245 with acid (i.e. citric acid at 5%) or alkali (i.e. 50% sodium hydroxide solution at 0.1%).

Masurf SP-135/SP-245 are water soluble, stable in high or low pH formulations, meets all VOC regulations, and is freeze/thaw stable in concentrate and formulations. Our recommendation is for use in the range of 1-5% by weight. Solutions containing SP-135/SP-245 can be treated directly, then rinsed to impart a micro thin surface protectant layer that is highly resistant to mineral deposits and soap scum build-up.

## Acidic/Basic Surface Protector & Cleaner

### Surface Protector

Ingredients:	Wt.%
Masurf SP-135.....	1-5
Water.....	95-99
Acid or Base.....	to pH 1-3 or 8-11*

### Surface Protector & Cleaner

Ingredients:	Wt.%
Masurf SP-245.....	1-5
Water.....	95-99
Acid or Base.....	to pH 1-3 or 8-11*

#### \*Notes:

The formulation goal with these materials is to achieve the limit of solubility for optimum surface deposition. SP-245 is designed for maximum cleaning with surface protection. Additional surfactants may reduce surface protection performance.

To achieve best results, add either acid or base to a pH of 1-3 or 8-11. With strong acids or bases, SP-135 may exhibit a slight bluish tint in these pH ranges.

**For a typical mildly acidic cleaning formulation, we recommend 3% SP-245 with 1% Citric Acid in water.**

## Soap-Film Preparation and Demonstration for Masurf SP-135/SP-245 Surface Protectors

### Soap-Film Preparation (1000 ml):

Part A – Disperse 5 grams of Dial Antibacterial bar soap (yellow bar) shavings into 800 grams of deionized water. With continued stirring, heat mixture to 40°C to completely dissolve soap.

Part B – In a separate beaker, dissolve 0.48 grams MgCl<sub>2</sub> and 0.53 grams CaCl<sub>2</sub> with stirring into 198.98 grams of deionized water.

Part C – Slowly add Part B to Part A with stirring for a 0.5% soap emulsion in 300ppm hard water. Transfer the mixture to a spray bottle. Please note that the emulsion will slowly separate upon standing, so shake before each use.

### Demonstration:

Thoroughly clean a new 4 ¼ x 4 ¼ inch black glossy ceramic tile. Rinse residual detergent or cleaning solution thoroughly with isopropyl alcohol followed by tap water. Tap water should run instantly off the tile.

Wipe half of the tile with a paper towel soaked with solutions/formulations of SP-135/SP-245. Rinse excess SP-135/SP-245 with tap water, being careful to not rinse excess SP-135/SP-245 onto the control (untreated) side. When the demonstration tile is properly prepared, water will cling to the SP-135/SP-245 treated side and will run instantly off the control side.

Wet the tile (to simulate shower conditions), then spray (10-15 sprays) with the soap-film mixture prepared above with the tile positioned with the treated and control sides vertically (side by side, rather than top and bottom). Rinse and repeat application of soap-film mixture until a noticeable amount of soap-film has accumulated on the control side. Allow the tile to dry for a more pronounced demonstration of results.

To demonstrate the cleaning performance of Masurf SP-135/SP-245 cleaning formulations, apply a liberal amount of Masurf SP-135/SP-245 cleaning formulation to the control (soap-film soiled) side of the tile. Allow several seconds for complete penetration of the Masurf SP-135/SP-245 cleaning formulation, then rinse. Repeat soiling steps above to demonstrate the Surface Protection properties of the cleaned surface.