

Capstone™ ST-200

Repellent

Penetrating Sealer for Porous Surfaces

Technical Information

Description

Capstone™ ST-200 is a solvent-based fluorochemical dispersion that provides a durable, non-film forming, transparent protective barrier against oil and water on porous mineral surfaces. Capstone™ ST-200 is a repellent used in solvent-based penetrating sealers, especially for low-porosity stone, unglazed tile, grout, terra cotta, concrete, and brick. Capstone™ ST-200 provides oil and water repellency, stain resistance, and easy stain cleanup.

Applications and Formulating Information

Capstone™ ST-200 is used in diluted solutions containing 0.7–1.7% active ingredient (2–5% commercial product) for appropriate application levels. Capstone™ ST-200 is soluble in most hydrocarbons (e.g., heptane, white spirits, isoparaffins), alcohols, esters, and ketones. Optimum performances can be achieved by using a polar, protic solvent, such as isopropyl alcohol. Typical coverage rate is from 3–25 m²/L of diluted solution, depending on the porosity of the mineral substrate. Thoroughly wet the surface being treated with the diluted product, and remove excess liquid after 15–30 min. The optimum dilution rate should be determined for each application. **The product may be applied using a saturated brush, roller, paint pad or mop** in one or two layers (to ensure complete coverage).

Typical Properties

Appearance	Colorless to light pale liquid
Stability	Product gels below 0 °C (32 °F)
	Product is freeze/thaw stable
Active Solids, %	35
Solvent, %	65 (N-Butyl Acetate)
Density, g/mL	0.968
Flash Point (Closed Cup), °C (°F)	28 (82)
Boiling Point, °C (°F)	120 (248)
Shelf Life	2 years

Performance

Capstone™ ST-200 (diluted to 5% of commercial product in solvent) was compared to a competitive solvent-based silicone sealer. Each product was applied to limestone as well as Saltillo tile (Mexican clay tile or terra cotta) and allowed to dry for three days. **Corn oil, Italian dressing, ketchup, mustard, grape juice, and coffee were then placed on the treated substrates.** After 24 hr, the tiles were washed with a 1% soap solution and allowed to dry. The ratings were totaled for each tile sample. The results below show that Capstone™ ST-200 outperformed the competitive solvent-based silicone sealer. Similar results have been achieved on other porous mineral substrates.

Scoring System for Each Stain After Dry	
No Visible Stain	0
Very Slight Stain	1
Light Stain	2
Moderate Stain	3
Heavy Stain/Complete Penetration of Stain into Substrate	4

Scoring System for Water/Oil Repellency



5 Contact angle 100-120° 4 Contact angle 75-90° 3 Contact angle 45-75°
 2 Contact angle 25-45° 1 Contact angle 10-25° 0 Contact angle <10°

Performance Comparison

24 hr Stain Scores of Six Stains		
Treatment	Limestone	Salttillo
Capstone™ ST-200	2	2
Silicone (solvent)	12	11
Untreated	19	21

Cumulative scale from 0 (best) to 24 (worst).
 Lower score = Higher performance

Treatment	Oil Repellency	Water Repellency	Stain Resistance
Capstone™ ST-200	Excellent	Excellent	Excellent
Silicone (solvent)	Poor	Excellent	Poor to Good
Untreated	None	None	Very Poor

Personal Safety, First Aid, Storage and Handling

See Safety Data Sheet (SDS) for use and handling recommendations. Review this information with all personnel handling Capstone™ ST-200. Mix well before using.

Capstone™ Repellents and Surfactants

- Deliver maximum performance
- Regulatory and stewardship information is available upon request
- Are listed on TSCA inventory

Package Sizes

Pail-88 lb (40 kg)

For questions regarding technical data, commercial supply, and sampling:

Chemours Advanced Performance Materials

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