

Product Information

Sigmacote®

siliconizing reagent for glass and other surfaces

Catalog Number **SL2**

Storage Temperature 2–8 °C

Product Description

Sigmacote® is a solution of a chlorinated organopolysiloxane in heptane that readily forms a covalent, microscopically thin film on glass.

Sigmacote reacts with surface silanol (Si–OH) groups on glass to produce a neutral, hydrophobic film. The film repels water, retards the clotting of blood or plasma, and prevents surface adsorption of many basic proteins. Sigmacote may be used to treat gas chromatography injection glass inserts and is ideal for glass, ceramics, and fiber optics.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store Sigmacote at 2–8 °C. The active chlorinated organopolysiloxane component in this solution is sensitive to moisture and alcohols. It will react with water and alcohols to form hydrochloric acid (HCl).

Do not reuse Sigmacote if it turns cloudy or if water fails to bead on a dry glass surface that has been treated with the solution.

Procedure

1. The glass surface to be siliconized must be clean and dry.
2. Cover or immerse the glass surface in Sigmacote (undiluted). The reaction is almost instantaneous. Excess solution can be removed for reuse.
3. Allow the treated glass surface to air dry in a hood. No heating is required.
4. Rinse the siliconized articles with water to remove the HCl byproducts before use.

Notes

1. After the heptane has evaporated, the siliconized articles can be oven dried at 100 °C for 30 minutes. This will produce a slightly more durable coating.
2. The siliconized coating can be removed by an overnight treatment with 10–20% (w/v) aqueous or alcoholic potassium hydroxide or sodium hydroxide solutions. Removal of the silicon coating can be monitored at various time intervals by rinsing the glass item and observing the "beading" or "sheeting" of water. It may also be possible to remove the coating by physical abrasion, i.e., scrubbing or vigorously brushing the glass surface. Autoclaving will **not** destroy the coating.
3. Sigma-Aldrich makes no claims regarding the effectiveness of Sigmacote on plastic surfaces. Also some types of plastics may not be compatible with the heptane in this product.

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