Technical Data Sheet

XIAMETER™ OFS-6341 Silane

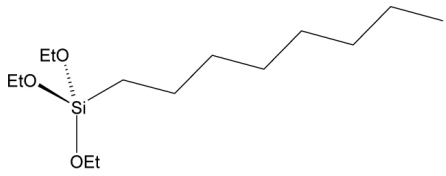
To assist in formulating penetrating treatments that provide water repellency or to alter the polarity of surfaces

Features & Benefits

- Can be used in the formulation of water repellent products
- Produces a hydrophobic treatment that inhibits water absorption
- Can improve dispersion of polar fillers in covalent matrices
- Small molecular structure for deep penetration of concrete surfaces
- Surface modification can improve compatibility to nonpolar substrates

Composition

- Silane
- Liquid



Applications

- Commercial buildings
- Parking decks/garages
- Highways
- Bridge structures
- Filler modification

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Color		Clear
Purity	%	98
Specific Gravity at 25°C (77°F)		0.875
Flash Point, Closed Cup	°C (°F)	65.6 (≥ 150)
Density	lb/gal	7.3
Volatile Organic Compound (VOC) Content	g/L	329
Solvent (Thinner)		Isopropanol, ethanol or various flash-point mineral spirits

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Form No. 95-999-01-0726 S2D

Description

XIAMETER™ OFS-6341 Silane is high purity, undiluted N-octyltriethoxy-silane. When diluted with an appropriate solvent, it can be used in the formulation of water repellent products. Upon proper application, the formulated product will penetrate and provide water repellency by chemically reacting with the cementitious substrate. Treated substrates are hydro-phobic and retain their original appearance.

XIAMETER™ OFS-6341 Silane can also be used to improve the compatibility of mineral fillers or pigments in polyolefins or to ease their dispersion in nonpolar matrices.

XIAMETER™ OFS-6341 Silane is a small molecule to allow for deep penetration into the cementitious surface. This material reacts with moisture in the air and in the substrate in the presence of an alkaline or acidic environment to produce hydroxy groups. These hydroxy groups will bond with the substrate and itself to produce a hydrophobic treatment that inhibits water absorption into the substrate. An alkaline environment, such as new concrete, will catalyze the reaction and speed the formation of the hydrophobic surface.

How to Use

Dilution

XIAMETER™ OFS-6341 Silane can be diluted in solvents such as alcohols, chlorinated solvents, aliphatic solvents and low molecular weight cyclic polydimethylsiloxane such as XIAMETER™ PMX-0244 Cyclotetrasiloxane before use. Typical dilution levels are 40 percent and 20 percent XIAMETER™ OFS-6341 Silane in a solvent. Laboratory performance data for 40 percent dilutions are shown in Table 1.

Table 1: Laboratory Performance of Dilution – Modified NCHRP 244 Series II on Concrete[1]

	Reduction Weight Gain, Percent[2]	Average Depth of Penetration mm[3]
40% in Aliphatic Solvent (Kwik-Dri)	70.9	3

[1]Water repellent properties of XIAMETER™ OFS-6341 Silane when diluted to 40 percent in various solvents.
[2]Modified NCHRP cube test, 2 inch cubes, 21 day immersion in water.
[3]Mortar cubes prepared in accordance with procedures outlined in ASTM C 109.

Blends of the solvents can also be used. The evaporation rate of the diluted material can be modified depending on the type and concentration of the solvent. Select the proper solvent for your application, as some silane/solvent blends may darken the surface. Refer to the manufacturer's data sheet for proper handling and disposal of solvents.

Note: When using any solvent, always provide adequate ventilation. Follow handling precautions on the solvent container label.

Application

Methods of application include airless sprayer, roller and brush. When a brush or roller is used, repeated applications should be made until the surface remains moist for a few minutes. If an airless sprayer is used, application should continue until the substrate is thoroughly saturated. Sprayers should be fitted with solvent resistant hoses and gaskets.

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How to Use (Cont.)

Application (Cont.)

A test application is necessary on each surface to be treated to ensure compatibility and the desired water repellent result. Surfaces should be free of standing water, surface dirt, dust, oils and other contaminants. Formulated XIAMETER™ OFS-6341 Silane may be applied to damp surfaces although dry surfaces are preferred to achieve maximum penetration into the substrate.

Any plants or shrubs should be protected from exposure to the treatment. Any material that should not be exposed to solvents should also be protected.

Always wear protective goggles and gloves. If inhaled, move immediately to fresh air. In case of skin or eye contact, flush immediately with water for 15 minutes. Remove contaminated clothing and shoes, and call a physician. Local, state and federal regulations should be consulted for proper disposal procedures.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

XIAMETER™ OFS-6341 Silane is flammable and evolves ethanol upon cure. Take safety precautions at all times. Do not store or use near sparks or open flames. Do not smoke in the vicinity of application. Use in a well-ventilated area, or wear an air-supplied respirator.

Products formulated using XIAMETER™ OFS-6341 Silane provide more protection when applied to highly alkaline new concrete (less than one year old). The degree of protection is not as effective on old concrete or neutral substrates. Do not use on structures under hydrostatic pressure. Do not apply when temperature is at or below 0°C (32°F) or on extremely windy days when evaporation of the solvent would be too rapid.

Usable Life and Storage

Product should be stored at or below 49°C (120°F) in original, unopened containers.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Not intended for human injection. Not intended for food use.

Shipping Limitations

Combustible liquid.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

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Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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