Technical Data Sheet

XIAMETER™ OFS-6094 Silane

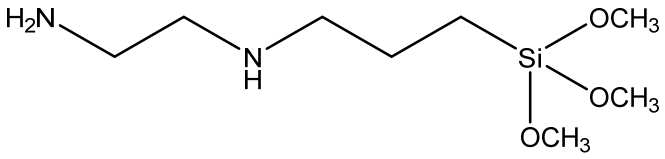
Amino functional coupling agent to improve adhesion of organic resins to inorganic surfaces. High purity version of XIAMETER™ OFS-6020 Silane.

Features & Benefits

- Improved adhesion
- Increased wet and dry tensile strength and modulus to the composite
- Increased wet and dry flexural strength and modulus to the composite
- Increased wet and dry compressive strength
- Improved compatibility between inorganic filler and organic polymer

Composition

- Aminoethylaminopropyltrimethoxysilane



Applications

- XIAMETER™ OFS-6094 Silane has been found to be an effective coupling agent for clay reinforced elastomers such as natural and nitrile rubber. The silane-treated clay provides improvement in both physical and dynamic properties compared to similar cured elastomers containing untreated clay.
- XIAMETER™ OFS-6094 Silane has been reported to be an effective coupling agent for mineral reinforced nylon 6, nylon 6/6 and polybutyleneterephthalate.
- Fiberglass reinforced phenolic, melamine and epoxy thermoset composites, either as fiberglass finish or as resinous additive.
- As an additive to improve the performance of these types of thermoset resins when they are used as mineral binders in foundry and abrasive composite applications.
- Coupling agent for phenolic, melamine and other organic resins used as binders for glass and mineral wood insulation, abrasives and molding components.

Form No. 26-2700-01-0520 S2D

Typical Properties

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

Property	Unit	Result
Appearance		Clear liquid
Flash point – closed cup	°C (°F)	85 (185)
Refractive index		1.445
Specific gravity at 25°C (77°F)		1.02
CAS number		1760-24-3

Description

XIAMETER™ OFS-6094 Silane possesses both organic and inorganic reactivity. XIAMETER™ OFS-6094 Silane can react with organic polymers and glass or other inorganic mineral surfaces.

How to Use

When used as a resin additive, generally the silane is added at a level of less than 1% based on the weight of the resin solids. For each specific application, the optimum level of additive should be determined by testing several concentrations. When used as an additive to epoxy coatings, this product improves adhesion of the coating, particularly in a very humid environment.

XIAMETER™ OFS-6094 Silane can be applied to inorganic surfaces, like other silanes, as a dilute aqueous solution (0.1% to 0.5%) silane concentration). Aqueous solutions can be prepared by simply adding the silane to water with stirring.

However, poor agitation when adding XIAMETER™ OFS-6094 Silane to water can result in locally high concentration which may form gel particles.

Inorganic surfaces can be treated with the aqueous solution by either dipping or padding. In the case of siliceous mineral fillers, the mineral can be treated by slurrying in the aqueous solution or mixed with the silane at very high shear without any additional solvent. After applying the silane, the glass or mineral surface can be air dried or dried briefly at 105°–120°C (221°–248°F) to effect complete condensation of silanol groups at the surface and to remove water and/or traces of methanol. Optimum application and drying conditions, such as time and temperature, should be determined for each application prior to use in a commercial process.

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.

Limitations

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

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.

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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