



Technical Data Sheet

XIAMETER™ OFS-6920 Silane

Disulfidosilane coupling agent for silica filled rubber

Features & Benefits

- Low scorch sulfur functional silane (versus TESPT type silanes)
- Reactive in sulfur-vulcanized rubber
- Provides compatibilization and coupling between inorganic fillers and organic rubber (e.g. silica and SBR)
- Low sulfur content allows higher rubber processing temperatures without excessive scorch

Composition

- $(\text{EtO})_3\text{Si}(\text{CH}_2)_3\text{-S}_x\text{-(CH}_2)_3\text{Si}(\text{OEt})_3$
- $x \sim 2.2$

Applications

- Coupling agent for inorganic fillers in organic rubber (such as silica in black rubber used in tire treads)

Typical Properties

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

Property	Unit	Value
Appearance		Clear, pale yellow liquid
Sulfur content	%	14.4
Average Sulfur Chain Length		2.20

Description

XIAMETER™ OFS-6920 Silane is a mixture of polysulfidosilane species with an average sulfur chain length of 2.20. It is a 100% active product in a liquid form.

How To Use

As with any organofunctional alkoxy silane coupling agent XIAMETER OFS-6920 Silane can be applied as a primer or incorporated in-situ in a compound formulation.

As a primer of a surface, the silane can be dispersed in ethanol at about 1% and wiped onto a substrate.

As an in-situ treatment, the silane is typically added with the organic matrix and inorganic filler/reinforcement. In the case of black rubber, the silane is added with the rubber, oil and silica in the first mix. The ethoxysilyl groups then react to the surface of the inorganic material during this mix. It is typical to drive the temperature of the mixture to over 150°C to get adequate reaction of the silane to the filler. The sulfur portion of the silane will then participate in the sulfur vulcanization of the rubber to couple the filler to the organic matrix.

UNRESTRICTED – May be shared with anyone

™Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

XIAMETER™ OFS-6920 Silane

© 2017 The Dow Chemical Company. All rights reserved.

Handling Precautions

Excessive exposure XIAMETER OFS-6920 Silane to water or humid conditions will cause hydrolysis and condensation of the ethoxy reactive groups to siloxane polymers. This reaction is accelerated in acidic or basic conditions. Always keep the product in a sealed container, preferably with a dry air or nitrogen blanket in the container head-space to minimize exposure to moisture. REVIEW THE MATERIAL SAFETY DATA SHEET BEFORE HANDLING THIS MATERIAL.

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 WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Storage

Product should be stored at or below 10°C (40°F) in original, unopened containers. Storage at lower temperatures may cause some precipitation of free sulfur which can be removed by filtration (this has no effect on the product efficacy).

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.

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, www.consumer.dow.com or consult your local Dow representative.

<http://www.xiameter.com>

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

