

SILQUEST* A-171* silane

SILANES - ADHESIVES & SEALANTS ADDITIVES



Silquest A-171 silane offers vinyl and silane functionality, making it an excellent candidate for crosslinking organic polymers. It may also be useful for chain extension of RTV silicones or other silane or OHfunctional polymers. The resulting Si-O-Si crosslink sites are highly resistant to exposure to moisture, chemicals and UV. Siloxane crosslinks tend to not generate color and are resistant to acid rain.

Silquest A-171 silane may also be useful as a moisture scavenger in moisture cure systems where enhanced shelf-life is sought.

Key Features and Typical Benefits

Feature	Benefit
Vinyl Functionality	<ul style="list-style-type: none"> Allows free radical addition to polymers. Increases the rate of silane hydrolysis.
Trimethoxy Silane Functionality	<ul style="list-style-type: none"> Bonds to inorganic substrates to provide excellent wet and dry adhesion. Functions as a crosslinker. Useful as a moisture scavenger.

Typical Physical Properties

	Silquest A-171 Silane
Appearance	Colorless to Light Straw
Specific Gravity at 25/25°C	0.97
Refractive Index n_D 25°C	1.3905
Flash Point, Tag Closed Cup, °C (°F)	28 (82)
Boiling Point, °C (°F)	122 (252)

Typical data are average data and actual values may vary. Typical data shall not be used as product specifications.

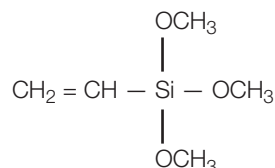
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Solubility

Momentive Performance Materials family of vinyl Silquest silanes are soluble in water after they have been hydrolyzed. Hydrolyzing Silquest A-171 silane in water is aided by adjusting the pH of the water to 5.0-5.5 with acetic acid prior to adding the silane.

Chemical Structure

Silquest A-171 Silane



Vinyltrimethoxy Silane

Potential Applications

Crosslinking with the Momentive Performance Materials family of vinyl Silquest silanes

Silquest A-171 silane is a monomeric vinyl functional silane in vinyl, vinyl acrylic and acrylic resins. The vinyl silane can be added as monomers during emulsion polymerization to form silane modified latexes. The silane in such latexes functions as a crosslinker, forming very stable Si-O-Si linkages.

Vinyl silanes can also be grafted to select unsaturated polymers such as polyethylene, polyester, and styrene-butadiene co-polymers, via free radical chemistry. Once grafted to the resin, the resin exhibits silane functionality through which the resin can be crosslinked via an ambient moisture cure mechanism. This approach can be utilized to provide improved high temperature resistance, tensile and tear strengths to thermoplastic resin-based materials.

With the addition of an adhesion promoting silane, such as Silquest A-1110 silane or Silquest A-1120 silane, excellent adhesion to a wide array of substrates can be obtained (Note: See literature on SPUR* prepolymer-based technology for additional information on synergistic use of Silquest silane crosslinkers and adhesion promoters for excellent adhesion to difficult substrates). This approach may be suitable to warm applied hot melt adhesive and sealant applications.

Moisture Scavenging with Momentive Performance Materials vinyl functional Silquest silanes

The electron withdrawing effect imparted by the silanes vinyl functionality enhances the rate of hydrolysis. This increased reactivity makes Silquest A-171 silane one of the fastest hydrolyzing alkoxy silanes available. The elevated rate of hydrolysis is sufficient to enable Silquest A-171 silane to be utilized as a moisture scavenging agent in moisture sensitive systems.

Silquest A-171 silane can be incorporated into urethane, silylated polyurethane (SPUR prepolymer) or other silane modified polymer based sealants and adhesives to extend the systems shelf-life.

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Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (MPM) representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Emergency Service

Momentive Performance Materials maintains an around-the-clock emergency service for its products.

<u>Location</u>	<u>Emergency Service Provider</u>	<u>Emergency Contact Number</u>
Mainland U.S., Puerto Rico	CHEMTREC	1-800-424-9300
Alaska, Hawaii	CHEMTREC	1-800-424-9300
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Middle East	NCEC	+44 (0) 1235239671
Asia Pacific (except China)	NCEC	+44 (0) 1235239670
China	NCEC	+86-10-5100-3039
Latin America (except Brazil)	NCEC	+44 (0) 1235239670
Brazil	SOS Cotec	08000111767 or 08007071767
All other locations world wide	NCEC	+44 (0) 1235239670
At sea	Radio U.S. Coast Guard in U.S. waters NCEC in International waters	+44 (0) 1235239670

For Health related calls, contact Momentive Performance Materials at +1-518-233-2500 (English only).

DO NOT WAIT. Phone if in doubt. You will be referred to a specialist for advice.

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