

Silquest™ Y-9669

Silquest* Y-9669

Description

Silquest silane Y-9669 combines phenyl and amino functionality in the same molecule. It is an extremely effective adhesion promoter for many filled and reinforced resin systems.

Silquest silane Y-9669 is a versatile adhesion promoter, particularly for resin systems that will react with a secondary amino group, such as isocyanates, acrylates, epoxies, phenolics and RTV silicones. This silane is especially useful when the resulting material must withstand higher temperatures; e.g., in phenolic resin/fiberglass composites.

Key Features and Benefits

- Secondary phenyl amino group reacts with such resin systems as isocyanates, acrylates, epoxies, phenolics and silicones
- Methoxy silane ester for fast hydrolysis time
- Aromatic amino group for increased stability of resin/silane bond at elevated temperature
- Phenyl group for good resin wet-out

Typical Physical Properties

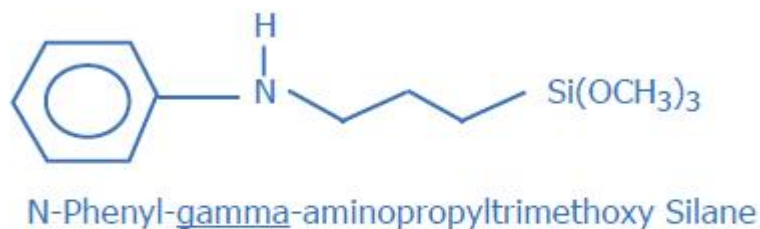
Appearance	Clear liquid
------------	--------------

Color	Straw-to-amber
Specific Gravity at 25/25°C	1.07
Boiling Point, °C (°F)	310 (590)
Flash Point, Pensky-Martens Closed Cup ⁽¹⁾ , °C (°F)	146 (295)

(1) ASTM Method D 93

Chemical Structure

Silquest silane Y-9669 has the following chemical structure:



N-Phenyl-gamma-aminopropyltrimethoxy Silane

Potential Applications

Silquest silane Y-9669 significantly improves adhesion between inorganic surfaces and polymers that react with a secondary amine. Evaluation is recommended for such polymers as urethanes, epoxies, acrylates and phenolics that must adhere to inorganic substrates; e.g., glass, metals, fiberglass and particulate fillers. Applications include adhesives and sealants coatings, glass fiber sizes and finishes, primers and foundry sand binders.

The excellent high-temperature performance of silane Y-9669 is demonstrated by the improvement in durability of a glass fiber reinforced phenolic resin laminate. As shown in Table 1, composites prepared with silane Y-9669 better maintained the superior flexural strength of the laminate, even after prolonged exposure to high temperature

and moisture, as compared to similar composites prepared with Silquest A-1100* silane.

Table 1: Effect of Silanes on High-Temperature Flexural Strength Properties of Phenolic/Fiberglass Composites

Silane	Flexural Strength, psi x 10 ⁻³		
	Initial	96 hr at 500°F (260°C)	192 hr at 500°F (260°C)
	Dry/Wet	Dry/Wet	Dry/Wet
Silquest A-1100	64/62	47/41	22/13
Silquest Y-9669	65/66	58/48	41/34

These data confirm that silane Silquest silane Y-9669 offers superior high-temperature aging characteristics in GFR composites. Consequently, it is a likely candidate for other resin systems and applications that involve high-temperature exposure.

Patent Status

Standard copy to come

Product Safety, Handling and Storage

Standard copy to come

Processing Recommendations

Silquest silane Y-9669 may be added directly to the matrix resin or during formulation, or used independently as a primer. For waterborne applications, the silane can be diluted in acidified water. When properly diluted, these aqueous solutions are stable for up to 72 hours. A typical solution is prepared by adding 1 gram of Silquest silane

Y-9669 to 99 grams of water acidified to pH 2.9 with glacial acetic acid.

Limitations

Standard copy to come

Contact Information

Email

commercial.services@momentive.com

Telephone

Americas	Latin America	EMEAI- Europe, Middle East, Africa & India	ASIA PACIFIC
+1 800 295 2392	Brazil	Europe	China
Toll free*	+55 11 4534 9650	+390510924300	800 820 0202
+704 805 6946	Direct Number	Direct number	Toll free
Direct Number			+86 21 3860 4892
			Direct number
*All American countries	Mexico	India, Middle East & Africa	Japan
	+52 55 2169 7670	+ 91 44 71212207	+81 3 5544 3111
	Direct Number	Direct number*	Direct number
		*All Middle Eastern countries, Africa, India,	Korea
			+82 2 6201 4600

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED

HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER'S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier's materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*Silquest™은 Momentive Performance Materials Inc.의 상표입니다.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.