Technical Data Sheet

www.silfluosilicone.com

Silfluo LS-E85

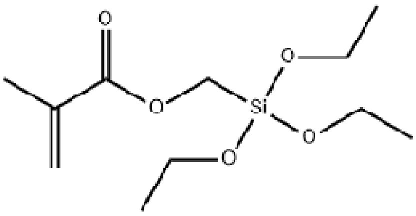
Alpha(α) Organosilane

Description:

Silfluo LS-E85 is a highly specialized, extremely reactive alpha-silane, chemically identified as Methacryloxymethyltriethoxysilane. Its defining structural feature is the single methylene (-CH2-) spacer that separates the reactive methacryloxy group from the silicon atom. This close proximity creates the alpha-effect, which dramatically accelerates the hydrolysis rate of the ethoxy groups compared to traditional gamma-silanes. This unique hyper-reactivity allows formulators to develop extremely fast-curing moisture-crosslinked systems, often entirely eliminating the need for toxic organotin catalysts. Furthermore, it hydrolyzes to release benign ethanol, making it an elite, eco-friendly bifunctional monomer for advanced adhesives, sealants, and coatings.

Performance equivalent to industry standards: Wacker GENIOSIL XL 36.

Typical Technical Properties

Silfluo Code:	LS-E85
Chemical Name:	Methacryloxymethyltriethoxysilane
Synonyms:	Triethoxysilylmethyl 2-methylprop-2-enoate; (Triethoxysilyl)methylmethacylate
CAS No. :	5577-72-0
EINECS No. :	200-258-5
Molecular Formula:	$C_{11}H_{22}O_5Si$
Molecular Weight:	262.37
Appearance:	Colorless transparent liquid
Purity (by GC, %):	
Density (20°C, g/cm³):	1.00
Refractive Index (nD 25°C):	1.4225
Boiling Point:	65°C
Flash Point:	100°C
Chemical Structure:	

Features

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1. The Alpha-Effect: The exceptionally short methylene bridge fundamentally alters the electron density around the silicon atom, driving hyper-fast hydrolysis and condensation rates that far exceed standard aliphatic silanes.
2. Tin-Free Catalysis: Enables the robust moisture curing of silicone and hybrid polymer systems without the addition of heavy-metal organotin catalysts, perfectly aligning with stringent global environmental and health regulations.
3. Dual Reactive Pathways: The active methacrylate double bond readily undergoes free-radical or UV/EB polymerization, while the siloxane network provides profound, permanent adhesion to inorganic substrates (glass, metals, minerals).

Applications:

1. Advanced RTV Silicone Sealants: Acts as a premium adhesion promoter and hyper-reactive crosslinker in Room Temperature Vulcanizing (RTV) silicones. It is absolutely critical for formulating modern, fast-curing, tin-free silicone sealants.
2. Silane-Modified Polymers (SMP) & Hybrids: Extensively utilized in MS Polymer, SPUR, and advanced polyurethane systems to rapidly accelerate the moisture-cure profile and significantly enhance unprimed adhesion to notoriously difficult substrates.
3. UV & Electron Beam (EB) Curable Coatings: Serves as a highly efficient reactive diluent and adhesion-promoting monomer in radiation-curable acrylic and methacrylic coatings, securely anchoring the organic film to glass and metallic surfaces.
4. Specialized Organic-Inorganic Composites: Deployed as an elite coupling agent to drastically improve the interfacial shear strength, moisture resistance, and mechanical durability of mineral-filled specialty resins.

Package &Storage:

In 25kg pail, 200kg drum.

Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. Keep in unopened containers.

Storage beyond the shelf life does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

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