



Silfluo LS-GLYDME

Epoxy Mono-Alkoxy Silane (Surface Modifier & Capping Agent)

Description:

Silfluo LS-GLYDME is a highly specialized, mono-functional organosilane, chemically identified as 3-(Glycidyoxy)propyldimethylethoxysilane. Unlike traditional tri-alkoxy silane coupling agents that form dense 3D crosslinked networks, this advanced molecule features only a single hydrolyzable ethoxy group paired with two non-reactive methyl groups on the silicon atom.

This unique "mono-alkoxy" architecture makes it a premier, non-crosslinking surface modifier and end-capping agent. It reacts with surface hydroxyls to form a uniform, self-assembled monolayer (SAM) that effectively modifies inorganic substrates without inducing bridging, agglomeration, or unwanted viscosity spikes in the surrounding polymer matrix. Furthermore, its reactive epoxy ring ensures robust compatibility and covalent bonding within high-end epoxy, acrylic, and polyurethane systems.

Typical Physical Properties

Silfluo Code:	LS-GLYDME
Chemical Name:	3-(Glycidyoxy)propyldimethylethoxysilane
Synonyms	Ethoxy-Dimethyl-[3-(2-Oxiranylmethoxy)Propyl]Silane;
CAS No. :	17963-04-1
EINECS No. :	241-889-7
Molecular Formula:	C ₁₀ H ₂₂ O ₃ Si
Molecular Weight:	218.37
Appearance:	Colorless transparent liquid
Purity (by GC, %)	97 min
Density (25°C, g/cm ³)	0.940~0.960
Refractive Index (n _{25/D})	1.4300 ~ 1.4400
Boiling Point:	247.7°C
Flash Point:	81.5°C Closed Cup
Chemical Structure:	

Features

- 1. Zero-Crosslinking Surface Modification:** The single ethoxy group strictly limits the reaction to end-capping substrate hydroxyls. This fundamentally prevents 3D siloxane condensation, completely eliminating the risk of premature gelation or agglomeration of treated powders.
- 2. Exceptional Viscosity Reduction:** By neutralizing the active surface of highly loaded inorganic fillers (like silica or alumina), it dramatically reduces inter-particle friction. This significantly lowers the bulk viscosity of highly filled epoxy and electronic potting compounds, allowing for superior flow and workability.
- 3. Highly Reactive Epoxy Ring:** The terminal glycidoxy group seamlessly reacts with amines, carboxylic

Technical Data Sheet



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acids, and alcohols, firmly anchoring the treated inorganic particles into the organic polymer backbone.

Applications:

Silfluo LS-GLYDME is strictly engineered for high-precision polymer modification and electronic materials:

1. **Advanced Electronic Packaging & Potting:** Serves as a critical viscosity-reducing surface modifier for ultra-fine silica and alumina fillers used in epoxy-based semiconductor encapsulants, thermal interface materials (TIMs), and underfill resins.
2. **Nanoparticle Dispersion & Treatment:** Extensively utilized in the high-end pretreatment of mineral fillers and inorganic nanoparticles. It creates a hydrophobic, organic-compatible shell that prevents particle agglomeration in solvent-borne and solvent-free resin systems.
3. **Polymer End-Capping:** Functions as a highly specific chain-terminating agent in the synthesis of custom organosilicones and specialized functionalized prepolymers where strict molecular weight control is mandatory.

Packing

In 200kg drum and 1000kg IBC.

Safety and Storage

Keep in a cool, strictly dry, and well-ventilated environment, aggressively avoiding direct sunlight, heat, and open flames. The shelf life is a minimum of 12 months from the date of manufacture when stored at or below 25° C in tightly sealed, original unopened containers.