Technical Data Sheet

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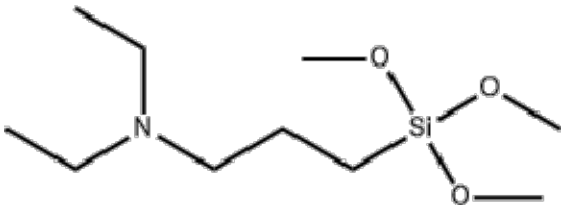
Silfluo LS-M81

Tertiary Amino-Functional Silane

Description:

Silfluo LS-M81 is a highly specialized tertiary amino-functional silane, chemically identified as [3-(Diethylamino)propyl]trimethoxysilane. Featuring a dialkyl-substituted tertiary amine and three highly reactive methoxy groups, it serves as a dual-action adhesion promoter and an intrinsic moisture-cure catalyst. Unlike primary or secondary aminosilanes, its sterically hindered tertiary amine structure provides excellent catalytic activity for silanol condensation while fundamentally mitigating the severe thermal and UV yellowing typically associated with traditional amino coupling agents.

Typical Technical Properties

Silfluo Code:	LS-M81
Chemical Name:	[3-(Diethylamino)propyl]trimethoxysilane
Synonyms:	(N,N-Diethyl-3-aminopropyl)trimethoxysilane; Diethylaminopropyltrimethoxysilane
CAS No. :	41051-80-3
EINECS No. :	255-192-0
Molecular Formula:	$C_{10}H_{25}NO_3Si$
Molecular Weight:	235.4
Appearance:	Colorless to yellowish transparent liquid
Purity (by GC, %):	95min
Density (25°C, g/cm^3):	0.95
Refractive Index (nD 25°C):	1.4130~1.4330
Boiling Point:	95~110°C
Flash Point:	53°C
Chemical Structure:	

Features

1. Intrinsic Catalytic Activity: The basic tertiary amine group acts as an effective built-in catalyst, drastically accelerating the hydrolysis and condensation rates of the methoxy groups upon exposure to atmospheric moisture.

2. Low-Yellowing Profile: The fully substituted (tertiary) nitrogen atom prevents the formation of highly colored chromophores, making it a superior choice for formulating transparent or light-colored adhesives and coatings.
3. Fast-Curing Kinetics: Equipped with three hydrolyzable methoxy groups, it ensures extremely rapid crosslinking and the formation of a dense, highly durable siloxane network.
4. Robust Adhesion: Forms strong, moisture-resistant covalent bonds between demanding organic polymer matrices and inorganic substrates such as glass, aluminum, and cold-rolled steel.

Applications:

1. Neutral-Cure RTV Silicone Sealants: Extensively utilized as a highly effective autocatalytic crosslinker and adhesion promoter in one-part (1K) neutral-cure Room Temperature Vulcanizing (RTV) silicone sealants, simultaneously accelerating the deep-cure rate and improving unprimed substrate adhesion.
2. Advanced Adhesives & SPUR Systems: Acts as a critical performance additive in silyl-terminated polyurethanes (SPUR) and hybrid MS polymers, optimizing the curing profile and enhancing interfacial bonding without triggering premature yellowing.
3. High-Performance Coatings: Deployed as a surface primer and reactive additive in industrial coatings to significantly elevate wet adhesion and corrosion resistance on metallic surfaces.
4. Mineral Filler Treatment: Serves as an advanced surface modifier for inorganic fillers, effectively reducing matrix viscosity and improving filler dispersion in specialty composite compounding.

Packing

In 190kg drum and 950kg IBC.

Safety and Storage

Keep in a cool, strictly dry, and well-ventilated environment, aggressively avoiding direct sunlight, heat, sparks, and open flames. Classified and shipped as a hazardous substance (Class 3 Flammable Liquid due to its 53° C flash point). The shelf life is a minimum of 12 months from the date of manufacture when stored in tightly sealed, original unopened containers.