Technical Data Sheet

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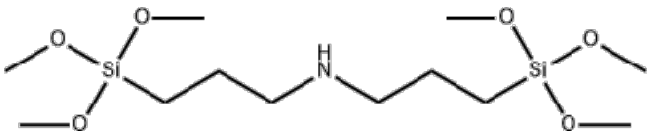
Silfluo LS-AD31

Secondary Bis-Amino Functional Silane

Description

Silfluo LS-AD31 is Bis(trimethoxysilylpropyl)amine, a secondary amino-functional bis-silane.
The molecule contains one secondary amine group and two trimethoxysilylpropyl groups.
The secondary amine reacts with isocyanate groups for NCO end-capping reactions.
The trimethoxysilyl groups hydrolyze and participate in siloxane network formation under moisture-curing conditions.
Used as end-capping agent for NCO-terminated polyurethane prepolymers, reactive silane component in silane-modified polymer systems, adhesion promoter, coupling agent, or surface treatment agent in adhesives, sealants, coatings, composites, foundry resins, and mineral-filled polymer systems.
Compared with primary aminosilanes, the secondary amine structure reduces yellowing tendency in selected formulations; verify color stability in the target system.
Performance equivalent to Momentive Silquest A-1170, Evonik Dynasylan 1124, and Wacker GENIOSIL GF 95.

Typical Physical Properties

Silfluo Code:	LS-AD31
Chemical Name:	Bis(trimethoxysilylpropyl)amine
Synonyms	3,3′-Iminobis(propyltrimethoxysilane); secondary bis-amino functional silane
CAS No. :	82985-35-1
EINECS No. :	280-084-5
Formula:	$C_{12}H_{31}NO_6Si_2$
Molecular Weight	341.55
Appearance:	Colorless or yellowish clear liquid
Density (ρ20°C, g.cm³)	1.045
Refractive Index (n25.D)	1.429
Purity (by GC, %):	95.0min;
Chemical Structure:	

Applications

1. Silane-terminated polyurethane systems

Used as end-capping agent for NCO-terminated polyurethane prepolymers to introduce alkoxysilane

functionality. Verify reaction conditions, residual NCO level, viscosity, and storage stability during formulation.

2. MS polymer, SMP, and SPUR sealants

Used as reactive silane component in silane-modified polymer sealants and adhesives requiring moisture-curing functionality and adhesion support. Verify cure profile, modulus, elongation, and storage stability in the final formulation.

3. Adhesives and sealants

Used as adhesion promoter or reactive additive in polyurethane, epoxy, silicone, and hybrid sealant systems. Verify cure behavior, bond strength, and substrate adhesion by application testing.

4. Coatings and primers

Used in coating and primer systems for adhesion to glass, mineral, and metal oxide surfaces. Verify compatibility and film properties in the target formulation.

5. Glass fiber and composite sizing

Used for glass fiber, fiberglass fabric, and mineral reinforcement treatment in thermoset and composite systems. Verify interfacial adhesion and wet mechanical properties in the target system.

6. Foundry resins and mineral binders

Used in phenolic, furan, melamine, and other binder systems for foundry sand, mineral fiber insulation, and abrasive applications. Verify binder compatibility and mechanical properties in the target process.

7. Mineral-filled polymers and HFFR compounds

Used as surface modifier for inorganic fillers and pigments in polymer composites, including halogen-free flame-retardant cable compounds. Verify dispersion, mechanical properties, and electrical properties by compound testing.

Packaging

In 25kg pail, 200kg drum and 1000kg IBC

Safety and Storage

Keep in a cool, dry, and well-ventilated environment, strictly avoiding direct sunlight, heat, and open flames. The shelf life is 24 months from the date of manufacture when stored at or below 25°C in the original, tightly sealed and unopened containers. Storage beyond the shelf life does not necessarily mean the product is unusable; however, the properties required for the intended use must be thoroughly checked for quality assurance reasons prior to application.