



Silfluo LS-ND42

Alpha-Functional Phenylamino Silane

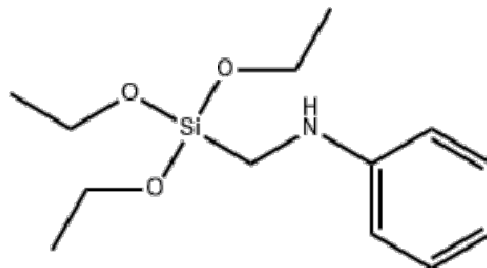
Description

Silfluo LS-ND42 is a highly specialized, premium alpha-amino functional silane, chemically identified as (N-Phenylamino)methyltriethoxysilane. Unlike standard gamma-silanes, its molecular architecture is defined by the Alpha-Effect, where the bulky, thermally stable phenylamino group is separated from the silicon atom by only a single methylene (-CH₂-) bridge. This extreme proximity dramatically supercharges the reactivity of the triethoxy groups, resulting in exceptionally rapid hydrolysis and crosslinking speeds. Furthermore, it undergoes moisture curing to release benign ethanol, ensuring an eco-friendly profile. It is universally recognized as an elite adhesion promoter and ultra-fast crosslinker for advanced silicone rubbers, SMP adhesives, and high-performance composites requiring extreme thermal and mechanical resilience. Performance equivalent to industry standards: Wacker GENIOSIL XL 973.

Typical Physical Properties

Silfluo Code:	Silfluo LS-ND42
Chemical Name:	(N-Phenylamino)methyltriethoxysilane
Synonyms	N-(Triethoxysilylmethyl)aniline; Anilino-methyl-triethoxysilane;
CAS No. :	3473-76-5
EINECS No. :	222-441-1
Molecular Formula:	C ₁₃ H ₂₃ NO ₃ Si
Molecular Weight:	269.41
Appearance:	Colorless transparent to pale yellow liquid
Density (ρ _{20°C} , g/cm ³)	1.030 - 1.050
Refractive Index (n _{25/D})	1.4800-1.4900
Boiling Point:	136°C
Flash Point:	>110°C
Purity	97% min

Chemical Structure:



Features

Nanjing Silfluo New Material Co., Ltd.

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Technical Data Sheet



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- 1. Accelerated Alpha Reactivity:** The uniquely short methylene spacer induces incredibly fast hydrolysis and condensation rates, significantly accelerating the deep-curing process of moisture-curable resin systems without the need for toxic organotin catalysts.
- 2. Extreme Thermal Shock Resistance:** The bulky phenyl ring combined with the robust Si-C bond provides unparalleled resistance to thermal cleavage. Substrates covalently bonded with Silfluo LS-ND42 can withstand severe thermal cycling—such as baking at 200°C for 10 hours followed by immediate cold-water quenching—without catastrophic adhesive failure.
- 3. Superior Interfacial Mechanical Strength:** Delivers distinctly superior heat resistance, moisture resistance, and overall structural integrity compared to conventional gamma-functional aminosilanes, maintaining critical flexibility under stress.
- 4. Broad-Spectrum Cohesive Adhesion:** Generates profound bonding strength that frequently exceeds the tear strength of the polymer matrix itself (cohesive failure) when applied to challenging metals (aluminum, copper, steel), glass, and various rigid plastics.

Applications

- 1. Advanced RTV Silicone Rubbers:** Serves as an elite, fast-curing crosslinking agent and adhesion promoter for Room Temperature Vulcanizing (RTV) silicones. It chemically welds the elastomer to difficult substrates, ensuring long-lasting electrical insulation and bonding under extreme high and low-temperature fluctuations.
- 2. High-Performance Adhesives & SMP Sealants:** Extensively utilized as an advanced reactive additive and end-capping modifier in specialty hybrid adhesives (Silane-Modified Polymers), where ultra-rapid curing and exceptional resistance to boiling water, steam, and thermal shock are absolute prerequisites.
- 3. FRP Composites & Mineral-Filled Plastics:** Acts as a high-end coupling agent in the manufacturing of Fiberglass Reinforced Plastics (FRP) and mineral-filled epoxy/phenolic composites. It drastically improves the interfacial covalent bond between the inorganic reinforcement and the organic resin, preventing delamination in high-heat environments.

Packaging

In 20kg pail, 190kg drum and 950kg IBC

Safety and Storage

Keep away from heat and open flame. When stored at or below 25°C in the original unopened containers, this product has a usable life of 24 months from the date of production (200L drum)

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