# Technical Data Sheet

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# Silfluo LS-AV31

Triamino Functional Silane

## Description

Silfluo LS-AV31 is an exceptionally highly reactive, multi-functional organosilane, chemically identified as 3-[2-(2-Aminoethylamino)ethylamino]propyltrimethoxysilane. Distinguished by its unique triamino molecular architecture—containing one primary amine and two secondary amines densely packed along its organic chain—it offers unparalleled reactivity with a wide variety of highly crosslinked thermosetting resins. Although highly sensitive to ambient moisture (rapidly hydrolyzing to form reactive silanols and releasing methanol), this ultra-fast curing profile positions it as the ultimate adhesion promoter and crosslinker in demanding applications where standard mono- or diamino silanes fail to provide sufficient interfacial bonding strength.

Performance equivalent to industry standards: Momentive Silquest A-1130 / Y-5621, Evonik Dynasylan TRIAMO.

## Typical Physical Properties

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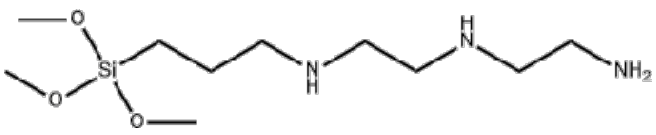
|---|---|
| Silfluo Code: | LS-AV31 |
| Chemical Name: | 3-[2-(2-Aminoethylamino)ethylamino]propyl-trimethoxysilane |
| Synonyms | 2-[2-(3-Trimethoxysilylpropylamino)ethylamino]ethylamine |
| CAS No. : | 35141-30-1 |
| EINECS No. : | 252-390-9 |
| Molecular Weight: | 265.43 |
| Appearance: | Colorless or light yellow transparent liquid |
| Purity (by GC, %): | 95.0 min |
| Density (ρ20°C, g/cm³) | 1.0310 ± 0.005 |
| Refractive Index (n25/D) | 1.457-1.461 |
| Boiling Point: | 114-118 ºC (2 mmHg) |
| Flash Point: | >110 °C closed cup |

Chemical Structure:




## Features

1. Maximum Amine Reactivity: The unique combination of three active nitrogen atoms (triamino functionality) maximizes chemical grafting sites, providing superior crosslinking reactivity with difficult-to-bond thermosetting matrices.

2. Ultra-Fast Hydrolysis Kinetics: The highly active trimethoxysilyl groups react instantaneously with ambient moisture, significantly accelerating the cure rate and drastically shortening the cycle time in high-throughput composite manufacturing.
3. Extreme Adhesion Promotion: Dramatically exponentially increases the interfacial adhesion shear strength between inorganic substrates (glass, silica, aluminum, steel) and polymer matrices, specifically maintaining structural integrity under severe environmental aging or high-stress conditions.

## Applications

1. Advanced Thermosetting Resin Composites: Functions as a premium, high-density coupling agent for rigid thermosetting systems, including phenolic, furan, melamine, and urea-formaldehyde resins. It critically improves the tensile strength, flexural modulus, and long-term moisture resistance of industrial laminates and advanced composites.
2. High-Performance Adhesives & Sealants: Acts as an extremely aggressive adhesion promoter in reactive two-part polyurethane (2K PU) and structural acrylic adhesives. It ensures profound, cohesive bonding failure (rather than adhesive failure) on challenging glass, aluminum, and cold-rolled steel substrates.
3. High-Temperature Foundry Sand Binders: Extensively utilized as a critical curing additive in phenolic and furan-based foundry resin systems. It rapidly crosslinks the binder matrix, providing exceptional core strength, dimensional stability, and structural integrity to foundry sand molds during the extreme heat of the metal casting process.

## Packaging

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

## Safety and Storage

Keep in a cool and dry place and avoid storage in direct sunlight. Shelf life is 24 months. It is shipped as hazardous substance.