Technical Data Sheet

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Silfluo LS-94322

Dual-Functional Siloxane Intermediate (Si-H & Methoxy)

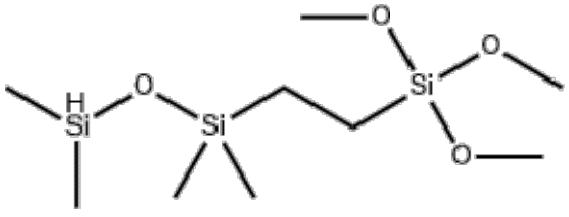
Description:

Silfluo LS-94322 is a highly specialized, dual-functional siloxane intermediate, chemically identified as 1,1,3,3-Tetramethyl-1-[2-(trimethoxysilyl)ethyl]disiloxane. Supplied as a technical-grade, highly active isomer mixture, its unique molecular architecture features two distinctly different reactive sites. One end possesses a highly reactive silicon-hydride (Si-H) bond, ready to undergo precision hydrosilylation with olefinic (vinyl/allyl) compounds. The other end features a moisture-curable trimethoxysilyl group. This strategic structural design makes it an incredibly versatile, high-value building block for synthesizing custom silane-terminated prepolymers, advanced silicone polyethers, and specialized surface modifiers.

Typical Physical Properties

Silfluo Code:	LS-94322
Chemical Name:	1,1,3,3-Tetramethyl-1-[2'-(Trimethoxysilyl)Ethyl]-Disiloxane
Synonyms	dimethylsilyloxy-dimethyl-(2-trimethoxysilylethyl)silane; Disiloxane, 1,1,3,3-tetramethyl-1-[2-(trimethoxysilyl)ethyl]-;
CAS No. :	137407-65-9
EINECS No. :	
Molecular Formula:	$C_9H_{26}O_4Si_3$
Molecular Weight:	282.56
Appearance:	Colorless or light yellow liquid
Purity (by GC, %):	> 65
Density (25°C, g/cm³):	
Refractive Index (n25/D):	
Boiling Point:	218°C
Flash Point:	125°C Closed Cup

Chemical Structure:



Features

1. Dual Reactivity Platform: The coexistence of an active Si-H bond and hydrolyzable methoxy groups empowers synthesis chemists to easily graft a moisture-curing silane functionality onto virtually any unsaturated (carbon-carbon double bond) polymer backbone.

2. Siloxane Backbone Flexibility: The internal disiloxane (Si-O-Si) linkage introduces inherent flexibility, tactile softness, and low surface energy to the final synthesized polymer or coating.
3. Moisture-Triggered Crosslinking: Once grafted via the Si-H end, the terminal trimethoxysilyl groups ensure robust, moisture-activated crosslinking and exceptional covalent bonding to inorganic substrates (glass, metals, and minerals).

Applications:

Silfluo LS-94322 is engineered strictly as a high-performance chemical building block:
1. Synthesis of Silicone Polyethers & Surfactants: Extensively utilized in hydrosilylation reactions with allyl-terminated polyethers to manufacture specialty silicone surfactants, agricultural wetting agents, and polyurethane foam stabilizers.
2. Polymer End-Capping (STP/MS Polymers): Acts as a highly efficient reactive capping agent. It grafts onto vinyl- or allyl-terminated polyolefins and polyurethanes to synthesize moisture-curable, silane-terminated prepolymers used in high-performance hybrid sealants.
3. Advanced Surface Modifiers: Serves as a critical intermediate to produce custom-designed, long-chain silane coupling agents that provide enduring hydrophobicity, flexibility, and scratch resistance to premium glass and automotive coatings.
4. Custom Silicone Resin Modification: Employed to organically modify rigid silicone resins, tuning their crosslink density and improving their thermodynamic compatibility with organic solvent systems.

Packing

In 25kg pail and 200kg drum.

Safety and Storage

Keep in a cool, strictly dry, and well-ventilated environment, aggressively avoiding direct sunlight, heat, and open flames. CRITICAL WARNING: This product contains active silicon-hydride (Si-H) bonds. Keep strictly away from strong acids, alkalis, heavy metals, and moisture, as contact can trigger rapid, dangerous evolution of highly flammable hydrogen gas (H2). 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.