Technical Data Sheet

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Silfluo LS-AS32

Imidazoline-Functional Silane (Self-Catalyzing Promoter)

Description:

Silfluo LS-AS32 is N-[3-(triethoxysilyl)propyl]-4,5-dihydroimidazole, an imidazoline-functional organosilane.

The molecule contains a 4,5-dihydroimidazole ring and a hydrolyzable triethoxysilyl group.

The imidazoline group provides basic nitrogen functionality and interacts with selected epoxy, polyurethane, and metal-containing systems.

The triethoxysilyl group hydrolyzes and reacts with hydroxylated inorganic surfaces or participates in siloxane network formation under suitable conditions.

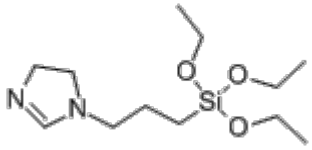
Used as adhesion promoter, reactive silane additive, curing support additive, or surface treatment agent in epoxy systems, sealants, coatings, primers, and inorganic filler modification applications.

Cure behavior, adhesion, corrosion resistance, and storage stability require verification in the target formulation.

Typical Physical Properties

Silfluo Code:	LS-AS32
Chemical Name:	N-[3-(triethoxysilyl)propyl]-4,5-dihydroimidazole
Synonyms	3-(4,5-Dihydroimidazol-1-Yl)Propyl-Triethoxy-Silane;
CAS No. :	58068-97-6
EINECS No. :	261-093-3
Molecular Formula:	$C_{12}H_{26}N_2O_3Si$
Molecular Weight:	274.44
Appearance:	Colorless transparent liquid
Purity (by GC, %):	97
Density (25°C, g/cm³):	1.005
Refractive Index (n25/D):	1.452
Boiling Point:	134°C (2 mmHg)
Flash Point:	141°C Closed Cup

Chemical Structure:



Applications:

1. Epoxy adhesives and encapsulants

Used as adhesion promoter or curing support additive in 1K and 2K epoxy adhesives, potting compounds, encapsulants, and epoxy coatings. Verify cure behavior, adhesion, and storage stability in the target formulation.

2. RTV silicone and SMP systems

Used as reactive silane additive in RTV silicone, silane-modified polymer, and hybrid sealant systems requiring adhesion support and condensation-cure assistance. Verify cure behavior and storage stability in the target formulation.

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3. Metal primers and coatings
Used as reactive additive in metal primer and coating formulations. Verify wet adhesion, corrosion resistance, and compatibility with the coating system by testing.
4. Inorganic filler and silicate modification
Used as surface modifier for silicates, clays, silica, and inorganic particles. Verify dispersion, compatibility, and mechanical properties in the target polymer compound.
5. Hybrid polymer systems
Used in epoxy, polyurethane, silicone, and inorganic-organic hybrid systems requiring imidazoline functionality and alkoxysilane reactivity. Verify compatibility, cure behavior, and final properties in the target system.

Packing

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

Safety and Storage

Store in a cool, dry, well-ventilated environment. Keep away from direct sunlight, heat, and ambient moisture.
Keep away from organic acids, strong oxidizers, and transition metal salts outside of formulation conditions.
Classified as non-hazardous substance for standard transport.

Shelf life: 12 months minimum from manufacture date when stored at ⩽25°C in original tightly sealed unopened containers.

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