Technical Data Sheet

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Silfluo LS-AS213

Cyclic Azasilane Coupling Agent

Description:

Silfluo LS-AS213 is 2,2-Dimethoxy-1-[3-(trimethoxysilyl)propyl]-1-aza-2-silacyclopentane, a cyclic azasilane functional silane.

The molecule contains a five-membered aza-silacyclopentane ring and a terminal trimethoxysilyl group.

The cyclic Si – N structure undergoes ring-opening in the presence of moisture or active hydrogen-containing groups such as silanol or polymer hydroxyl groups.

The initial ring-opening reaction proceeds without alcohol by-product formation; however, the trimethoxysilyl group participates in moisture-curing reactions and releases methanol.

Final by-product profile depends on the complete formulation and curing conditions.

Used as reactive silane additive, polymer modifier, end-capping agent, or adhesion promoter in RTV silicone, silane-modified polymer, polyurethane sealant, adhesive, and coating systems.

Typical Physical Properties

Silfluo Code:	LS-AS213
Chemical Name:	2,2-Dimethoxy-1-[3-(trimethoxysilyl)propyl]-1-aza-2-silacyclopentane
Synonyms	1-[3-(Trimethoxysilyl)propyl]-2,2-dimethoxy-1-aza-2-silacyclopentane
CAS No. :	109084-60-8
EINECS No. :	
Molecular Formula:	$C_{11}H_{27}NO_5Si_2$
Molecular Weight:	309.51
Appearance:	Colorless transparent liquid
Purity (by GC, %):	95
Density (25°C, g/cm³):	
Refractive Index (n25.D):	

Applications:

1. RTV silicone systems

Used as reactive modifier or end-capping agent for silanol-terminated polydimethylsiloxane systems. Verify compatibility, viscosity change, curing behavior, and storage stability by formulation testing.

2. Silane-modified polymer systems

Used in SMP, SPUR, and hybrid sealant systems as reactive silane component for adhesion and network formation. Verify cure profile, modulus, elongation, and storage stability in the final formulation.

3. Polyurethane sealants and adhesives

Used in hydroxyl- or moisture-curable polyurethane systems requiring silane functionality and adhesion support. Verify cure behavior, bond strength, and by-product profile by application testing.

4. Industrial adhesives and coatings

Used as reactive additive in adhesive and coating systems for adhesion to glass, mineral, and metal oxide surfaces. Verify compatibility and film properties in the target system.

5. Moisture-curable formulations

Used in moisture-curable systems where controlled silane reactivity and low alcohol by-product profile are required. Verify cure behavior and storage stability before scale-up.

Packing

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

Safety and Storage

Store in tightly sealed original containers in a cool, dry and well-ventilated area. Keep away from heat, direct sunlight, moisture, acids, alkalis and protic solvents such as alcohols. The shelf life is a minimum of 9 months from the date of manufacture when stored at or below 25° C in tightly sealed, original unopened containers.