Technical Data Sheet

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Silfluo LS-MTIS

Methacryloxy Enoxy Silane (Neutral Dual-Cure)

Description:

Silfluo LS-MTIS is 3-Methacryloxypropyltri(isopropenyloxy)silane, a methacryloxy enoxy silane.
The molecule contains one methacryloxy group and three isopropenyloxy groups.
The methacryloxy group participates in free-radical polymerization systems including UV, EB, peroxide, and other radical-curing systems.
The isopropenyloxy groups hydrolyze under moisture-curing conditions and release acetone.
Used as reactive silane additive, adhesion promoter, or crosslinking component in dual-cure systems, enoxy-cure RTV silicone systems, coatings, adhesives, encapsulants, and composite resin systems.
In dual-cure formulations, the methacryloxy group supports radical curing and the enoxy groups support secondary moisture-curing behavior.
Cure profile, shadow-area cure, adhesion, by-product profile, corrosion behavior, and storage stability require verification in the target formulation.

Typical Physical Properties

Silfluo Code:	LS-MTIS
Chemical Name:	3-methacryloxypropyltri(isopropenyloxy)silane
Synonyms	3-[Tri(isopropenyloxy)silyl]propyl methacrylate
CAS No. :	78051-94-2
EINECS No. :	
Molecular Formula:	$C_{16}H_{26}O_5Si$
Molecular Weight:	326.46
Appearance:	Colorless transparent liquid
Purity (by GC, %)	97min
Density (25°C, g/cm³)	0.987
Refractive Index (n25/D)	
Boiling Point:	361.5°C
Flash Point (Closed Cup):	> 100°C
Chemical Structure:	

Applications:

1. Dual-cure coatings and adhesives

Used as reactive silane additive in UV.moisture dual-cure coating and adhesive systems. Verify UV cure, secondary moisture cure, adhesion, shadow-area cure, and storage stability in the target formulation.

2. Electronic conformal coatings and encapsulants

Used in conformal coating and encapsulation systems requiring radical-curing and moisture-curing functionality. Verify dielectric properties, corrosion behavior, compatibility with electronic components, and long-term reliability before use.

3. Neutral enoxy RTV silicone systems

Used as reactive silane component in de-acetone enoxy RTV silicone sealant systems. Verify skin-over time, through-cure, adhesion, modulus, elongation, and by-product profile by formulation testing.

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4. Radical-curable resin systems
Used in acrylic, methacrylic, peroxide-curable, and radiation-curable resin systems. Verify conversion, adhesion, viscosity, yellowing resistance, and cured film properties in the target system.
5. Composite resin systems
Used as coupling additive in glass-reinforced, mineral-filled, or hybrid composite systems. Verify mechanical properties, moisture resistance, dielectric properties, and processing behavior by application testing.
6. Surface treatment and primers
Used in primer and surface treatment formulations for glass, silica, mineral fillers, and metal oxide surfaces. Verify adhesion and compatibility by substrate-specific testing.

Packing
In 190kg drum and 1000kg IBC.

Safety and Storage
Store in a cool, dark, well-ventilated environment. Keep away from direct sunlight, heat sources, and strong oxidizing agents.
Keep containers hermetically sealed under dry nitrogen until ready for use.
Hydrolysis releases acetone; assess VOC, flammability, and workplace exposure per local regulations.
Shelf life: 6–9 months from manufacture date when stored at ≤25°C (refrigeration preferred) in original tightly sealed unopened containers.

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