Technical Data Sheet

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Silfluo LS-OP594

Tris-Siloxane Methacrylate

Description:

Silfluo LS-OP594 is a tris-siloxane methacrylate monomer, chemically identified as 3-[tris(trimethylsiloxy)silyl]propyl methacrylate.

The molecule contains a polymerizable methacryloxy group and a bulky tris(trimethylsiloxy)silyl group. The methacryloxy group participates in free-radical polymerization, including UV and thermal curing mechanisms.

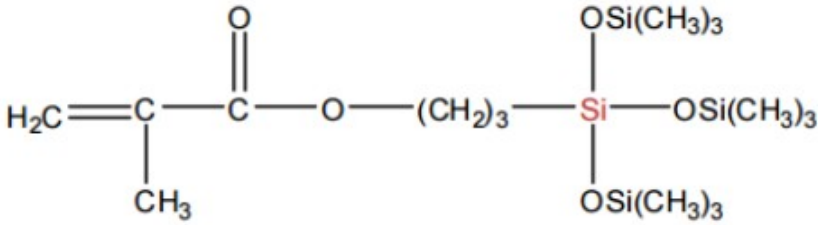
The tris-siloxane segment introduces silicone characteristics, such as increased free volume and reduced surface energy, into compatible polymer networks.

Commonly known as TRIS, it functions as a reactive comonomer in silicone hydrogels, UV-curable resins, and specialty coatings.

Typical Physical Properties

Silfluo Code:	LS-OP594
Chemical Name:	3-[Tris(trimethylsiloxy)silyl]propyl methacrylate
Synonyms	TRIS; 3-(Methacryloyloxy)propyltris(trimethylsiloxy)silane
CAS No. :	17096-07-0
EINECS No. :	241-165-0
Molecular Formula:	$C_{16}H_{38}O_5Si_4$
Molecular Weight:	422.81
Appearance:	Colorless transparent liquid
Purity (by GC, %):	97 min
Density (25°C, g/cm³):	0.910 - 0.930
Refractive Index (n25/D):	1.4150 - 1.4250
Boiling Point:	112-115°C (0.3 hPa)
Flash Point:	201°C (closed cup)

Chemical Structure:



Applications:

1. Silicone hydrogels: Used as a reactive comonomer in the synthesis of silicone hydrogel materials to facilitate oxygen permeability.
2. UV-curable coatings and inks: Used as a reactive silicone monomer in radiation-curable systems to modify slip, leveling, and surface energy.
3. Marine fouling-release coatings: Used as a resin modifier to copolymerize and introduce hydrophobic silicone segments into the coating matrix.

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4. Polymer surface modification: Used as a reactive additive to lower the surface energy and modify the phase behavior of organic polymer networks.

Packing

In 190kg drum and 950kg IBC.

Safety and Storage

Keep in a cool, dark, and well-ventilated environment. Avoid direct sunlight, heat sources, sparks, and strong oxidizing agents. The shelf life is a minimum of 6 to 12 months from the date of manufacture when stored at or below 25°C (refrigeration preferred for long-term optical-grade stability) in tightly sealed, original unopened containers.

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