



## Silfluo LS-PEG20

MPEG-Functional Trimethoxysilane, 6 – 9 EO

### Description:

Silfluo LS-PEG20 is an MPEG-functional trimethoxysilane with approximately 6 – 9 ethylene oxide units. It is chemically described as 3-[methoxy(polyethyleneoxy)6-9]propyltrimethoxysilane.

The product contains a methoxy-terminated polyethyleneoxy segment and a trimethoxysilyl group. The polyethyleneoxy segment can increase the hydrophilic character of treated surfaces, while the trimethoxysilyl group can hydrolyze and react with hydroxylated inorganic surfaces such as glass, silica, metal oxides, ceramics and selected mineral fillers.

Because the polyethyleneoxy chain length is distributed across approximately 6 – 9 EO units, LS-PEG20 should be regarded as a technical-grade PEG silane mixture rather than a single low-molecular-weight compound.

LS-PEG20 can be evaluated as a hydrophilic surface modifier, dispersion support additive or functional silane for selected inorganic particles, glass surfaces, ceramic materials, waterborne systems and laboratory surface modification applications. Final hydrophilicity, dispersion stability, surface durability, protein adsorption behavior and compatibility should be verified in the target system..

Benchmark chemistry: Gelest SIM6492.7 type chemistry.

### Typical Physical Properties

Silfluo Code:	LS-PEG20
Chemical Name:	3-[Methoxy(polyethyleneoxy)6-9]propyltrimethoxysilane
Synonyms	Methoxy(polyethyleneoxy)propyltrimethoxysilane; MPEG-propyltrimethoxysilane; Methoxy-PEG-propyltrimethoxysilane; Methoxy polyethylene glycol propyltrimethoxysilane; PEG-silane, trimethoxysilane terminated; Technical-grade MPEG silane mixture, 6–9 EO units
CAS No. :	65994-07-2
EINECS No. :	670-227-3
Molecular Formula:	CH <sub>3</sub> O(C <sub>2</sub> H <sub>4</sub> O) <sub>6-9</sub> (CH <sub>2</sub> ) <sub>3</sub> Si(OCH <sub>3</sub> ) <sub>3</sub>
Molecular Weight:	459-591 g.mol
Appearance:	Colorless or light yellow transparent liquid
Viscosity(mm/2.s):	<50
Density (25°C, g/cm <sup>3</sup> ):	1.060-1.080
Refractive Index (n <sub>25.D</sub> ):	1.4450-1.4550
Flash Point:	88°C Closed Cup
Chemical Structure:	

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## Applications:

### 1. Inorganic particle treatment

LS-PEG20 can be evaluated as a hydrophilic surface modifier for selected silica, metal oxide, ceramic and mineral particles. Dispersion stability, particle compatibility and surface hydrophilicity should be confirmed in the target aqueous or resin system.

### 2. Waterborne coating and resin systems

Can be used in selected waterborne resin, coating or ink systems where hydrophilic surface modification or filler compatibility is required. Viscosity, dispersion, film appearance and storage stability should be tested in the complete formulation.

### 3. Glass and ceramic surface treatment

Can be evaluated as a hydrophilic surface treatment agent for glass, ceramic and metal oxide surfaces. Wettability, durability, cleaning resistance and surface stability should be verified by application testing.

### 4. Anti-fog and hydrophilic coating systems

Can be evaluated in selected anti-fog or hydrophilic coating formulations. Initial wettability, anti-fog behavior, abrasion resistance and long-term surface stability should be confirmed before scale-up.

### 5. Diagnostic and laboratory surface modification

Can be evaluated for selected glass slide, microfluidic, biosensor or laboratory surface treatments where controlled surface hydrophilicity or reduced non-specific adsorption is required. Protein adsorption, assay compatibility and surface durability should be verified by application-specific testing. Reduction of non-specific adsorption should be verified by application-specific testing.

### 6. Quantum dot . nanoparticle surface modification research

Can be evaluated in selected nanoparticle or quantum dot surface modification work. Dispersion stability, surface charge, conjugation behavior and application compatibility should be confirmed by testing. Can be evaluated for charge-neutral surface coating on quantum dots and nanoparticles for DNA conjugation research.

## Packing

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

## Safety and Storage

Keep in a cool, dry, and well-ventilated environment. 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.