



Silfluo LF-H101L

Low Hydrogen Silicone Fluid

Description:

Silfluo LF-H101L is a methylhydrogen-dimethylsiloxane copolymer (CAS 63148-57-2), a partially hydrogenated silicone fluid in which Si-H-bearing methylhydrogensiloxane units are interspersed with non-reactive dimethylsiloxane units along the backbone.

The dimethylsiloxane co-units dilute Si-H site density relative to LF-H101H (high-hydrogen PMHS), providing controlled, lower crosslink density upon cure — producing softer, more flexible elastomeric networks and reducing steric hindrance during hydrosilylation grafting of bulky organic side chains.

Viscosity (10–1,000 mPa·s) and hydrogen content (0.1–1.5 wt%) are independently customizable, allowing precise tuning of crosslink density, cure kinetics, and chain flexibility for specific formulation requirements.

Typical Technical Properties:

Silfluo Code:	LF-H101L
Chemical Name:	Methyl Hydrogen Silicone Fluid (Copolymer)
Synonyms:	Methylhydrogen-Dimethylsiloxane Copolymer; Low-H Silicone Oil
Molecular Formula:	$(\text{CH}_3)_3\text{SiO}[(\text{CH}_3)\text{HSiO}]_n[(\text{CH}_3)_2\text{SiO}]_n\text{Si}(\text{CH}_3)_3$
Appearance:	Colorless transparent liquid
CAS NO.:	63148-57-2
Viscosity (25°C, mpa.s)	10-1000 (can be customized)
Hydrogen Content, wt%	0.1 ~ 1.5 (can be customized)
Density (25°C):	0.98-1.00
Volatiles(%):	≤1
pH Value	6.0-7.0

Various viscosity and hydrogen can be customized.

Applications:

1. Controlled Crosslinker for Soft LSR and Silicone Encapsulants

Used as crosslinking agent in platinum-catalyzed addition-cure LSR and silicone encapsulant systems where reduced crosslink density is required to achieve higher elongation at break, lower hardness (Shore A), and improved tear strength compared to systems crosslinked with high-hydrogen PMHS. Si-H to vinyl ratio and hydrogen content selection determine the mechanical profile of the cured elastomer. Avoid contact with Pt catalyst inhibitors (sulfur, phosphorus, tin compounds, amines).

2. Synthetic Intermediate for Modified Silicone Fluids

Used as Si-H reactive backbone for synthesizing polyether-modified, epoxy-modified, and long-chain alkyl-modified silicone fluids via Pt-catalyzed hydrosilylation. Lower Si-H density reduces inter-site steric interference during grafting of bulky side chains (e.g., polyether or long alkyl groups), improving grafting

Technical Data Sheet



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efficiency and product uniformity relative to high-hydrogen PMHS.

3. Dry Powder Anti-Caking Treatment

Used as moisture-proof, anti-caking surface coating for dry chemical fire extinguishing powders. Controlled Si-H content provides sufficient surface hydrophobing while the copolymer backbone imparts flexibility to the treated powder particle coating, maintaining flowability and discharge performance under long-term storage.

4. Hydrophobing Agent for Construction and Industrial Substrates

Applied neat or in dilute solution to glass, ceramics, cement, marble, metals, and leather. Dehydrogenative condensation with surface hydroxyl groups under acid or metal salt catalysis deposits a hydrophobic siloxane film. Lower crosslink density of LF-H101L-derived films provides a more flexible coating layer suited to substrates that undergo dimensional change or flex in service. Ensure adequate ventilation — hydrogen gas is released during condensation with hydroxyl surfaces.

Grade	Termini	Pendant Si-H	H Content	Network Topology	Primary Use
LF-H101H	Trimethylsilyl	High density	≥1.5 wt%	Dense 3D	LSR crosslinker; hydrophobing
LF-H101L	Trimethylsilyl	Diluted	0.1–1.5 wt%	Controlled density	Soft LSR; bulky grafting
LF-H101S	Trimethylsilyl (methyl)	Pendant only	0.03–1.2 wt%	Comb-type	Grafting backbone; PU foam stabilizer
LF-H101T	Si-H terminated	None	0.009–0.80 wt%	Linear extension	ABA block copolymer; chain extension
LF-H101TS	Si-H terminated	Yes	0.28–1.0 wt%	Terminal pendant combined	+ — High-density fast-cure LSR; PSA; release coating

Package & Storage:

In 50kg, 200kg drum and 1000kg IBC.

Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. Keep in unopened containers, shelf life is 12 months from the date of production. It is shipped as non-hazardous substance.

Storage beyond the shelf life does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

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