Technical Data Sheet

www.silfluosilicone.com

Silfluo LF-HF12

Hydrogen-Functional Fluorosilicone Fluid

Description:

Silfluo LF-HF12 is a series of hydrogen-functional fluorosilicone fluids (Si-H-functional fluorosilicone oils) containing trifluoropropyl groups and reactive Si-H functionality. Depending on the grade, Si-H groups are terminal, pendant, or both terminal and pendant.

The incorporated trifluoropropyl groups contribute to oil and solvent resistance and to water- and oil-repellent properties, while the Si-H groups react with vinyl-functional fluorosilicone polymers through platinum-catalyzed hydrosilylation. LF-HF12 can therefore be evaluated as a crosslinker for addition-cure fluorosilicone systems.

Five grades cover three Si-H distributions and nominal Si-H contents from 0.03 to 0.80 wt%. Grade selection and the Si-H-to-vinyl ratio influence crosslink density, cure response and final properties; the complete formulation must be validated by the customer.

Typical Technical Properties:

Silfluo Code:	LF-HF12-M20	LF-HF12-M80	LF-HF12-TS45	LF-HF12-TS40	LF-HF12-T03
Functional Type:	Methyl-terminated, pendant Si-H fluorosilicone fluid		Terminal and pendant Si-H fluorosilicone fluid		Hydrogen-terminated fluorosilicone fluid
Si-H Content (wt%)	0.20	0.80	0.45	0.40	0.03
Kinematic Viscosity (25°C, mm²/s [cSt])	20-100				200
Appearance	Colorless transparent oily liquid				
Density (25°C, g/cm³)	1.00-1.30				
Refractive Index (25°C)	1.380-1.400				
Notes:	Viscosity and Si-H content can be customized. Code suffix: M = methyl-terminated/pendant Si-H; TS = terminal + pendant Si-H; T = terminal Si-H; number = nominal Si-H content (wt%) x100.				

Applications:

1. Addition-Cure Fluorosilicone Systems

Crosslinker for platinum-catalyzed fluorosilicone rubber, fluorosilicone potting compounds, fluorosilicone gels, fluorosilicone adhesives and fluorosilicone release-coating or release-liner formulations. Compatibility, catalyst inhibition, Si-H-to-vinyl ratio and cure conditions must be confirmed in the final formulation.

2. Water- and Oil-Repellent Surface Treatment

After suitable formulation and catalysis, LF-HF12 may be evaluated for water- and oil-repellent treatment of rubber, textiles, glass, ceramics, paper, leather, metals, cement and marble. Application-specific testing is required to confirm film formation, repellency and substrate compatibility.

3. Reactive Intermediate for Hydrosilylation

Reactive Si-H functionality allows hydrosilylation with vinyl or other compatible unsaturated groups, supporting the development of fluorosilicone networks and modified materials. Reaction design and

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safety controls must be established by qualified formulators.

Package & Storage:

Available in 5 kg, 25 kg and 200 kg plastic or steel drums.

Keep away from strong oxidizing agents, corrosive materials and acids. Store tightly closed at ambient temperature in a dry, well-ventilated place, protected from direct sunlight and rain. Keep away from heat and open flames. Avoid unintended contact with moisture, alcohols, acids, alkalis and metal catalysts because Si-H materials may release hydrogen. Transport as non-dangerous goods, subject to the latest SDS and applicable regulations. Recommended shelf life: 12 months from the date of manufacture under the recommended storage conditions.

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