Technical Data Sheet

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Silfluo LF-AF11

Amino-Modified Fluorosilicone Fluid

Description:

Silfluo LF-AF11 is an amino-modified fluorosilicone fluid, combining reactive amino groups grafted onto a polytrifluoropropylmethylsiloxane backbone.

The fluorosilicone backbone delivers the extreme oleophobicity, ultra-low surface tension, and solvent resistance characteristic of fluoropolymer chemistry; the amino functional groups provide substrate affinity, fiber anchoring, and the softening performance associated with amino silicone finishing agents — a dual-property combination not achievable with either amino silicone or fluoropolymer alone.

Viscosity (200 – 3,000 mPa •s) and amine value (0.1 – 0.4 mmol/g) are customizable to match specific textile finishing or defoaming formulation requirements.

Typical Technical Properties:

Silfluo Code:	LF-AF11
Chemical Name:	Amino-Modified Fluorosilicone Fluid
Synonyms:	Amino-Functionalized Fluorosilicone Oil; Amino-Modified Polytrifluoropropylmethylsiloxane
Appearance	Transparent or translucent viscous liquid
Viscosity (25°C, mPa.s)	200 ~ 3000
Amine Value (mmol/g)	0.1 ~ 0.4
Refractive Index (25°C, nD25)	1.3800 ± 0.01
pH Value:	7.0 ~ 8.0

* Can customize according to the requirements.

Applications:

1. Premium Textile Finishing Agent

Used as fabric finishing agent for woven and nonwoven textiles requiring simultaneous oil repellency, solvent resistance, and soft hand-feel. Amino groups anchor durably to fiber surfaces (cotton, wool, nylon, polyester) via ionic or covalent interaction, maintaining performance through repeated washing cycles. Fluorosilicone backbone provides oil and water barrier properties superior to standard amino silicone finishes. Applied via padding, exhaustion, or spray in dilute aqueous emulsion at typical use levels of 1 – 5% owf; optimize concentration and pH for specific fiber and fabric construction.

2. Defoamer for Textile Dyeing and Printing

Used as defoaming agent in textile printing and dyeing processes involving high-shear agitation, elevated temperature, and surfactant-rich aqueous systems where standard silicone defoamers lose efficacy. Ultra-low surface tension of the fluorosilicone backbone enables rapid foam film destabilization in harsh

chemical environments. Typical addition level 0.01 – 0.1% in the process bath; verify compatibility with dye and auxiliary chemistry before full-scale use.

Dimension	LF-AF11 (Amino Fluorosilicone)	Standard Amino Silicone
Backbone	Fluorosilicone (–$CF_2CF_2CH_2$– side chain)	PDMS
Surface tension	Ultra-low — fluoropolymer level	Low — silicone level
Water repellency	Excellent	Good
Oil and solvent repellency	Excellent	Poor
Fiber softening	Good	Excellent
Defoaming in aggressive media	Excellent	Moderate
Emulsifiability	High	High
Primary advantage	Oil + water + solvent resistance with softness	Maximum softness; lower cost

Parameter	Range	Effect
Viscosity	200–3,000 mPa·s	Higher viscosity — thicker film; greater substantivity
Amine value	0.1–0.4 mmol/g	Higher amine value — stronger fiber anchoring; more reactive

Package &Storage:

In 100g, 1kg, 5kg, 10kg pail

Storage: Store in a cool, dark, and dry environment at low temperatures. Ensure containers are tightly sealed when not in use to preserve chemical stability.

Shelf Life: 12 months from the date of production under proper storage conditions.

Transportation: Classified and shipped as a non-hazardous chemical.