



## Silfluo LF-EH101

Methyl Hydrogen Polysiloxane Emulsion

### Description:

Silfluo LF-EH101 is an aqueous emulsion of polymethylhydrogensiloxane (PHMS), a polysiloxane with reactive Si-H groups distributed along the backbone.

The Si-H groups undergo hydrolysis and condensation on contact with moisture or hydroxyl-bearing surfaces, or crosslink with hydroxyl-terminated silicone emulsions under acid or metal catalyst, forming a covalently anchored hydrophobic siloxane network on the treated substrate.

The emulsion form (30 ± 2% solids, pH 3-5) allows direct dilution and application from aqueous systems without organic solvent, suitable for textile, construction, and industrial surface treatment processes.

### Typical Technical Properties:

Silfluo Code:	LF-EH101
Chemical Name:	Polymethylhydrogensiloxane Emulsion (PHMS Emulsion)
Appearance:	Milky white liquid
Molecular Formula:	$(\text{CH}_3)_3\text{SiO}[(\text{CH}_3)\text{HSiO}]_n\text{Si}(\text{CH}_3)_3$
Solid Content(%):	30±2
pH Value:	3-5
Centrifugal Stability (3000 (15 min)):	Stable (No separation)

### Applications:

#### 1. Mold Release Agent

Forms a thin, chemically inert release film on mold surfaces. Non-corrosive to tooling; provides multiple-release performance with low coating buildup. Apply as dilute aqueous solution or neat emulsion by spray or wipe onto mold surface; cure conditions (temperature, time) depend on substrate and required film durability. Verify compatibility with mold material and molded polymer system via trial before production use.

#### 2. Textile Waterproofing and Durable Water Repellency (DWR)

Applied to natural and synthetic fabrics by padding or exhaust process. When co-applied with hydroxyl-terminated silicone emulsion and cured under heat (typically 150–180°C, 1–3 min), Si-H groups crosslink with Si-OH groups to form a covalently bonded hydrophobic siloxane network on the fiber surface, imparting durable water repellency and soft hand-feel. Optimize PHMS-to-hydroxyl silicone ratio, catalyst type (e.g., zinc or tin salt), concentration, and cure conditions for specific fiber and fabric construction.

#### 3. Hydrophobing Agent for Industrial and Construction Materials

Applied as dilute aqueous treatment to leather, paper, glass, ceramics, metals, cement, concrete, and natural stone. Si-H groups react with surface hydroxyls and ambient moisture to form a water-repellent siloxane layer that reduces capillary moisture uptake while maintaining substrate vapor permeability. Application method (spray, brush, immersion), dilution level, and cure conditions should be optimized for the

# Technical Data Sheet



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specific substrate porosity and service environment.

## **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.