

Silico® MF2010-1,000,000 cSt Silicone Fluid

Technical Data Sheet (TDS)

Product Identification

Product Name: Silico® MF2010-1,000,000 cSt Silicone Fluid

Chemical Name: Polydimethylsiloxane (PDMS)

CAS Number: 63148-62-9

Product Series: Silico® UHV (Ultra-High Viscosity) Series

Appearance: Clear, colorless, ultra-viscous liquid

Product Overview

Silico® MF2010-1,000,000 cSt is an ultra-high viscosity PDMS silicone fluid engineered for extreme mechanical damping, heavy-load lubrication, and high-cohesion film formation. Its 1,000,000 cSt viscosity at 25 °C ensures maximum shear resistance, slow flow, and prolonged stability, making it ideal for precision systems, high-load industrial machinery, and dielectric insulation applications.

Typical Properties

Property	Typical Value	Test Method
Chemical Structure	Linear PDMS	—
Viscosity (25 °C)	1,000,000 cSt	ASTM D445
Density (25 °C)	~0.975 g/cm ³	ASTM D4052
Refractive Index	~1.404	ASTM D1218
Surface Tension	~21.5 mN/m	ASTM D971
Flash Point	>300 °C	ASTM D92
Pour Point	Approx. -50 °C	ASTM D97
Solubility	Insoluble in water; miscible with many organic solvents	—
Thermal Stability	Excellent	—
Dielectric Properties	High resistivity, stable insulation	—

Typical values are provided for reference; slight variations may occur between production batches.

Key Performance Features

- Maximum ultra-high viscosity for thick-film lubrication and damping
- Outstanding thermal and shear stability
- Superior viscoelastic damping and load-bearing capability
- Excellent dielectric insulation properties
- Low volatility, high flash point for high-temperature processes
- Chemically inert and compatible with metals, plastics, and elastomers

Typical Applications

- Precision mechanical damping in automation and robotics
- Heavy-load lubrication for bearings, seals, and slow-moving equipment
- Thermal management fluids requiring minimal migration and high stability
- Dielectric fluids for transformers, capacitors, and sensitive electronics
- High-viscosity mold release agents and coating aids in industrial production

Handling, Storage & Packaging

- Packaging: Industrial drums, IBC containers
- Storage Conditions: Store in original, sealed containers in a cool, dry, well-ventilated area
- Shelf Life: Up to 24 months under recommended conditions
- Handling: Use appropriate PPE; avoid prolonged skin contact; clean spills immediately