

Silico® MF2010-500,000 cSt Silicone Fluid

Technical Data Sheet (TDS)

Product Identification

Product Name: Silico® MF2010-500,000 cSt Silicone Fluid

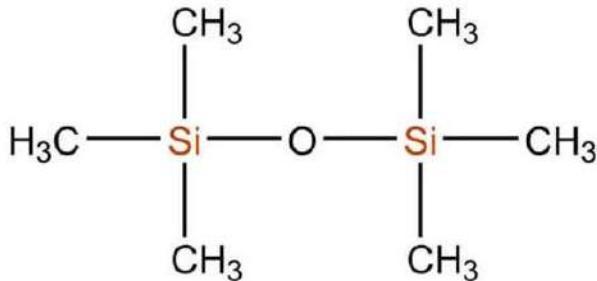
Chemical Name: Polydimethylsiloxane (PDMS)

CAS Number: 63148-62-9

Product Series: Silico® HV-B High Viscosity Silicone Fluid Series

Appearance: Clear, colorless viscous liquid

Chemical Structure



Product Overview

Silico® MF2010-500,000 cSt is an ultra-high viscosity PDMS silicone fluid engineered for industrial applications requiring thick-film lubrication, heavy-duty mechanical damping, thermal endurance, and dielectric performance. With 500,000 cSt viscosity at 25 °C, it forms cohesive, load-bearing films for precision systems, heavy-load bearings, thermal management, and electrical insulation.

Typical Properties

Property	Typical Value	Test Method
Chemical Structure	Linear PDMS	—
Viscosity (25 °C)	500,000 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	—
Chemical Stability	Excellent	—
Dielectric Properties	High resistivity, stable insulation	—

Typical values are for reference only and may vary slightly between production batches.

Key Performance Features

- Extreme ultra-high viscosity for thick-film lubrication and damping
- Long-term thermal stability under continuous operation
- Superior lubricity and load-bearing capacity
- Excellent dielectric performance for high-voltage and sensitive electronics
- Low volatility and high flash point for high-temperature processes
- Chemically inert and compatible with most metals, plastics, and elastomers

Typical Applications

- Precision mechanical damping and motion control systems
- Heavy-load lubrication for bearings, seals, and slow-moving components
- Thermal management fluids requiring minimal migration and high stability
- Dielectric fluids and insulation media for transformers and precision electronics
- High-viscosity mold release agents for industrial coatings and production equipment

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 promptly