

Silico® MF2010-2,000,000 cSt Silicone Fluid

Technical Data Sheet (TDS)

Product Identification

Product Name: Silico® MF2010-2,000,000 cSt Silicone Fluid

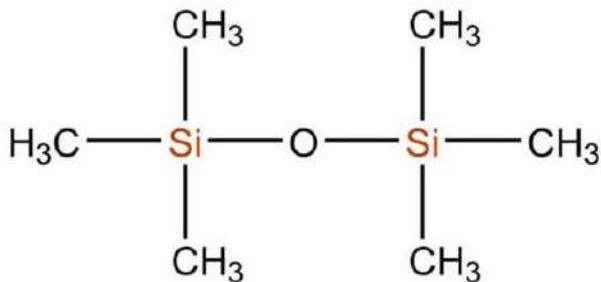
Chemical Name: Polydimethylsiloxane (PDMS)

CAS Number: 9006-65-9 / 63148-62-9 / 9016-00-6

Product Series: Silico® UHV-B Ultra-High Viscosity Silicone Fluid Series

Appearance: Colorless, transparent liquid

Chemical Structure



Product Overview

Silico® MF2020-2000000 Silicone Fluid is an ultra-high viscosity linear polydimethylsiloxane (PDMS) developed for advanced industrial applications where exceptional film strength, thermal stability, and mechanical damping properties are required. With a nominal viscosity of 2,000,000 centistokes (cSt) at 25 °C, this Ultra-High Viscosity Silicone Oil provides a continuous, robust polymeric network that enhances damping, lubrication under heavy loads, and long-term fluid stability.

Silico® MF2020-2000000 belongs to the Silico MF2020 series of silicone fluids, engineered for applications spanning precision engineering to specialized manufacturing processes.

Typical Properties

Property	Test Condition	Typical Value
Chemical Family	—	Polydimethylsiloxane (PDMS)

Nominal Viscosity	25 °C	~2,000,000 cSt
Density	25 °C	~0.98 g/cm ³
Kinematic Viscosity	25 °C	2,000,000 mm ² /s
Color	Visual	Clear, colorless
Refractive Index	25 °C	~1.40
Flash Point	COC	> 300 °C
Autoignition Temperature	—	> 400 °C
Pour Point	—	< -20 °C
Surface Tension	25 °C	~20 mN/m
Water Solubility	25 °C	Insoluble
pH (aqueous extract)	—	Neutral

Note: Typical values are provided for reference only and should not be construed as product specifications.

Key Features & Benefits

Feature	Result	Benefit
Extremely High Viscosity (~2,000,000 cSt)	Thick, stable polymer film	Superior damping and shock absorption
High Thermal Stability	Stable up to 250 °C+	Suitable for high temperature applications
Low Volatility	Maintains viscosity over long exposure	Minimal loss and long service life
Excellent Oxidation Resistance	High chemical inertness	Reliable performance in harsh environments
Broad Compatibility	Compatible with elastomers, plastics,	Works in mixed material industrial systems
Good Dielectric Properties	Electrically insulating fluid	Useful in electrical damping and insulation applications

Application Areas

Mechanical Damping & Vibration Control

Silico® MF2020-2000000 is ideal for dampers, shock absorbers, vibration isolators, and specialty mechanical fluids where high viscosity and stable polymeric networks improve energy dissipation.

High Film Lubrication

Used in formulations requiring thick lubrication layers, particularly under high load or slow-moving interfaces.

Specialty Sealants & Grease Modifiers

Thick PDMS base fluid for modifying greases, sealants, and silicones for extended film life and elevated temperature performance.

Thermal Interface Media

Where high viscosity and thermal stability are required to maintain consistent heat transfer or buffering at elevated temperatures.

Elastomer & Polymer Processing

Serves as an internal or external lubricant during molding and extrusion of high-performance elastomeric materials.

Electrical Insulation & Protective Coatings

High dielectric strength makes it suitable for insulating fluids in bespoke electrical assemblies.

Handling & Safety

Silico® MF2020-2000000 exhibits low vapor pressure and inert chemistry typical of polydimethylsiloxane fluids. Basic industrial hygiene practices are recommended:

- Avoid eye and prolonged skin contact
- Use chemical protective gloves where direct handling is frequent
- In case of spill, prevent slip hazard due to high film formation
- Refer to the corresponding Safety Data Sheet (SDS) for full safety and hazard information

Packaging & Storage

Available Packaging:

- 180 kg steel drums
- 900 kg IBC (Intermediate Bulk Container)
- Custom bulk packaging upon request

Storage Conditions:

- Store indoors, tightly sealed
- Avoid prolonged exposure to direct sunlight and excessive heat
- Typical shelf life: 2 years under recommended storage conditions

Regulatory & Quality Standards

Silico® MF2020-2000000 Silicone Fluid is manufactured under quality systems compliant with international industrial standards and is suitable for use in engineered systems requiring ultra-high viscosity silicone base fluids.

Relevant compliance and safety data can be found in the associated Safety Data Sheet (SDS).