

Polydimethylsiloxane Fluid (Dimethylsilicone Fluid)

TSF451-10M

PRODUCT DESCRIPTION

TSF451-10M is a transparent dimethyl silicone fluid with nominal viscosity of 100,000 centistokes (mm²/s) at 25°C. TSF451-10M is a clear, water-white, inert, odorless, viscous fluid with no suspended particulate matter. TSF451-10M also exhibits excellent non-metallic lubricating and release properties while maintaining good heat resistance.

KEY PERFORMANCE PROPERTIES

- ◆ Wide temperature range service capability
- ◆ Low viscosity-temperature change
- ◆ Thermal stability
- ◆ Chemical inertness
- ◆ Low flammability
- ◆ Low surface tension
- ◆ Shear stability
- ◆ Non corrosive

APPLICATION

- ◆ Mechanical; damping, heat transfer, rubber & plastic lubrication
- ◆ Chemical specialties; polishes, household cleaners
- ◆ Plastics; tires mold release, rubbers & plastics mold release, wire & cable manufacturing
- ◆ Antifoams; formulations of aqueous defoaming products
- ◆ Textiles; fiber & thread lubricants, softeners, modifiers
- ◆ Paint and ink additives; flow control, gloss

TYPICAL PROPERTY DATA

PROPERTIES		TSF451-10M
Appearance		Colorless, Transparent
Viscosity (25°C)	mm ² /s {cSt}	100,000 {100,000}
VTC*		0.60
Specific gravity (25°C)		0.976
Refractive index (n _D ²⁵)		1.404
Pour point	°C	-40 max
Flash point	°C	320
Weight loss (150°C,24h)	%	1.2
Surface tension (25°C)	mN/m {dyne/cm}	21.4 {21.4}
Specific heat (100°C)	J/(kg·K)	1.55×10 ³
Thermal conductivity	W/(m·K)	0.16
Coefficient of volume expansion (25-150°C)	1/K	9.3×10 ⁻⁴

*VTC (Viscosity Temperature Coefficient) = 1 – Viscosity at 98.9°C / Viscosity at 37.8°C

Typical property data values should not be used as specifications. Assistance and specifications are available by contacting GE Toshiba Silicones Commercial Office.

TSF451-10M

SOLUBILITY OF TSF451 IN VARIOUS SOLVENTS

SOLVENT	SOLUBILITY
Aliphatic hydrocarbons (hexane, heptane, naphtha)	Soluble
Aromatic hydrocarbons (toluene, xylene)	Soluble
Higher alcohol (octanol, lauryl alcohol)	Soluble
Higher ketones (methyl ethyl ketone etc.,)	Soluble
Ethers (ethyl ether, isopropyl ether)	Soluble
Lower alcohol (methanol, ethanol, isopropanol)	Insoluble
Higher hydrocarbons (waxes, fatty acids, lube oils)	Insoluble
Glycols (ethylene glycol, propylene glycol)	Insoluble
Water	Insoluble

HANDLING AND SAFETY (AND STORAGE)

- ◆ Wear eye protection, protective gloves at all times when working with this product.
- ◆ Keep out of the reach of the children.
- ◆ Store the product in a dark, cool place after closing the lid tightly.

PACKAGING

- ◆ 1kg can available in case of 10
- ◆ 18kg can available by the can
- ◆ 200kg drum available by the drum

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FOR INDUSTRIAL USE ONLY

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