



PSF-50cSt Silicone Heat Transfer Fluid

Operating Temperature Range: -40°C to 170°C (open system) / -40C to 230°C (closed system)



PSF-5cSt Silicone Heat Transfer Fluid offers high thermal stability for open/closed system baths and heat transfer applications.

PSF-50cSt Silicone Heat Transfer Fluid is a 100% linear Polydimethylsiloxane / PDMS Silicone with a viscosity of 100cSt @ 25°C. It is formulated for use as a cold and heat transfer medium in a wide range of applications. PSF-50cSt Silicone Heat Transfer Fluid has an operating service temperature range of -40°C to 230°C (closed system*).

PSF-50cSt Silicone Heat Transfer Fluid is characterized by its low pour point, wide service temperature range, high flash point, low viscosity change at temperature (low V.T.C.), high dielectric strength, inertness to virtually all components and hydrophobic nature (insoluble in water).

PSF-50cSt Silicone Heat Transfer Fluid has a Thermal Conductivity value of 0.00036 g cal/cm•sec• °C . Its specific heat value is 1.5 (J/g °C).

PSF-50cSt has a low viscosity-temperature coefficient or V.T.C. (viscosity @99°C ÷viscosity @ 38°C). Thus, it will not exhibit a wide viscosity increase at lower temperatures. For example, at -40°C, its viscosity increases to approx. 320cSt. This is critical for baths that have pumping systems that cannot operate with higher viscosity fluids. However, if lower viscosities are required at low temps, we provide a line of low temperature fluids.

Applications include: heat transfer systems, closed system baths, constant temperature baths, circulating baths, low temperature refrigerated baths, closed loop baths, heat transfer baths

*Closed system baths are systems from which air has been excluded

Specifications

Chemical Name	Polydimethylsiloxane / PDMS Silicone Oil
CAS #	63148-62-9
Appearance	Clear, colorless & odorless liquid
Minimum Order	1-gallon (3.785 liters)

Features

- 100% PDMS silicone fluid
- Wide service temperature range
- Hydrophobic: insoluble with water
- Compatible with virtually all o-rings, gaskets, hoses, valves and seals*
* not recommended for silicone rubber...may cause swelling

Typical Product Data

Specific Gravity	Refractive Index	Pour Point	Flash Point	Surface Tension dynes cm @ 25°C
0.960	1.4015	-55°C	285°C	20.8

Viscosity to Temp info

Viscosity-Temperature Coefficient.....	0.59
Viscosity @ temperature	
@ 170°C.....	9cSt
@ 100°C.....	17cSt
@ 25°C.....	50cSt
@ 0°C.....	80cSt
@ -40°C.....	240cSt

Thermal Properties

Thermal Conductivity @ 25°C g cal/cm•sec• °C	Thermal Expansion cc/cc °C	Specific Heat @ 25°C J/g °C
0.00036	0.00106	1.5

Dielectric Properties

Dielectric Strength	400 volts/mil
Dielectric breakdown strength (2.5mm).....	>50 kV
Dielectric Constant (50Hz).....	2.75 @ 25°C
Dielectric Constant (100Hz).....	2.71 @ 25°C
Dielectric Constant (100Hz).....	2.35 @ 150°C
Dissipation Factor (100Hz)	
@ 25C.....	0.0002
@ 150C.....	0.00016
Volume Resistance (ohm-cm)	
@ 25°C.....	1.0 x 10 ¹⁵
@ 150°C.....	5.0 x 10 ¹³

Packaging

1-gallon.....	3.6kg / 8lbs net wt.
5-gallon pail.....	18kg / 40lbs net wt.
55-gallon drum.....	200kg / 440lbs net wt.
F.O.B. Phila, PA U.S.A.	

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