



Product Information

PSF-100cSt Silicone Heat Transfer Fluid

Operating Temperature Range: -40C to 230C (closed system)



PSF-100cSt is a 100% PDMS Silicone Oil that offer a wide service temp range of -40C to 230C

PSF-100cSt Silicone Heat Transfer Fluid is a 100% PDMS Silicone / linear Polydimethylsiloxane 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-100cSt Silicone Heat Transfer Fluid has an operating service temperature range of -40°C to 230°C (closed system*).

PSF-100cSt Silicone Heat Transfer Fluid is characterized by its low pour points, high flash point, wide service temperature range, low viscosity change at temperature (low V.T.C.), low surface tension, long service life, high dielectric strength and hydrophobic nature (insoluble in water).

PSF-100cSt Silicone Heat Transfer Fluid has a Thermal Conductivity value of 0.00037 g cal/cm•sec• °C. Its specific heat value is 1.5 (J/g °C).

PSF-100cSt Heat Transfer Fluid 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 the lower temperatures. For example, at -20°C, its viscosity increases to 300cSt while at 150C, it lowers to 15cSt. This is critical for baths that have pumping systems that cannot operate with higher viscosity fluids.

Applications include: heat transfer systems, open system baths, 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 fluid
Non-Flammable	Yes
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*
- Flash Point: 315°C

Typical Properties

Specific Gravity	Refractive Index	Pour Point	Flash Point	Surface Tension Dynes cm @ 25°C
0.966	1.4025	-55°C	315°C	20.9

Viscosity/Temp Specs.

Viscosity-Temperature Coefficient.....	0.60
Viscosity @ temperature	
@ 15°C.....	17cSt
@ 100°C.....	30cSt
@ 25°C.....	100cSt
@ 0°C.....	160cSt
@ -20°C.....	300cSt

Thermal Properties

Thermal Conductivity @ 25°C g cal/cm•sec• °C	Thermal Expansion cc/cc°C	Specific Heat @ 25°C J/g °C
0.00037	0.00096	1.5

Gel time @ Temperature (open system)

149°C	204°C	250°C	260°C	300°C
Approx 1-year	250 to 300 hours	40 to 60 hours	20 to 25 hours	<24 hours

Packaging

1-gallon (3.78 liters)	3.6kg net wt.
5-gallon pail (18.9 liters)	18kg net wt.
55-gallon drum (208 liters)	200kg net wt.
F.O.B. Phila, PA U.S.A.	

Dielectric Properties

Dielectric Strength	400 volts/mil
Dielectric breakdown strength (2.5mm).....	≥50 kV
Dielectric Constant (50Hz).....	2.75 @ 25°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

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