



Product Information

PSF-50cSt Silicone Bath Fluid

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



PSF- 50cSt Silicone Bath Fluid offers high thermal stability for open/closed system baths and heat transfer applications.

PSF-50cSt Silicone Bath Fluid is a linear Polydimethylsiloxane fluid (CAS # 63148-62-9) with a viscosity of 50cSt (centistokes) @ 25C. The fluid is clear, colorless and odorless.

PSF-50cSt Silicone Bath Fluid is characterized by its high flash point, wide service temperature range, low vapor pressure, high dielectric strength, high resistance to oxidation and inertness to virtually all bath components.

In open system (open to air), PSF-50cSt Silicone Bath Fluid has an operating temperature range of -40°C to 170°C. At 150°C (open), PSF-50cSt will remain stable for approximately 1-year.

In closed system*, the operating temperature range is wider due to the absence of air. The closed system operating range is -40°C to 230°C.

PSF-50cSt Silicone Bath 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 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.

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

Specifications

Product Code	PSF-50cSt
Chemical Name	Polydimethylsiloxane / PDMS Silicone
CAS #	63148-62-9
Appearance	Clear, colorless liquid
Non-Flammable	Yes
Thermally Stable	Yes
Minimum Order	1-gallon (3.785 liters)

Features

- 100% Polydimethylsiloxane / PDMS
- Viscosity: 50cSt @ 25°C...easy to circulate/pump
- Clear fluid: easy to see instruments in the bath
- Hydrophobic: insoluble with water
- Compatible with virtually all O-rings, gaskets, hoses,
- Low V.T.C: 0.59
- Low Pour Point: -55°C
- Flash Point: 285°C
- High Resistance to Oxidation

*Not recommended for silicone O-rings...may cause swelling.

Typical Product Data

Specific Gravity	Refractive Index	Pour Point	Flash Point	Surface Tension dynes cm @ 25°C	Thermal Conductivity @ 25°C g cal/cm•sec• °C	Thermal Expansion cc/cc °C	Specific Heat @ 25°C J/g °C
0.960	1.4015	-55°C	285°C	20.8	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

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

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.
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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

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