



Product Information

PSF-5cSt Silicone Bath Fluid

Operating Temperature Range: -70°C to 65°C (open system) / -70°C to 150°C (closed system)



PSF-5cSt Silicone Bath Fluid is a low viscosity 100% PDMS silicone that has a service temp range of -70°C to 150°C closed system.

PSF-5cSt Silicone Bath Fluid is a low-viscosity Linear Polydimethylsiloxane (CAS # 63148-62-9) with a viscosity of 5cSt @ 25°C. The fluid is clear, colorless and odorless.

PSF-5cSt Silicone Bath Fluid is characterized by its low viscosity, low pour point, wide service temp range, low viscosity change at temp, high dielectric strength and inertness to virtually all bath components.

In **open system** (presence of air), **PSF-5cSt Silicone Bath Fluid** has an **operating temperature range of -70°C to 65°C**. In **closed system***, the operating temperature range is wider due to the absence of air. The **closed operating range is -70°C to 150°C**.

PSF-5cSt 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 the lower temperatures. For example, at -40°C, its viscosity increases to only 40cSt. This is critical for baths that have pumping systems that cannot operate with higher viscosity fluids.

Bath Applications include: low temperature open system baths, low temperature closed system baths, constant temperature baths, circulating baths, low temperature refrigerated baths, refrigerated circulators, recirculating coolers, cold temp calibration baths, closed loop baths, heat transfer baths, heat transfer fluid in freeze drying equipment, thermostats and cryostats

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

Specifications

Product Code	PSF-5cSt
Chemical Name	Polydimethylsiloxane / PDMS Silicone Oil
CAS #	63148-62-9
Appearance	Clear, colorless, odorless fluid
Viscosity Class	Low
Non-Flammable	Yes
Minimum Order	1-gallon (3.785 liters)

Features

- 100% PDMS silicone fluid
- Low viscosity: 5cSt @ 25°C...easy to pump/circulate
- Clear fluid: easy to see instrumentation in the bath
- Hydrophobic – insoluble with water
- Compatible with virtually all o-rings, gaskets, hoses, valves and seals*
- Low Viscosity-temp-coefficient (V.T.C)... 0.54
- Low Vapor pressure
- Low Pour Point: -90°C
- Flash Point: 135°C
- High Resistance to Oxidation

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

Typical Product Data

Specific Gravity	Viscosity-Temp Coefficient	Flash Point	Pour Point	Refractive Index	Surface Tension	Boiling Point	Vapor Pressure @ 25°C	Max volatility, % wt loss @ 150°C
0.918	0.54	135°C	-90°C	1.3970	19.7	>200°C	1mmHg	90%

Thermal Properties

Thermal Conductivity @ 50°C g cal/cm•sec• °C	Thermal Expansion cc/cc °C	Specific Heat cal/g/ °C
0.00028	0.00109	0.390

Packaging

1-gallon (3.78 liters).....	3.45kg net wt.
5-gallon pail (18.9 liters)	17.25kg net wt.
55-gallon drum (208 liters)	190kg net wt.

Dielectric Properties

Volume Resistance @ 25°C	Dielectric constant 50Hz @25 °C	Dielectric strength volts/mil
1.0 x 10 ¹⁵	2.60	375

Viscosity @ temperature

Viscosity-Temperature-coefficient.....	0.54
Viscosity @ 25°C.....	5cSt (centistokes)
Viscosity @ 0°C.....	8cSt
Viscosity @ -20°C.....	14cSt
Viscosity @ -40°C.....	40cSt

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