



# PSF-5cSt Silicone Heat Transfer Fluid

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



PSF-5cSt Silicone Heat Transfer Fluid is a low viscosity heat transfer medium that offers a wide service temperature range.

PSF-5cSt Low Temperature Heat Transfer Fluid is a 100% linear PDMS Silicone / Polydimethylsiloxane (CAS No. 63148-62-9) with a viscosity of 5cSt @ 25°C. It is formulated for use as a cold and heat transfer medium in a wide range of applications. PSF-5cSt Silicone Heat Transfer Fluid has an operating service temperature range of -70°C to 150°C (closed system\*).

PSF-5cSt Silicone Heat Transfer Fluid is characterized by its low pour points, low temperature stability, wide service temperature range, low viscosity change at temperature (low V.T.C.), low surface tension, high dielectric strength, long service life, and hydrophobic nature (insoluble in water).

PSF-5cSt Silicone Heat Transfer Fluid has a Thermal Conductivity value of 0.12 W/m °C or 0.00028 g cal/cm•sec• °C. Its specific heat value is 1.8 J/g °C (0.390 cal/g/°C @ 25°C).

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

*Applications include:* heat transfer fluid in freeze drying equipment, heat transfer medium in lyophilization thermostats and cryostat fluids, calibration bath fluids for low temperature, low temperature constant temperature baths, low temperature circulating 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
- Low viscosity: 5cSt @ 25°C
- Excellent Low Temp Serviceability
- Hydrophobic: insoluble with water
- Compatible with virtually all O-rings, gaskets, hoses, valves and seals\*
- Low Pour Point: -90°C
- Flash Point: 135°C

\*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	Vapor Pressure @ 25°C	Max volatility, % wt loss @ 150°C
0.913	0.55	134°C	-100°C	1.3960	19.7	1mmHg	90%

### Thermal Properties

Boiling Point	Thermal Conductivity @ 50°C g cal/cm•sec• °C	Thermal Expansion cc/cc °C	Specific Heat cal/g/ °C
>200°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.

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### Dielectric Properties

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

### Viscosity @ temperature

Viscosity-Temperature-coefficient.....	0.55
Viscosity @ 25°C.....	5cSt (centistokes)
Viscosity @ 0°C.....	8cSt
Viscosity @ -20°C.....	14cSt
Viscosity @ -40°C.....	40cSt

### For More Info, Contact:

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