



## Product Information

# PSF-50cSt Dielectric Silicone Fluid

Dielectric Strength: 400 volts/mil

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



PSF-50cSt Dielectric Silicone Fluid offers high dielectric strength (400volts/mil) over a wide service temperature range.

**PSF-50cSt Dielectric Silicone Fluid** is a clear, colorless and odorless linear Polydimethylsiloxane with a viscosity of 50cSt @ 25C. The fluid is characterized by its high dielectric strength, wide service temperature range, high flash point, low viscosity change at temperature (low V.T.C.), low surface tension, long service life, and hydrophobic nature (insoluble in water).

**PSF-50cSt Dielectric Silicone Fluid** has a dielectric strength of 400 volts/mil and a dielectric breakdown strength (2.5mm)  $\geq 50$ kV. **PSF-50cSt Dielectric Silicone Fluid** has an operating service temperature range of -40°C to 220°C (closed system\*).

**PSF-50cSt Dielectric Silicone 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 Dielectric Silicone 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.

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

Product Code	PSF-50cSt
Chemical Name	Polydimethylsiloxane
CAS #	63148-62-9
Appearance	Clear, colorless liquid
Viscosity Class	Low
Non-Flammable	Yes
Thermally Stable	Yes
Availability	1 – 5 – 55 gallon drums
Minimum Order	1-gallon (3.785 liters)

### Dielectric Properties

Dielectric Strength	.....400 volts/mil
Dielectric breakdown strength (2.5mm)	..... $\geq 50$ kV
Dielectric Constant (50Hz)	.....2.75 @ 25°C
Dielectric Constant (100Hz)	.... 2.71 @ 25°C 2.35 @ 150°C
Dissipation Factor (100Hz)	
@ 25C	.....0.0002
@ 150C	.....0.00016
Volume Resistance (ohm-cm)	
@ 25°C	..... $1.0 \times 10^{15}$
@150°C	..... $5 \times 10^{13}$

### Viscosity/Temp Data

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

### Packaging

1-gallon	.....3.6kg
5-gallon pail	.....18kg
4 x 5-gallon pails	
55-gallon drum	.....200kg
Terms F.O.B. Phila, PA	

### 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

### Typical Product Data

Dielectric Constant 50Hz	Dielectric Strength volts/mil	Molecular weight
2.75	400	3,780

### For More Information, Contact:

**Clearco Products Co., Inc.**  
 3430 G. Progress Drive  
 Bensalem, PA 19020  
 Tel: 215 639-2640  
 Fax: 215 639-2919  
 Email: [info@clearcoproducts.com](mailto:info@clearcoproducts.com)  
 Web: [www.clearcoproducts.com](http://www.clearcoproducts.com)