

## PSF-5cSt Dielectric Silicone Fluid

**Dielectric Strength: 375 volts/mil    Operating Temperature Range: -70°C to 150°C (closed system)**



*PSF-5cSt Dielectric Silicone Fluid is a 100% PDMS Silicone that provides high dielectric strength over a wide service temp range.*

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

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

**PSF-5cSt Dielectric Silicone Fluid** has a dielectric strength of 375 volts/mil and a dielectric breakdown strength (2.5mm)  $\geq 35$ kV. **PSF-5cSt Dielectric Silicone 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 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 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.

### 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
Thermally Stable	Yes
Minimum Order	1-gallon (3.785 liters)

### Dielectric Properties

Dielectric Strength	.....375 volts/mil
Dielectric breakdown strength (2.5mm).....	$\geq 35$ kV
Dielectric Constant (50Hz).....	2.60 @ 25°C
Dielectric Constant (100Hz).....	2.59 @ 25°C
Dielectric Constant (100Hz) .....	2.24 @ 150°C
Dissipation Factor (100Hz)	
@ 25°C.....	0.00004
@ 150°C.....	0.0004
Volume Resistance (ohm-cm)	
@ 25°C.....	$1.0 \times 10^{15}$
@150°C .....	$1.0 \times 10^{13}$

### Typical Product Data

Specific Gravity	Viscosity-Temp Coefficient	Flash Point	Boiling Point	Pour Point	Refractive Index	Thermal Expansion cc/cc °C	Thermal Conductivity g cal/cm•sec• °C	Specific Heat cal/g/°C	Surface Tension
0.918	0.54	135°C	>200°C	-90°C	1.3970	0.00109	0.00028	0.390	19.7

### Typical Product Data (cont'd)

Vapor Density (air = 1)	Vapor Pressure @ 25°C	Molecular weight
>1	1mmHg	770

### Viscosity @ temperature

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

### Packaging

1-gallon (3.78 liters) .....	3.45kg
5-gallon pail (18.9 liters) .....	17.25kg
55-gallon drum (208 liters) .....	190kg
F.O.B. Phila, PA U.S.A.	

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