



## Product Information

### PSF-20cSt Dielectric Silicone Fluid

Dielectric Strength: 375 volts/mil    Operating Temperature Range: -50°C to 220°C (closed system)



PSF-20cSt Dielectric Silicone Fluid provides high dielectric strength over a wide service temperature range.

**PSF-20cSt Dielectric Silicone Fluid** is a clear, colorless and odorless low-viscosity linear Polydimethylsiloxane (CAS # 63148-62-9) with a viscosity of 20cSt @ 25°C. **PSF-20cSt 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-20cSt Dielectric Silicone Fluid** has a dielectric strength of 375 volts/mil and a dielectric breakdown strength (2.5mm)  $\geq 50$ kV. **PSF-20cSt Silicone Heat Transfer Fluid** has a Thermal Conductivity value of 0.00034 g/cal/cm/sec °C. Its specific heat value is 1.6 (J/g °C)

**PSF-20cSt Silicone Bath Fluid** has a low viscosity-temperature coefficient or V.T.C. (viscosity @99°C  $\div$  viscosity @ 38°C). Thus, its viscosity will not significantly increase even at extremely low temperatures. For example, at -40°C, its viscosity increases to only 125cSt. This is critical for baths that have pumping systems that cannot operate with higher viscosity fluids.

Applications include: low temperature heat transfer systems, heat transfer baths, heat transfer fluid in freeze drying equipment, calibration bath fluids for low temperature, low temperature closed system baths, low temperature constant temperature baths, low temperature circulating baths, low temperature circulator baths, low temperature refrigerated baths, low temperature closed loop baths,

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

#### Specifications

Product Code	PSF-20cSt
Chemical Name	Polydimethylsiloxane
CAS #	63148-62-9
Appearance	Clear, colorless liquid

#### Viscosity @ temperature

Viscosity-Temperature-coefficient.....	0.59
Viscosity @ 25°C.....	20cSt
Viscosity @ 0°C.....	35cSt
Viscosity @ -20°C.....	60cSt
Viscosity @ -40°C.....	125cSt

#### Dielectric Properties

Dielectric Strength .....	375 volts/mil
Dielectric breakdown strength (2.5mm).....	$\geq 50$ kV
Dielectric Constant (50Hz).....	2.72 @ 25°C
Dielectric Constant (100Hz).....	2.68 @ 25°C
.....	2.32 @ 150°C
Dissipation Factor (100Hz)	
@ 25°C.....	0.0002
@ 150°C.....	0.00016
Volume Resistance (ohm-cm)	
@ 25°C.....	$1.0 \times 10^{15}$
@ 150°C .....	$5 \times 10^{13}$

#### Typical Product Data

Specific Gravity	Refractive Index	Pour Point	Flash Point	Surface Tension	Thermal Conductivity @ 25°C g/cal/cm/sec °C	Thermal Expansion cc/cc °C	Specific Heat @ 25°C J/g °C
0.950	1.4000	-65°C	232°C	20.6	0.00034	0.00107	1.6

#### Typical Product Data (cont'd)

Volume Resistivity	Molecular weight	Dielectric constant 50Hz	Dielectric strength volts/mil
$\geq 1$	2,000	2.72	375

#### Packaging

1-gallon pail (3.78 liters) .....	3.6kg
5-gallon pail (18.9 liters) .....	18kg
55-gallon drum (208 liters) .....	190kg
F.O.B. Phila, PA U.S.A..	

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