PSF-20cSt Dielectric Silicone Fluid

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

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/ml and a dielectric breakdown strength (2.5mm) ≥50kV. 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 @90°C +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

<table>
<thead>
<tr>
<th>Product Code</th>
<th>PSF-20cSt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>Polydimethylsiloxane</td>
</tr>
<tr>
<td>CAS #</td>
<td>63148-62-9</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear, colorless liquid</td>
</tr>
</tbody>
</table>

#### Viscosity @ temperature

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

### Typical Product Data

<table>
<thead>
<tr>
<th>Specific Gravity</th>
<th>Refractive Index</th>
<th>Pour Point</th>
<th>Flash Point</th>
<th>Surface Tension</th>
<th>Thermal Conductivity @ 25°C</th>
<th>Thermal Expansion @ 25°C</th>
<th>Specific Heat @ 25°C 1g/°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.950</td>
<td>1.4000</td>
<td>-65°C</td>
<td>232°C</td>
<td>20.6</td>
<td>0.00034</td>
<td>0.00107</td>
<td>1.6</td>
</tr>
</tbody>
</table>

### Typical Product Data (cont’d)

<table>
<thead>
<tr>
<th>Volume Resistivity</th>
<th>Molecular weight</th>
<th>Dielectric constant 50Hz</th>
<th>Dielectric strength volts/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1</td>
<td>2,000</td>
<td>2.72</td>
<td>375</td>
</tr>
</tbody>
</table>

### Dielectric Properties

- Dielectric Strength ......375 volts/ml
- Dielectric breakdown strength (2.5mm)......≥50 kV
- Dielectric Constant (50Hz)........................2.72 @ 25°C
- Dielectric Constant (100Hz).......................2.68 @ 25°C
- Dissipation Factor (100Hz)
  - @ 25C..............................................0.0002
  - @ 150C...........................................0.00016
- Volume Resistance (ohm-cm)
  - @ 25°C............................................1.0 x 10^15
  - @ 150°C...........................................5 x 10^13

### 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.

For More Info, Contact:
Clearco Products Co., Inc.
15 York Road
Willow Grove, PA 19090
U.S.A.

Tel: (215) 366-7860
Fax: (215) 366-7862
Email: info@clearcoproducts.com
Web: www.clearcoproducts.com