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Product Information

PSF-5cSt Low Viscosity Down-Hole Silicone Fluid

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



PSF-5cSt Down-Hole Silicone Fluid is a durable low viscosity fluid that can serve as a heat transfer/damping fluid in the harshest Downhole environments.

PSF-5cSt Low Viscosity Down-Hole Silicone Fluid is a clear, colorless and odorless linear Polydimethylsiloxane (CAS No. 63148-62-9) with a viscosity of 5cSt @ 25°C.

PSF-5cSt Low Viscosity Down-Hole Silicone Fluid is an excellent low viscosity fluid for the ever harsher environments in the Downhole Oil and Gas Industries. It is characterized by its low pour point, wide service temperature range, high compressibility, low viscosity change at temperature (low V.T.C.), low surface tension, high dielectric strength, long service life, and hydrophobic nature (insoluble in water).

Unlike conventional fluids like mineral oil, PSF-5cSt will not coagulate under pressure. Even at high pressures of 4,000MPa, the fluid will not solidify.

PSF-5cSt is widely used as a cold and heat transfer medium. It has an operating service temperature range of -70°C to 150°C (closed system*) and a thermal conductivity value of 0.12 W/m °C or 0.00028 g cal/cm²sec • °C. Its specific heat value is 1.8 J/g °C (0.390 cal/g/°C @ 25°C).

Silicone Fluids are widely used as damping fluids due to their inertness and low viscosity change over a wide temperature range. **PSF-5cSt 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. This is critical for systems that cannot pump or circulate higher viscosity fluids.

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

Specifications

Chemical Name	Polydimethylsiloxane
CAS #	63148-62-9
Appearance	Clear, colorless, odorless fluid
Non-Flammable	Yes

Viscosity @ temperature

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

Packaging

1-gallon.....	3.45kg
5-gallon pail.....	17.25kg
55-gallon drum.....	190kg
F.O.B. Phila, PA U.S.A.	

Features

- 100% Silicone fluid (Polydimethylsiloxane)
- Low viscosity: 5cSt @ 25°C
- Wide Service Temperature Range
- Hydrophobic – insoluble with water
- High Compressibility
- Stable at extremely high pressures
- Compatible with virtually all o-rings, gaskets, hoses, valves and seals*
- Chemically Inert
- Low Viscosity-temp-coefficient (V.T.C)... 0.54
- Low Vapor pressure
- Low Service temperature range of -70°C
- Low Pour Point: -90°C
- Flash Point: 135°C
- High Resistance to Oxidation
- VOC Exempt

*Not recommended for silicone o-rings....may cause swelling.

Typical Product Data

Specific Gravity	Viscosity-Temp Coefficient	Flash Point	Pour Point	Refractive Index	Thermal Expansion cc/cc °C	Thermal Conductivity g/cal/cm/sec °C	Specific Heat cal/g/ °C	Surface Tension	Dielectric Constant	Dielectric Strength volt/mil
0.918	0.54	135°C	-90°C	1.3970	0.00109	0.00028	0.390	19.7	2.60	375

Typical Product Data (cont'd)

Boiling Point	Vapor Density (air = 1)	Vapor Pressure @ 25°C	Max volatility, % wt loss @ 150°C	Molecular weight
>200°C	>1	1mmHg	90%	770

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