

PM-125 High Temperature Silicone Bath Fluid



Product Information

Recommended Operating Temperature: 25°C to 230°C (open system) / 25°C to 300°C (closed system)



PM-125 Phenylmethyl Silicone exhibits extraordinary high temperature performance in open and closed system baths

PM-125 High Temperature Silicone Bath Fluid is clear, colorless, and odorless silicone fluid that is classified as a Phenylmethylsiloxane (CAS#63148-52-7).

Characterized by its high flash point, high service temperature range, low vapor pressure, high resistance to oxidation and high resistance to shear, PM-125 is an excellent high temperature bath fluid and high temperature heat transfer fluid.

In open system baths (presence of air), **PM-125 High Temp Silicone Bath Fluid** has an operating temperature range of 25°C to 230°C. Although it has a pour point of -51°C, it is recommended more for high temperature applications. At temperatures below ambient, **PM-125 High Temp Silicone Bath Fluid** has an acutely higher viscosities (see Viscosity/temp specs). In closed system baths*, the operating ranges from 25°C to 300°C.

When compared to Polydimethylsiloxane fluids (PSF-Fluids), **PM-125 High Temperature Silicone Bath Fluid** exhibits much higher thermal stability and resistance to oxidation. Although it is more expensive, it will have a much longer service life.

Bath Applications include: high temperature open system baths, high temperature closed system baths, constant temperature baths, high temperature circulating baths, high temp closed loop baths, high temperature heat transfer baths, high temperature fluids for laboratory research apparatus and instruments.

Features

- Excellent High Temp Performance
- Service range: 25°C to 230°C (open system)
- Service range: 25°C to 300°C (closed system)
- High Oxidation Resistance
- Non-Flammable
- High Temperature bath fluid for laboratory research apparatus and instruments.
- High Dielectric strength –dielectric fluid in capacitors
- High Temperature heat transfer applications
- Compatible with virtually all o-rings, gaskets, valves, seals, and hoses *
- VOC Exempt

Not recommended for silicone o-rings where the fluid may cause swelling

Properties (cont'd)

Thermal Gel Time (open system)
 months @ 200°C.....14 months
 hours @ 250°C.....1,200 hours
 hours @ 260°C.....200 hours

Specific Heat

@ 0°C.....1.418 kJ/kg K
 @ 40°C.....1.498kJ/kg. K
 @ 100°C.....1.615 kJ/kg. K.
 @200°C.....1.812 J/kg. K

Thermal Conductivity

@ 50°C.....0.00036g/cal/cm/sec °C

Dielectric Properties:

Dielectric Strength: 400 volts/mil
 Dielectric Constant 25°C @ 100Hz: 2.90
 Dissipation Factor @ 25°C: 0.0005
 Volume Resistance @ 25°C: 1 x 10¹⁴

Properties

Pour Point °C.....-51°C
 Flashpoint.....315°C
 Ignition Temperature.....482°C

 Surface tension.....24.5
 Specific Gravity.....1.07
 Refractive index.....1.500

Viscosity/Temp Coefficient.....0.76
 Viscosity @25C.....125cSt
 (mm2/sec)

Viscosity @ temperature

@ 99°C......20cSt (mm2/sec)
 @ 38°C......84cSt (mm2/sec)
 @ -29°C.....22,000cSt (mm2/sec)

Volatility (open system)

12 months @ 150C.....4%
 12 months @ 200C.....15%
 4 hours @ 250C.....1.2%
 48 hours @ 250C.....5.5%

Vapor pressure vs. Temperature

@228°C.....11 Pa
 @244°C......25 Pa
 @263°C......84 Pa
 @277°C.....155 Pa
 @380°C.....13,332 Pa
 (1mm Hg = 133.322Pa)

Volume Expansion vs. temperature

-18°C to 149°C.....0.00075
 150°C to 204°C.....0.00077
 205°C to 260°C.....0.00080

Compressibility

@ 7MPa.....0.5%
 @20MPa.....1.4%
 @35MPa.....2.3%
 @50MPa.....3.0%
 @75MPa.....4.2%
 @100MPa.....5.2%
 @150MPa.....6.8%

Packaging

1-gallon pail..... 4 kg
 5-gallon pail.....20 kg
 55-gallon drum.....220 kg

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