



# PM-125 High Temperature Silicone Bath Fluid

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



PM-125 is a clear, low viscosity fluid that is formulated for high temp stability

**PM-125 High Temperature Silicone Bath Fluid** is a Phenylmethylsiloxane (CAS#63148-52-7) with a viscosity of 125cSt @ 25°C. The fluid is clear, colorless, and odorless.

PM-125 is characterized by its high flash point, low viscosity, long-term stability at high temperature, high dielectric strength, high resistance to oxidation, stability under high pressure and inertness to virtually all bath components.

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. In closed system baths\*, the operating range is 25°C to 300°C.

When heated, the viscosity of PM-125 will lower very quickly, which makes it easy to pump/circulate. Conversely, its viscosity will thicken very quickly when chilled.

Although it has a pour point of -51°C, we do not recommend PM-125 for temps below ambient, especially for systems that need to circulate/pump the fluid

When compared to conventional PDMS silicone fluids, **PM-125 High Temperature Bath Fluid** exhibits much higher thermal stability and resistance to oxidation. Although it is more expensive, it provides a much longer service life at elevated temperatures.

**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.

### Product Data

Product Code	PM-125
Chemical Name	Phenylmethylsiloxane
CAS No	63148-52-7
Appearance	Clear, colorless and odorless fluid
Viscosity@ 25C	125cSt
Minimum order	1-gallon (3.785 liters)

### Typical Properties

Specific Gravity	Refractive Index	Pour Point	Flash Point	Viscosity/Temp Coefficient	Surface Tension dynes cm @ 25°C
1.07	1.500	-51°C	315°C	0.76	24.5

### Thermal Properties

<u>Specific Heat</u>	
@ 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
<u>Thermal Conductivity</u>	
@25°C.....	0.00035 g cal/cm•sec• °C
@ 50°C.....	0.00036 g cal/cm•sec• °C
<u>Thermal Gel Time (open system)</u>	
months @ 200°C.....	14 months
hours @ 250°C.....	1,200 hours
hours @ 260°C.....	200 hours

### Volume Expansion vs. Temperature

<u>Volume Expansion vs. temperature</u>	
-18°C to 149°C.....	0.00075
150°C to 204°C.....	0.00077
205°C to 260°C.....	0.00080

### Viscosity to Temperature

Viscosity/Temp Coefficient.....	0.76
Viscosity @25C.....	125cSt (mm2/sec)
<u>Viscosity @ temperature</u>	
@ 99°C.....	20cSt (mm2/sec)
@ 38°C.....	84cSt (mm2/sec)
@ 25°C.....	125cSt (mm2/sec)
@ -29°C.....	22,000cSt (mm2/sec)

### Vapor Pressure vs. Temp

<u>Vapor pressure vs. Temperature</u>	
@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)	

### Volatility (open system)

<u>Volatility (open system)</u>	
12 months @ 150C.....	4%
12 months @ 200C.....	15%
4 hours @ 250C.....	1.2%
48 hours @ 250C.....	5.5%

### Packaging

1-gallon (3.78 liters).....	4kg net wt.
5-gallon pail (18.9 liters).....	20kg net wt.
55-gallon drum (208 liters).....	220kg net wt.
F.O.B. Phila, PA U.S.A.	

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