

DPDM-400 High Temperature Bath Fluid



Product Information

Operating Temperature Range: 25°C to 250°C (open system) / 25°C to 300°C (closed system)



Clearco DPDM-400 Silicone Bath Fluid remains stable from -20°C to 250°C (open system).

DPDM-400 High Temperature Silicone Bath Fluid is a clear, colorless silicone fluid that is classified as a Dimethyl-Diphenylsiloxane (CAS # 68083-14-7). Characterized by its high flash point, high service temperature range, low vapor pressure, high resistance to oxidation and high resistance to shear, DPDM-400 is an excellent high temperature bath fluid and high temperature heat transfer fluid.

In open system baths (presence of air), DPDM-400 High Temp Bath Fluid has an operating temperature range of 25°C to 250°C. Although it has a pour point of -30°C, it is not recommended for low temperature bath applications due to its acutely higher viscosities at lower temperatures (see Viscosity/temp specs). In closed system baths*, the operating ranges from 25°C to 300°C.

When compared to polydimethylsiloxane fluids (PSF-Fluids), DPDM-400 exhibits much higher thermal stability as well as resistance to shear and resistance to oxidation. It will provide a very long 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.

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

Features

- Excellent High Temp Performance
- Service range: -20 to 250°C (open system)
- Service range: -20 to 315°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

Appearance: clear, colorless, odorless fluid
Pour Point °C.....-30°C
Flashpoint.....315°C
Specific Gravity.....1.07
Refractive index.....1.505
<u>Volatility, % wt loss</u>
24 hours @ 150°C.....max 0.3%
<u>Thermal</u>
Expansion (cc/cc/C).....0.00073
<u>Dielectric Properties</u>
Breakdown Voltage KV/(2.5mm)....>50
Dielectric Constant (50 Hz).....2.88
Dissipation Factor (50 Hz).....<0.0005

<u>Thermal Gel Time (open system)</u>
@ 250°C.....1,500 to 2,000 hours
@ 260°C.....>200 hours
<u>Specific Heat</u>
@ 25°C.....0.35 cal/g°C, 25°C
<u>Thermal Expansion</u>
(cc/cc/C).....0.00073
<u>Thermal Conductivity</u>
(cal/cm/sec °C).....0.00032
<u>Surface Tension</u>
(dynes/cm).....25.2

Viscosity/Temp Specs.

Viscosity/Temp Coefficient.....0.82
Viscosity @25°C.....400cSt (mm2/sec)
<u>Viscosity @ temperature</u>
@250°C.....7cSt (mm2/sec)
@ 200°C.....11cSt
@100°C.....46cSt
@50°C.....167cSt
@25°C.....400cSt
@ 0°C.....1,770cSt
@ -25°C.....24,800cSt

Packaging

1-gallon.....	8lb/3.6kg
5-gallon pail.....	40lb/ 18kg
55-gallon drum	200kg quote upon request

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