

BARREL SILICONE FLUID M SERIES

BARREL SILICONE FLUID M SERIES are colorless clear liquid with a dimethylpolysiloxane structure. Viscosity from 1.0 to 12,500 mm²/s(25°C) are widely used in the industrial world for applications such as heat transfer fluid, cold cycle liquids, test medium liquids, electrical insulating oils, lubricating oils, and various materials.

1. Features

- (1) Colorless clear liquid.
- (2) High viscosity index and small change in viscosity with temperature.
- (3) High flash point and flame retardant.
- (4) Vapor pressure is very low and evaporation is small, so the working environment is kept clean.
- (5) Excellent thermal stability.
- (6) Excellent oxidation stability.
- (7) Low pour point and excellent low-temperature characteristics.
- (8) Excellent electrical characteristics.
- (9) Excellent in shear stability.
- (10) High compressibility.
- (11) Low surface tension.
- (12) High water repellency.
- (13) Low toxicity.
- (14) Tasteless and odorless.
- (15) Chemically inert.

2. Applications

- (1) As a cold heat transfer fluid for vacuum freeze dryer (2.0mm²/s), smooth forced circulation is possible even at -80°C.
- (2) As heat transfer fluids (10~350 mm²/s), it has excellent thermal stability, oxidation stability, flame retardance, and initial fluidity. It is also less polluting due to its low evaporation rate.
- (3) As electrical insulating oil (20, 50 mm²/s), it has excellent electrical characteristics, flame retardance, thermal stability, and oxidation stability.
- (4) As various types of lubricating oil (350~12,500 mm²/s), it has excellent low temperature fluidity, thermal stability, oxidation stability, viscosity-temperature characteristics, and shear stability.

3. Typical properties

Property		BARREL SILICONE FLUID							
		M-1	M-2	M-5	M-10	M-16	M-20	M-30	M-50
Appearance		Colorless clear							
Density 25°C	kg/m ³	816	872	915	934	945	951	958	960
Flash Point (COC)	°C	38(TAG)	90	116	180	260	268	270	318
Pour Point	°C	<-85	<-85	<-65	<-65	<-60	<-60	<-55	<-55
Kinematic Viscosity	25°C mm ² /s	1.0	2.0	5.0	10	16	20	30	50
	40°C mm ² /s	0.86	1.6	4.0	7.7	12	15	23	37
	100°C mm ² /s	0.55	0.92	2.0	3.5	5.3	6.3	9.8	15
Acid Number	mgKOH/g	0.01							
Surface Tension 25°C	mN/m	17.4	18.7	19.7	20.1	20.4	20.6	20.7	20.8
Refractive Index 25°C		1.3826	1.3904	1.3960	1.3990	1.4002	1.4005	1.4017	1.4022
Thermal Expansion Coefficient	1/°C	0.00134	0.00117	0.00109	0.00108	0.00107	0.00107	0.00105	0.00104
Evaporation Rate 150°C,24h	wt%	BP152°C	BP230°C	BP120°C~ 160°C/67Pa	<25	<5.0	<5.0	<1.5	<0.3

Property		BARREL SILICONE FLUID							
		M-100	M-200	M-350	M-500	M-1000	M-3000	M-5000	M-12500
Appearance		Colorless clear							
Density 25°C	kg/m ³	964	966	968	968	970	972	973	975
Flash Point (COC)	°C	>330	>330	>330	>330	>340	>340	>340	>340
Pour Point	°C	<-55	<-55	<-55	<-50	<-50	<-50	<-50	<-50
Kinematic Viscosity	25°C mm ² /s	100	200	350	500	1,000	3,000	5,000	12,500
	40°C mm ² /s	76	151	266	380	760	2,300	3,800	9,600
	100°C mm ² /s	31	62	109	160	310	900	1,500	4,000
Acid Number	mgKOH/g	0.01							
Surface Tension 25°C	mN/m	20.9	21.0	21.1	21.1	21.2	21.2	21.5	21.5
Refractive Index 25°C		1.4030	1.4032	1.4034	1.4034	1.4035	1.4035	1.4035	1.4035
Thermal Expansion Coefficient	1/°C	0.00096	0.00096	0.00096	0.00096	0.00096	—	—	—
Evaporation Rate 150°C,24h	wt%	<0.3							

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