

Paratherm Corporation Paratherm™ LR Heat Transfer Fluid

Category : Fluid

Material Notes:

Paratherm LR™ heat transfer fluid is an aliphatic-hydrocarbon based heat transfer fluid designed for use in closed-loop, liquid phase heating and cooling systems up to 450°F in electric and steam heaters and down to a -58°F surface temperature in direct-expansion exchangers. Information provided by Paratherm Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Paratherm-Corporation-Paratherm-LR-Heat-Transfer-Fluid.php

Physical Properties	Metric	English	Comments
Density	0.611 g/cc	0.0221 lb/in ³	
	@Temperature 232 °C	@Temperature 450 °F	
	0.647 g/cc	0.0234 lb/in ³	
	@Temperature 177 °C	@Temperature 350 °F	
	0.695 g/cc	0.0251 lb/in ³	
	@Temperature 121 °C	@Temperature 250 °F	
	0.731 g/cc	0.0264 lb/in ³	
	@Temperature 65.6 °C	@Temperature 150 °F	
	0.755 g/cc	0.0273 lb/in ³	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Viscosity	0.767 g/cc	0.0277 lb/in ³	
	@Temperature 15.6 °C	@Temperature 60.0 °F	
	0.791 g/cc	0.0286 lb/in ³	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	0.815 g/cc	0.0294 lb/in ³	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	0.827 g/cc	0.0299 lb/in ³	
	@Temperature -73.3 °C	@Temperature -100 °F	
	0.18 cP	0.18 cP	
	@Temperature 232 °C	@Temperature 450 °F	
	0.26 cP	0.26 cP	
	@Temperature 177 °C	@Temperature 350 °F	

Physical Properties	^{0.42 cP} Metric	^{0.42 cP} English	Comments
	@Temperature 121 °C	@Temperature 250 °F	
	0.80 cP	0.80 cP	
	@Temperature 65.6 °C	@Temperature 150 °F	
	1.5 cP	1.5 cP	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	5.0 cP	5.0 cP	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	16 cP	16 cP	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	154 cP	154 cP	
	@Temperature -73.3 °C	@Temperature -100 °F	
Viscosity Measure	0.30 cSt	0.30 cSt	
	@Temperature 232 °C	@Temperature 450 °F	
	0.40 cSt	0.40 cSt	
	@Temperature 177 °C	@Temperature 350 °F	
	0.61 cSt	0.61 cSt	
	@Temperature 121 °C	@Temperature 250 °F	
	1.0 cSt	1.0 cSt	
	@Temperature 65.6 °C	@Temperature 150 °F	
	2.0 cSt	2.0 cSt	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	5.9 cSt	5.9 cSt	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	19 cSt	19 cSt	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	185 cSt	185 cSt	
	@Temperature -73.3 °C	@Temperature -100 °F	
Molecular Weight	160 g/mol	160 g/mol	average
Vapor Pressure	0.0400 bar	30.0 torr	
	@Temperature 107 °C	@Temperature 225 °F	

Physical Properties	Metric	English	Comments
	@Temperature 121 °C	@Temperature 250 °F	
	0.108 bar	81.0 torr	
	@Temperature 135 °C	@Temperature 275 °F	
	0.193 bar	145 torr	
	@Temperature 149 °C	@Temperature 300 °F	
	0.500 bar	375 torr	
	@Temperature 177 °C	@Temperature 350 °F	
	1.04 bar	780 torr	
	@Temperature 204 °C	@Temperature 400 °F	
	1.25 bar	938 torr	
	@Temperature 218 °C	@Temperature 425 °F	
	1.421 bar	1066 torr	
	@Temperature 232 °C	@Temperature 450 °F	

Thermal Properties	Metric	English	Comments
Heat of Vaporization	262 J/g	113 BTU/lb	
Specific Heat Capacity	1.63 J/g-°C	0.390 BTU/lb-°F	
	@Temperature -73.3 °C	@Temperature -100 °F	
	1.76 J/g-°C	0.420 BTU/lb-°F	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	1.84 J/g-°C	0.440 BTU/lb-°F	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	2.01 J/g-°C	0.480 BTU/lb-°F	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	2.18 J/g-°C	0.520 BTU/lb-°F	
	@Temperature 65.6 °C	@Temperature 150 °F	
	2.38 J/g-°C	0.570 BTU/lb-°F	
	@Temperature 121 °C	@Temperature 250 °F	
	2.59 J/g-°C	0.620 BTU/lb-°F	
	@Temperature 177 °C	@Temperature 350 °F	

Thermal Properties	Metric	English	Comments
	@Temperature 232 °C	@Temperature 450 °F	
Thermal Conductivity	0.131 W/m-K	0.912 BTU-in/hr-ft ² -°F	
	@Temperature 232 °C	@Temperature 450 °F	
	0.137 W/m-K	0.948 BTU-in/hr-ft ² -°F	
	@Temperature 177 °C	@Temperature 350 °F	
	0.142 W/m-K	0.984 BTU-in/hr-ft ² -°F	
	@Temperature 121 °C	@Temperature 250 °F	
	0.147 W/m-K	1.02 BTU-in/hr-ft ² -°F	
	@Temperature 65.6 °C	@Temperature 150 °F	
	0.1504 W/m-K	1.044 BTU-in/hr-ft ² -°F	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	0.1539 W/m-K	1.068 BTU-in/hr-ft ² -°F	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	0.1574 W/m-K	1.092 BTU-in/hr-ft ² -°F	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	0.1591 W/m-K	1.104 BTU-in/hr-ft ² -°F	
	@Temperature -73.3 °C	@Temperature -100 °F	
Boiling Point	202 °C	396 °F	
Maximum Service Temperature, Air	232 °C	450 °F	
	260 °C	500 °F	max. recommended film temperature
Minimum Service Temperature, Air	-50.0 °C	-58.0 °F	
Flash Point	>= 54.4 °C	>= 130 °F	closed cup; ASTM D56

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.84e+14 ohm-cm	1.84e+14 ohm-cm	
Dielectric Constant	2.03	2.03	ASTM D924-04
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Breakdown	22150 V	22150 V	ASTM D1816-04
	@Thickness 2.54 mm	@Thickness 0.100 in	
	0.000010	0.000010	

Designation Factor Electrical Properties	Metric @ Frequency 1000 Hz	English @ Frequency 1000 Hz	ASTM D924-04 Comments
Descriptive Properties	Value		Comments
Appearance	water white		
Autoignition	>500°F		< 10 sec delay
Feedstock	hydrocarbon		
Odor	none		

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