

Paratherm Corporation Paratherm™ CR Heat Transfer Fluid

Category : Fluid

Material Notes:

Paratherm CR® heat transfer fluid is a blend of synthetic components formulated to provide superior cooling performance in closed-loop heat-transfer systems operating down to -88°C (-127°F) yet is capable of maintenance free operation up to 218°C (425°F). Applications include Fine and specialty chemical processing, pharmaceutical production, and environmental test chambers. Information provided by Paratherm Corporation.

Order this product through the following link:

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

Physical Properties	Metric	English	Comments
Density	0.635 g/cc	0.0229 lb/in ³	
	@Temperature 218 °C	@Temperature 425 °F	
	0.671 g/cc	0.0242 lb/in ³	
	@Temperature 177 °C	@Temperature 350 °F	
	0.731 g/cc	0.0264 lb/in ³	
	@Temperature 121 °C	@Temperature 250 °F	
	0.779 g/cc	0.0281 lb/in ³	
	@Temperature 65.6 °C	@Temperature 150 °F	
	0.815 g/cc	0.0294 lb/in ³	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Viscosity	0.827 g/cc	0.0299 lb/in ³	
	@Temperature 15.6 °C	@Temperature 60.0 °F	
	0.875 g/cc	0.0316 lb/in ³	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	0.887 g/cc	0.0320 lb/in ³	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	0.923 g/cc	0.0333 lb/in ³	
	@Temperature -73.3 °C	@Temperature -100 °F	
	0.24 cP	0.24 cP	
	@Temperature 218 °C	@Temperature 425 °F	
0.28 cP	0.28 cP		
@Temperature 177 °C	@Temperature 350 °F		

Physical Properties	Metric	English	Comments
	@Temperature 121 °C	@Temperature 250 °F	
	0.51 cP	0.51 cP	
	@Temperature 65.6 °C	@Temperature 150 °F	
	1.0 cP	1.0 cP	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	1.0 cP	1.0 cP	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	2.0 cP	2.0 cP	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	5.0 cP	5.0 cP	
	@Temperature -73.3 °C	@Temperature -100 °F	
Viscosity Measure	0.38 cSt	0.38 cSt	
	@Temperature 218 °C	@Temperature 425 °F	
	0.42 cSt	0.42 cSt	
	@Temperature 177 °C	@Temperature 350 °F	
	0.48 cSt	0.48 cSt	
	@Temperature 121 °C	@Temperature 250 °F	
	0.65 cSt	0.65 cSt	
	@Temperature 65.6 °C	@Temperature 150 °F	
	0.94 cSt	0.94 cSt	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	1.5 cSt	1.5 cSt	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	2.5 cSt	2.5 cSt	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	5.5 cSt	5.5 cSt	
	@Temperature -73.3 °C	@Temperature -100 °F	
Molecular Weight	130 g/mol	130 g/mol	average
Vapor Pressure	0.0373 bar	28.0 torr	

Physical Properties	@Temperature 65.6 °C Metric	@Temperature 150 °F English	Comments
	0.277 bar	208 torr	
	@Temperature 121 °C	@Temperature 250 °F	
	0.959 bar	719 torr	
	@Temperature 177 °C	@Temperature 350 °F	
	1.432 bar	1074 torr	
	@Temperature 218 °C	@Temperature 425 °F	

Thermal Properties	Metric	English	Comments
Heat of Vaporization	344 J/g	148 BTU/lb	
Specific Heat Capacity	1.59 J/g-°C	0.380 BTU/lb-°F	
	@Temperature -73.3 °C	@Temperature -100 °F	
	1.67 J/g-°C	0.400 BTU/lb-°F	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	1.80 J/g-°C	0.430 BTU/lb-°F	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	1.92 J/g-°C	0.460 BTU/lb-°F	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	2.09 J/g-°C	0.500 BTU/lb-°F	
	@Temperature 65.6 °C	@Temperature 150 °F	
2.30 J/g-°C	0.550 BTU/lb-°F		
@Temperature 121 °C	@Temperature 250 °F		
2.51 J/g-°C	0.600 BTU/lb-°F		
@Temperature 177 °C	@Temperature 350 °F		
2.64 J/g-°C	0.630 BTU/lb-°F		
@Temperature 218 °C	@Temperature 425 °F		
Thermal Conductivity	0.125 W/m-K	0.864 BTU-in/hr-ft ² -°F	
	@Temperature 218 °C	@Temperature 425 °F	
	0.128 W/m-K	0.888 BTU-in/hr-ft ² -°F	
	@Temperature 177 °C	@Temperature 350 °F	
	0.133 W/m-K	0.924 BTU-in/hr-ft ² -°F	

Thermal Properties	@Temperature 121 °C Metric	@Temperature 250 °F English	Comments
	0.137 W/m-K	0.948 BTU-in/hr-ft ² -°F	
	@Temperature 65.6 °C	@Temperature 150 °F	
	0.140 W/m-K	0.972 BTU-in/hr-ft ² -°F	
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	0.144 W/m-K	0.996 BTU-in/hr-ft ² -°F	
	@Temperature -17.8 °C	@Temperature 0.000 °F	
	0.1453 W/m-K	1.008 BTU-in/hr-ft ² -°F	
	@Temperature -45.6 °C	@Temperature -50.0 °F	
	0.147 W/m-K	1.02 BTU-in/hr-ft ² -°F	
	@Temperature -73.3 °C	@Temperature -100 °F	
Boiling Point	182 °C	360 °F	
Maximum Service Temperature, Air	218 °C	425 °F	
	288 °C	550 °F	max. recommended film temperature
Minimum Service Temperature, Air	-88.3 °C	-127 °F	
Flash Point	>= 40.0 °C	>= 104 °F	closed cup; ASTM D56

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.3e+11 ohm-cm	8.3e+11 ohm-cm	
Dielectric Constant	2.59	2.59	ASTM D924-04
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Breakdown	36110 V	36110 V	ASTM D1816-04
	@Thickness 2.54 mm	@Thickness 0.100 in	
Dissipation Factor	0.00145	0.00145	ASTM D924-04
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Descriptive Properties	Value	Comments
Appearance	water white	
Autoignition	>430°F	< 10 sec delay
Chemistry	synthetic hydrocarbon blend	
Odor	sweet	

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