



SYLTHERM HF

Silicone Heat Transfer Fluid

SYLTHERM[†] HF heat transfer fluid is a specially formulated, high performance silicone polymer designed for use as a low temperature, liquid phase heat transfer medium. It offers outstanding low temperature heat transfer and pumpability, plus excellent thermal stability. With a closed cup flash point above 60°C (140°F), SYLTHERM HF fluid provides an extra margin of safety and can reduce system and engineering costs. SYLTHERM HF fluid has essentially no odor, is low in acute oral toxicity, and is not listed as reportable under SARA Title III, Section 313^{††}.

Recommended use temperature range: -73°C (-100°F) to 260°C (500°F)

Suitable applications: Single fluid process heating and cooling systems. Sub zero applications including environmental chambers and grocery store freezer loops.

For health and safety information for this product, contact your Dow sales representative or call the number for your area on the second page of this sheet for a Material Safety Data Sheet (MSDS).

^{††} You may need to comply with similar or additional regulations in other countries.

Typical Properties of SYLTHERM HF Fluid¹

Composition: Dimethyl Polysiloxane

Color: Crystal Clear Liquid

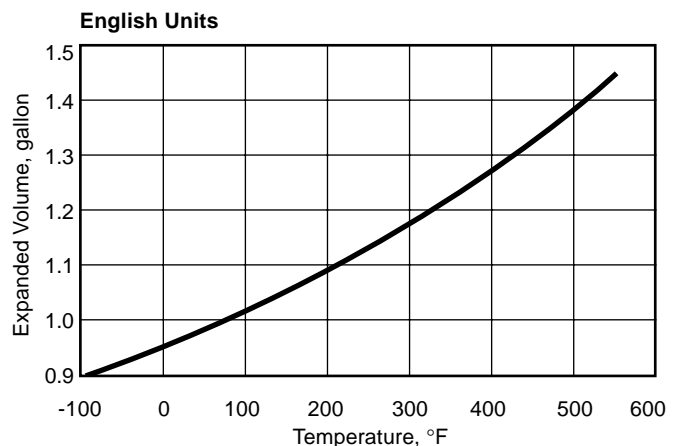
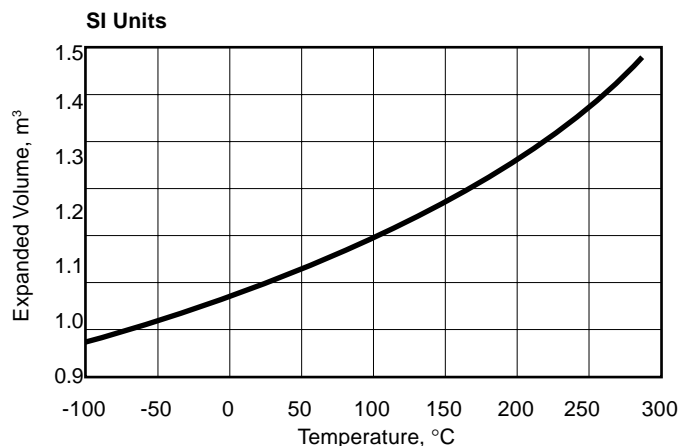
Property	SI Units	English Units
Viscosity @ 25°C (77°F)	1.70mPa·s	1.70cp
Flash Point ² , Closed Cup, Typical	63°C	145°F
Flash Point ³ , Open Cup, Typical	76.7°C	170°F
Autoignition Point, ASTM D-2155	355°C	671°F
Freeze Point	<-82°C	<-115°F
Density @ 25°C (77°F)	864 kg/m ³	7.2 lb/gal
Specific Gravity @ 25°C (77°F)		0.87
Heat of Combustion, Btu/lb	31,851 kJ/kg	13,670 Btu/lb
Average Molecular Weight		439
Estimated Critical Temperature	350°C	662°F
Estimated Critical Pressure	10.6 bar	10.5 atm
Estimated Critical Volume	3.62 l/kg	0.058 ft ³ /lb

¹ Not to be construed as specifications

² ASTM D92

³ ASTM D93

Thermal Expansion of SYLTHERM HF Fluid



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Saturated Liquid Properties of SYLTHERM HF Fluid (SI Units)

Temperature °C	Specific Heat kJ/kg K	Density kg/m ³	Therm. Conduc. W/m K	Viscosity mPa-s	Vapor Pressure bar
-73	1.453	965.78	0.1301	16.46	0.00
-70	1.460	962.75	0.1293	14.87	0.00
-20	1.583	912.20	0.1169	3.88	0.00
30	1.707	861.65	0.1045	1.58	0.00
80	1.830	811.10	0.0921	0.83	0.01
130	1.953	760.55	0.0797	0.51	0.11
180	2.076	710.00	0.0673	0.35	0.49
230	2.199	659.45	0.0549	0.26	1.55
260	2.273	629.12	0.0475	0.22	2.74

Saturated Liquid Properties of SYLTHERM HF Fluid (English Units)

Temperature °F	Specific Heat Btu/lb°F	Density lb/ft ³	Therm. Conduc. Btu/hr ft ² (°F/ft)	Viscosity cp	Vapor Pressure psia
-100	0.347	60.31	0.0752	16.65	0.00
-40	0.367	58.21	0.0704	6.20	0.00
0	0.380	56.81	0.0672	3.70	0.00
60	0.399	54.70	0.0625	1.98	0.00
140	0.426	51.90	0.0561	1.05	0.07
220	0.452	49.09	0.0497	0.64	0.61
300	0.478	46.29	0.0433	0.44	2.93
380	0.504	43.48	0.0370	0.32	9.93
460	0.530	40.68	0.0306	0.25	26.24
500	0.543	39.28	0.0274	0.22	39.76

For further information, call...

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***NOTE:** SYLTHERM heat transfer fluids are manufactured by Dow Corning Corporation and distributed by The Dow Chemical Company.

