sigma THERM® - G

(-3) °C TO 350 °C

High Temperature Liquid Phase
Heat Transfer Fluid

www.sigma-therm.com

Description:

sigma THERM®- G is a synthetic organic heat transfer fluid based on Partially Hydrogenated Terphenyl or Modified Terphenyl. This chemistry have been used successfully in high temperature application since so many years.

Application :

Liquid Phase : (-3) °C – 350 °C

It is highly recommended to use Nitrogen Blanket in Expansion tank to prevent oxidation of heat transfer fluid.

Benefits :

- Thermally more stable thermic fluid than the ones available in market for low pressure liquid phase heat transfer
- Non- corrosive to metal
- sigma THERM®- G can also be used for top up / make up for the system containing other similar fluids

Compatibility :

Metal : sigma THERM®- G is compatible with all metals.

Typical Properties :

Composition	Modified Terphenyl / Partially Hydrogenated Terphenyl
Appearance	Clear Pale Yellow Liquid
Max. Bulk Temperature, °C	350
Max. Film Temperature, °C	375
Kin. Vis. @ 40 °C, cSt	29 - 31
Pour Point , °C	< (-15)
Specific Gravity @ 20 °C	1002 - 1022
Auto Ignition Temp. °C	380
Average Molecular Weight	252
Flash Point, °C	175 - 185
Chlorine (mg/kg)	< 10
Acid Number (mg KOH /g)	< 0.05
Moisture content, ppm	> 125
Copper Corrosion	<<1
Pseudocritical Temperature, °C	569
Pseudocritical Pressure, bar	24
Pseudocritical Density kg/m^3	317

Packing :

200 Kgs., 35 Kgs

Temperature	Density	Specific Heat	Heat of Vaporisation	Liquid Enthalpy	Thermal Conductivity	Viscosity		Vapour Pressure
°C	kg/m³	kJ/kg°K	kJ/kg	kJ/kg	W/m·K	cP	cSt	kPa
-3	1028	1.53	419.8	22.2	0.1210	2019	1970	-
0	1026	1.53	418.4	26.3	0.1213	1300	1281	-
10	1020	1.58	413.7	41.6	0.1208	339	334	-
20	1013	1.61	409.1	57.2	0.1205	121	120	-
30	1007	1.65	404.5	73.1	0.1201	54.8	54.7	-
40	1000	1.68	400.1	89.4	0.1196	29.1	29.2	-
50	994	1.71	395.7	106.1	0.1192	17.3	17.5	-
60	987	1.75	391.4	123.0	0.1187	11.3	11.5	-
70	980	1.78	387.1	140.4	0.1181	7.94	8.14	0.011
80	974	1.82	383.0	158.1	0.1176	5.84	6.03	0.018
90	967	1.85	378.9	176.1	0.1170	4.48	4.66	0.030
100	960	1.90	374.8	194.5	0.1163	3.55	3.71	0.048
110	953	1.93	370.8	213.2	0.1156	2.88	3.03	0.076
120	946	1.97	366.8	232.3	0.1149	2.38	2.53	0.118
130	939	2.00	363.0	251.8	0.1142	2.02	2.16	0.179
140	933	2.04	359.1	271.6	0.1135	1.72	1.86	0.268
150	926	2.07	355.2	291.7	0.1126	1.50	1.63	0.396
160	919	2.11	351.4	312.2	0.1118	1.31	1.44	0.573
170	912	2.15	347.6	333.1	0.1110	1.16	1.28	0.819
180	903	2.18	343.8	354.4	0.1101	1.04	1.15	1.16
190	896	2.22	340.1	376.0	0.1092	0.94	1.04	1.60
200	889	2.26	336.2	397.9	0.1082	0.85	0.96	2.21
210	882	2.30	332.4	420.3	0.1072	0.77	0.88	2.99
220	874	2.34	328.6	443.0	0.1062	0.71	0.81	4.02
230	867	2.37	324.7	466.1	0.1052	0.65	0.76	5.34
240	860	2.41	320.9	489.5	0.1040	0.60	0.70	7.03
250	852	2.45	316.8	513.4	0.1029	0.56	0.66	9.16
260	844	2.49	312.9	537.6	0.1018	0.52	0.62	11.9
270	836	2.52	308.9	562.3	0.1007	0.49	0.59	15.1
280	829	2.56	304.7	587.2	0.0994	0.46	0.56	19.3
290	821	2.61	300.5	612.6	0.0982	0.43	0.53	24.3
300	813	2.65	296.1	638.3	0.0970	0.41	0.50	30.4
310	804	2.69	291.7	664.5	0.0956	0.39	0.48	37.8
320	796	2.73	287.1	691.0	0.0943	0.37	0.46	46.7
330	787	2.77	282.5	717.9	0.0929	0.35	0.44	57.3
340	779	2.81	277.6	745.3	0.0915	0.33	0.43	70.0
350	770	2.85	272.7	773.1	0.0901	0.32	0.41	84.8
360	761	2.89	267.5	801.1	0.0887	0.30	0.40	102
370	752	2.94	262.2	829.7	0.0871	0.291	0.39	123

Note : Above data is for reference only

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