sigma THERM® - P

(-94) °C TO 230 °C

Food Grade
Single Fluid for Heating and Cooling

www.sigma-therm.com

Description :

sigma THERM®- P is a Food Grade synthetic organic heat transfer fluid.

Application :

Indirect closed heat transfer systems	: (– 94) °C to 230 °C
Without pressurization	: up to 170 °C
With proper pressurization	: up to 230°C.

Non Food Compounds Program Listed (HT1) Reg. No. 151811

This single fluid is used for challenging requirement of Pharmaceutical, Fine Chemicals and other industries where two different circuits with different fluids are there for cooling and heating purpose. Formulation of sigma THERM®- P is based on all ingredients complies with US FDA, chapter 21 CFR, 178.3570 , HT1 category.

Benefits :

- Simplifies by eliminating multiple fluids for heating and cooling.
- Engineered for Longevity and lasting performance.
- Cost optimised Solution for maximum value.
- Effortless operations with minimum maintenance.
- It serves as a superior alternative to conventional dual steam & glycol or steam & brine systems.

Gasket Material Compatibility:

sigma THERM®- P has an acceptable compatibility when used within the temperature and pressure limitation of the following polymers or gasketing materials:
Acetal, Aramid Fiber, Chemraz (FFKM), Epoxy, Fluorocarbon (FILM), Fluoroelastomer, Glass Fiber, Gylon, Kalrez, PEEK, PTFE, Teflon (All) , PTFE Silicon, PTFE Viton, PTFE Fiberglass, Kel-F (CTFE), Viton

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

Typical Properties :

Composition		100 % Synthetic
Appearance	visual	Clear Water White
Colour	ASTM D 156	30
Max. Bulk Temperature, °C		230
Max. Film Temperature, °C		245
Kin. Vis. @ 40 °C, cSt	DIN 51562-1	1.2
Pour Point , °C	DIN ISO 3016	< (- 110)
Density @ 15 °C	DIN 51757	774
Auto Ignition Temp. °C	DIN 51794	Above 275
Flash Point °C, Closed Cup	DIN EN 22719	Min. 62
Vapour Pressure @ 20 °C, kPa		-
Normal Boiling Point °C		194
Total Acidity, mg KOH/g	DIN 51558-1	<<0.2
Moisture content	DIN 51777-1	< 70 ppm
Chlorine content	DIN 51577-3	<<0.005%
Copper Corrosion	EN ISO 2160	<< 1a

Packing : 210 Ltrs, 35 Ltrs

Temperature	Density	Specific Heat	Thermal Conductivity	Kinematic Viscosity	Vapour Pressure
°C	Kg/m³	kJ/Kg °K	W/m·K	cSt	kPa
-94	842	1.677	0.1256	2059	-
-90	840	1.697	0.1251	967	-
-80	833	1.727	0.1239	211	-
-70	826	1.768	0.1226	67.6	-
-60	819	1.808	0.1214	28.6	-
-50	812	1.838	0.1201	14.7	-
-40	806	1.879	0.1187	8.68	-
-30	799	1.919	0.1174	5.70	-
-20	792	1.959	0.1160	4.05	-
-10	785	2.000	0.1146	3.05	0.00
0	778	2.040	0.1131	2.41	0.01
10	771	2.071	0.1116	1.96	0.03
20	763	2.111	0.1101	1.63	0.06
30	756	2.151	0.1085	1.40	0.13
40	749	2.192	0.1069	1.22	0.26
50	742	2.232	0.1053	1.07	0.48
60	734	2.273	0.1036	0.951	0.85
70	727	2.313	0.1020	0.854	1.4
80	719	2.353	0.1002	0.773	2.4
90	711	2.394	0.0985	0.703	3.7
100	704	2.434	0.0967	0.643	5.7
110	696	2.475	0.0949	0.590	8.5
120	688	2.525	0.0930	0.545	12.3
130	679	2.565	0.0911	0.504	17.4
140	671	2.606	0.0892	0.467	24.2
150	662	2.646	0.0873	0.435	32.9
160	654	2.697	0.0853	0.405	43.9
170	645	2.737	0.0833	0.379	57.7
180	636	2.778	0.0813	0.354	75
190	626	2.828	0.0792	0.333	96
200	617	2.868	0.0771	0.313	121
210	607	2.919	0.0749	0.295	150
220	596	2.959	0.0728	0.278	186
230	585	3.010	0.0706	0.263	227
240	574	3.060	0.0683	0.249	275
250	563	3.111	0.0661	0.238	330

Note : Above data is for reference only

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