MultiTherm IG-1®

An Economical, General Purpose Fluid for Liquid Phase Heating-Systems

HEAT TRANSFER FLUID

MultiTherm® is offering an economical heat transfer fluid for closed-loop systems.

Purpose

MultiTherm IG-1® is a highly refined; hydrotreated mineral oil designed primarily for use in closed loop heat transfer systems. MultiTherm IG-1® is designed for use in systems that are equipped with expansion tanks, and it is recommended to have pressure relief valves and an inert gas blanket on the system. In properly designed systems it will provide trouble-free, long lasting service.

Applications

MultiTherm IG-1® is an excellent heat transfer fluid used in numerous industries that are looking for an economical heat transfer fluid for various manufacturing processes. Common applications for MultiTherm IG-1® heat transfer equipment used in manufacturing of asphalt shingles and roofing compounds, road-paving equipment, die-casting, paper and particle board.

Closed Loop Systems

MultiTherm IG-1® is designed for use in liquid-phase heat transfer systems, which are "closed" to the atmosphere. Where practical, it is recommended that there be an inert gas blanketing the systems expansion tank to guard against exposure to air and water to reduce the need to change-out the fluid prematurely.

MultiTherm IG-1®, heat transfer fluid is designed with a maximum film temperature of 600°F / 316°C and a maximum bulk temperature of 550°F / 288°C.

Low Vapor Pressure

MultiTherm IG-1® heat transfer fluid has a low vapor pressure compared to other economical heat transfer fluids. This is important because fluid boil-off is an issue in open systems. The rate of boil-off of a heat transfer fluid is dependent on the fluid vapor pressure. The higher the vapor pressure, the greater the rate of fluid boil-off.

High Flash Point

MultiTherm IG-1® also offers the benefit of having a high flash point of 442°F / 228°C compared to other economical heat transfer fluids on the market.

Easy Disposal

MultiTherm IG-1® is generally simpler to dispose of than many synthetic thermal liquids. Used, uncontaminated fluid can be treated as a used lubricating oil, and handled through a local waste oil processor. Check with all applicable regulations in advance.

Benefits of MultiTherm IG-1®

- Economical
- Excellent Thermal Conductivity at high temperatures
- Resists Thermal Breakdown in closed-loop systems
- Long Service Life and Excellent performance in closed-loop systems
- Non-Corrosive, Non-Toxic and Non-Hazardous material

PHYSICAL CHARACTERISTICS	MULTITHERM IG-1®	PHYSICAL CHARACTERISTICS	MULTITHERM IG-1®
Chemical Type	White Mineral Oil	Maximum Film Temperature	600°F / 316°C
Appearance	Clear, Liquid, Colorless	Maximum Recommended Bulk Temperature	550°F / 288°C
Odor	None	Molecular Weight	440
Pour Point, ASTM D97	+5°F / -15°C	Pumpable, Temperature @ 2000cP	0°F / -18°C
Density @ 60°F / 15°C	7.22 lb/gal / 0.8624 g/ml	Heat of Vaporization @ 600°F / 316°C	420 BTU/lb / 977 kJ/kg
Flash Point, coc, ASTM D92	442°F / 228°C	Heat of Combustion	18,250 BTU/lb / 42.4 MJ/kg
Fire Point, coc, ASTM D92	505°F / 263°C	Coefficient of Thermal Expansion	0.00054/°F / 0.00098/°C
Autoignition Point ASTM D2155	670°F / 354°C		
Atmospheric Boiling Point (10%) ASTM D1160	705°F / 374°C		

*Typical properties, not specifications.

Stocking Distributor

DEC DINSICK EQUIPMENT CORPORATION

MultiTherm® HEAT TRANSFER FLUIDS

YOUR HEAT TRANSFER NEEDS ARE OUR ONLY CONCERN

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MultiTherm IG-1®

PHYSICAL PROPERTIES

Temperature		Density			Viscosity			Specific Heat	Thermal Conductivity	Vapor Pressure	
°F	°C	Sp Gr	lb/gal	lb/ft^3	cSt	cP	lb/ft-hr	Btu/(lb-°F)	Btu/(h-ft-°F)	mm Hg	psia
20	-6.7	0.881	7.35	54.98	624	550	1331	.419	0.0815		
50	10.0	0.869	7.25	54.23	229	199	482	.442	0.0808		
100	37.8	0.852	7.11	53.19	54	46	111	.466	0.0795		
150	65.6	0.836	6.98	52.18	16.3	13.63	33.0	.490	0.0783		
200	93.0	0.821	6.85	51.24	7.7	6.32	15.3	.514	0.0770	0.0031	0.0000599
250	121.1	0.805	6.72	50.26	4.29	3.45	8.35	.538	0.0757	0.015	0.000291
300	148.8	0.791	6.60	49.37	2.84	2.25	5.44	.563	0.0745	0.113	0.002190
350	176.7	0.776	6.48	48.47	2.01	1.56	3.77	.587	0.0733	0.850	0.016440
400	204.4	0.762	6.36	47.58	1.52	1.16	2.81	.611	0.0720	2.6	0.050280
450	232.2	0.747	6.24	46.65	1.21	0.907	2.19	.635	0.0708	10.9	0.210780
500	260.0	0.733	6.28	45.74	0.988	0.725	1.75	.659	0.0695	30	0.580100
550	287.8	0.720	6.01	44.95	0.830	0.598	1.45	.684	0.0683	70	1.353600
600	315.6	0.706	5.89	44.08	0.707	0.499	1.21	.705	0.0672	156	3.016500

Temperature		Density		Viscosity		Specific Heat	Thermal Conductivity	Vapor Pressure	
°C	°F	g/cc	kg/m3	m^2/s cSt	mPa-s cP	J/(kg-°K)	W/(m-°K)	mm Hg	hPa
-10	14	0.882	882	1272	1121	1818	0.1363		
-20	-4	0.884	884	3030	2679	1742	0.1416		
-10	14	0.879	879	1734	1524	1777	0.1412		
0	32	0.873	873	438	383	1812	0.1407		
10	50	0.868	868	229	199	1861	0.1398		
20	68	0.861	861	110	94.83	1884	0.1388		
40	104	0.850	850	39.90	33.94	1959	0.1359	0.000049	0.0000945
60	140	0.839	839	18.60	15.61	2031	0.1359	0.00020	0.0000386
80	176	0.827	827	10.30	8.496	2102	0.1345	0.00096	0.0000185
100	212	0.816	816	6.400	5.229	2177	0.1328	0.00415	0.0000803
120	248	0.805	805	4.360	3.515	2248	0.1312	0.0120	0.000227
140	284	0.794	794	3.170	2.521	2324	0.1296	0.0650	0.00126
160	320	0.783	783	2.430	1.907	2395	0.1281	0.32	0.00618
180	356	0.773	773	1.930	1.494	2470	0.1265	0.96	0.0186
200	392	0.763	763	1.580	1.207	2541	0.1250	2.10	0.0406
220	428	0.752	752	1.330	1.002	2612	0.1234	4.50	0.087
240	464	0.742	742	1.140	0.848	2688	0.1218	15	0.29
260	500	0.732	732	0.988	0.725	2759	0.1203	30	0.58
280	280	0.722	722	0.868	0.628	2834	0.1187	54	1.04
300	572	0.713	713	0.770	0.550	2906	0.1172	95	1.84
320	608	0.708	708	0.689	0.485	2981	0.1156	195.0	3.77

Warranty: MultiTherm® warrants that MultiTherm IG-1® conforms to the data set forth in this brochure. We present this information in good faith, but because we cannot control or anticipate the many different conditions under which our information and product may be used, no other warranty, expressed or implied, is given.