



# HEAT TRANSFER FLUIDS

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## XCEL THERM<sup>®</sup> MK1 – Liquid Phase Engineering Properties

Liquid or vapor phase to 750°F (400°C); chemical equivalent to DOW THERM<sup>®</sup> A\* & Therminol<sup>®</sup> VP-1\*\*

Temperature		Viscosity cP	Density		Specific Heat		Thermal Conductivity		Vapor Pressure	
°F	°C		lb/ft <sup>3</sup>	kg/m <sup>3</sup>	BTU/lb-°F	J/g-K	BTU/ft-hr-°F	W/m-K	psia	kg/cm <sup>2</sup>
53.6	12.0	5.708	66.8	1070.1	0.364	1.523	0.0792	0.1371	0.0001	–
60	15.6	4.961	66.7	1068.5	0.366	1.532	0.0790	0.1367	0.0001	–
80	26.7	3.470	66.1	1058.9	0.374	1.565	0.0784	0.1357	0.0004	–
100	37.8	2.629	65.5	1049.3	0.382	1.599	0.0778	0.1347	0.0010	0.0001
120	48.9	2.120	65.0	1041.3	0.390	1.632	0.0772	0.1336	0.0026	0.0002
140	60.0	1.727	64.4	1031.7	0.397	1.662	0.0765	0.1324	0.0059	0.0004
160	71.1	1.449	63.8	1022.1	0.405	1.695	0.0758	0.1312	0.0127	0.0009
180	82.2	1.245	63.3	1014.1	0.412	1.724	0.0750	0.1298	0.0254	0.0018
200	93.3	1.082	62.7	1004.5	0.420	1.758	0.0743	0.1286	0.0483	0.0034
220	104.4	0.936	62.1	994.8	0.427	1.787	0.0735	0.1272	0.0872	0.0061
240	115.6	0.822	61.5	985.2	0.435	1.821	0.0727	0.1258	0.1511	0.0106
260	126.7	0.730	61.0	977.2	0.442	1.850	0.0719	0.1244	0.2519	0.0177
280	137.8	0.654	60.4	967.6	0.449	1.879	0.0710	0.1229	0.4045	0.0284
300	148.9	0.591	59.8	958.0	0.157	1.913	0.0701	0.1213	0.6288	0.0442
320	160.0	0.537	59.2	948.4	0.464	1.942	0.0692	0.1198	0.9498	0.0668
340	171.1	0.490	58.6	938.8	0.471	1.971	0.0683	0.1182	1.3994	0.0984
360	182.2	0.449	58.0	929.2	0.478	2.001	0.0674	0.1167	2.0165	0.1418
380	193.3	0.414	57.4	919.5	0.485	2.030	0.0664	0.1149	2.8489	0.2003
400	204.4	0.383	56.8	909.9	0.492	2.059	0.0654	0.1132	3.9542	0.2780
420	215.6	0.354	56.1	898.7	0.499	2.088	0.0644	0.1115	5.3487	0.3761
440	226.7	0.330	55.5	889.1	0.507	2.122	0.0633	0.1096	7.1500	0.5027
460	237.8	0.309	54.9	879.5	0.513	2.147	0.0622	0.1077	9.4113	0.6617
480	248.9	0.289	54.2	868.3	0.521	2.180	0.0611	0.1058	12.1631	0.8552
500	260.0	0.272	53.5	857.1	0.528	2.210	0.0600	0.1038	15.5617	1.0941
520	271.1	0.256	52.8	845.9	0.535	2.239	0.0589	0.1019	19.8169	1.3933
540	282.2	0.241	52.2	836.2	0.542	2.268	0.0577	0.0999	24.3956	1.7153
560	293.3	0.228	51.4	823.4	0.549	2.298	0.0565	0.0978	30.7227	2.1601
580	304.4	0.216	50.7	812.2	0.556	2.327	0.0553	0.0957	37.6331	2.6460
600	315.6	0.206	50.0	801.0	0.563	2.356	0.0540	0.0935	45.7286	3.2152
620	326.7	0.196	49.2	788.2	0.571	2.390	0.0527	0.0912	55.0781	3.8725
640	337.8	0.186	48.4	775.4	0.578	2.419	0.0514	0.0890	65.8004	4.6264
660	348.9	0.178	47.6	762.6	0.586	2.452	0.0501	0.0867	78.0639	5.4887
680	360.0	0.170	46.7	748.1	0.594	2.486	0.0488	0.0845	92.1431	6.4786
700	371.1	0.163	45.9	735.3	0.602	2.519	0.0474	0.0820	107.2571	7.5412
720	382.2	0.156	44.9	719.3	0.612	2.561	0.0460	0.0796	125.1955	8.8025
740	393.3	0.149	43.9	703.3	0.622	2.603	0.0446	0.0772	145.5162	10.2312
750	398.9	0.146	43.4	695.3	0.627	2.624	0.0439	0.0760	156.6439	11.0136

Data Represents typical laboratory samples and are not guaranteed for all samples

\* Dowtherm is a registered trademark of Dow Chemical

\*\*Therminol is a registered trademark of Eastman Chemical



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## XCEL THERM<sup>®</sup> MK1 – Vapor Phase Engineering Properties

Liquid or vapor phase to 750°F (400°C); chemical equivalent to DOW THERM<sup>®</sup> A\* & Therminol<sup>®</sup> VP-1\*\*

Temperature		Viscosity cP	Density		Specific Heat		Thermal Conductivity		Latent Heat Vap		Enthalpy**	
°F	°C		lb/ft <sup>3</sup>	kg/m <sup>3</sup>	BTU/lb-°F	J/g-K	BTU/ft-hr-°F	W/m-K	BTU/lb	J/g	BTU/lb	J/g
53.6	12	0.00571	-	-	0.2331	0.976	0.010	0.018	180	419	180	419
60	16	0.00577	-	-	0.2361	0.988	0.010	0.018	179	417	182	422
80	27	0.00598	-	-	0.2443	1.022	0.010	0.018	177	411	187	434
100	38	0.00619	-	-	0.2525	1.057	0.010	0.018	174	405	192	445
105	41	0.00625	-	-	0.2545	1.065	0.010	0.018	174	403	193	448
110	43	0.0063	-	-	0.2566	1.074	0.010	0.018	173	402	194	451
115	46	0.00635	-	-	0.2586	1.082	0.010	0.018	172	400	195	454
120	49	0.00641	-	-	0.2607	1.091	0.010	0.018	172	399	197	457
140	60	0.00662	0.0002	0.0025	0.2689	1.125	0.011	0.018	169	393	202	470
160	71	0.00683	0.0003	0.0051	0.2771	1.160	0.011	0.018	167	387	208	483
180	82	0.00704	0.0006	0.0099	0.2853	1.194	0.011	0.019	164	382	213	496
200	93	0.00725	0.0011	0.0181	0.2935	1.228	0.011	0.019	162	376	219	509
220	104	0.00746	0.0020	0.0319	0.3017	1.263	0.109	0.019	159	370	225	523
240	116	0.00767	0.0033	0.0535	0.3099	1.297	0.011	0.019	158	366	232	539
260	127	0.00788	0.0054	0.0867	0.3181	1.331	0.011	0.019	158	360	238	553
280	138	0.00809	0.0085	0.1355	0.3263	1.365	0.011	0.020	153	355	245	569
300	149	0.0083	0.0128	0.2051	0.3345	1.400	0.011	0.020	150	349	251	584
320	160	0.00851	0.0189	0.3028	0.3427	1.434	0.012	0.020	148	344	258	600
340	171	0.00872	0.0273	0.4373	0.3509	1.468	0.012	0.020	146	338	265	616
360	182	0.00893	0.0384	0.6152	0.3591	1.503	0.012	0.021	143	333	272	633
380	193	0.00915	0.0529	0.8475	0.3673	1.537	0.012	0.021	141	327	279	649
400	204	0.00936	0.0717	1.1486	0.3755	1.571	0.012	0.021	139	322	287	666
420	216	0.00957	0.0954	1.5283	0.3837	1.606	0.013	0.022	136	316	294	684
440	227	0.00978	0.1250	2.0025	0.3919	1.640	0.013	0.022	134	311	302	702
460	238	0.00999	0.1620	2.5952	0.4001	1.674	0.013	0.023	131	305	310	719
480	249	0.0102	0.2060	3.3001	0.4083	1.709	0.013	0.023	129	300	318	738
500	260	0.01041	0.2600	4.1652	0.4165	1.743	0.014	0.023	127	294	326	757
520	271	0.01062	0.3250	5.2065	0.4247	1.777	0.014	0.024	124	289	334	776
540	282	0.01083	0.4010	6.4240	0.4329	1.812	0.014	0.024	122	283	342	795
560	293	0.01104	0.4920	7.8818	0.4411	1.846	0.014	0.025	119	278	351	815
580	304	0.01125	0.5970	9.5639	0.4493	1.880	0.015	0.025	117	272	359	835
600	316	0.01146	0.7200	11.5344	0.4575	1.915	0.015	0.026	115	267	368	855
620	327	0.01168	0.8620	13.8092	0.4657	1.949	0.015	0.027	112	260	377	875
640	338	0.01189	1.0300	16.5006	0.4739	1.983	0.016	0.027	108	252	385	894
660	349	0.0121	1.2200	19.5444	0.4821	2.018	0.016	0.028	105	244	393	913
680	360	0.0131	1.4300	22.9086	0.4903	2.052	0.016	0.028	102	236	402	933
700	371	0.01252	1.6800	26.9136	0.4985	2.086	0.017	0.029	98	228	410	954
720	382	0.01273	1.9600	31.3992	0.5067	2.120	0.017	0.030	95	220	420	976
740	393	0.01294	2.2900	36.6858	0.5149	2.155	0.018	0.031	91	212	430	999
750	399	0.01305	2.4700	39.5694	0.5190	2.172	0.018	0.031	90	208	435	1010

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