



HEAT TRANSFER FLUIDS

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XCEL THERM[®] LV1 – Liquid Phase Engineering Properties

Liquid or vapor phase to 700°F (370°C); biphenyl-free, non-hazardous alternative to Dowtherm[™]A* & Therminol[®]VP-1 at rated temperatures

Temperature		Viscosity cP	Density		Specific Heat		Thermal Conductivity		Vapor Pressure	
°F	°C		lb/ft ³	kg/m ³	BTU/lb-°F	J/g-K	BTU/ft-hr-°F	W/m-K	psia	kg/cm ²
45	7.2	8.416	67.05	1074.20	0.366	1.532	0.0793	0.1372	0.0	0.0
55	12.8	7.146	66.76	1069.56	0.370	1.547	0.0790	0.1367	3.7	8.5
60	15.6	6.585	66.62	1067.24	0.372	1.555	0.0788	0.1364	5.5	12.9
80	26.7	4.747	66.04	1057.97	0.380	1.589	0.0781	0.1352	13.0	30.3
100	37.8	3.422	65.46	1048.70	0.388	1.623	0.0775	0.1341	20.7	48.2
120	48.9	2.619	64.88	1039.43	0.396	1.656	0.0768	0.1329	28.6	66.4
140	60.0	2.110	64.30	1030.15	0.403	1.686	0.0761	0.1317	36.5	84.9
160	71.1	1.748	63.73	1020.88	0.411	1.720	0.0753	0.1304	44.7	103.8
180	82.2	1.478	63.15	1011.61	0.418	1.750	0.0745	0.1289	52.9	123.0
200	93.3	1.277	62.57	1002.34	0.426	1.784	0.0738	0.1276	61.4	142.7
220	104.4	1.113	61.99	993.06	0.433	1.814	0.0729	0.1262	69.9	162.5
240	115.6	.0981	61.41	983.79	0.441	1.847	0.0721	0.1248	78.7	182.9
260	126.7	0.872	60.83	974.52	0.449	1.877	0.0713	0.1233	87.6	203.5
280	137.8	0.782	60.25	965.25	0.456	1.907	0.0704	0.1218	96.6	224.4
300	148.9	0.705	59.67	955.97	0.464	1.941	0.0694	0.1202	105.8	245.9
320	160.0	0.625	59.09	946.70	0.471	1.971	0.0685	0.1186	115.1	267.4
340	171.1	0.560	58.52	937.43	0.478	2.001	0.0676	0.1170	124.5	289.4
360	182.2	0.501	57.94	928.16	0.485	2.031	0.0667	0.1154	134.1	311.6
380	193.3	0.449	57.36	918.88	0.492	2.061	0.0657	0.1137	143.8	334.2
400	204.4	0.402	56.78	909.61	0.500	2.091	0.0647	0.1120	153.7	357.1
420	215.6	0.380	56.20	900.34	0.507	2.121	0.0637	0.1103	163.7	380.3
440	226.7	0.351	55.62	891.07	0.515	2.155	0.0626	0.1084	174.0	404.3
460	237.8	0.325	55.04	881.79	0.521	2.181	0.0615	0.1065	184.1	427.8
480	248.9	0.302	54.46	872.52	0.529	2.215	0.0605	0.1046	194.7	452.5
500	260.0	0.281	53.89	863.25	0.536	2.245	0.0594	0.1028	205.3	477.1
520	271.1	0.270	53.31	853.97	0.544	2.275	0.0583	0.1009	216.0	502.0
540	282.2	0.254	52.73	844.70	0.551	2.305	0.0571	0.0989	226.9	527.3
560	293.3	0.240	52.15	835.43	0.558	2.335	0.0559	0.0968	237.9	552.9
580	304.4	0.226	51.57	826.16	0.565	2.365	0.0548	0.0948	249.1	578.8
600	315.6	0.213	50.99	816.88	0.572	2.395	0.0535	0.0926	260.4	605.1
620	326.7	0.202	50.41	807.61	0.580	2.429	0.0523	0.0905	272.1	632.3
640	337.8	0.192	49.83	798.34	0.588	2.459	0.0510	0.0883	283.7	659.2
660	348.9	0.182	49.26	789.07	0.596	2.492	0.0498	0.0862	295.7	687.1
680	360.0	0.173	48.68	779.79	0.604	2.526	0.0486	0.0840	307.8	715.4
700	371.1	0.165	48.10	770.52	0.612	2.559	0.0472	0.0818	320.1	744.0

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

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**Therminol is a registered trademark of Eastman Chemical



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Temperature		Viscosity	Density		Specific Heat		Thermal Conductivity		Latent Heat Vap		Enthalpy ¹	
°F	°C		lb/ft ³	kg/m ³	BTU/lb-°F	J/g-K	BTU/ft-hr-°F	W/m-K	BTU/lb	J/g	BTU/lb	J/g
45	7	0.0076	-	-	0.2319	0.5389	0.010	0.0172	177.8	413.2	178	413
55	13	0.0078	-	-	0.2360	0.5484	0.009	0.0160	176.8	410.9	181	419
60	16	0.0079	-	-	0.2381	0.5533	0.009	0.0161	176.2	409.6	182	422
80	27	0.0083	-	-	0.2466	0.5732	0.009	0.0162	173.9	404.1	187	434
100	38	0.0087	-	-	0.2551	0.5929	0.010	0.0164	171.5	398.5	192	447
120	49	0.0091	0.0001	0.0011	0.2636	0.6126	0.010	0.0165	169.1	393.0	198	459
140	60	0.0095	0.0001	0.0024	0.2720	0.6321	0.010	0.0167	166.7	387.5	203	472
160	71	0.0099	0.0003	0.0049	0.2804	0.6516	0.010	0.0170	164.4	382.0	209	486
180	82	0.0103	0.0006	0.0095	0.2887	0.6710	0.010	0.0172	162.0	376.5	215	500
200	93	0.0107	0.0011	0.0175	0.2970	0.6903	0.010	0.0175	159.6	371.0	221	514
220	104	0.0111	0.0019	0.0308	0.3053	0.7095	0.010	0.0177	157.4	365.7	227	528
240	116	0.0115	0.0032	0.0519	0.3135	0.7287	0.010	0.0180	155.6	361.6	234	545
260	127	1.119	0.0053	0.0842	0.3217	0.7477	0.011	0.0182	153.0	355.7	241	559
280	138	0.0123	0.0082	0.1318	0.3299	0.7667	0.011	0.0186	151.0	350.9	248	575
300	149	0.0127	0.0125	0.1997	0.3380	0.7856	0.011	0.0189	148.7	345.6	255	592
320	160	0.0131	0.0184	0.2944	0.3461	0.8044	0.011	0.0193	146.5	340.5	262	608
340	171	101350	0.0264	0.4236	0.3542	0.8231	0.011	0.0196	144.2	335.1	269	625
360	182	0.0139	0.0372	0.5963	0.3622	0.8417	0.012	0.0200	141.9	329.8	276	641
380	193	0.0143	0.0514	0.8234	0.3702	0.8602	0.012	0.0204	139.6	324.4	283	659
400	204	0.0147	0.0697	1.1172	0.3781	0.8787	0.012	0.0208	137.4	319.3	291	676
420	216	0.0151	0.0923	1.4794	0.3860	0.8970	0.012	0.0214	135.1	313.9	299	694
440	227	0.0155	0.1208	1.9360	0.3939	0.9153	0.013	0.0218	132.8	308.5	307	713
460	238	0.0159	0.1558	2.4958	0.4017	0.9335	0.013	0.0222	130.4	303.2	317	736
480	249	0.0163	0.1974	3.1620	0.4095	0.9516	0.013	0.0228	128.1	297.8	323	750
500	260	0.0167	0.2476	3.9663	0.4172	0.9696	0.013	0.0232	125.9	292.6	331	770
520	271	0.0171	0.3090	4.9498	0.4249	0.9888	0.014	0.0238	123.6	287.2	340	789
540	282	0.0175	0.3739	5.9893	0.4326	1.0054	0.014	0.02430	121.3	281.8	348	809
560	293	0.0179	0.4612	7.3885	0.4403	1.0232	0.014	0.0249	118.9	276.4	357	829
580	304	0.0183	0.5547	8.8868	0.4479	1.0409	0.015	0.0255	116.6	271.0	366	850
600	316	0.0187	0.0662	10.6058	0.4554	1.0585	0.015	0.0260	114.4	265.8	375	871
620	327	0.0191	0.7835	12.5510	0.4630	1.0760	0.015	0.0266	111.5	259.2	384	892
640	338	0.0195	0.9199	14.7374	0.4705	1.0934	0.016	0.0273	108.3	251.8	392	911
660	349	0.0199	1.0730	17.1888	0.4779	1.1107	0.016	0.0279	105.1	244.4	401	932
680	360	0.0203	1.2452	19.9476	0.4854	1.1280	0.017	0.0286	102.0	237.0	410	952
700	371	0.0207	1.4267	22.8559	0.4927	1.1451	0.017	0.0293	98.8	229.5	419	974

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