

Solstice[®] zd (R-1233zd) Thermodynamic Properties chart

Liquid Temperature	Liquid Pressure	Liquid Density	Vapor Density	Liquid Enthalpy	Vapor Enthalpy	Liquid Cp	Vapor Cp	Liquid Thermal Conductivity	Vapor Thermal Conductivity	Liquid Viscosity	Vapor Viscosity
(°C)	(kPa)	(kg/m ³)	(kg/m ³)	(kJ/kg)	(kJ/kg)	(kJ/kg*K)	(kJ/kg*K)	(mW/m*K)	(mW/m*K)	(μ Pa*s)	(μ Pa*s)
-20	18.3	1365.71	1.15	176.73	389.68	1.1488	0.7258	88.409	7.195	960.02	9.43
-19	19.3	1363.53	1.21	177.88	390.37	1.1502	0.7279	88.092	7.267	941.31	9.47
-18	20.4	1361.34	1.27	179.03	391.06	1.1516	0.7301	87.777	7.339	923.19	9.5
-17	21.4	1359.15	1.33	180.18	391.75	1.153	0.7322	87.461	7.411	905.65	9.54
-16	22.6	1356.96	1.4	181.34	392.45	1.1544	0.7343	87.147	7.483	888.66	9.58
-15	23.7	1354.76	1.46	182.49	393.14	1.1558	0.7365	86.833	7.555	872.19	9.61
-14	24.9	1352.56	1.53	183.65	393.83	1.1572	0.7386	86.52	7.627	856.21	9.65
-13	26.2	1350.35	1.61	184.81	394.53	1.1586	0.7407	86.208	7.699	840.72	9.69
-12	27.5	1348.14	1.68	185.97	395.22	1.16	0.7429	85.897	7.771	825.67	9.73
-11	28.9	1345.93	1.76	187.13	395.92	1.1614	0.745	85.586	7.843	811.07	9.76
-10	30.4	1343.71	1.84	188.29	396.62	1.1628	0.7472	85.276	7.915	796.88	9.8
-9	31.8	1341.49	1.93	189.46	397.31	1.1642	0.7493	84.967	7.988	783.09	9.84
-8	33.4	1339.26	2.02	190.62	398.01	1.1657	0.7515	84.659	8.06	769.68	9.87
-7	35	1337.03	2.11	191.79	398.71	1.1671	0.7536	84.352	8.133	756.63	9.91
-6	36.7	1334.79	2.2	192.96	399.41	1.1685	0.7558	84.045	8.205	743.94	9.95
-5	38.4	1332.55	2.3	194.13	400.1	1.17	0.7579	83.74	8.277	731.59	9.98
-4	40.2	1330.3	2.4	195.3	400.8	1.1714	0.7601	83.435	8.35	719.56	10.02
-3	42.1	1328.05	2.5	196.47	401.5	1.1728	0.7623	83.132	8.423	707.85	10.06
-2	44	1325.8	2.61	197.65	402.2	1.1743	0.7645	82.829	8.495	696.43	10.09
-1	46	1323.54	2.72	198.82	402.9	1.1757	0.7667	82.527	8.568	685.3	10.13
0	48.1	1321.27	2.84	200	403.6	1.1772	0.7689	82.227	8.641	674.45	10.16
1	50.3	1319	2.96	201.18	404.3	1.1787	0.7711	81.927	8.714	663.87	10.2
2	52.5	1316.73	3.08	202.36	405	1.1801	0.7733	81.629	8.787	653.54	10.24
3	54.8	1314.44	3.2	203.54	405.7	1.1816	0.7755	81.331	8.86	643.46	10.27
4	57.2	1312.16	3.34	204.72	406.4	1.1831	0.7777	81.035	8.933	633.62	10.31
5	59.7	1309.87	3.47	205.91	407.1	1.1846	0.78	80.739	9.006	624.02	10.35
6	62.2	1307.57	3.61	207.1	407.8	1.1861	0.7822	80.445	9.08	614.63	10.38
7	64.9	1305.27	3.75	208.28	408.5	1.1876	0.7845	80.151	9.153	605.46	10.42
8	67.6	1302.96	3.9	209.47	409.21	1.1891	0.7867	79.859	9.227	596.5	10.46
9	70.4	1300.65	4.05	210.66	409.91	1.1906	0.789	79.568	9.301	587.74	10.49
10	73.4	1298.33	4.21	211.86	410.61	1.1921	0.7913	79.278	9.374	579.17	10.53
11	76.4	1296	4.37	213.05	411.31	1.1936	0.7936	78.989	9.448	570.79	10.56
12	79.5	1293.67	4.54	214.25	412.01	1.1952	0.7959	78.702	9.522	562.59	10.6
13	82.7	1291.34	4.71	215.44	412.71	1.1967	0.7982	78.415	9.596	554.57	10.64
14	86	1288.99	4.89	216.64	413.41	1.1982	0.8006	78.129	9.671	546.71	10.67
15	89.4	1286.64	5.07	217.84	414.11	1.1998	0.8029	77.845	9.745	539.02	10.71
16	93	1284.29	5.26	219.04	414.81	1.2014	0.8053	77.562	9.82	531.49	10.75
17	96.6	1281.93	5.45	220.25	415.51	1.2029	0.8076	77.279	9.894	524.12	10.78
18	100.3	1279.56	5.65	221.45	416.2	1.2045	0.81	76.998	9.969	516.89	10.82
19	104.2	1277.18	5.86	222.66	416.9	1.2061	0.8124	76.719	10.044	509.81	10.85
20	108.1	1274.8	6.07	223.87	417.6	1.2077	0.8148	76.44	10.12	502.87	10.89
21	112.2	1272.41	6.28	225.08	418.3	1.2093	0.8172	76.162	10.195	496.06	10.93
22	116.4	1270.02	6.5	226.29	419	1.2109	0.8197	75.886	10.271	489.39	10.96
23	120.8	1267.62	6.73	227.5	419.69	1.2126	0.8221	75.61	10.346	482.84	11
24	125.2	1265.21	6.97	228.72	420.39	1.2142	0.8246	75.336	10.422	476.42	11.03
25	129.8	1262.79	7.21	229.93	421.09	1.2159	0.8271	75.063	10.498	470.12	11.07
26	134.5	1260.37	7.45	231.15	421.78	1.2175	0.8296	74.791	10.575	463.94	11.11
27	139.4	1257.94	7.71	232.37	422.48	1.2192	0.8321	74.521	10.651	457.87	11.14
28	144.3	1255.5	7.97	233.59	423.17	1.2209	0.8346	74.251	10.728	451.92	11.18
29	149.5	1253.05	8.23	234.82	423.86	1.2226	0.8372	73.982	10.805	446.07	11.22
30	154.7	1250.6	8.51	236.04	424.56	1.2243	0.8397	73.715	10.882	440.32	11.25
31	160.1	1248.14	8.79	237.27	425.25	1.226	0.8423	73.449	10.959	434.68	11.29
32	165.7	1245.67	9.08	238.5	425.94	1.2277	0.8449	73.183	11.037	429.14	11.32
33	171.3	1243.19	9.37	239.73	426.63	1.2295	0.8476	72.919	11.115	423.69	11.36
34	177.2	1240.7	9.68	240.96	427.32	1.2312	0.8502	72.656	11.193	418.34	11.4
35	183.2	1238.21	9.99	242.19	428.01	1.233	0.8529	72.395	11.271	413.07	11.43
36	189.3	1235.71	10.31	243.43	428.7	1.2348	0.8555	72.134	11.35	407.9	11.47
37	195.6	1233.2	10.63	244.67	429.39	1.2366	0.8582	71.874	11.429	402.81	11.51
38	202.1	1230.68	10.97	245.91	430.08	1.2384	0.861	71.616	11.508	397.81	11.54
39	208.7	1228.15	11.31	247.15	430.76	1.2403	0.8637	71.358	11.587	392.89	11.58
40	215.5	1225.61	11.66	248.39	431.45	1.2421	0.8665	71.102	11.667	388.05	11.62
41	222.5	1223.07	12.02	249.64	432.13	1.244	0.8693	70.846	11.747	383.28	11.65
42	229.7	1220.51	12.39	250.88	432.81	1.2459	0.8721	70.592	11.828	378.6	11.69
43	237	1217.95	12.77	252.13	433.5	1.2478	0.8749	70.339	11.908	373.98	11.73
44	244.5	1215.37	13.16	253.38	434.18	1.2497	0.8778	70.086	11.989	369.44	11.76
45	252.1	1212.79	13.55	254.63	434.86	1.2516	0.8807	69.835	12.071	364.97	11.8
46	260	1210.2	13.96	255.89	435.54	1.2536	0.8836	69.585	12.153	360.57	11.84
47	268	1207.59	14.38	257.15	436.22	1.2556	0.8865	69.336	12.235	356.23	11.87
48	276.3	1204.98	14.8	258.4	436.89	1.2576	0.8895	69.088	12.317	351.96	11.91
49	284.7	1202.36	15.24	259.66	437.57	1.2596	0.8924	68.841	12.4	347.76	11.95
50	293.3	1199.72	15.68	260.93	438.24	1.2616	0.8955	68.594	12.483	343.61	11.98
51	302.1	1197.08	16.14	262.19	438.92	1.2637	0.8985	68.349	12.567	339.53	12.02
52	311.2	1194.42	16.6	263.46	439.59	1.2657	0.9016	68.105	12.651	335.5	12.06
53	320.4	1191.76	17.08	264.73	440.26	1.2679	0.9047	67.862	12.735	331.54	12.1

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(°C)	(kPa)	(kg/m ³)	(kg/m ³)	(kJ/kg)	(kJ/kg)	(kJ/kg*K)	(kJ/kg*K)	(mW/m*K)	(mW/m*K)	(μ Pa*s)	(μ Pa*s)
143	2419.3	854.71	157.4	393.29	486.21	1.899	1.7923	48.323	26.241	105.57	18.49
144	2462.7	848.26	161.68	395.05	486.3	1.9301	1.8382	48.124	26.615	103.7	18.69
145	2506.7	841.64	166.13	396.83	486.36	1.9639	1.8884	47.926	27.007	101.82	18.9
146	2551.4	834.84	170.77	398.62	486.39	2.001	1.9436	47.731	27.419	99.93	19.12
147	2596.6	827.84	175.61	400.44	486.39	2.0417	2.0044	47.539	27.852	98.03	19.36
148	2642.6	820.62	180.67	402.28	486.35	2.0868	2.0719	47.351	28.309	96.12	19.6
149	2689.1	813.16	185.97	404.14	486.28	2.137	2.1472	47.167	28.792	94.2	19.87
150	2736.4	805.44	191.54	406.03	486.16	2.1931	2.2317	46.99	29.305	92.25	20.15
151	2784.3	797.43	197.39	407.96	486.01	2.2566	2.3272	46.819	29.851	90.29	20.44
152	2832.9	789.1	203.56	409.91	485.8	2.3288	2.436	46.657	30.434	88.3	20.76
153	2882.3	780.42	210.1	411.9	485.55	2.4118	2.5612	46.507	31.06	86.28	21.11
154	2932.3	771.33	217.03	413.93	485.23	2.5084	2.7067	46.372	31.735	84.22	21.48
155	2983.1	761.79	224.42	416.01	484.85	2.6222	2.8779	46.257	32.467	82.13	21.88

Reference state: enthalpy=200kJ/kg, entropy=1kJ/kg*K for the saturated liquid at 0 °C.

The information in this document is based on Genetron Properties V1.3 and is subject to change without notice.

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