

THERMODYNAMIC PROPERTIES OF SATURATED CHLORODIFLUOROMETHANE (R-22)

Temp	Pressure	Volume		Density		Enthalpy			Entropy	
		Liquid	Vapor	Liquid	Vapor	Liquid	Latent	Vapor	Liquid	Vapor
°C	MPa	m ³ /kg	m ³ /kg	kg/m ³	kg/m ³	kJ/kg	kJ/kg	kJ/kg	kJ/kg K	kJ/kg K
-90	0.004748	0.00064818	3.6939	1542.8	0.27072	98.575	265.63	364.20	0.55032	2.0006
-89	0.005154	0.00064926	3.4202	1540.2	0.29238	99.777	264.91	364.69	0.55686	1.9954
-88	0.005590	0.00065035	3.1700	1537.6	0.31545	100.97	264.20	365.17	0.56334	1.9903
-87	0.006055	0.00065144	2.9412	1535.1	0.34000	102.17	263.49	365.66	0.56977	1.9853
-86	0.006553	0.00065255	2.7316	1532.5	0.36609	103.36	262.79	366.15	0.57614	1.9803
-85	0.007084	0.00065365	2.5394	1529.9	0.39379	104.54	262.09	366.63	0.58246	1.9754
-84	0.007651	0.00065477	2.3630	1527.3	0.42318	105.72	261.39	367.12	0.58872	1.9707
-83	0.008255	0.00065589	2.2010	1524.7	0.45434	106.90	260.70	367.60	0.59493	1.9660
-82	0.008898	0.00065701	2.0519	1522.0	0.48734	108.08	260.01	368.09	0.60109	1.9613
-81	0.009582	0.00065814	1.9147	1519.4	0.52227	109.25	259.33	368.58	0.60720	1.9568
-80	0.010308	0.00065928	1.7883	1516.8	0.55920	110.42	258.65	369.06	0.61326	1.9524
-79	0.011080	0.00066043	1.6716	1514.2	0.59823	111.58	257.97	369.55	0.61927	1.9480
-78	0.011900	0.00066158	1.5639	1511.5	0.63943	112.74	257.29	370.03	0.62523	1.9437
-77	0.012768	0.00066273	1.4644	1508.9	0.68289	113.90	256.62	370.52	0.63115	1.9394
-76	0.013688	0.00066390	1.3723	1506.3	0.72871	115.05	255.95	371.01	0.63702	1.9353
-75	0.014662	0.00066507	1.2870	1503.6	0.77699	116.21	255.28	371.49	0.64284	1.9312
-74	0.015692	0.00066625	1.2080	1500.9	0.82780	117.36	254.62	371.98	0.64862	1.9272
-73	0.016781	0.00066743	1.1347	1498.3	0.88126	118.50	253.96	372.46	0.65436	1.9232
-72	0.017930	0.00066862	1.0667	1495.6	0.93745	119.65	253.30	372.95	0.66005	1.9193
-71	0.019144	0.00066982	1.0035	1492.9	0.99649	120.79	252.64	373.43	0.66571	1.9155
-70	0.020424	0.00067103	0.94477	1490.3	1.0585	121.92	251.99	373.91	0.67132	1.9117
-69	0.021772	0.00067224	0.89008	1487.6	1.1235	123.06	251.34	374.40	0.67689	1.9080
-68	0.023193	0.00067346	0.83916	1484.9	1.1917	124.19	250.69	374.88	0.68242	1.9044
-67	0.024688	0.00067469	0.79169	1482.2	1.2631	125.32	250.04	375.36	0.68792	1.9008
-66	0.026261	0.00067592	0.74742	1479.5	1.3379	126.45	249.39	375.84	0.69337	1.8973
-65	0.027914	0.00067717	0.70609	1476.7	1.4162	127.58	248.75	376.32	0.69879	1.8938
-64	0.029650	0.00067842	0.66749	1474.0	1.4982	128.70	248.10	376.80	0.70417	1.8904
-63	0.031473	0.00067967	0.63139	1471.3	1.5838	129.82	247.46	377.28	0.70952	1.8871
-62	0.033385	0.00068094	0.59763	1468.6	1.6733	130.94	246.82	377.76	0.71483	1.8838
-61	0.035390	0.00068221	0.56602	1465.8	1.7667	132.06	246.18	378.24	0.72011	1.8805
-60	0.037491	0.00068350	0.53641	1463.1	1.8642	133.18	245.54	378.72	0.72535	1.8773
-59	0.039692	0.00068478	0.50865	1460.3	1.9660	134.29	244.90	379.20	0.73056	1.8742
-58	0.041995	0.00068608	0.48261	1457.6	2.0721	135.41	244.26	379.67	0.73574	1.8711
-57	0.044404	0.00068739	0.45816	1454.8	2.1826	136.52	243.63	380.15	0.74089	1.8680
-56	0.046924	0.00068870	0.43520	1452.0	2.2978	137.63	242.99	380.62	0.74601	1.8650
-55	0.049556	0.00069003	0.41362	1449.2	2.4177	138.74	242.36	381.10	0.75109	1.8621
-54	0.052306	0.00069136	0.39332	1446.4	2.5425	139.85	241.72	381.57	0.75615	1.8591
-53	0.055176	0.00069270	0.37422	1443.6	2.6722	140.95	241.09	382.04	0.76118	1.8563
-52	0.058171	0.00069405	0.35623	1440.8	2.8072	142.06	240.45	382.51	0.76618	1.8535
-51	0.061294	0.00069541	0.33928	1438.0	2.9474	143.16	239.82	382.98	0.77115	1.8507
-50	0.064549	0.00069677	0.32330	1435.2	3.0931	144.27	239.18	383.45	0.77610	1.8479
-49	0.067940	0.00069815	0.30822	1432.4	3.2444	145.37	238.55	383.91	0.78101	1.8452
-48	0.071471	0.00069954	0.29400	1429.5	3.4014	146.47	237.91	384.38	0.78591	1.8426
-47	0.075147	0.00070093	0.28056	1426.7	3.5643	147.57	237.27	384.84	0.79078	1.8400
-46	0.078971	0.00070234	0.26786	1423.8	3.7333	148.67	236.64	385.31	0.79562	1.8374
-45	0.082947	0.00070375	0.25586	1421.0	3.9084	149.77	236.00	385.77	0.80044	1.8348
-44	0.087080	0.00070518	0.24450	1418.1	4.0899	150.87	235.36	386.23	0.80523	1.8323
-43	0.091374	0.00070661	0.23375	1415.2	4.2780	151.97	234.72	386.69	0.81000	1.8299
-42	0.095834	0.00070806	0.22358	1412.3	4.4727	153.07	234.08	387.15	0.81475	1.8274
-41	0.10046	0.00070951	0.21394	1409.4	4.6743	154.17	233.44	387.60	0.81948	1.8250
-40.82	0.101325	0.00070978	0.21223	1408.9	4.7118	154.37	233.32	387.69	0.82034	1.8246
-40	0.10527	0.00071098	0.20480	1406.5	4.8829	155.26	232.79	388.06	0.82419	1.8227
-39	0.11025	0.00071245	0.19613	1403.6	5.0987	156.36	232.15	388.51	0.82887	1.8203
-38	0.11542	0.00071394	0.18790	1400.7	5.3219	157.46	231.50	388.96	0.83354	1.8180
-37	0.12077	0.00071544	0.18010	1397.7	5.5526	158.56	230.85	389.41	0.83818	1.8158
-36	0.12632	0.00071695	0.17268	1394.8	5.7910	159.66	230.20	389.86	0.84281	1.8135
-35	0.13206	0.00071847	0.16564	1391.8	6.0373	160.76	229.55	390.31	0.84742	1.8113
-34	0.13801	0.00072000	0.15894	1388.9	6.2917	161.86	228.90	390.75	0.85200	1.8091
-33	0.14416	0.00072154	0.15257	1385.9	6.5544	162.96	228.24	391.20	0.85657	1.8070
-32	0.15053	0.00072310	0.14651	1382.9	6.8256	164.06	227.58	391.64	0.86113	1.8049
-31	0.15711	0.00072466	0.14074	1379.9	7.1054	165.16	226.92	392.08	0.86566	1.8028
-30	0.16391	0.00072624	0.13524	1376.9	7.3940	166.26	226.26	392.52	0.87018	1.8007
-29	0.17095	0.00072783	0.13001	1373.9	7.6917	167.36	225.59	392.95	0.87468	1.7987
-28	0.17821	0.00072944	0.12502	1370.9	7.9987	168.46	224.92	393.39	0.87917	1.7967
-27	0.18571	0.00073105	0.12026	1367.9	8.3151	169.57	224.25	393.82	0.88364	1.7947
-26	0.19346	0.00073268	0.11573	1364.8	8.6411	170.67	223.58	394.25	0.88810	1.7927

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Temp °C	Pressure MPa	Volume		Density		Enthalpy			Entropy	
		Liquid m³/kg	Vapor m³/kg	Liquid kg/m³	Vapor kg/m³	Liquid kJ/kg	Latent kJ/kg	Vapor kJ/kg	Liquid kJ/kg K	Vapor kJ/kg K
-25	0.20145	0.00073433	0.11140	1361.8	8.9770	171.78	222.90	394.68	0.89254	1.7908
-24	0.20969	0.00073598	0.10726	1358.7	9.3231	172.89	222.22	395.10	0.89697	1.7889
-23	0.21819	0.00073765	0.10331	1355.7	9.6794	173.99	221.53	395.53	0.90139	1.7870
-22	0.22696	0.00073933	0.099540	1352.6	10.046	175.10	220.85	395.95	0.90579	1.7851
-21	0.23600	0.00074103	0.095935	1349.5	10.424	176.22	220.15	396.37	0.91018	1.7833
-20	0.24531	0.00074274	0.092487	1346.4	10.812	177.33	219.46	396.79	0.91455	1.7815
-19	0.25490	0.00074447	0.089190	1343.2	11.212	178.44	218.76	397.20	0.91892	1.7797
-18	0.26477	0.00074621	0.086034	1340.1	11.623	179.56	218.06	397.62	0.92327	1.7779
-17	0.27494	0.00074796	0.083014	1337.0	12.046	180.68	217.35	398.03	0.92761	1.7761
-16	0.28540	0.00074973	0.080122	1333.8	12.481	181.79	216.64	398.43	0.93194	1.7744
-15	0.29617	0.00075152	0.077352	1330.6	12.928	182.92	215.92	398.84	0.93626	1.7727
-14	0.30724	0.00075332	0.074698	1327.5	13.387	184.04	215.20	399.24	0.94057	1.7710
-13	0.31863	0.00075514	0.072153	1324.3	13.859	185.16	214.48	399.64	0.94487	1.7693
-12	0.33034	0.00075697	0.069714	1321.1	14.344	186.29	213.75	400.04	0.94916	1.7677
-11	0.34237	0.00075882	0.067374	1317.8	14.843	187.42	213.02	400.44	0.95344	1.7660
-10	0.35474	0.00076069	0.065128	1314.6	15.354	188.55	212.28	400.83	0.95771	1.7644
-9	0.36744	0.00076257	0.062973	1311.4	15.880	189.68	211.53	401.22	0.96198	1.7628
-8	0.38049	0.00076447	0.060904	1308.1	16.419	190.82	210.79	401.61	0.96623	1.7612
-7	0.39388	0.00076639	0.058917	1304.8	16.973	191.96	210.03	401.99	0.97048	1.7596
-6	0.40763	0.00076833	0.057008	1301.5	17.541	193.10	209.27	402.37	0.97471	1.7581
-5	0.42174	0.00077028	0.055173	1298.2	18.125	194.24	208.51	402.75	0.97895	1.7565
-4	0.43622	0.00077226	0.053409	1294.9	18.723	195.39	207.74	403.12	0.98317	1.7550
-3	0.45107	0.00077425	0.051713	1291.6	19.337	196.54	206.96	403.50	0.98739	1.7535
-2	0.46630	0.00077627	0.050082	1288.2	19.967	197.69	206.18	403.87	0.99160	1.7520
-1	0.48191	0.00077830	0.048512	1284.9	20.613	198.84	205.39	404.23	0.99580	1.7505
0	0.49792	0.00078035	0.047001	1281.5	21.276	200.00	204.59	404.59	1.0000	1.7490
1	0.51433	0.00078243	0.045547	1278.1	21.955	201.16	203.79	404.95	1.0042	1.7476
2	0.53113	0.00078452	0.044146	1274.7	22.652	202.32	202.99	405.31	1.0084	1.7461
3	0.54835	0.00078664	0.042797	1271.2	23.366	203.49	202.17	405.66	1.0126	1.7447
4	0.56599	0.00078878	0.041497	1267.8	24.098	204.66	201.35	406.01	1.0167	1.7432
5	0.58405	0.00079094	0.040244	1264.3	24.848	205.83	200.52	406.35	1.0209	1.7418
6	0.60254	0.00079313	0.039036	1260.8	25.617	207.01	199.69	406.70	1.0251	1.7404
7	0.62146	0.00079534	0.037871	1257.3	26.405	208.19	198.85	407.03	1.0292	1.7390
8	0.64083	0.00079757	0.036747	1253.8	27.213	209.37	198.00	407.37	1.0334	1.7376
9	0.66064	0.00079983	0.035663	1250.3	28.040	210.55	197.14	407.70	1.0376	1.7363
10	0.68091	0.00080211	0.034617	1246.7	28.888	211.74	196.28	408.03	1.0417	1.7349
11	0.70165	0.00080442	0.033607	1243.1	29.756	212.94	195.41	408.35	1.0459	1.7336
12	0.72285	0.00080676	0.032632	1239.5	30.645	214.13	194.53	408.67	1.0500	1.7322
13	0.74452	0.00080912	0.031690	1235.9	31.556	215.33	193.65	408.98	1.0541	1.7309
14	0.76668	0.00081151	0.030780	1232.3	32.489	216.54	192.75	409.29	1.0583	1.7295
15	0.78932	0.00081393	0.029900	1228.6	33.444	217.75	191.85	409.60	1.0624	1.7282
16	0.81246	0.00081637	0.029051	1224.9	34.423	218.96	190.94	409.90	1.0665	1.7269
17	0.83610	0.00081885	0.028229	1221.2	35.425	220.18	190.02	410.19	1.0707	1.7256
18	0.86025	0.00082135	0.027434	1217.5	36.451	221.40	189.09	410.49	1.0748	1.7243
19	0.88491	0.00082389	0.026666	1213.8	37.501	222.62	188.15	410.77	1.0789	1.7230
20	0.91009	0.00082646	0.025922	1210.0	38.577	223.85	187.21	411.06	1.0831	1.7217
21	0.93581	0.00082906	0.025203	1206.2	39.678	225.08	186.25	411.33	1.0872	1.7204
22	0.96205	0.00083170	0.024506	1202.4	40.806	226.32	185.29	411.61	1.0913	1.7191
23	0.98884	0.00083437	0.023832	1198.5	41.961	227.56	184.32	411.87	1.0954	1.7178
24	1.0162	0.00083707	0.023179	1194.6	43.143	228.80	183.33	412.14	1.0996	1.7165
25	1.0441	0.00083981	0.022547	1190.7	44.353	230.05	182.34	412.39	1.1037	1.7152
26	1.0725	0.00084259	0.021934	1186.8	45.592	231.31	181.34	412.65	1.1078	1.7140
27	1.1016	0.00084541	0.021340	1182.9	46.860	232.57	180.32	412.89	1.1119	1.7127
28	1.1312	0.00084826	0.020765	1178.9	48.159	233.83	179.30	413.13	1.1160	1.7114
29	1.1613	0.00085116	0.020207	1174.9	49.489	235.10	178.26	413.37	1.1202	1.7102
30	1.1921	0.00085410	0.019666	1170.8	50.850	236.38	177.22	413.60	1.1243	1.7089
31	1.2235	0.00085708	0.019141	1166.8	52.244	237.66	176.16	413.82	1.1284	1.7076
32	1.2556	0.00086010	0.018632	1162.6	53.671	238.94	175.10	414.03	1.1325	1.7063
33	1.2881	0.00086317	0.018138	1158.5	55.133	240.23	174.02	414.24	1.1367	1.7051
34	1.3213	0.00086629	0.017659	1154.3	56.630	241.52	172.93	414.45	1.1408	1.7038
35	1.3551	0.00086946	0.017193	1150.1	58.162	242.82	171.82	414.64	1.1449	1.7025
36	1.3896	0.00087267	0.016741	1145.9	59.732	244.13	170.71	414.83	1.1490	1.7012
37	1.4247	0.00087594	0.016303	1141.6	61.340	245.44	169.58	415.02	1.1532	1.6999
38	1.4605	0.00087926	0.015876	1137.3	62.986	246.75	168.44	415.19	1.1573	1.6987
39	1.4969	0.00088263	0.015462	1133.0	64.673	248.07	167.29	415.36	1.1614	1.6974

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°C	MPa	m³/kg	m³/kg	kg/m³	kg/m³	kJ/kg	kJ/kg	kJ/kg	kJ/kg K	kJ/kg K
40	1.5340	0.00088606	0.015060	1128.6	66.401	249.40	166.12	415.52	1.1656	1.6961
41	1.5718	0.00088955	0.014669	1124.2	68.172	250.73	164.94	415.67	1.1697	1.6948
42	1.6102	0.00089310	0.014288	1119.7	69.987	252.07	163.74	415.82	1.1739	1.6934
43	1.6494	0.00089672	0.013919	1115.2	71.846	253.42	162.53	415.95	1.1780	1.6921
44	1.6892	0.00090039	0.013559	1110.6	73.752	254.77	161.31	416.08	1.1822	1.6908
45	1.7297	0.00090414	0.013209	1106.0	75.706	256.13	160.07	416.20	1.1863	1.6895
46	1.7710	0.00090795	0.012869	1101.4	77.709	257.49	158.81	416.31	1.1905	1.6881
47	1.8129	0.00091184	0.012537	1096.7	79.763	258.87	157.54	416.41	1.1947	1.6868
48	1.8556	0.00091581	0.012214	1091.9	81.870	260.24	156.25	416.50	1.1989	1.6854
49	1.8991	0.00091985	0.011900	1087.1	84.031	261.63	154.95	416.58	1.2030	1.6840
50	1.9432	0.00092397	0.011594	1082.3	86.249	263.02	153.62	416.65	1.2072	1.6826
51	1.9882	0.00092818	0.011296	1077.4	88.524	264.42	152.28	416.70	1.2114	1.6812
52	2.0339	0.00093248	0.011006	1072.4	90.861	265.83	150.92	416.75	1.2156	1.6798
53	2.0803	0.00093687	0.010723	1067.4	93.259	267.25	149.54	416.79	1.2199	1.6784
54	2.1276	0.00094136	0.010447	1062.3	95.723	268.67	148.14	416.81	1.2241	1.6769
55	2.1756	0.00094595	0.010178	1057.1	98.254	270.11	146.72	416.83	1.2283	1.6754
56	2.2244	0.00095065	0.0099153	1051.9	100.85	271.55	145.28	416.83	1.2326	1.6739
57	2.2741	0.00095545	0.0096592	1046.6	103.53	273.00	143.82	416.81	1.2368	1.6724
58	2.3245	0.00096038	0.0094093	1041.3	106.28	274.46	142.33	416.79	1.2411	1.6709
59	2.3758	0.00096542	0.0091654	1035.8	109.11	275.93	140.82	416.74	1.2454	1.6693
60	2.4279	0.00097060	0.0089272	1030.3	112.02	277.41	139.28	416.69	1.2497	1.6677
61	2.4809	0.00097591	0.0086946	1024.7	115.01	278.90	137.72	416.62	1.2540	1.6661
62	2.5347	0.00098136	0.0084673	1019.0	118.10	280.40	136.13	416.53	1.2583	1.6645
63	2.5894	0.00098697	0.0082451	1013.2	121.28	281.91	134.51	416.42	1.2627	1.6628
64	2.6450	0.00099273	0.0080280	1007.3	124.56	283.44	132.86	416.30	1.2670	1.6611
65	2.7015	0.00099866	0.0078156	1001.3	127.95	284.98	131.18	416.16	1.2714	1.6594
66	2.7588	0.0010048	0.0076078	995.25	131.44	286.53	129.47	416.00	1.2758	1.6576
67	2.8171	0.0010111	0.0074045	989.04	135.05	288.09	127.72	415.82	1.2803	1.6558
68	2.8763	0.0010176	0.0072054	982.72	138.79	289.67	125.94	415.61	1.2847	1.6539
69	2.9364	0.0010243	0.0070103	976.26	142.65	291.26	124.12	415.39	1.2892	1.6520
70	2.9975	0.0010313	0.0068192	969.68	146.64	292.88	122.26	415.14	1.2937	1.6500
71	3.0595	0.0010385	0.0066319	962.95	150.79	294.50	120.35	414.86	1.2983	1.6480
72	3.1225	0.0010460	0.0064481	956.06	155.08	296.15	118.40	414.56	1.3029	1.6459
73	3.1865	0.0010537	0.0062677	949.02	159.55	297.82	116.41	414.22	1.3075	1.6438
74	3.2515	0.0010618	0.0060906	941.79	164.19	299.51	114.35	413.86	1.3122	1.6416
75	3.3175	0.0010702	0.0059165	934.38	169.02	301.22	112.25	413.46	1.3169	1.6393
76	3.3846	0.0010790	0.0057454	926.77	174.05	302.95	110.08	413.03	1.3217	1.6369
77	3.4527	0.0010882	0.0055769	918.93	179.31	304.71	107.85	412.56	1.3265	1.6345
78	3.5218	0.0010979	0.0054109	910.86	184.81	306.50	105.55	412.05	1.3314	1.6319
79	3.5920	0.0011080	0.0052473	902.52	190.57	308.33	103.17	411.49	1.3363	1.6293
80	3.6633	0.0011187	0.0050858	893.89	196.63	310.18	100.70	410.88	1.3414	1.6265
81	3.7358	0.0011300	0.0049261	884.95	203.00	312.08	98.147	410.22	1.3465	1.6236
82	3.8093	0.0011420	0.0047681	875.65	209.73	314.01	95.489	409.50	1.3517	1.6206
83	3.8840	0.0011548	0.0046115	865.96	216.85	315.99	92.717	408.71	1.3571	1.6174
84	3.9599	0.0011685	0.0044558	855.82	224.42	318.03	89.817	407.85	1.3625	1.6140
85	4.0370	0.0011832	0.0043009	845.17	232.51	320.13	86.770	406.90	1.3681	1.6104
86	4.1153	0.0011991	0.0041462	833.93	241.19	322.29	83.556	405.85	1.3739	1.6066
87	4.1949	0.0012165	0.0039911	822.01	250.56	324.54	80.146	404.69	1.3799	1.6024
88	4.2757	0.0012357	0.0038352	809.27	260.75	326.89	76.505	403.39	1.3861	1.5980
89	4.3578	0.0012570	0.0036774	795.55	271.93	329.35	72.585	401.94	1.3926	1.5931
90	4.4413	0.0012811	0.0035166	780.60	284.37	331.96	68.318	400.28	1.3996	1.5877
91	4.5262	0.0013088	0.0033512	764.07	298.40	334.76	63.607	398.37	1.4070	1.5816
92	4.6125	0.0013415	0.0031786	745.43	314.61	337.82	58.298	396.12	1.4150	1.5747
93	4.7003	0.0013817	0.0029945	723.73	333.94	341.26	52.129	393.39	1.4241	1.5665
94	4.7897	0.0014344	0.0027906	697.15	358.34	345.33	44.570	389.90	1.4348	1.5562
95	4.8808	0.0015130	0.0025467	660.94	392.66	350.67	34.275	384.95	1.4490	1.5421
**96.15	4.9738	0.00195	0.00195	512.	512.	361.5	0.0	361.5	1.478	1.478

**Critical Point