

THERMODYNAMIC PROPERTIES OF CHLORODIFLUOROMETHANE (R-22)

	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K
Temp °C	Pressure = 0.01 MPa (Sat'n Temp = -80.42°C)			Pressure = 0.02 MPa (Sat'n Temp = -70.33°C)			Pressure = 0.03 MPa (Sat'n Temp = -63.80°C)			Pressure = 0.04 MPa (Sat'n Temp = -58.86°C)		
Sat'n (Liquid)	(1517.9)	(109.93)	(0.6107)	(1491.1)	(121.55)	(0.6695)	(1473.5)	(128.92)	(0.7052)	(1459.9)	(134.45)	(0.7313)
(Vapor)	(0.54355)	(368.86)	(1.9542)	(1.0380)	(373.76)	(1.9129)	(1.5146)	(376.90)	(1.8898)	(1.9802)	(379.26)	(1.8737)
-70	0.51499	374.38	1.9821	1.0362	373.93	1.9138						
-65	0.50235	377.07	1.9952	1.0103	376.66	1.9271						
-60	0.49034	379.79	2.0081	0.98561	379.41	1.9401						
-55	0.47890	382.65	2.0209	0.96220	382.18	1.9530	1.4860	379.02	1.8998			
-50	0.46799	385.33	2.0335	0.93993	384.99	1.9657	1.4500	381.82	1.9128	1.9425	381.45	1.8839
							1.4159	384.65	1.9256	1.8961	384.30	1.8968
-45	0.45758	388.13	2.0459	0.91871	387.82	1.9782	1.3835	387.50	1.9382	1.8520	387.18	1.9095
-40	0.44764	390.97	2.0582	0.89847	390.68	1.9906	1.3526	390.38	1.9507	1.8100	390.08	1.9221
-35	0.43812	393.84	2.0704	0.87913	393.56	2.0029	1.3231	393.28	1.9630	1.7700	393.00	1.9345
-30	0.42901	396.74	2.0824	0.86063	396.48	2.0150	1.2949	396.22	1.9752	1.7319	395.95	1.9468
-25	0.42027	399.67	2.0944	0.84291	399.42	2.0270	1.2680	399.17	1.9873	1.6955	398.92	1.9589
-20	0.41189	402.62	2.1062	0.82594	402.39	2.0388	1.2422	402.16	1.9992	1.6606	401.92	1.9708
-15	0.40384	405.61	2.1178	0.80965	405.39	2.0506	1.2174	405.17	2.0110	1.6273	404.95	1.9827
-10	0.39610	408.63	2.1294	0.79400	408.42	2.0622	1.1937	408.21	2.0226	1.5953	408.00	1.9944
-5	0.38866	411.68	2.1409	0.77896	411.48	2.0737	1.1709	411.28	2.0342	1.5646	411.08	2.0060
0	0.38149	414.75	2.1523	0.76449	414.57	2.0851	1.1490	414.38	2.0456	1.5351	414.19	2.0175
5	0.37459	417.86	2.1635	0.75056	417.68	2.0964	1.1279	417.50	2.0570	1.5068	417.33	2.0288
10	0.36793	420.99	2.1747	0.73714	420.83	2.1076	1.1076	420.66	2.0682	1.4795	420.49	2.0401
15	0.36151	424.16	2.1858	0.72420	424.00	2.1187	1.0881	423.84	2.0793	1.4532	423.68	2.0513
20	0.35531	427.35	2.1968	0.71171	427.20	2.1297	1.0692	427.05	2.0904	1.4278	426.89	2.0623
25	0.34932	430.57	2.2077	0.69965	430.43	2.1407	1.0510	430.28	2.1013	1.4034	430.14	2.0733
30	0.34353	433.83	2.2185	0.68800	433.69	2.1515	1.0334	433.55	2.1122	1.3798	433.41	2.0842
35	0.33793	437.11	2.2292	0.67673	436.97	2.1622	1.0164	436.84	2.1230	1.3570	436.71	2.0950
40	0.33251	440.41	2.2399	0.66583	440.29	2.1729	0.9997	440.16	2.1336	1.3349	440.03	2.1057
45	0.32726	443.75	2.2504	0.65528	443.63	2.1835	0.98406	443.51	2.1442	1.3136	443.39	2.1163
50	0.32218	447.12	2.2609	0.64506	447.00	2.1940	0.96866	446.88	2.1548	1.2930	446.77	2.1269
55	0.31725	450.51	2.2713	0.63516	450.40	2.2045	0.95374	450.28	2.1652	1.2730	450.17	2.1373
60	0.31248	453.93	2.2817	0.62557	453.82	2.2148	0.93927	453.71	2.1756	1.2536	453.61	2.1477
65	0.30784	457.38	2.2920	0.61625	457.27	2.2251	0.92525	457.17	2.1859	1.2348	457.07	2.1580
70	0.30334	460.85	2.3022	0.60722	460.75	2.2353	0.91164	460.65	2.1961	1.2166	460.55	2.1682
75	0.29897	464.36	2.3123	0.59845	464.26	2.2454	0.89843	464.16	2.2063	1.1989	464.07	2.1784
80	0.29473	467.88	2.3224	0.58993	467.79	2.2555	0.88561	467.70	2.2163	1.1818	467.61	2.1885
85	0.29060	471.44	2.3324	0.58165	471.35	2.2655	0.87314	471.26	2.2264	1.1651	471.17	2.1985
90	0.28659	475.02	2.3423	0.57360	474.94	2.2755	0.86103	474.85	2.2363	1.1489	474.76	2.2085
95	0.28269	478.63	2.3522	0.56577	478.55	2.2853	0.84925	478.46	2.2462	1.1331	478.38	2.2184
100	0.27889	482.26	2.3620	0.55816	482.18	2.2952	0.83779	482.10	2.2560	1.1178	482.02	2.2282
110	0.27160	489.61	2.3814	0.54353	489.53	2.3146	0.81579	489.46	2.2755	1.0884	489.38	2.2477
120	0.26468	497.05	2.4006	0.52965	496.98	2.3338	0.79492	496.91	2.2947	1.0605	496.84	2.2669
130	0.25814	504.59	2.4195	0.51646	504.53	2.3527	0.77509	504.46	2.3136	1.0340	504.39	2.2859
140	0.25184	512.24	2.4382	0.50392	512.17	2.3715	0.75624	512.11	2.3324	1.0088	512.05	2.3046
150	0.24588	519.97	2.4567	0.49198	519.91	2.3900	0.73829	519.85	2.3509	0.98481	519.79	2.3231
160	0.24020	527.80	2.4750	0.48059	527.75	2.4083	0.72117	527.69	2.3692	0.96195	527.63	2.3414
170	0.23477	535.73	2.4931	0.46971	535.67	2.4264	0.70483	535.62	2.3873	0.94013	535.56	2.3592
180	0.22958	543.74	2.5110	0.45932	543.69	2.4443	0.68922	543.64	2.4052	0.91928	543.59	2.3775
190	0.22462	551.85	2.5287	0.44938	551.80	2.4620	0.67429	551.75	2.4229	0.89934	551.70	2.3952
200	0.21987	560.05	2.5462	0.43987	560.00	2.4795	0.66000	559.95	2.4404	0.88026	559.91	2.4127

Temp °C	Pressure = 0.05 MPa (Sat'n Temp = -54.84°C)			Pressure = 0.06 MPa (Sat'n Temp = -51.41°C)			Pressure = 0.07 MPa (Sat'n Temp = -48.41°C)			Pressure = 0.08 MPa (Sat'n Temp = -45.74°C)		
Sat'n (Liquid)	(1448.8)	(138.92)	(0.7519)	(1439.2)	(142.71)	(0.7691)	(1430.7)	(146.02)	(0.7839)	(1423.1)	(148.96)	(0.7969)
(Vapor)	(2.4379)	(381.17)	(1.8616)	(2.8894)	(382.79)	(1.8518)	(3.3361)	(384.19)	(1.8437)	(3.7787)	(385.43)	(1.8367)
-50	2.3805	383.96	1.8742	2.8693	383.61	1.8555						
-45	2.3242	386.85	1.8870	2.8004	386.53	1.8684	3.2806	386.20	1.8526	3.7649	385.87	1.8386
-40	2.2708	389.78	1.8997	2.7352	389.47	1.8812	3.2031	389.16	1.8654	3.6746	388.85	1.8516
-35	2.2200	392.72	1.9122	2.6732	392.43	1.8938	3.1295	392.14	1.8781	3.5891	391.85	1.8643
-30	2.1717	395.68	1.9245	2.6142	395.42	1.9062	3.0597	395.15	1.8905	3.5080	394.87	1.8769
-25	2.1255	398.67	1.9367	2.5580	398.42	1.9184	2.9932	398.17	1.9028	3.4309	397.91	1.8892
-20	2.0814	401.69	1.9487	2.5044	401.45	1.9305	2.9298	401.21	1.9150	3.3575	400.97	1.9014
-15	2.0392	404.73	1.9606	2.4531	404.50	1.9424	2.8692	404.28	1.9270	3.2875	404.05	1.9135
-10	1.9987	407.79	1.9724	2.4041	407.58	1.9542	2.8114	407.37	1.9388	3.2206	407.16	1.9254
-5	1.9600	410.89	1.9840	2.3571	410.69	1.9659	2.7560	410.48	1.9506	3.1566	410.28	1.9372
0	1.9228	414.00	1.9955	2.3120	413.81	1.9775	2.7028	413.62	1.9622	3.0953	413.43	1.9488
5	1.8870	417.15	2.0069	2.2687	416.97	1.9889	2.6519	416.79	1.9736	3.0365	416.61	1.9603
10	1.8526	420.32	2.0182	2.2271	420.15	2.0003	2.6029	419.98	1.9850	2.9801	419.80	1.9717
15	1.8195	423.51	2.0294	2.1870	423.35	2.0115	2.5558	423.19	1.9962	2.9258	423.03	1.9830
20	1.7878	426.74	2.0405	2.1484	426.58	2.0226	2.5105	426.43	2.0074	2.8736	426.27	1.9942
25	1.7568	429.99	2.0515	2.1113	429.84	2.0336	2.4668	429.69	2.0184	2.8234	429.55	2.0052
30	1.7271	433.27	2.0624	2.0754	433.13	2.0445	2.4247	432.99	2.0294	2.7749	432.84	2.0162
35	1.6984	436.57	2.0732	2.0408	436.44	2.0554	2.3840	436.30	2.0402	2.7282	436.17	2.0271
40	1.6707	439.90	2.0839	2.0073	439.78	2.0661	2.3448	439.65	2.0510	2.6831	439.52	2.0379
45	1.6439	443.26	2.0946	1.9750	443.14	2.0768	2.3069	443.02	2.0617	2.6395	442.89	2.0486
50	1.6180	446.65	2.1051	1.9437	446.53	2.0873	2.2702	446.41	2.0723	2.5974	446.29	2.0592
55	1.5929	450.06	2.1156	1.9135	449.95	2.0978	2.2347	449.83	2.0828	2.5566	449.72	2.0697
60	1.5686	453.50	2.1260	1.8841	453.39	2.1082	2.2004	453.28	2.0932	2.5172	453.17	2.0801
65	1.5450	456.96	2.1363	1.8557	456.86	2.1186	2.1671	456.75	2.1035	2.4790	456.65	2.0905
70	1.5221	460.45	2.1466	1.8282	460.35	2.1288	2.1348	460.25	2.1138	2.4420	460.15	2.1008

THERMODYNAMIC PROPERTIES OF CHLORODIFLUOROMETHANE (R-22)

	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K
Temp °C	Pressure = 0.05 MPa (Sat'n Temp = -54.84°C)			Pressure = 0.06 MPa (Sat'n Temp = -51.41°C)			Pressure = 0.07 MPa (Sat'n Temp = -48.41°C)			Pressure = 0.08 MPa (Sat'n Temp = -45.74°C)		
75	1.4999	463.97	2.1568	1.8015	463.87	2.1390	2.1035	463.78	2.1240	2.4061	463.68	2.1110
80	1.4784	467.51	2.1669	1.7755	467.42	2.1491	2.0731	467.33	2.1341	2.3712	467.23	2.1211
85	1.4575	471.08	2.1769	1.7503	470.99	2.1592	2.0436	470.90	2.1442	2.3374	470.81	2.1312
90	1.4372	474.67	2.1869	1.7259	474.59	2.1692	2.0150	474.50	2.1542	2.3046	474.41	2.1412
95	1.4174	478.29	2.1968	1.7021	478.21	2.1791	1.9872	478.13	2.1641	2.2727	478.04	2.1511
100	1.3982	481.94	2.2066	1.6790	481.86	2.1889	1.9601	481.78	2.1739	2.2416	481.70	2.1609
110	1.3613	489.30	2.2261	1.6346	489.23	2.2084	1.9082	489.15	2.1934	2.1821	489.07	2.1805
120	1.3263	496.77	2.2453	1.5925	496.69	2.2276	1.8590	496.62	2.2127	2.1257	496.55	2.1997
130	1.2932	504.33	2.2643	1.5526	504.26	2.2466	1.8123	504.19	2.2317	2.0723	504.12	2.2187
140	1.2616	511.98	2.2830	1.5146	511.92	2.2654	1.7679	511.85	2.2505	2.0214	511.79	2.2375
150	1.2316	519.73	2.3016	1.4785	519.67	2.2839	1.7257	519.61	2.2690	1.9731	519.55	2.2561
160	1.2029	527.58	2.3199	1.4441	527.52	2.3023	1.6855	527.46	2.2874	1.9270	527.40	2.2744
170	1.1756	535.51	2.3380	1.4112	535.46	2.3204	1.6471	535.40	2.3055	1.8831	535.35	2.2926
180	1.1495	543.54	2.3559	1.3799	543.49	2.3383	1.6104	543.43	2.3234	1.8411	543.38	2.3105
190	1.1245	551.65	2.3736	1.3499	551.60	2.3560	1.5754	551.56	2.3411	1.8010	551.51	2.3282
200	1.1006	559.86	2.3912	1.3212	559.81	2.3736	1.5418	559.77	2.3587	1.7626	559.72	2.3458
Temp °C	Pressure = 0.09 MPa (Sat'n Temp = -43.32°C)			Pressure = 0.10 MPa (Sat'n Temp = -41.10°C)			Pressure = 0.15 MPa (Sat'n Temp = -32.08°C)			Pressure = 0.20 MPa (Sat'n Temp = -25.18°C)		
Sat'n (Liquid)	(1416.1)	(151.62)	(0.8085)	(1409.7)	(154.06)	(0.8190)	(1383.2)	(163.97)	(0.8608)	(1362.3)	(171.58)	(0.8918)
(Vapor)	(4.2179)	(386.54)	(1.8306)	(4.6542)	(387.56)	(1.8253)	(6.8032)	(391.60)	(1.8050)	(8.9163)	(394.60)	(1.7911)
-40	4.1499	388.54	1.8393	4.6290	388.22	1.8281						
-35	4.0520	391.56	1.8521	4.5184	391.27	1.8410						
-30	3.9594	394.60	1.8647	4.4137	394.32	1.8537	6.7335	392.92	1.8105			
-25	3.8714	397.66	1.8772	4.3145	397.40	1.8663	6.5731	396.08	1.8233	8.9082	394.72	1.7916
-20	3.7877	400.73	1.8894	4.2203	400.49	1.8786	6.4217	399.25	1.8360	8.6913	397.98	1.8046
-15	3.7079	403.83	1.9015	4.1306	403.60	1.8907	6.2783	402.44	1.8485	8.4872	401.24	1.8174
-10	3.6318	406.94	1.9135	4.0450	406.73	1.9028	6.1423	405.63	1.8607	8.2945	404.51	1.8299
-5	3.5590	410.08	1.9253	3.9633	409.88	1.9146	6.0129	408.85	1.8728	8.1121	407.79	1.8423
0	3.4894	413.24	1.9370	3.8852	413.05	1.9263	5.8957	412.07	1.8847	7.9392	411.08	1.8544
5	3.4227	416.42	1.9485	3.8103	416.24	1.9379	5.7721	415.32	1.8965	7.7747	414.38	1.8664
10	3.3586	419.63	1.9599	3.7386	419.46	1.9494	5.6597	418.58	1.9081	7.6180	417.69	1.8782
15	3.2971	422.86	1.9713	3.6697	422.70	1.9607	5.5521	421.87	1.9196	7.4685	421.02	1.8898
20	3.2380	426.12	1.9825	3.6035	425.96	1.9719	5.4490	425.17	1.9310	7.3256	424.37	1.9014
25	3.1810	429.40	1.9936	3.5398	429.25	1.9831	5.3500	428.50	1.9423	7.1889	427.73	1.9127
30	3.1262	432.70	2.0045	3.4784	432.56	1.9941	5.2549	431.84	1.9534	7.0577	431.12	1.9240
35	3.0733	436.03	2.0154	3.4193	435.90	2.0050	5.1635	435.21	1.9644	6.9319	434.52	1.9351
40	3.0223	439.39	2.0262	3.3623	439.26	2.0158	5.0754	438.61	1.9753	6.8109	437.94	1.9462
45	2.9730	442.77	2.0370	3.3072	442.64	2.0265	4.9905	442.02	1.9862	6.6945	441.39	1.9571
50	2.9253	446.17	2.0476	3.2540	446.06	2.0372	4.9086	445.46	1.9969	6.5825	444.85	1.9679
55	2.8793	449.61	2.0581	3.2026	449.49	2.0477	4.8296	448.92	2.0075	6.4744	448.34	1.9786
60	2.8347	453.06	2.0686	3.1528	452.95	2.0582	4.7532	452.40	2.0180	6.3702	451.84	1.9892
65	2.7915	456.54	2.0789	3.1046	456.44	2.0686	4.6794	455.91	2.0285	6.2695	455.37	1.9997
70	2.7497	460.05	2.0892	3.0580	459.95	2.0789	4.6079	459.44	2.0388	6.1722	458.93	2.0101
75	2.7091	463.58	2.0994	3.0127	463.48	2.0891	4.5387	462.99	2.0491	6.0782	462.50	2.0205
80	2.6698	467.14	2.1096	2.9689	467.04	2.0993	4.4717	466.57	2.0593	5.9871	466.10	2.0307
85	2.6316	470.72	2.1197	2.9263	470.63	2.1094	4.4067	470.17	2.0695	5.8989	469.72	2.0409
90	2.5946	474.33	2.1297	2.8850	474.24	2.1194	4.3437	473.80	2.0795	5.8134	473.36	2.0510
95	2.5585	477.96	2.1396	2.8448	477.87	2.1293	4.2825	477.45	2.0895	5.7305	477.02	2.0610
100	2.5235	481.61	2.1495	2.8058	481.53	2.1392	4.2231	481.12	2.0994	5.6501	480.71	2.0710
110	2.4564	489.00	2.1690	2.7310	488.92	2.1587	4.1092	488.54	2.1190	5.4961	488.15	2.0906
120	2.3928	496.48	2.1883	2.6602	496.41	2.1780	4.0016	496.05	2.1384	5.3507	495.69	2.1101
130	2.3325	504.06	2.2073	2.5930	503.99	2.1970	3.8996	503.65	2.1575	5.2131	503.31	2.1292
140	2.2752	511.73	2.2261	2.5292	511.66	2.2158	3.8029	511.34	2.1763	5.0827	511.02	2.1481
150	2.2207	519.49	2.2447	2.4685	519.43	2.2344	3.7109	519.13	2.1949	4.9589	518.83	2.1668
160	2.1688	527.35	2.2630	2.4107	527.29	2.2528	3.6234	527.00	2.2133	4.8411	526.72	2.1852
170	2.1193	535.29	2.2811	2.3556	535.24	2.2709	3.5401	534.97	2.2315	4.7290	534.70	2.2034
180	2.0720	543.33	2.2991	2.3030	543.28	2.2889	3.4605	543.02	2.2495	4.6221	542.76	2.2214
190	2.0268	551.46	2.3168	2.2527	551.41	2.3066	3.3845	551.16	2.2672	4.5200	550.92	2.2392
200	1.9835	559.67	2.3344	2.2046	559.63	2.3242	3.3118	559.39	2.2848	4.4224	559.16	2.2568
Temp °C	Pressure = 0.25 MPa (Sat'n Temp = -19.51°C)			Pressure = 0.30 MPa (Sat'n Temp = -14.65°C)			Pressure = 0.35 MPa (Sat'n Temp = -10.38°C)			Pressure = 0.40 MPa (Sat'n Temp = -6.55°C)		
Sat'n (Liquid)	(1344.8)	(177.88)	(0.9167)	(1329.5)	(183.31)	(0.9378)	(1315.8)	(188.12)	(0.9561)	(1303.3)	(192.47)	(0.9724)
(Vapor)	(11.008)	(396.99)	(1.7806)	(13.087)	(398.98)	(1.7721)	(15.158)	(400.68)	(1.7650)	(17.226)	(402.16)	(1.7589)
-15	10.762	400.01	1.7924									
-10	10.506	403.36	1.8052	12.782	402.17	1.7843	15.128	400.95	1.7660			
-5	10.265	406.70	1.8178	12.474	405.59	1.7972	14.746	404.45	1.7792	17.085	403.27	1.7631
0	10.037	410.06	1.8302	12.185	409.01	1.8098	14.389	407.94	1.7921	16.652	406.84	1.7763
5	9.8206	413.41	1.8424	11.913	412.43	1.8222	14.054	411.42	1.8047	16.248	410.39	1.7892
10	9.6156	416.78	1.8544	11.655	415.85	1.8344	13.738	414.91	1.8172	15.869	413.94	1.8018
15	9.4207	420.16	1.8662	11.411	419.28	1.8465	13.440	418.39	1.8293	15.512	417.48	1.8142
20	9.2349	423.55	1.8779	11.178	422.72	1.8583	13.158	421.88	1.8413	15.176	421.01	1.8263

THERMODYNAMIC PROPERTIES OF CHLORODIFLUOROMETHANE (R-22)

	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K
Temp °C	Pressure = 0.25 MPa (Sat'n Temp = -19.51°C)			Pressure = 0.30 MPa (Sat'n Temp = -14.65°C)			Pressure = 0.35 MPa (Sat'n Temp = -10.38°C)			Pressure = 0.40 MPa (Sat'n Temp = -6.55°C)		
25	9.0575	426.96	1.8894	10.957	426.17	1.8699	12.890	425.37	1.8532	14.857	424.55	1.8383
30	8.8879	430.38	1.9008	10.747	429.63	1.8815	12.635	428.87	1.8648	14.555	428.10	1.8501
35	8.7254	433.82	1.9120	10.545	433.11	1.8928	12.392	432.38	1.8763	14.268	431.65	1.8617
40	8.5696	437.27	1.9232	10.352	436.59	1.9041	12.160	435.91	1.8876	13.994	435.21	1.8732
45	8.4200	440.75	1.9342	10.168	440.10	1.9152	11.938	439.44	1.8988	13.733	438.78	1.8845
50	8.2761	444.24	1.9450	9.9902	443.62	1.9261	11.726	442.99	1.9099	13.483	442.36	1.8957
55	8.1376	447.75	1.9558	9.8198	447.16	1.9370	11.522	446.56	1.9209	13.243	445.95	1.9067
60	8.0042	451.28	1.9665	9.6558	450.72	1.9478	11.326	450.14	1.9317	13.014	449.56	1.9176
65	7.8756	454.84	1.9771	9.4979	454.29	1.9584	11.137	453.74	1.9424	12.793	453.19	1.9284
70	7.7514	458.41	1.9876	9.3457	457.89	1.9690	10.956	457.36	1.9530	12.581	456.83	1.9391
75	7.6314	462.00	1.9980	9.1987	461.50	1.9794	10.781	460.99	1.9636	12.377	460.48	1.9497
80	7.5154	465.62	2.0083	9.0568	465.14	1.9898	10.612	464.65	1.9740	12.181	464.16	1.9602
85	7.4031	469.26	2.0185	8.9197	468.79	2.0001	10.449	468.32	1.9843	11.991	467.85	1.9705
90	7.2944	472.91	2.0287	8.7870	472.47	2.0103	10.291	472.01	1.9946	11.808	471.56	1.9808
95	7.1891	476.59	2.0387	8.6585	476.16	2.0204	10.139	475.73	2.0047	11.630	475.29	1.9910
100	7.0870	480.30	2.0487	8.5341	479.88	2.0304	9.9914	479.46	2.0148	11.459	479.04	2.0011
110	6.8918	487.77	2.0685	8.2964	487.38	2.0502	9.7100	486.98	2.0347	11.133	486.59	2.0211
120	6.7077	495.32	2.0879	8.0725	494.96	2.0698	9.4453	494.59	2.0543	10.826	494.22	2.0408
130	6.5336	502.97	2.1072	7.8611	502.63	2.0890	9.1957	502.28	2.0736	10.537	501.94	2.0601
140	6.3688	510.70	2.1261	7.6611	510.38	2.1080	8.9597	510.06	2.0926	10.265	509.73	2.0792
150	6.2124	518.52	2.1448	7.4715	518.22	2.1268	8.7363	517.91	2.1114	10.007	517.60	2.0981
160	6.0638	526.43	2.1633	7.2916	526.14	2.1453	8.5244	525.85	2.1300	9.7623	525.56	2.1167
170	5.9224	534.42	2.1815	7.1206	533.35	2.1635	8.3230	533.88	2.1483	9.5302	533.60	2.1350
180	5.7877	542.50	2.1995	6.9575	542.24	2.1816	8.1313	541.98	2.1664	9.3093	541.72	2.1531
190	5.6592	550.67	2.2174	6.8020	550.42	2.1995	7.9486	550.17	2.1843	9.0990	549.93	2.1710
200	5.5364	558.92	2.2350	6.6537	558.68	2.2171	7.7743	558.45	2.2019	8.8984	558.21	2.1887
Temp °C	Pressure = 0.45 MPa (Sat'n Temp = -3.07°C)			Pressure = 0.50 MPa (Sat'n Temp = 0.13°C)			Pressure = 0.60 MPa (Sat'n Temp = 5.86°C)			Pressure = 0.70 MPa (Sat'n Temp = 10.92°C)		
Sat'n (Liquid)	(1291.8)	(196.46)	(0.9871)	(1281.0)	(200.15)	(1.0005)	(1261.3)	(206.85)	(1.0245)	(1243.4)	(212.84)	(1.0455)
(Vapor)	(19.293)	(403.47)	(1.7536)	(21.362)	(404.64)	(1.7488)	(25.512)	(406.65)	(1.7406)	(29.687)	(408.32)	(1.7337)
0	18.980	405.71	1.7618	20.810	408.25	1.7619	24.932	409.82	1.7519	28.999	411.55	1.7449
5	18.989	409.34	1.7750	20.884	411.93	1.7750	24.279	413.62	1.7652	28.218	415.45	1.7584
10	18.050	412.55	1.7879	19.794	415.59	1.7879	23.673	417.39	1.7782	27.496	419.33	1.7715
15	17.629	416.54	1.8004	19.334	419.24	1.8004	22.579	421.14	1.7908	26.824	423.17	1.7843
20	17.234	420.14	1.8128	18.902	422.88	1.8127	21.081	424.87	1.8033	26.197	426.99	1.7968
25	16.861	423.72	1.8249	18.495	426.51	1.8248	20.162	428.60	1.8154	25.609	430.80	1.8090
30	16.508	427.31	1.8369	18.109	430.15	1.8367	21.612	432.31	1.8274	25.055	434.59	1.8210
35	16.173	430.90	1.8486	17.744	433.78	1.8484	21.168	436.03	1.8392	24.533	438.38	1.8329
40	15.855	434.50	1.8602	17.397	437.42	1.8599	20.747	439.74	1.8508	24.038	442.17	1.8445
45	15.552	438.10	1.8716	17.066	441.07	1.8713	20.346	443.46	1.8622	23.569	445.95	1.8559
50	15.263	441.72	1.8829	16.750	444.72	1.8825	19.965	447.18	1.8734	23.122	449.74	1.8672
55	14.986	445.34	1.8940	16.449	448.39	1.8936	19.601	450.91	1.8846	22.697	453.53	1.8783
60	14.721	448.98	1.9050	16.160	452.06	1.9045	19.253	454.65	1.8955	22.290	457.32	1.8893
65	14.467	452.63	1.9159	15.883	455.75	1.9154	18.920	458.40	1.9064	21.901	461.13	1.9002
70	14.224	456.29	1.9266	15.616	459.45	1.9261	18.600	462.15	1.9171	21.529	464.94	1.9109
75	13.989	459.97	1.9373	15.361	463.16	1.9367	18.293	465.93	1.9277	21.171	468.76	1.9215
80	13.763	463.66	1.9478	15.114	466.90	1.9472	17.998	469.71	1.9382	20.828	472.60	1.9320
85	13.546	467.37	1.9583	14.877	470.64	1.9576	17.713	473.51	1.9486	20.497	476.44	1.9423
90	13.336	471.10	1.9686	14.648	474.40	1.9678	17.439	477.32	1.9589	20.172	480.28	1.9526
95	13.133	474.85	1.9788	14.427	478.18	1.9780	17.191	481.14	1.9691	19.852	484.11	1.9628
100	12.938	478.61	1.9890	14.007	485.80	1.9982	16.934	484.99	1.9791	19.537	487.94	1.9733
110	12.565	486.19	2.0090	13.613	493.48	2.0180	16.434	492.73	1.9991	19.230	491.77	1.9839
120	12.216	493.85	2.0288	13.243	501.24	2.0375	15.979	500.54	2.0187	18.945	495.60	1.9944
130	11.887	501.59	2.0482	12.895	509.07	2.0567	15.551	508.41	2.0380	18.675	509.45	2.0149
140	11.576	509.40	2.0674	12.565	516.99	2.0756	15.147	516.37	2.0570	18.424	513.30	2.0354
150	11.283	517.30	2.0862	12.254	524.98	2.0942	14.766	524.39	2.0757	18.181	517.14	2.0559
160	11.005	525.27	2.1049	11.958	533.05	2.1127	14.406	532.49	2.0942	17.945	521.00	2.0764
170	10.742	533.32	2.1232	11.678	541.20	2.1308	14.064	540.67	2.1125	17.715	524.86	2.0969
180	10.492	541.46	2.1414	11.411	549.43	2.1488	13.738	548.93	2.1305	17.488	528.71	2.1174
190	10.253	549.68	2.1593	11.157	557.74	2.1666	13.429	557.26	2.1483	17.265	532.56	2.1379
200	10.026	557.97	2.1771	10.902	566.09	2.1843	13.124	565.59	2.1660	17.046	536.41	2.1584
Temp °C	Pressure = 0.80 MPa (Sat'n Temp = 15.46°C)			Pressure = 0.90 MPa (Sat'n Temp = 19.60°C)			Pressure = 1.00 MPa (Sat'n Temp = 23.41°C)			Pressure = 1.5 MPa (Sat'n Temp = 39.08°C)		
Sat'n (Liquid)	(1226.9)	(218.31)	(1.0643)	(1211.5)	(223.36)	(1.0814)	(1196.9)	(228.07)	(1.0971)	(1132.6)	(248.18)	(1.1618)
(Vapor)	(33.896)	(409.74)	(1.7276)	(38.146)	(410.94)	(1.7222)	(42.443)	(411.98)	(1.7173)	(64.816)	(415.37)	(1.6973)
20	32.997	413.42	1.7403	38.050	411.28	1.7233	40.733	417.61	1.7361	64.355	414.81	1.6967
25	32.087	417.43	1.7538	36.913	415.45	1.7374	40.000	421.20	1.7498	63.800	419.24	1.7100
30	31.248	421.40	1.7670	35.875	419.55	1.7511	39.272	424.80	1.7630	63.244	423.61	1.7232
35	30.471	425.33	1.7799	34.922	423.60	1.7643	38.508	428.39	1.7760	62.688	427.98	1.7364
40	29.746	429.23	1.7924	34.040	427.61	1.7772						

THERMODYNAMIC PROPERTIES OF CHLORODIFLUOROMETHANE (R-22)

	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K
Temp °C	Pressure = 0.80 MPa (Sat'n Temp = 15.46°C)			Pressure = 0.90 MPa (Sat'n Temp = 19.60°C)			Pressure = 1.00 MPa (Sat'n Temp = 23.41°C)			Pressure = 1.5 MPa (Sat'n Temp = 39.08°C)		
45	29.069	433.12	1.8048	33.221	431.59	1.7898	37.525	430.01	1.7760	62.029	421.10	1.7154
50	28.432	436.98	1.8168	32.456	435.54	1.8022	36.614	434.06	1.7886	59.970	425.78	1.7300
55	27.833	440.84	1.8287	31.738	439.48	1.8143	35.763	438.08	1.8009	58.123	430.35	1.7441
60	27.266	444.69	1.8403	31.063	443.40	1.8261	34.967	442.07	1.8130	56.450	434.83	1.7576
65	26.728	448.54	1.8518	30.425	447.31	1.8378	34.219	446.05	1.8249	54.921	439.24	1.7707
70	26.218	452.38	1.8631	29.821	451.21	1.8492	33.513	450.02	1.8365	53.514	443.59	1.7835
75	25.732	456.23	1.8742	29.249	455.11	1.8605	32.845	453.98	1.8480	52.211	447.89	1.7960
80	25.268	460.08	1.8852	28.704	459.02	1.8716	32.212	457.93	1.8593	50.999	452.16	1.8081
85	24.825	463.94	1.8960	28.184	462.92	1.8826	31.610	461.88	1.8704	49.867	456.39	1.8200
90	24.401	467.80	1.9067	27.688	466.83	1.8934	31.036	465.83	1.8813	48.804	460.60	1.8317
95	23.994	471.67	1.9173	27.213	470.74	1.9041	30.489	469.79	1.8921	47.803	464.80	1.8432
100	23.603	475.56	1.9278	26.759	474.66	1.9147	29.966	473.74	1.9028	46.857	468.97	1.8544
110	22.866	483.36	1.9484	25.902	482.52	1.9355	28.983	481.68	1.9238	45.111	477.30	1.8765
120	22.181	491.21	1.9686	25.110	490.43	1.9559	28.077	489.65	1.9443	43.529	485.60	1.8979
130	21.543	499.11	1.9885	24.373	498.39	1.9759	27.236	497.66	1.9645	42.085	493.90	1.9187
140	20.945	507.08	2.0080	23.685	506.40	1.9955	26.453	505.72	1.9842	40.758	502.22	1.9391
150	20.384	515.11	2.0272	23.040	514.47	2.0148	25.722	513.83	2.0036	39.532	510.56	1.9590
160	19.856	523.21	2.0461	22.434	522.61	2.0338	25.035	522.00	2.0227	38.393	518.93	1.9786
170	19.358	531.37	2.0648	21.864	530.81	2.0525	24.389	530.24	2.0415	37.331	527.35	1.9978
180	18.887	539.61	2.0832	21.324	539.07	2.0710	23.780	538.54	2.0600	36.336	535.81	2.0167
190	18.440	547.92	2.1013	20.814	547.41	2.0892	23.204	546.90	2.0783	35.403	544.32	2.0352
200	18.015	556.30	2.1192	20.330	555.82	2.1071	22.658	555.33	2.0963	34.523	552.89	2.0536
Temp °C	Pressure = 2.0 MPa (Sat'n Temp = 51.26°C)			Pressure = 2.5 MPa (Sat'n Temp = 61.36°C)			Pressure = 3.0 MPa (Sat'n Temp = 70.04°C)			Pressure = 3.5 MPa (Sat'n Temp = 77.69°C)		
Sat'n (Liquid)	(1076.1)	(264.79)	(1.2125)	(1022.8)	(279.43)	(1.2555)	(969.61)	(292.94)	(1.2939)	(913.83)	(305.94)	(1.3298)
(Vapor)	(89.128)	(416.72)	(1.6809)	(116.11)	(416.59)	(1.6655)	(146.81)	(415.12)	(1.6499)	(183.06)	(412.21)	(1.6328)
30	1176.1	236.32	1.1218	1179.3	236.30	1.1203	1182.4	236.28	1.1189	1185.4	236.27	1.1175
35	1154.9	242.72	1.1428	1158.4	242.66	1.1412	1161.9	242.60	1.1396	1165.3	242.56	1.1381
40	1132.5	249.28	1.1639	1136.5	249.17	1.1621	1140.4	249.07	1.1604	1144.2	248.98	1.1587
45	1108.6	256.02	1.1853	1113.3	255.85	1.1833	1117.7	255.69	1.1814	1122.0	255.55	1.1795
50	1083.0	262.99	1.2070	1088.4	262.73	1.2047	1093.5	262.50	1.2026	1098.4	262.29	1.2006
55	86.129	420.86	1.6936	1061.3	269.87	1.2267	1067.4	269.53	1.2242	1073.2	269.24	1.2219
60	82.650	426.16	1.7096	1031.5	277.33	1.2492	1038.9	276.86	1.2464	1045.8	276.44	1.2437
65	79.631	431.25	1.7247	111.42	421.23	1.6794	1007.0	284.58	1.2694	1015.6	283.98	1.2661
70	76.967	436.17	1.7392	106.07	427.19	1.6968	969.95	292.87	1.2937	981.26	291.99	1.2896
75	74.584	440.98	1.7531	101.59	432.81	1.7131	137.02	422.44	1.6711	940.39	300.73	1.3149
80	72.429	445.67	1.7665	97.737	438.17	1.7284	129.46	429.04	1.6899	174.80	416.60	1.6452
85	70.464	450.29	1.7795	94.360	443.35	1.7430	123.35	435.15	1.7071	161.58	424.75	1.6681
90	68.658	454.84	1.7921	91.356	448.38	1.7569	118.21	440.92	1.7231	151.86	431.88	1.6879
95	66.989	459.34	1.8044	88.653	453.29	1.7703	113.78	446.43	1.7382	144.17	438.38	1.7057
100	65.437	463.79	1.8164	86.196	458.11	1.7833	109.89	451.75	1.7525	137.80	444.47	1.7221
110	62.630	472.60	1.8397	81.872	467.52	1.8082	103.30	461.96	1.7795	127.63	455.81	1.7521
120	60.146	481.30	1.8621	78.156	476.71	1.8319	97.866	471.78	1.8048	119.70	466.43	1.7795
130	57.920	489.95	1.8838	74.904	485.76	1.8547	93.244	481.32	1.8288	113.21	476.58	1.8050
140	55.906	498.56	1.9049	72.016	494.72	1.8766	89.230	490.68	1.8517	107.73	486.41	1.8291
150	54.070	507.15	1.9255	69.422	503.61	1.8979	85.690	499.91	1.8738	102.99	496.03	1.8521
160	52.383	515.75	1.9456	67.070	512.46	1.9185	82.526	509.05	1.8951	98.837	505.50	1.8742
170	50.825	524.37	1.9652	64.921	521.30	1.9387	79.671	518.13	1.9159	95.134	514.85	1.8955
180	49.379	533.01	1.9845	62.944	530.13	1.9584	77.071	527.18	1.9361	91.801	524.14	1.9163
190	48.031	541.68	2.0034	61.116	538.98	1.9777	74.687	536.21	1.9558	88.774	533.38	1.9364
200	46.769	550.39	2.0221	59.418	547.84	1.9967	72.489	545.24	1.9751	86.004	542.59	1.9561
Temp °C	Pressure = 4.0 MPa (Sat'n Temp = 84.52°C)			Pressure = 5 MPa			Pressure = 6 MPa			Pressure = 7 MPa		
Sat'n (Liquid)	(850.84)	(319.12)	(1.3654)									
(Vapor)	(228.58)	(407.36)	(1.6121)									
30	1188.4	236.27	1.1161	1194.1	236.29	1.1134	1199.7	236.34	1.1108			
35	1168.5	242.53	1.1366	1174.9	242.49	1.1337	1180.9	242.48	1.1309	1186.7	242.49	1.1282
40	1147.8	248.91	1.1571	1154.8	248.79	1.1540	1161.5	248.72	1.1510	1167.8	248.67	1.1481
45	1126.1	255.43	1.1777	1133.9	255.22	1.1743	1141.3	255.07	1.1711	1148.3	254.96	1.1680
50	1103.1	262.10	1.1986	1112.0	261.79	1.1948	1120.2	261.54	1.1913	1128.0	261.35	1.1879
55	1078.6	268.97	1.2197	1088.8	268.52	1.2155	1098.1	268.16	1.2116	1106.8	267.87	1.2079
60	1052.2	276.07	1.2411	1064.1	275.44	1.2364	1074.8	274.93	1.2321	1084.6	274.52	1.2281
65	1023.4	283.46	1.2631	1037.5	282.59	1.2577	1050.0	281.89	1.2528	1061.2	281.34	1.2484
70	991.28	291.24	1.2860	1008.6	290.03	1.2795	1023.4	289.09	1.2739	1036.3	288.34	1.2689
75	954.13	299.60	1.3102	976.42	297.86	1.3022	994.45	296.58	1.2956	1009.8	295.57	1.2898
80	908.44	308.91	1.3367	939.57	306.25	1.3261	962.50	304.45	1.3180	981.07	303.10	1.3113
85	864.97	318.27	1.3659	895.11	315.53	1.3522	926.29	312.85	1.3417	949.56	310.99	1.3335
90	823.40	327.68	1.3966	853.42	324.80	1.3826	883.56	322.02	1.3671	914.27	319.37	1.3567
95	783.74	337.14	1.4291	813.51	334.01	1.4129	843.50	329.22	1.3950	873.57	327.12	1.3807
100	745.95	346.66	1.4631	775.19	343.17	1.4503	805.53	336.48	1.4291	834.53	334.48	1.4059
110	655.99	365.85	1.5247	675.67	362.83	1.5163	710.09	353.95	1.5693	743.62	363.52	1.4747

THERMODYNAMIC PROPERTIES OF CHLORODIFLUOROMETHANE (R-22)

	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K	Density kg/m ³	Enthalpy kJ/kg	Entropy kJ/kg K
Temp °C	Pressure = 4.0 MPa (Sat'n Temp = 84.52°C)			Pressure = 5 MPa			Pressure = 6 MPa			Pressure = 7 MPa		
120	144.26	460.56	1.7549	205.74	446.61	1.7045	298.90	427.62	1.6459	460.59	400.75	1.5706
130	135.16	471.48	1.7823	187.11	459.90	1.7379	255.74	445.75	1.6915	353.05	427.95	1.6390
140	127.73	481.89	1.8078	173.45	471.93	1.7674	229.66	460.41	1.7274	301.22	446.94	1.6856
150	121.48	491.97	1.8319	162.73	483.19	1.7944	211.23	473.39	1.7584	269.32	462.41	1.7226
160	116.10	501.80	1.8549	153.93	493.94	1.8195	197.10	485.37	1.7864	246.83	476.03	1.7544
170	111.38	511.47	1.8769	146.50	504.35	1.8432	185.71	496.72	1.8123	229.69	488.55	1.7830
180	107.18	521.02	1.8983	140.09	514.50	1.8659	176.21	507.61	1.8366	215.95	500.35	1.8093
190	103.41	530.48	1.9189	134.45	524.48	1.8877	168.09	518.20	1.8597	204.56	511.64	1.8339
200	99.987	539.89	1.9390	129.44	534.33	1.9087	161.02	528.55	1.8819	194.87	522.57	1.8573

Temp °C	Pressure = 8 MPa			Pressure = 9 MPa			Pressure = 10 MPa			Pressure = 15 MPa		
35	1192.2	242.54	1.1256	1197.6	242.60	1.1231						
40	1173.9	248.66	1.1453	1179.6	248.68	1.1427	1185.2	248.72	1.1401			
45	1154.9	254.89	1.1650	1161.2	254.85	1.1622	1167.3	254.84	1.1595	1194.1	255.16	1.1472
50	1135.3	261.21	1.1847	1142.2	261.10	1.1817	1148.8	261.04	1.1788	1177.8	261.14	1.1658
55	1114.9	267.64	1.2045	1122.5	267.46	1.2012	1129.7	267.33	1.1981	1161.1	267.19	1.1844
60	1093.6	274.19	1.2243	1102.1	273.93	1.2208	1110.0	273.72	1.2174	1144.0	273.30	1.2029
65	1071.4	280.88	1.2442	1080.8	280.51	1.2404	1089.6	280.21	1.2368	1126.6	279.47	1.2213
70	1048.0	287.73	1.2644	1058.6	287.24	1.2601	1068.4	286.83	1.2562	1108.8	285.73	1.2396
75	1023.2	294.77	1.2847	1035.3	294.12	1.2801	1046.3	293.59	1.2758	1090.5	292.07	1.2580
80	996.86	302.05	1.3055	1010.7	301.20	1.3002	1023.1	300.51	1.2955	1071.8	298.51	1.2763
85	968.48	309.60	1.3267	984.61	308.51	1.3208	998.76	307.63	1.3155	1052.6	305.07	1.2948
90	937.58	317.50	1.3486	956.69	316.08	1.3418	973.03	314.96	1.3359	1032.8	311.73	1.3133
95	903.42	325.54	1.3706	926.55	323.68	1.3626	945.68	322.25	1.3558	1012.5	318.23	1.3310
100	864.85	333.74	1.3927	893.63	331.25	1.3830	916.39	325.41	1.3751	991.59	324.44	1.3478
110	766.89	353.64	1.4453	816.32	348.79	1.4294	850.43	345.64	1.4180	947.75	338.10	1.3839
120	625.88	379.42	1.5117	717.07	369.29	1.4822	771.48	363.69	1.4645	901.01	352.27	1.4204
130	481.65	408.20	1.5840	598.38	393.16	1.5421	678.30	383.98	1.5155	851.22	367.01	1.4574
140	391.83	431.77	1.6418	492.37	417.11	1.6008	581.31	405.68	1.5686	798.64	382.34	1.4950
150	338.93	450.32	1.6862	418.28	437.89	1.6505	498.63	426.60	1.6187	744.21	398.19	1.5329
160	304.11	465.97	1.7227	368.51	455.52	1.6917	436.64	445.39	1.6626	689.78	414.34	1.5706
170	278.95	479.90	1.7545	333.33	470.95	1.7269	391.30	462.06	1.7006	637.61	430.51	1.6075
180	259.57	492.74	1.7832	306.96	484.92	1.7581	357.31	477.08	1.7341	589.67	446.39	1.6430
190	243.98	504.84	1.8096	286.26	497.89	1.7864	330.88	490.91	1.7643	547.03	461.77	1.6765
200	231.03	516.42	1.8343	269.40	510.16	1.8126	309.64	503.89	1.7921	509.87	476.56	1.7081