R-717

Anhydrous ammonia NH_3

Molecular weight (g/mol)	17.03
Melting point (°C)	-77.65
Boiling point (at 1.013 bar)	-33.33
Temperature glide at 1.013 bar (K)	0
Critical temperature (°C)	132.3
Critical pressure (bar absolute)	113.33
Specific heat (liquid) at + 25°C (kJ/kg.K)	4.784
Specific heat (vapour) at 1.013 bar and + 25°C (kJ/kg.K)	2.164
Thermal capacity ratio (Cp/Cv) at + 25°C and 1.013 bar	1.316
Viscosity (liquid) at + 25°C in Centipoise (10^{-3} Pa.s)	0.132
Surface tension at + 25°C in dyne per centimetre (10^{-3} N/m)	20.49
Classification NF-EN 378	B2L
GWP (IPCC 4)	0

Main applications

R-717 (ammonia) can be used both in absorption and in compression systems, mainly for industrial type setups with screw and reciprocating compressors.

Commercial specifications

Purity: ≥ 99.9 % weight.
Water content: ≤ 400 ppm weight.
Oil content: ≤ 20 ppm weight.

Oils

Use a mineral (MO) or polyalphaolefin (PAO) oil.
Check with **Climalife** regarding the viscosity of the oil selected for your application, and the miscibility with the fluid under consideration.

Regulation

Ammonia is a product classified as toxic and flammable.
Refer to the decree of July 16, 1997 published in O.J. of October 3, 1997.

(Check local country legislation for handling and use).

Thermodynamic properties of R-717 - Saturated state

Absolute pressure	LIQUID					VAPOUR					Latent heat
	Bubble point	Volume	Density	Enthalpy	Entropy	Dew point	Volume	Density	Enthalpy	Entropy	
P	t'	v'	p'	h'	s'	t"	v"	p"	h"	s"	Lv
(bar)	(°C)	(dm³/kg)	(kg/dm³)	(kJ/kg)	(kJ/kg.K)	(°C)	(m³/kg)	(kg/m³)	(kJ/kg)	(kJ/kg.K)	(kJ/kg)
0.075	-75	1.370	0.730	168.031	0.585	-75.0	12.824	0.078	1646.235	8.045	1478.204
0.109	-70	1.380	0.725	189.188	0.691	-70.0	9.008	0.111	1655.554	7.909	1466.366
0.156	-65	1.390	0.719	210.490	0.794	-65.0	6.452	0.155	1664.726	7.781	1454.237
0.219	-60	1.401	0.714	231.938	0.896	-60.0	4.706	0.213	1673.734	7.660	1441.796
0.301	-55	1.413	0.708	253.533	0.996	-55.0	3.490	0.287	1682.560	7.547	1429.027
0.408	-50	1.424	0.702	275.273	1.094	-50.0	2.628	0.381	1691.186	7.440	1415.914
0.545	-45	1.436	0.696	297.153	1.191	-45.0	2.007	0.498	1699.594	7.338	1402.441
0.717	-40	1.449	0.690	319.170	1.287	-40.0	1.553	0.644	1707.763	7.243	1388.593
0.931	-35	1.462	0.684	341.321	1.381	-35.0	1.217	0.822	1715.675	7.152	1374.354
1.013	-33.33	1.466	0.682	348.743	1.412	-33.33	1.124	0.889	1718.255	7.122	1369.513
1.194	-30	1.475	0.678	363.603	1.473	-30.0	0.964	1.037	1723.311	7.065	1359.709
1.515	-25	1.489	0.672	386.013	1.564	-25.0	0.772	1.296	1730.652	6.983	1344.639
1.901	-20	1.503	0.665	408.550	1.654	-20.0	0.624	1.603	1737.677	6.904	1329.126
2.362	-15	1.518	0.659	431.216	1.742	-15.0	0.509	1.966	1744.368	6.829	1313.152
2.907	-10	1.534	0.652	454.010	1.829	-10.0	0.418	2.391	1750.705	6.757	1296.695
3.548	-5	1.550	0.645	476.936	1.915	-5.0	0.347	2.885	1756.668	6.688	1279.732
4.294	0	1.566	0.639	500.000	2.000	-0.0	0.289	3.457	1762.238	6.621	1262.238
5.157	5	1.583	0.632	523.207	2.084	5.0	0.243	4.115	1767.393	6.557	1244.186
6.150	10	1.601	0.625	546.566	2.166	10.0	0.205	4.868	1772.114	6.495	1225.548
7.285	15	1.619	0.617	570.087	2.248	15.0	0.175	5.727	1776.376	6.434	1206.289
8.575	20	1.639	0.610	593.782	2.329	20.0	0.149	6.703	1780.157	6.376	1186.375
10.032	25	1.659	0.603	617.667	2.409	25.0	0.128	7.807	1783.431	6.319	1165.764
11.672	30	1.680	0.595	641.757	2.488	30.0	0.110	9.053	1786.169	6.263	1144.412
13.508	35	1.702	0.587	666.073	2.567	35.0	0.096	10.457	1788.340	6.209	1122.267
15.554	40	1.726	0.579	690.637	2.645	40.0	0.083	12.034	1789.908	6.155	1099.272
17.827	45	1.750	0.571	715.475	2.722	45.0	0.072	13.803	1790.835	6.102	1075.360
20.340	50	1.777	0.563	740.619	2.799	50.0	0.063	15.785	1791.074	6.050	1050.455
23.111	55	1.804	0.554	766.103	2.876	55.0	0.056	18.006	1790.572	5.998	1024.469
26.156	60	1.834	0.545	791.968	2.952	60.0	0.049	20.493	1789.267	5.946	997.299
29.491	65	1.866	0.536	818.262	3.029	65.0	0.043	23.280	1787.085	5.894	968.823
33.135	70	1.900	0.526	845.042	3.105	70.0	0.038	26.407	1783.940	5.842	938.898
37.105	75	1.937	0.516	872.375	3.182	75.0	0.033	29.923	1779.724	5.788	907.349
41.420	80	1.978	0.506	900.342	3.260	80.0	0.030	33.888	1774.309	5.734	873.966
46.100	85	2.022	0.495	929.044	3.338	85.0	0.026	38.376	1767.531	5.679	838.487
51.167	90	2.071	0.483	958.605	3.417	90.0	0.023	43.484	1759.186	5.621	800.580
56.643	95	2.127	0.470	989.187	3.497	95.0	0.020	49.340	1749.005	5.561	759.818
62.553	100	2.190	0.457	1021.003	3.580	100.0	0.018	56.117	1736.632	5.497	715.629
68.923	105	2.263	0.442	1054.352	3.665	105.0	0.016	64.063	1721.566	5.429	667.214
75.783	110	2.350	0.426	1089.683	3.753	110.0	0.014	73.550	1703.076	5.354	613.393
83.170	115	2.456	0.407	1127.736	3.847	115.0	0.012	85.182	1679.994	5.270	552.258
91.125	120	2.594	0.385	1169.923	3.950	120.0	0.010	100.068	1650.230	5.172	480.307
99.702	125	2.795	0.358	1219.684	4.070	125.0	0.008	120.728	1609.123	5.048	389.439
108.977	130	3.202	0.312	1292.018	4.244	130.0	0.006	156.766	1539.317	4.857	247.299

Thermodynamic properties of R-717 - (superheated vapour) - Volume (dm^3/kg)

Sat. Temp. °C	Sat. Pressure bar	Superheat (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-75	0.075	12824.122	13155.576	13486.161	13816.023	14145.280	14474.030	14802.349	15130.304	15457.948	15785.325	16112.472	16439.420	16766.196	17092.820	17419.313	17745.690	18071.964	18398.148	18724.251	19050.282	19376.249
-70	0.109	9007.864	9236.403	9464.212	9691.412	9918.098	10144.352	10370.238	10595.811	10821.115	11046.187	11271.060	11495.759	11720.307	11944.722	12169.020	12393.216	12617.320	12841.344	13065.296	13289.183	13513.012
-65	0.156	6452.225	6613.199	6773.555	6933.393	7092.792	7251.820	7410.532	7568.972	7727.179	7885.184	8043.014	8200.692	8358.237	8515.664	8672.988	8830.220	8987.371	9144.450	9301.464	9458.420	9615.324
-60	0.219	4705.729	4821.388	4936.521	5051.208	5165.519	5279.508	5393.223	5506.702	5619.977	5733.075	5846.019	5958.829	6071.521	6184.108	6296.604	6409.018	6521.359	6633.635	6745.853	6858.018	6970.136
-55	0.301	3489.548	3574.207	3658.411	3742.231	3825.723	3908.937	3991.910	4074.677	4157.265	4239.697	4321.993	4404.170	4486.241	4568.220	4650.117	4731.940	4813.698	4895.397	4977.044	5058.644	5140.200
-50	0.408	2627.750	2690.802	2753.460	2815.783	2877.821	2939.613	3001.195	3062.595	3123.836	3184.940	3245.923	3306.799	3367.582	3428.281	3488.907	3549.467	3609.967	3670.415	3730.815	3791.172	3851.490
-45	0.545	2007.084	2054.816	2102.202	2149.294	2196.135	2242.760	2289.198	2335.475	2381.612	2427.626	2473.532	2519.342	2565.069	2610.721	2656.306	2701.831	2747.304	2792.728	2838.108	2883.450	2928.756
-40	0.717	1553.282	1589.973	1626.358	1662.483	1698.385	1734.096	1769.641	1805.043	1840.318	1875.484	1910.553	1945.537	1980.444	2015.284	2050.064	2084.790	2119.467	2154.101	2188.694	2223.252	2257.778
-35	0.931	1216.781	1245.393	1273.733	1301.841	1329.750	1357.489	1385.079	1412.541	1439.890	1467.140	1494.302	1521.388	1548.404	1575.360	1602.260	1629.112	1655.919	1682.686	1709.417	1736.115	1762.783
-33.33	1.013	1124.425	1150.838	1176.990	1202.918	1228.655	1254.226	1279.655	1304.960	1330.156	1355.256	1380.271	1405.212	1430.087	1454.902	1479.664	1504.378	1529.050	1553.682	1578.279	1602.845	1627.381
-30	1.194	963.963	986.578	1008.950	1031.115	1053.101	1074.933	1096.632	1118.215	1139.697	1161.089	1182.401	1203.644	1224.825	1245.949	1267.024	1288.054	1309.043	1329.996	1350.915	1371.804	1392.666
-25	1.515	771.672	789.777	807.663	825.362	842.899	860.298	877.576	894.749	911.830	928.829	945.757	962.621	979.428	996.184	1012.894	1029.563	1046.195	1062.793	1079.361	1095.900	1112.414
-20	1.901	623.730	638.401	652.872	667.173	681.327	695.356	709.275	723.098	736.838	750.503	764.102	777.643	791.132	804.575	817.975	831.337	844.666	857.963	871.231	884.474	897.693
-15	2.362	508.679	520.703	532.545	544.230	555.782	567.219	578.556	589.805	600.977	612.082	623.126	634.116	645.059	655.959	666.819	677.645	688.440	699.205	709.944	720.660	731.353
-10	2.907	418.303	428.264	438.057	447.708	457.235	466.657	475.987	485.236	494.414	503.530	512.591	521.602	530.569	539.496	548.388	557.247	566.076	574.879	583.658	592.414	601.150
-5	3.548	346.635	354.972	363.154	371.203	379.140	386.978	394.732	402.411	410.025	417.581	425.086	432.545	439.964	447.345	454.693	462.011	469.302	476.568	483.812	491.034	498.237
0	4.294	289.297	296.343	303.244	310.022	316.695	323.277	329.781	336.216	342.590	348.911	355.184	361.415	367.607	373.765	379.893	385.992	392.066	398.117	404.146	410.156	416.148
5	5.157	243.039	249.049	254.923	260.682	266.343	271.920	277.423	282.862	288.245	293.578	298.867	304.116	309.329	314.511	319.664	324.790	329.893	334.974	340.035	345.077	350.103
10	6.150	205.426	210.597	215.640	220.575	225.419	230.184	234.880	239.515	244.099	248.635	253.130	257.588	262.013	266.408	270.776	275.119	279.440	283.740	288.022	292.286	296.535
15	7.285	174.614	179.101	183.467	187.731	191.909	196.012	200.051	204.033	207.966	211.855	215.705	219.520	223.305	227.061	230.791	234.499	238.185	241.852	245.502	249.135	252.753
20	8.575	149.198	153.122	156.932	160.645	164.276	167.836	171.336	174.783	178.182	181.541	184.863	188.152	191.412	194.645	197.854	201.042	204.209	207.359	210.491	213.609	216.712
25	10.032	128.092	131.552	134.901	138.158	141.337	144.449	147.503	150.508	153.467	156.388	159.274	162.130	164.957	167.759	170.539	173.298	176.038	178.761	181.468	184.161	186.841
30	11.672	110.457	113.529	116.495	119.372	122.175	124.914	127.598	130.234	132.829	135.386	137.910	140.405	142.873	145.318	147.741	150.145	152.530	154.900	157.254	159.595	161.923
35	13.508	95.632	98.381	101.026	103.585	106.073	108.500	110.874	113.202	115.490	117.743	119.965	122.159	124.327	126.473	128.598	130.705	132.795	134.869	136.929	138.976	141.011
40	15.554	83.101	85.576	87.951	90.243	92.466	94.630	96.743	98.812	100.842	102.839	104.806	106.747	108.663	110.558	112.433	114.290	116.132	117.958	119.771	121.571	123.360
45	17.827	72.450	74.695	76.842	78.908	80.906	82.846	84.738	86.588	88.401	90.181	91.933	93.659	95.362	97.044	98.708	100.354	101.986	103.603	105.206	106.798	108.379
50	20.340	63.350	65.401	67.354	69.227	71.034	72.785	74.489	76.152	77.779	79.375	80.944	82.487	84.009	85.511	86.995	88.462	89.915	91.354	92.780	94.195	95.600
55	23.111	55.537	57.424	59.211	60.920	62.564	64.153	65.696	67.199	68.668	70.106	71.518	72.906	74.272	75.620	76.950	78.264	79.564	80.851	82.127	83.391	84.644
60	26.156	48.797	50.544	52.191	53.759	55.263	56.713	58.118	59.484	60.816	62.119	63.396	64.650	65.883	67.098	68.296	69.479	70.648	71.805	72.950	74.084	75.209
65	29.491	42.955	44.584	46.111	47.559	48.942	50.273	51.558	52.806	54.020	55.206	56.366	57.505	58.623	59.723	60.807	61.877	62.933	63.977	65.010	66.033	67.046
70	33.135	37.868	39.398	40.823	42.168	43.447	44.674	45.857	47.001	48.114	49.198	50.258	51.296	52.314	53.315	54.300	55.272	56.230	57.176	58.112	59.038	59.954
75	37.105	33.419	34.866	36.205	37.461	38.651	39.788	40.881	41.936	42.960	43.956	44.928	45.878	46.810	47.724	48.624	49.509	50.382	51.244	52.095	52.936	53.768
80	41.420	29.509	30.890	32.156	33.336	34.449	35.508	36.523	37.500	38.446	39.365	40.260	41.134	41.989	42.828	43.652	44.463	45.261	46.048	46.825	47.593	48.352
85	46.100	26.058	27.387	28.592	29.707	30.753	31.745	32.691	33.601	34.479	35.330	36.157	36.964	37.753	38.525	39.283	40.028	40.760	41.482	42.194	42.897	43.592
90	51.167	22.997	24.288	25.444	26.504	27.493	28.425	29.312	30.162	30.980	31.771	32.539	33.287	34.016	34.730	35.430	36.116	36.791	37.455	38.110	38.756	39.393
95	56.643	20.268	21.536	22.653	23.667	24.606	25.487	26.321	27.118	27.884	28.622	29.337	30.032	30.710	31.372	32.020	32.655	33.278	33.892	34.496	35.091	35.678
100	62.553	17.820	19.082	20.170	21.146	22.042	22.878	23.667	24.417	25.135	25.827	26.495	27.144	27.775	28.390	28.992	29.582	30.160	30.728	31.286	31.837	32.379
105	68.923	15.610	16.884	17.953	18.898	19.758	20.555	21.303	22.012	22.688	23.338	23.965	24.572	25.161	25.736	26.296	26.845	27.382	27.910	28.428	28.938	29.441
110	75.783	13.596	14.907	15.968	16.889	17.718	18.480	19.192	19.864	20.504	21.116	21.705	22.275	22.827	23.364	23.888	24.399	24.900	25.391	25.874	26.348	26.815
115	83.170	11.740	13.121	14.184	15.087	15.890	16.622	17.302	17.941	18.547	19.125	19.681	20.216	20.735	21.239	21.729	22.208	22.676	23.134	23.584	24.025	24.460
120	91.125	9.993	11.501	12.578	13.468	14.248	14.954	15.605	16.214	16.789	17.337	17.861	18.367	18.855	19.328	19.788	20.236	20.675	21.103	21.523	21.936	22.341
125	99.702	8.283	10.025	11.126	12.008	12.769	13.450	14.075	14.657	15.204	15.724	16.220	16.697	17.157	17.603	18.035	18.456	18.867	19.269	19.662	20.048	20.426
130	108.977	6.379	8.674	9.811	10.688	11.431	12.090	12.691	13.247	13.768	14.262	14.732	15.184	15.618	16.038	16.445	16.841	17.226	17.603	17.972	18.333	18.687

Thermodynamic properties of R-717 - (superheated vapour) - Enthalpy (kJ/kg)

Sat. Temp. °C	Sat. Pressure bar	Superheat (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-75	0.075	1646.235	1656.562	1666.852	1677.113	1687.355	1697.584	1707.806	1718.027	1728.251	1738.481	1748.722	1758.976	1769.246	1779.535	1789.845	1800.178	1810.535	1820.920	1831.332	1841.774	1852.248
-70	0.109	1655.554	1665.956	1676.313	1686.637	1696.937	1707.221	1717.495	1727.765	1738.037	1748.314	1758.600	1768.898	1779.212	1789.545	1799.898	1810.274	1820.675	1831.102	1841.558	1852.044	1862.561
-65	0.156	1664.726	1675.216	1685.653	1696.051	1706.419	1716.767	1727.101	1737.429	1747.755	1758.085	1768.423	1778.772	1789.135	1799.516	1809.917	1820.340	1830.788	1841.263	1851.765	1862.298	1872.862
-60	0.219	1673.734	1684.326	1694.856	1705.339	1715.786	1726.208	1736.612	1747.005	1757.394	1767.784	1778.180	1788.585	1799.003	1809.438	1819.892	1830.367	1840.867	1851.392	1861.946	1872.529	1883.143
-55	0.301	1682.560	1693.269	1703.905	1714.486	1725.024	1735.530	1746.012	1756.480	1766.940	1777.398	1787.859	1798.327	1808.806	1819.300	1829.812	1840.344	1850.900	1861.481	1872.089	1882.726	1893.395
-50	0.408	1691.186	1702.027	1712.785	1723.476	1734.116	1744.717	1755.289	1765.840	1776.380	1786.913	1797.446	1807.984	1818.531	1829.090	1839.666	1850.261	1860.877	1871.518	1882.185	1892.881	1903.607
-45	0.545	1699.594	1710.583	1721.477	1732.292	1743.047	1753.754	1764.426	1775.071	1785.699	1796.316	1806.929	1817.544	1828.165	1838.796	1849.441	1860.104	1870.787	1881.493	1892.224	1902.983	1913.771
-40	0.717	1707.763	1718.919	1729.964	1740.918	1751.800	1762.626	1773.408	1784.157	1794.882	1805.592	1816.294	1826.993	1837.696	1848.405	1859.127	1869.863	1880.618	1891.394	1902.194	1913.021	1923.875
-35	0.931	1715.675	1727.016	1738.228	1749.336	1760.359	1771.316	1782.219	1793.083	1803.916	1814.728	1825.527	1836.319	1847.110	1857.905	1868.709	1879.525	1890.358	1901.210	1912.084	1922.983	1933.909
-33.33	1.013	1718.255	1729.662	1740.934	1752.096	1763.170	1774.173	1785.120	1796.023	1806.895	1817.743	1828.576	1839.401	1850.223	1861.048	1871.881	1882.726	1893.586	1904.465	1915.365	1926.289	1937.240
-30	1.194	1723.311	1734.856	1746.253	1757.529	1768.708	1779.808	1790.845	1801.834	1812.785	1823.708	1834.613	1845.505	1856.393	1867.281	1878.175	1889.078	1899.994	1910.928	1921.882	1932.859	1943.861
-25	1.515	1730.652	1742.420	1754.019	1765.481	1776.829	1788.086	1799.270	1810.395	1821.474	1832.519	1843.538	1854.540	1865.533	1876.521	1887.511	1898.508	1909.515	1920.536	1931.575	1942.635	1953.719
-20	1.901	1737.677	1749.690	1761.510	1773.173	1784.707	1796.135	1807.477	1818.750	1829.969	1841.145	1852.289	1863.410	1874.515	1885.612	1896.706	1907.803	1918.907	1930.022	1941.153	1952.302	1963.472
-15	2.362	1744.368	1756.647	1768.708	1780.590	1792.324	1803.937	1815.451	1826.885	1838.255	1849.573	1860.851	1872.099	1883.326	1894.540	1905.746	1916.950	1928.158	1939.374	1950.603	1961.846	1973.109
-10	2.907	1750.705	1763.273	1775.595	1787.714	1799.665	1811.478	1823.178	1834.785	1846.317	1857.788	1869.210	1880.596	1891.954	1903.292	1914.618	1925.937	1937.256	1948.580	1959.912	1971.257	1982.618
-5	3.548	1756.668	1769.550	1782.154	1794.528	1806.714	1818.742	1830.642	1842.435	1854.141	1865.776	1877.353	1888.886	1900.383	1911.855	1923.309	1934.752	1946.189	1957.627	1969.070	1980.522	1991.988
0	4.294	1762.238	1775.459	1788.367	1801.017	1813.454	1825.714	1837.828	1849.821	1861.713	1873.523	1885.266	1896.956	1908.603	1920.217	1931.807	1943.381	1954.945	1966.504	1978.065	1989.631	2001.207
5	5.157	1767.393	1780.980	1794.216	1807.162	1819.869	1832.378	1844.721	1856.927	1869.019	1881.016	1892.936	1904.793	1916.599	1928.365	1940.101	1951.814	1963.511	1975.200	1986.885	1998.572	2010.265
10	6.150	1772.114	1786.095	1799.683	1812.947	1825.944	1838.718	1851.306	1863.740	1876.045	1888.242	1900.350	1912.385	1924.360	1936.288	1948.177	1960.038	1971.877	1983.703	1995.520	2007.335	2019.152
15	7.285	1776.376	1790.783	1804.750	1818.355	1831.661	1844.719	1857.569	1870.245	1882.776	1895.186	1907.494	1919.719	1931.873	1943.972	1956.025	1968.042	1980.031	1992.001	2003.958	2015.908	2027.855
20	8.575	1780.157	1795.023	1809.397	1823.367	1837.004	1850.365	1863.493	1876.428	1889.200	1901.836	1914.356	1926.781	1939.127	1951.406	1963.632	1975.814	1987.963	2000.085	2012.189	2024.281	2036.367
25	10.032	1783.431	1798.792	1813.603	1827.965	1841.956	1855.639	1869.065	1882.275	1895.303	1908.178	1920.923	1933.561	1946.107	1958.578	1970.987	1983.344	1995.660	2007.944	2020.203	2032.445	2044.675
30	11.672	1786.169	1802.065	1817.347	1832.128	1846.498	1860.526	1874.268	1887.770	1901.069	1914.198	1927.182	1940.045	1952.804	1965.478	1978.079	1990.620	2003.113	2015.567	2027.989	2040.389	2052.771
35	13.508	1788.340	1804.816	1820.605	1835.837	1850.612	1865.007	1879.086	1892.898	1906.486	1919.884	1933.120	1946.220	1959.205	1972.092	1984.896	1997.632	2010.311	2022.943	2035.538	2048.103	2060.645
40	15.554	1789.908	1807.015	1823.352	1839.069	1854.277	1869.065	1883.502	1897.644	1911.538	1925.220	1938.724	1952.076	1965.298	1978.410	1991.429	2004.369	2017.244	2030.064	2042.839	2055.578	2068.289
45	17.827	1790.835	1808.629	1825.560	1841.798	1857.472	1872.679	1887.498	1901.991	1916.209	1930.194	1943.980	1957.597	1971.070	1984.419	1997.664	2010.820	2023.901	2036.918	2049.883	2062.805	2075.691
50	20.340	1791.074	1809.621	1827.198	1844.000	1860.173	1875.829	1891.056	1905.923	1920.485	1934.790	1948.875	1962.772	1976.510	1990.110	2003.592	2016.974	2030.272	2043.496	2056.660	2069.773	2082.845
55	23.111	1790.572	1809.950	1828.231	1845.644	1862.356	1878.494	1894.156	1909.420	1924.348	1938.992	1953.394	1967.588	1981.604	1995.468	2009.201	2022.821	2036.346	2049.788	2063.161	2076.475	2089.740
60	26.156	1789.267	1809.568	1828.622	1846.699	1863.992	1880.648	1896.776	1912.464	1927.782	1942.786	1957.522	1972.030	1986.341	2000.483	2014.479	2028.350	2042.114	2055.784	2069.376	2082.900	2096.368
65	29.491	1787.085	1808.419	1828.326	1847.128	1865.053	1882.266	1898.894	1915.035	1930.768	1946.154	1961.245	1976.084	1990.706	2005.141	2019.415	2033.549	2047.564	2061.474	2075.296	2089.040	2102.720
70	33.135	1783.940	1806.439	1827.294	1846.893	1865.504	1883.320	1900.486	1917.112	1933.286	1949.079	1964.546	1979.736	1994.686	2009.430	2023.996	2038.408	2052.686	2066.848	2080.910	2094.886	2108.787
75	37.105	1779.724	1803.553	1825.470	1845.949	1865.310	1883.779	1901.524	1918.670	1935.317	1951.542	1967.409	1982.970	1998.267	2013.338	2028.211	2042.914	2057.469	2071.895	2086.210	2100.427	2114.560
80	41.420	1774.309	1799.674	1822.789	1844.245	1864.430	1883.611	1901.981	1919.686	1936.838	1953.524	1969.816	1985.770	2001.435	2016.849	2032.047	2047.057	2061.902	2076.605	2091.184	2105.654	2120.030
85	46.100	1767.531	1794.698	1819.177	1841.726	1862.820	1882.777	1901.826	1920.133	1937.826	1955.004	1971.748	1988.119	2004.173	2019.951	2035.490	2050.822	2065.974	2080.967	2095.823	2110.558	2125.188
90	51.167	1759.186	1788.499	1814.550	1838.330	1860.431	1881.240	1901.025	1919.982	1938.256	1955.961	1973.185	1990.000	2006.465	2022.627	2038.526	2054.198	2069.671	2084.969	2100.116	2115.128	2130.024
95	56.643	1749.005	1780.927	1808.810	1833.986	1857.210	1878.956	1899.544	1919.204	1938.103	1956.371	1974.108	1991.394	2008.294	2024.862	2041.141	2057.171	2072.981	2088.600	2104.050	2119.353	2134.526
100	62.553	1736.632	1771.801	1801.843	1828.616	1853.098	1875.878	1897.344	1917.765	1937.338	1956.209	1974.493	1992.279	2009.642	2026.638	2043.319	2059.724	2075.890	2091.844	2107.614	2123.221	2138.685
105	68.923	1721.566	1760.895	1793.520	1822.132	1848.029	1871.956	1894.383	1915.631	1935.929	1955.447	1974.315	1992.634	2010.486	2027.937	2045.041	2061.843	2078.381	2094.689	2110.793	2126.718	2142.486
110	75.783	1703.076	1747.932	1783.691	1814.437	1841.934	1867.133	1890.614	1912.761	1933.842	1954.055	1973.547	1992.433	2010.805	2028.736	2046.286	2063.506	2080.437	2097.114	2113.570	2129.828	2145.914
115	83.170	1679.994	1732.564	1772.184	1805.422	1834.733	1861.348	1885.986	1909.110	1931.037	1951.995	1972.154	1991.644	2010.568	2029.007	2047.029	2064.689	2082.033	2099.100	2115.923	2132.531	2148.949
120	91.125	1650.230	1714.356	1758.801	1794.964	1826.334	1854.525	1880.435	1904.623	1927.464	1949.222	1970.094	1990.227	2009.737	2028.715	2047.235	2065.359	2083.138	2100.614	2117.823	2134.798	2151.564
125	99.702	1609.123	1692.761	1743.313	1782.915	1816.624	1846.570	1873.876	1899.222	1923.050	1945.670	1967.305	1988.124	2008.257	2027.806	2046.854	2065.469	2083.706	2101.612	2119.228	2136.587	2153.718
130	108.977	1539.317	1667.125	1725.441	1769.077	1805.440	1837.338	1866.180	1892.787	1917.685	1941.233	1963.687	1985.240	2006.037	2026.194	2045.803	2064.938	2083.660	2102.022	2120.066	2137.831	2155.347

Thermodynamic properties of R-717 - (superheated vapour) - Entropy (kJ/kg.K)

Sat. Temp. °C	Sat. Pressure bar	Superheat (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-75	0.075	8.045	8.097	8.147	8.195	8.243	8.289	8.335	8.379	8.422	8.465	8.507	8.547	8.588	8.627	8.666	8.704	8.742	8.779	8.815	8.851	8.886
-70	0.109	7.909	7.959	8.009	8.056	8.103	8.149	8.193	8.237	8.279	8.321	8.362	8.403	8.442	8.481	8.519	8.557	8.594	8.631	8.667	8.702	8.737
-65	0.156	7.781	7.830	7.879	7.926	7.972	8.017	8.061	8.104	8.146	8.187	8.227	8.267	8.306	8.344	8.382	8.419	8.456	8.492	8.527	8.562	8.597
-60	0.219	7.660	7.709	7.757	7.803	7.849	7.893	7.936	7.979	8.020	8.061	8.101	8.140	8.178	8.216	8.253	8.290	8.326	8.362	8.397	8.431	8.466
-55	0.301	7.547	7.595	7.642	7.688	7.733	7.777	7.819	7.861	7.902	7.942	7.981	8.020	8.058	8.096	8.132	8.169	8.204	8.240	8.274	8.308	8.342
-50	0.408	7.440	7.488	7.534	7.580	7.624	7.667	7.709	7.751	7.791	7.831	7.870	7.908	7.945	7.982	8.019	8.055	8.090	8.125	8.159	8.193	8.226
-45	0.545	7.338	7.386	7.432	7.477	7.521	7.564	7.605	7.646	7.686	7.726	7.764	7.802	7.839	7.876	7.912	7.947	7.982	8.017	8.051	8.084	8.117
-40	0.717	7.243	7.290	7.336	7.380	7.424	7.466	7.507	7.548	7.588	7.626	7.665	7.702	7.739	7.775	7.811	7.846	7.880	7.915	7.948	7.982	8.014
-35	0.931	7.152	7.199	7.244	7.289	7.332	7.374	7.415	7.455	7.494	7.533	7.571	7.608	7.644	7.680	7.716	7.750	7.785	7.818	7.852	7.885	7.917
-33.33	1.013	7.122	7.169	7.215	7.259	7.302	7.344	7.385	7.425	7.464	7.503	7.540	7.577	7.614	7.650	7.685	7.720	7.754	7.788	7.821	7.854	7.886
-30	1.194	7.065	7.112	7.158	7.202	7.245	7.286	7.327	7.367	7.406	7.444	7.482	7.519	7.555	7.590	7.626	7.660	7.694	7.728	7.761	7.794	7.826
-25	1.515	6.983	7.030	7.075	7.119	7.162	7.203	7.244	7.284	7.322	7.360	7.398	7.434	7.470	7.506	7.540	7.575	7.608	7.642	7.675	7.707	7.739
-20	1.901	6.904	6.951	6.996	7.040	7.083	7.124	7.165	7.204	7.243	7.281	7.318	7.354	7.390	7.425	7.460	7.494	7.527	7.560	7.593	7.625	7.657
-15	2.362	6.829	6.876	6.921	6.965	7.008	7.049	7.090	7.129	7.167	7.205	7.242	7.278	7.314	7.349	7.383	7.417	7.450	7.483	7.516	7.548	7.580
-10	2.907	6.757	6.804	6.850	6.894	6.936	6.978	7.018	7.057	7.095	7.133	7.170	7.206	7.241	7.276	7.310	7.344	7.377	7.410	7.442	7.474	7.506
-5	3.548	6.688	6.735	6.781	6.825	6.868	6.909	6.949	6.989	7.027	7.064	7.101	7.137	7.172	7.207	7.241	7.275	7.308	7.340	7.373	7.404	7.436
0	4.294	6.621	6.669	6.715	6.759	6.802	6.844	6.884	6.923	6.961	6.999	7.035	7.071	7.107	7.141	7.175	7.209	7.242	7.274	7.306	7.338	7.369
5	5.157	6.557	6.605	6.652	6.696	6.739	6.781	6.821	6.860	6.899	6.936	6.973	7.009	7.044	7.078	7.112	7.146	7.178	7.211	7.243	7.274	7.306
10	6.150	6.495	6.544	6.590	6.635	6.678	6.720	6.761	6.800	6.839	6.876	6.913	6.948	6.984	7.018	7.052	7.085	7.118	7.151	7.182	7.214	7.245
15	7.285	6.434	6.484	6.531	6.576	6.620	6.662	6.703	6.742	6.781	6.818	6.855	6.891	6.926	6.961	6.994	7.028	7.061	7.093	7.125	7.156	7.187
20	8.575	6.376	6.426	6.474	6.520	6.564	6.606	6.647	6.687	6.725	6.763	6.800	6.836	6.871	6.905	6.939	6.972	7.005	7.038	7.069	7.101	7.132
25	10.032	6.319	6.370	6.418	6.465	6.509	6.552	6.593	6.633	6.672	6.709	6.746	6.782	6.818	6.852	6.886	6.919	6.952	6.985	7.016	7.048	7.079
30	11.672	6.263	6.315	6.364	6.411	6.456	6.499	6.541	6.581	6.620	6.658	6.695	6.731	6.766	6.801	6.835	6.869	6.901	6.934	6.965	6.997	7.028
35	13.508	6.209	6.262	6.312	6.359	6.405	6.448	6.490	6.531	6.570	6.608	6.645	6.682	6.717	6.752	6.786	6.819	6.852	6.885	6.916	6.948	6.979
40	15.554	6.155	6.209	6.260	6.308	6.354	6.398	6.441	6.482	6.521	6.560	6.597	6.634	6.669	6.704	6.739	6.772	6.805	6.837	6.869	6.901	6.932
45	17.827	6.102	6.158	6.210	6.259	6.305	6.350	6.393	6.434	6.474	6.513	6.551	6.587	6.623	6.658	6.693	6.726	6.759	6.792	6.824	6.855	6.886
50	20.340	6.050	6.107	6.160	6.210	6.257	6.303	6.346	6.388	6.428	6.467	6.505	6.542	6.578	6.614	6.648	6.682	6.715	6.748	6.780	6.811	6.843
55	23.111	5.998	6.056	6.111	6.162	6.210	6.256	6.300	6.343	6.383	6.423	6.461	6.499	6.535	6.570	6.605	6.639	6.673	6.705	6.737	6.769	6.800
60	26.156	5.946	6.006	6.062	6.115	6.164	6.211	6.255	6.298	6.340	6.380	6.418	6.456	6.493	6.528	6.563	6.597	6.631	6.664	6.696	6.728	6.759
65	29.491	5.894	5.957	6.014	6.068	6.118	6.166	6.211	6.255	6.297	6.337	6.376	6.414	6.451	6.487	6.522	6.557	6.591	6.624	6.656	6.688	6.719
70	33.135	5.842	5.907	5.966	6.021	6.073	6.122	6.168	6.212	6.255	6.296	6.335	6.374	6.411	6.447	6.483	6.517	6.551	6.585	6.617	6.649	6.681
75	37.105	5.788	5.856	5.918	5.975	6.028	6.078	6.125	6.170	6.213	6.255	6.295	6.334	6.371	6.408	6.444	6.479	6.513	6.546	6.579	6.612	6.643
80	41.420	5.734	5.806	5.870	5.929	5.983	6.034	6.082	6.128	6.172	6.214	6.255	6.294	6.332	6.370	6.406	6.441	6.475	6.509	6.542	6.575	6.607
85	46.100	5.679	5.754	5.821	5.882	5.938	5.991	6.040	6.087	6.132	6.174	6.216	6.256	6.294	6.332	6.368	6.404	6.439	6.473	6.506	6.539	6.571
90	51.167	5.621	5.702	5.772	5.835	5.893	5.947	5.998	6.046	6.091	6.135	6.177	6.217	6.257	6.294	6.331	6.367	6.402	6.437	6.470	6.503	6.536
95	56.643	5.561	5.647	5.722	5.788	5.848	5.904	5.956	6.005	6.051	6.096	6.138	6.180	6.219	6.258	6.295	6.331	6.367	6.402	6.436	6.469	6.501
100	62.553	5.497	5.591	5.670	5.739	5.802	5.860	5.913	5.964	6.011	6.057	6.100	6.142	6.182	6.221	6.259	6.296	6.332	6.367	6.401	6.435	6.467
105	68.923	5.429	5.532	5.617	5.690	5.756	5.815	5.871	5.923	5.971	6.018	6.062	6.105	6.146	6.185	6.224	6.261	6.297	6.333	6.367	6.401	6.434
110	75.783	5.354	5.471	5.562	5.640	5.709	5.771	5.828	5.881	5.931	5.979	6.024	6.067	6.109	6.149	6.188	6.226	6.263	6.299	6.334	6.368	6.401
115	83.170	5.270	5.405	5.505	5.588	5.660	5.725	5.784	5.839	5.891	5.939	5.986	6.030	6.072	6.113	6.153	6.191	6.229	6.265	6.300	6.335	6.369
120	91.125	5.172	5.334	5.445	5.534	5.611	5.678	5.740	5.797	5.850	5.900	5.947	5.992	6.036	6.077	6.118	6.156	6.194	6.231	6.267	6.302	6.336
125	99.702	5.048	5.257	5.382	5.478	5.559	5.631	5.695	5.754	5.808	5.860	5.908	5.954	5.999	6.041	6.082	6.122	6.160	6.197	6.233	6.269	6.303
130	108.977	4.857	5.173	5.315	5.420	5.506	5.581	5.648	5.709	5.766	5.819	5.868	5.916	5.961	6.004	6.046	6.086	6.125	6.163	6.200	6.235	6.270