

Saturation Properties for Ammonia — Temperature Increments

Liquid Phase Data

Data on Saturation Curve

Temperature (C)	Pressure (bar)	Density (kg/m ³)	Volume (m ³ /kg)	Internal Energy (kJ/kg)	Enthalpy (kJ/kg)	Entropy (J/g*K)	Cv (J/g*K)	Cp (J/g*K)	Sound Spd. (m/s)	Joule-Thomson (K/bar)	Viscosity (uPa*s)	Therm. Cond. (W/m*K)	Surf. Tension (N/m)	Phase
-40.000	0.71692	690.15	0.0014490	162.22	162.32	0.75832	2.8662	4.4137	1816.2	-0.019356	281.24	0.68811	0.047262	liquid
-35.000	0.93098	684.04	0.0014619	184.34	184.48	0.85219	2.8577	4.4394	1780.2	-0.018779	261.56	0.67127	0.045378	liquid
-30.000	1.1943	677.83	0.0014753	206.58	206.76	0.94462	2.8492	4.4645	1744.4	-0.018184	244.07	0.65463	0.043519	liquid
-25.000	1.5147	671.53	0.0014891	228.94	229.17	1.0357	2.8408	4.4892	1708.8	-0.017564	228.45	0.63819	0.041686	liquid
-20.000	1.9008	665.14	0.0015035	251.42	251.71	1.1253	2.8325	4.5138	1673.2	-0.016914	214.41	0.62196	0.039879	liquid
-15.000	2.3617	658.65	0.0015183	274.01	274.37	1.2137	2.8243	4.5385	1637.7	-0.016228	201.73	0.60594	0.038097	liquid
-10.000	2.9071	652.06	0.0015336	296.72	297.16	1.3009	2.8162	4.5636	1602.1	-0.015498	190.22	0.59014	0.036342	liquid
-5.0000	3.5476	645.37	0.0015495	319.54	320.09	1.3868	2.8082	4.5895	1566.4	-0.014718	179.72	0.57456	0.034614	liquid
0.0000	4.2938	638.57	0.0015660	342.48	343.15	1.4716	2.8003	4.6165	1530.5	-0.013878	170.09	0.55920	0.032912	liquid
5.0000	5.1575	631.66	0.0015831	365.55	366.36	1.5553	2.7926	4.6451	1494.4	-0.012968	161.23	0.54406	0.031237	liquid
10.000	6.1505	624.64	0.0016009	388.74	389.72	1.6380	2.7851	4.6757	1458.1	-0.011978	153.03	0.52912	0.029589	liquid
15.000	7.2852	617.49	0.0016195	412.06	413.24	1.7197	2.7780	4.7088	1421.5	-0.010896	145.42	0.51439	0.027969	liquid
20.000	8.5748	610.20	0.0016388	435.53	436.94	1.8005	2.7711	4.7448	1384.5	-0.0097083	138.32	0.49986	0.026376	liquid
25.000	10.032	602.76	0.0016590	459.16	460.82	1.8804	2.7647	4.7844	1347.1	-0.0083982	131.68	0.48551	0.024812	liquid
30.000	11.672	595.17	0.0016802	482.95	484.91	1.9597	2.7587	4.8282	1309.3	-0.0069477	125.45	0.47135	0.023276	liquid
35.000	13.508	587.40	0.0017024	506.93	509.23	2.0382	2.7532	4.8771	1271.0	-0.0053350	119.58	0.45737	0.021769	liquid
40.000	15.554	579.44	0.0017258	531.11	533.79	2.1161	2.7484	4.9318	1232.1	-0.0035347	114.04	0.44354	0.020292	liquid

Vapor Phase Data

Data on Saturation Curve

Temperature (C)	Pressure (bar)	Density (kg/m ³)	Volume (m ³ /kg)	Internal Energy (kJ/kg)	Enthalpy (kJ/kg)	Entropy (J/g*K)	Cv (J/g*K)	Cp (J/g*K)	Sound Spd. (m/s)	Joule-Thomson (K/bar)	Viscosity (uPa*s)	Therm. Cond. (W/m*K)	Phase
-40.000	0.71692	0.64380	1.5533	1439.6	1550.9	6.7141	1.6724	2.2441	382.19	7.3766	7.8588	0.020641	vapor
-35.000	0.93098	0.82184	1.2168	1445.6	1558.8	6.6232	1.6961	2.2830	385.23	6.7108	8.0045	0.020882	vapor
-30.000	1.1943	1.0374	0.96396	1451.3	1566.5	6.5367	1.7218	2.3259	388.08	6.1242	8.1516	0.021149	vapor
-25.000	1.5147	1.2959	0.77167	1456.9	1573.8	6.4543	1.7495	2.3730	390.73	5.6050	8.3000	0.021444	vapor
-20.000	1.9008	1.6033	0.62373	1462.3	1580.8	6.3757	1.7793	2.4245	393.18	5.1435	8.4495	0.021768	vapor
-15.000	2.3617	1.9659	0.50868	1467.4	1587.5	6.3005	1.8110	2.4807	395.42	4.7317	8.5999	0.022120	vapor
-10.000	2.9071	2.3906	0.41830	1472.3	1593.9	6.2285	1.8446	2.5419	397.45	4.3629	8.7511	0.022503	vapor
-5.0000	3.5476	2.8849	0.34664	1476.9	1599.8	6.1592	1.8802	2.6082	399.25	4.0315	8.9031	0.022918	vapor
0.0000	4.2938	3.4567	0.28930	1481.2	1605.4	6.0926	1.9176	2.6799	400.82	3.7330	9.0558	0.023365	vapor
5.0000	5.1575	4.1146	0.24304	1485.2	1610.5	6.0284	1.9569	2.7575	402.16	3.4633	9.2094	0.023847	vapor
10.000	6.1505	4.8679	0.20543	1488.9	1615.3	5.9662	1.9979	2.8413	403.24	3.2191	9.3638	0.024365	vapor
15.000	7.2852	5.7269	0.17461	1492.3	1619.5	5.9060	2.0406	2.9318	404.07	2.9975	9.5193	0.024922	vapor
20.000	8.5748	6.7025	0.14920	1495.4	1623.3	5.8475	2.0849	3.0296	404.63	2.7960	9.6761	0.025519	vapor
25.000	10.032	7.8069	0.12809	1498.1	1626.6	5.7904	2.1308	3.1353	404.92	2.6126	9.8346	0.026159	vapor
30.000	11.672	9.0533	0.11046	1500.4	1629.3	5.7347	2.1782	3.2500	404.92	2.4453	9.9953	0.026846	vapor
35.000	13.508	10.457	0.095632	1502.3	1631.5	5.6801	2.2272	3.3745	404.63	2.2924	10.159	0.027585	vapor
40.000	15.554	12.034	0.083101	1503.8	1633.1	5.6265	2.2776	3.5104	404.03	2.1524	10.325	0.028379	vapor

Auxiliary Data

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