

R-717 pressure–temperature chart

Ammonia — a natural refrigerant. Also written R717. Saturation pressure from −70 to 130 °C, every 2 K, in kPa gauge and bar gauge, computed with CoolProp.

SAFETY CLASS B2L Higher toxicity, lower flammability	GWP, 100-YEAR under 5 Australian Government (DCCEEW)	ODP 0 Montreal Protocol
CRITICAL POINT 132.41 °C · 11,363.4 kPa abs CoolProp, from its equation of state	NORMAL BOILING POINT −33.32 °C At 101.325 kPa	

SATURATION PRESSURE			SATURATION PRESSURE			SATURATION PRESSURE		
T (°C)	kPa g	bar g	T (°C)	kPa g	bar g	T (°C)	kPa g	bar g
−70	−90.4	−0.90	−2	296.7	2.97	66	2,917.1	29.17
−68	−88.7	−0.89	0	327.9	3.28	68	3,061.6	30.62
−66	−86.8	−0.87	2	361.0	3.61	70	3,211.2	32.11
−64	−84.6	−0.85	4	396.0	3.96	72	3,366.0	33.66
−62	−82.2	−0.82	6	433.0	4.33	74	3,526.2	35.26
−60	−79.5	−0.79	8	472.1	4.72	76	3,691.8	36.92
−58	−76.4	−0.76	10	513.5	5.13	78	3,863.0	38.63
−56	−73.1	−0.73	12	557.1	5.57	80	4,040.0	40.40
−54	−69.3	−0.69	14	603.0	6.03	82	4,222.8	42.23
−52	−65.1	−0.65	16	651.4	6.51	84	4,411.5	44.12
−50	−60.5	−0.61	18	702.2	7.02	86	4,606.4	46.06
−48	−55.5	−0.55	20	755.7	7.56	88	4,807.6	48.08
−46	−49.9	−0.50	22	811.9	8.12	90	5,015.1	50.15
−44	−43.8	−0.44	24	870.8	8.71	92	5,229.2	52.29
−42	−37.0	−0.37	26	932.6	9.33	94	5,449.9	54.50
−40	−29.7	−0.30	28	997.4	9.97	96	5,677.5	56.77
−38	−21.7	−0.22	30	1,065.2	10.65	98	5,912.1	59.12
−36	−12.9	−0.13	32	1,136.2	11.36	100	6,153.8	61.54
−34	−3.4	−0.03	34	1,210.3	12.10	102	6,402.9	64.03
−32	6.9	0.07	36	1,287.8	12.88	104	6,659.4	66.59
−30	18.1	0.18	38	1,368.8	13.69	106	6,923.7	69.24
−28	30.1	0.30	40	1,453.2	14.53	108	7,195.9	71.96
−26	43.2	0.43	42	1,541.3	15.41	110	7,476.2	74.76
−24	57.3	0.57	44	1,633.0	16.33	112	7,764.8	77.65
−22	72.4	0.72	46	1,728.6	17.29	114	8,061.9	80.62
−20	88.7	0.89	48	1,828.1	18.28	116	8,367.9	83.68
−18	106.2	1.06	50	1,931.6	19.32	118	8,683.0	86.83
−16	124.9	1.25	52	2,039.3	20.39	120	9,007.5	90.07
−14	145.0	1.45	54	2,151.2	21.51	122	9,341.8	93.42
−12	166.4	1.66	56	2,267.4	22.67	124	9,686.3	96.86
−10	189.3	1.89	58	2,388.0	23.88	126	10,041.5	100.41
−8	213.7	2.14	60	2,513.2	25.13	128	10,408.1	104.08
−6	239.7	2.40	62	2,643.0	26.43	130	10,787.0	107.87
−4	267.4	2.67	64	2,777.6	27.78			

NOTES	Gauge pressure is absolute pressure less a standard atmosphere, 101.325 kPa; below it, gauge pressure is negative.
SOURCES	Computed with CoolProp 7.2.1dev (HEOS backend, MIT licence), from published equations of state. Cite: Bell, I.H., Wronski, J., Quoilin, S., Lemort, V. (2014). Pure and pseudo-pure fluid thermophysical property evaluation and the open-source thermophysical property library CoolProp. Ind. Eng. Chem. Res. 53(6), 2498-2508. GWP, ODP and safety class: UNEP RTOC 2018, DCCEEW (Australian Government), IPCC AR4 (2007), IPCC AR6 (2021), Montreal Protocol.
ONLINE	kelvin.engineering/refrigerants/r-717 — this table in kPa absolute, and the P–h diagram kelvin.engineering/tools/superheat-subcooling?r=r-717 — superheat and subcooling calculator
VERIFY	These figures must be verified by a qualified professional before they're relied on.