

R-290 pressure–temperature chart

Propane — a natural refrigerant. Also written R290. Saturation pressure from −70 to 94 °C, every 2 K, in kPa gauge and bar gauge, computed with CoolProp.

SAFETY CLASS A3 Lower toxicity, higher flammability	GWP, 100-YEAR 0.02 (AR6) IPCC AR6; not listed in AR4	ODP 0 Montreal Protocol
CRITICAL POINT 96.74 °C · 4,251.2 kPa abs CoolProp, from its equation of state	NORMAL BOILING POINT −42.11 °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	−76.9	−0.77	−14	200.5	2.00	42	1,332.4	13.32
−68	−73.9	−0.74	−12	221.7	2.22	44	1,398.9	13.99
−66	−70.6	−0.71	−10	244.0	2.44	46	1,467.6	14.68
−64	−66.9	−0.67	−8	267.4	2.67	48	1,538.6	15.39
−62	−63.0	−0.63	−6	292.0	2.92	50	1,612.0	16.12
−60	−58.6	−0.59	−4	317.8	3.18	52	1,687.7	16.88
−58	−53.9	−0.54	−2	344.8	3.45	54	1,765.8	17.66
−56	−48.8	−0.49	0	373.1	3.73	56	1,846.5	18.46
−54	−43.2	−0.43	2	402.8	4.03	58	1,929.7	19.30
−52	−37.2	−0.37	4	433.8	4.34	60	2,015.4	20.15
−50	−30.8	−0.31	6	466.2	4.66	62	2,103.9	21.04
−48	−23.8	−0.24	8	500.0	5.00	64	2,195.0	21.95
−46	−16.2	−0.16	10	535.3	5.35	66	2,288.9	22.89
−44	−8.2	−0.08	12	572.1	5.72	68	2,385.7	23.86
−42	0.5	0.01	14	610.4	6.10	70	2,485.4	24.85
−40	9.8	0.10	16	650.4	6.50	72	2,588.1	25.88
−38	19.7	0.20	18	691.9	6.92	74	2,693.9	26.94
−36	30.3	0.30	20	735.1	7.35	76	2,802.8	28.03
−34	41.6	0.42	22	780.1	7.80	78	2,915.0	29.15
−32	53.7	0.54	24	826.7	8.27	80	3,030.6	30.31
−30	66.5	0.67	26	875.2	8.75	82	3,149.5	31.50
−28	80.1	0.80	28	925.5	9.26	84	3,272.1	32.72
−26	94.6	0.95	30	977.7	9.78	86	3,398.4	33.98
−24	109.9	1.10	32	1,031.8	10.32	88	3,528.5	35.29
−22	126.1	1.26	34	1,087.8	10.88	90	3,662.8	36.63
−20	143.2	1.43	36	1,145.8	11.46	92	3,801.3	38.01
−18	161.3	1.61	38	1,205.9	12.06	94	3,944.6	39.45
−16	180.4	1.80	40	1,268.1	12.68			

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, GHG Protocol (2024).
ONLINE	kelvin.engineering/refrigerants/r-290 — this table in kPa absolute, and the P–h diagram kelvin.engineering/tools/superheat-subcooling?r=r-290 — superheat and subcooling calculator
VERIFY	These figures must be verified by a qualified professional before they're relied on.