

R-508A pressure–temperature chart

R-23/116 (39/61) — an azeotropic blend of R-23 and R-116, 39 / 61 % by mass. Also written R508A. Bubble and dew pressures from −70 to −2 °C, every 2 K, in kPa gauge and bar gauge, computed with CoolProp.

SAFETY CLASS A1 Lower toxicity, no flame propagation	GWP, 100-YEAR 13,214 (AR4) · 13,258 (AR6) IPCC, summed from its composition	ODP 0 Montreal Protocol
BUBBLE POINT −87.68 °C At 101.325 kPa	DEW POINT −87.66 °C At 101.325 kPa	GLIDE 0.02 K Dew less bubble, at 101.325 kPa

BUBBLE · LIQUID					DEW · VAPOUR				
T (°C)	kPa g	bar g	kPa g	bar g	T (°C)	kPa g	bar g	kPa g	bar g
−70	153.1	1.53	152.3	1.52	−34	947.8	9.48	941.0	9.41
−68	177.9	1.78	176.9	1.77	−32	1,019.0	10.19	1,011.7	10.12
−66	204.5	2.05	203.4	2.03	−30	1,093.7	10.94	1,085.9	10.86
−64	233.0	2.33	231.6	2.32	−28	1,172.1	11.72	1,163.8	11.64
−62	263.4	2.63	261.9	2.62	−26	1,254.3	12.54	1,245.4	12.45
−60	295.9	2.96	294.2	2.94	−24	1,340.4	13.40	1,330.9	13.31
−58	330.6	3.31	328.6	3.29	−22	1,430.5	14.30	1,420.4	14.20
−56	367.5	3.67	365.2	3.65	−20	1,524.7	15.25	1,514.1	15.14
−54	406.7	4.07	404.1	4.04	−18	1,623.2	16.23	1,612.1	16.12
−52	448.3	4.48	445.5	4.45	−16	1,726.2	17.26	1,714.5	17.14
−50	492.5	4.92	489.3	4.89	−14	1,833.7	18.34	1,821.5	18.22
−48	539.2	5.39	535.7	5.36	−12	1,945.9	19.46	1,933.3	19.33
−46	588.7	5.89	584.7	5.85	−10	2,063.0	20.63	2,050.1	20.50
−44	640.9	6.41	636.6	6.37	−8	2,185.2	21.85	2,171.9	21.72
−42	696.1	6.96	691.3	6.91	−6	2,312.7	23.13	2,299.2	22.99
−40	754.2	7.54	749.0	7.49	−4	2,445.6	24.46	2,432.0	24.32
−38	815.5	8.16	809.8	8.10	−2	2,584.2	25.84	2,570.6	25.71
−36	880.0	8.80	873.8	8.74					

NOTES	Gauge pressure is absolute pressure less a standard atmosphere, 101.325 kPa; below it, gauge pressure is negative. Bubble: saturated liquid — read subcooling from it. Dew: saturated vapour — read superheat from it. CoolProp could not solve the bubble line at 2–10 °C, or the dew line at 0 °C. Those rows are left out, not interpolated.
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, safety class and composition: UNEP RTOC 2018, DCCEEW (Australian Government), IPCC AR4 (2007), IPCC AR6 (2021), Montreal Protocol, ASHRAE refrigerant designations, GHG Protocol (2024).
ONLINE	kelvin.engineering/refrigerants/r-508a — this table in kPa absolute, and the P–h diagram kelvin.engineering/tools/superheat-subcooling?r=r-508a — superheat and subcooling calculator
VERIFY	These figures must be verified by a qualified professional before they're relied on.