

RS-50 (R442A) PHYSICAL PROPERTIES

PROPERTY		RS-50	R404A	R22
Molecular Weight		81.8	97.6	86.5
Boiling point (1 atm)	⁰ C	-46.5 ⁽¹⁾	-46.2 ⁽¹⁾	-40.8
	⁰ F	-51.6 ⁽¹⁾	-51.2 ⁽¹⁾	-41.5
Temperature Glide	K	4.6	0.5	0
Critical Temperature	⁰ C	82.4	72.1	96.1
	⁰ F	180.3	161.7	205.1
Critical Pressure	bara	47.6	37.3	49.9
	psia	690	541	724
Liquid Density (25 ⁰ C)	kg/m ³	1108	1044	1191
Density of saturated vapour (25 ⁰ C)	kg/m ³	47.7	65.3	44.2
Latent Heat of Vaporisation at boiling point	kJ/kg	266 ⁽¹⁾	200 ⁽¹⁾	234
Cv (25 ⁰ C & 1bara)	kJ/kg.K	0.727	0.784	0.559
Cp (25 ⁰ C & 1bara)	kJ/kg.K	0.838	0.877	0.662
Cp/Cv (25 ⁰ C & 1 bara)		1.152	1.118	1.185
Vapour Pressure (25 ⁰ C)	bara	13.3 ⁽¹⁾	12.6 ⁽¹⁾	10.4
	psia	192 ⁽¹⁾	182 ⁽¹⁾	151
Vapour Viscosity (25 ⁰ C & 1 bara)	cP	0.0126	0.0120	0.0126
Liquid Viscosity (25 ⁰ C)	cP	0.141	0.128	0.164
Liquid Thermal Conductivity (25 ⁰ C)	W/m.K	0.0857	0.0636	0.0835
Surface Tension (25 ⁰ C)	N/m	0.00661	0.00455	0.00808
Specific heat of liquid (25 ⁰ C)	kJ/kg.K	1.58	1.54	1.26
Ozone Depletion Potential	ODP	0	0	0.055
Global Warming Potential	GWP	1888	3922	1810
Flammability limit in air (1 atm)	vol%	none	none	none
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000	1000

⁽¹⁾ Bubble Point

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