

# RS-50 (R442A) PHYSICAL PROPERTIES (US)

PROPERTY		RS-50	R404A	R22
Molecular Weight		81.8	97.6	86.5
Boiling point (1 atm) <sup>(1)</sup>	<sup>o</sup> C	-46.5 <sup>(1)</sup>	-46.2 <sup>(1)</sup>	-40.8
	<sup>o</sup> F	-51.6 <sup>(1)</sup>	-51.2 <sup>(1)</sup>	-41.5
Temperature Glide	R	8.3	0.9	0
Critical Temperature	<sup>o</sup> C	82.4	72.1	96.1
	<sup>o</sup> F	180.3	161.7	205.1
Critical Pressure	bara	47.6	37.3	49.9
	psia	690	541	724
Liquid Density (77 <sup>o</sup> F) (1)	lb/cu.ft	69.15	65.18	74.33
Density of saturated vapour (77 <sup>o</sup> F) (1)	lb/cu.ft	2.978	4.075	2.761
Latent Heat of Vaporisation at boiling point	Btu/lb	114 <sup>(1)</sup>	86 <sup>(1)</sup>	101
Cv (77 <sup>o</sup> F & 1 atm)	Btu(lb.R)	0.174	0.187	0.134
Cp (77 <sup>o</sup> F & 1 atm)	Btu(lb.R)	0.200	0.209	0.158
Cp/Cv (77 <sup>o</sup> F & 1 atm)		1.152	1.118	1.185
Vapour Pressure (77 <sup>o</sup> F) <sup>(1)</sup>	bara	13.3 <sup>(1)</sup>	12.6 <sup>(1)</sup>	10.4
	psia	192 <sup>(1)</sup>	182 <sup>(1)</sup>	151
Vapour Viscosity (77 <sup>o</sup> F & 1 atm)	lbm(ft.s)	0.00000844	0.00000807	0.00000849
Liquid Viscosity (77 <sup>o</sup> F) (1)	lbm(ft.s)	0.0000949	0.0000862	0.000110
Liquid Thermal Conductivity (77 <sup>o</sup> F) <sup>(1)</sup>	Btu(h.ft.R)	0.0495	0.0368	0.08266
Surface Tension (77 <sup>o</sup> F) (1)	lbf/ft	0.000453	0.000312	0.000553
Specific heat of liquid (77 <sup>o</sup> F) (1)	Btu(lb.R)	0.3728	0.3686	0.3004
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

<sup>(1)</sup> Bubble Point

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