

# RS-45 (R434A) PHYSICAL PROPERTIES

PROPERTY		RS-45	R22
Molecular Weight		105.3	86.5
Boiling point (1 atm)	<sup>0</sup> C	-44.9 <sub>(1)</sub>	-40.8
	<sup>0</sup> F	-48.8 <sub>(1)</sub>	-41.4
Temperature Glide	K	1.5	0
Critical Temperature	<sup>0</sup> C	77.83	96.1
	<sup>0</sup> F	172.1	204.8
Critical Pressure	bara	39.31	49.9
	psia	570.2	724
Liquid Density (25 <sup>0</sup> C)	kg/m <sup>3</sup>	1096	1191
Density of saturated vapour (25 <sup>0</sup> C)	kg/m <sup>3</sup>	53.1	44.2
Latent Heat of Vaporisation at boiling point	kJ/kg	190 <sub>(1)</sub>	234
Cv (25 <sup>0</sup> C & 1bara)	kJ/kg.K	0.775	0.559
Cp (25 <sup>0</sup> C & 1bara)	kJ/kg.K	0.861	0.662
Cp/Cv (25 <sup>0</sup> C & 1 bara)		1.111	1.185
Vapour Pressure (25 <sup>0</sup> C)	bara	11.8 <sub>(1)</sub>	10.4
	psia	163 <sub>(1)</sub>	151
Vapour Viscosity (25 <sup>0</sup> C & 1 bara)	cP	0.0128	0.0126
Liquid Viscosity (25 <sup>0</sup> C)	cP	0.140	0.166
Liquid Thermal Conductivity (25 <sup>0</sup> C)	W/m.K	0.0665	0.0837
Surface Tension (25 <sup>0</sup> C)	N/m	0.00528	0.00808
Specific heat of liquid (25 <sup>0</sup> C)	kJ/kg.K	1.50	1.26
Ozone Depletion Potential	ODP	0	0.055
Flammability limit in air (1 atm)	vol%	none	none
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000

(1) Bubble Point

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