

Zephex[®] 227ea

Zephex[®] 227ea physical properties

Property	Units	Data
Chemical Name	–	1,1,1,2,3,3,3-Heptafluoropropane
Chemical Formula	–	CF ₃ CHF ₂ CF ₃
Molecular Weight	–	170.03
Boiling Point at 1 atm (1.013 bar)	°C °F	-16.45 2.39
Melting Point	°C °F	-131.2 -204.16
Critical Temperature	°C °F	102.79 217.02
Critical Pressure	bara lb/in ² abs	29.87 433.22
Critical Volume	m ³ /kg ft ³ /lb	1.72 x 10 ⁻³ 0.0276
Critical Density	kg/m ³ lb/ft ³	581.4 36.23
Liquid Density at 25°C(77°F)	m ³ /kg ft ³ /lb	1387.4 86.46
Vapour Density at 25°C(77°F)	kg/m ³ lb/ft ³	37.05 2.31
Saturated Vapour Density at nBpt	m ³ /kg ft ³ /lb	35.94 2.240
Liquid Cp at 25°C(77°F)	kJ/kg.K Btu/lb.°F	0.8769 0.211
Vapour Pressure at 25°C(77°F)	bara	4.544
Latent Heat of Vaporisation at nBpt	kJ/kg Btu/lb	132.02 56.76
Liquid Thermal Conductivity at 25°C(77°F)	W/m.K Btu/hr.ft°F	0.054 0.031
Vapour Thermal Conductivity at 25°C(77°F) and 1 atm (1.013 bar)	W/m.K Btu/hr.ft°F	0.011 0.006
Liquid Viscosity at 25°C(77°F)	cP	0.240
Vapour Viscosity at 25°C(77°F) and 1 atm(1.013 bar)	cP	0.010
Coefficient of thermal expansion	°C	Not yet available
Solubility of 134a in Water at 20°C (68°F) and 1 atm (1.013 bar)	%w/w	0.058

Solubility of Water in HFA-134a at 25°C(77°F) and 1 atm(1.013 bar)	%w/w	0.061
Flammability Limits in Air at 1 atm (1.013 bar)	%v/v	Non-Flammable
Autoignition Temperature	°C °F	>650 >1200
Liquid Dielectric Constant at 20°C	–	Not yet available
Vapour Dielectric Constant at 25°C(77°F) and 1 atm (1.013 bar)	–	Not yet available
Dielectric Strength (R12 = 1)	–	Not yet available
Dipole Moment	D	1.456 ± 0.002
Thermal Conductivity at 25 °C	W/mK	0.054
Surface Tension at 25 °C	mN/m	7.50
Toxicity AEL (8- and 12-hr TWA)	ppm(v/v)	1000
TSCA Inventory Status	–	Included
EINECS Inventory Status	–	Included