



Suva[®]

refrigerants

Physical Property Data for Suva[®] 134a, Suva[®] 409A, Suva[®] MP39, Suva[®] MP66, Freon[®] 12, and Freon[®] 500

Property	Suva [®] 134a	Suva [®] MP39	Suva [®] MP66	Suva [®] 409A	Freon [®] 12	Freon [®] 500
Refrigerant Number	R-134a	R-401A	R-401B	R-409A	R-12	R-500
Replaces	R-12	R-12	R-12, R-500	R-12	N/A	N/A
Chemical Formula/ Composition	CH ₂ FCF ₃	R22/R152a/R124 53/13/34 wt%	R22/R152a/R124 61/11/28 wt%	R22/R142b/R124 60/15/25 wt%	CCl ₂ F ₂	R12/R152a 73.8/26.2 wt%
CAS Number	811-97-2	R22:75-45-6 R152a:75-37-6 R124:2837-89-0	R22:75-45-6 R152a:75-37-6 R124:2837-89-0	R22:75-45-6 R142b:75-68-3 R124:2837-89-0	75-71-8	R12:75-71-8 R152a:75-37-6
Molecular Weight	102.03	94.4	92.8	97.45	120.93	99.31
Boiling Point at 1 atm, °F (°C)	-15.7 (-26.5)	-27.3 (-33.0)	-30.4 (-34.7)	-29.6 (-34.2)	-21.62 (-29.79)	-28.3 (-33.5)
Liquid Density at 77°F (25°C), lb/ft ³ (kg/m ³)	75.02 (1210)	74.5 (1194)	74.4 (1193)	76 (1217)	81.84 (1311)	72.16 (1156)
Vapor Pressure of Satd. Liquid at 77°F (25°C), psia (kPa)	96 (661.9)	112.1 (772.9)	118.8 (819.2)	116.3 (801.6)	94.6 (652.1)	111.5 (768.8)
Heat Capacity of Liquid at 77°F (25°C), Btu/lb °F (kJ/kgK)	0.339 (1.42)	0.310 (1.3)	0.310 (1.3)	N/A	0.232 (0.971)	0.258 (1.08)
Heat Capacity of Vapor at 1 atm at 77°F (25°C), Btu/lb °F (kJ/kgK)	0.204 (0.854)	0.176 (0.737)	0.173 (0.724)	N/A	0.145 (0.617)	0.175 (0.733)
Thermal Conductivity of Liquid at 77°F (25°C), Btu/hr.ft °F (W/mK)	0.0478 (0.0824)	0.0517 (0.09)	0.0517 (0.09)	N/A (0.0697)	0.0405 (0.0743)	0.0432
Thermal Conductivity of Vapor at 1 atm (101.3 kPa), Btu/hr.ft °F (W/mK)	0.00836 (0.0145)	0.00688 (0.0119)	0.00688 (0.0119)	N/A	0.00557 (0.00958)	N/A
Critical Temperature, °F (°C)	213.9 (101.1)	226 (108)	223 (106)	224.6 (107)	233.6 (112)	221.9 (105.5)
Critical Pressure, psia (kPa)	588.9 (4060)	668 (4604)	679 (4682)	667.2 (4600)	596.9 (4116)	641.9 (4426)
AEL/TLV, 8- or 12-hr TWA, ppm	1,000	1,000	1,000	1,000	1,000	1,000
ODP, CFC-12=1	0	0.03	0.035	0.05	1	0.738
GWP, CO ₂ =1	1,300	973	1,062	1,288	8,500	6,310
ASHRAE Safety Classification	A1	A1/A1	A1/A1	A1/A1	A1	A1/A1
Refrigerant Cylinder Color, PMS Code	2975	177	124	465	White	109
Refrigerant Number	R-134a	R-401A	R-401B	R-409A	R-12	R-500