



R-1234yf

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Composition: 100% CH₂=CF-CF₃

Application:

A2L safety rating implies slight flammability — may affect locations where it can be used. Not an issue in automotive AC systems designed for 1234yf

Performance:

New equipment containing R-1234yf will perform as designed

Lubricant:

Automotive systems will use Polyalkaline Glycol (PAG) lubricant. Polyolester can be used for refrigeration applications

Retrofitting:

- Can be applied in most small, self contained applications instead of R-134a

[PRESSURE-TEMP CHART]

TEMP. (°F)	R-1234yf psig
-40	11.6
-35	9.0
-30	5.9
-25	2.8
-20	0.4
-15	2.3
-10	4.4
-5	6.7
0	9.2
5	11.9
10	14.9
15	18.1
20	21.6
25	25.4
30	29.4
35	33.8
40	38.4
45	43.4
50	48.8
55	54.5
60	60.6
65	67.0
70	73.9
75	81.2
80	89.0
85	97.2
90	106
95	115
100	125
105	135
110	146

[PHYSICAL PROPERTIES OF REFRIGERANTS]

	National R-1234yf
Environmental Classification	HFO
Molecular Weight	114
Boiling Point (1atm, °F)	-21.1
Critical Pressure (psia)	490.6
Critical Temperature (°F)	202.5
Critical Density (lb./ft ³)	29.69
Liquid Density (20°F, lb./ft ³)	69.04
Vapor Density (bp, lb./ft ³)	0.374
Heat of Vaporization (bp, BTU/lb.)	77.53
Specific Heat Liquid (20°F, BTU/lb. °F)	0.329
Specific Heat Vapor (1atm, 20°F, BTU/lb. °F)	0.215
Ozone Depletion Potential (CFC 11 = 1.0)	0
Global Warming Potential (CO ₂ = 1.0)	4
ASHRAE Standard 34 Safety Rating	A2L

[AVAILABLE IN SIZES]

REFRIGERANT	Type	Size
R-1234yf	Can	8 lb.
	Cylinder	10 lb.



Thermodynamic Properties of R-1234yf

TEMP. (°F)	Pressure (psia)	Density Liquid (lb/ft ³)	Density Vapor (lb/ft ³)	Enthalpy Liquid (Btu/lb)	Enthalpy Vapor (Btu/lb)	Entropy Liquid (Btu/R-lb)	Entropy Vapor (Btu/R-lb)
-40	9.0	80.65	0.2369	0.000	79.81	0.0000	0.1902
-35	10.3	80.18	0.2683	1.390	80.61	0.0033	0.1898
-30	11.8	79.71	0.3029	2.790	81.42	0.0066	0.1896
-25	13.3	79.23	0.3410	4.200	82.23	0.0098	0.1893
-20	15.1	78.75	0.3827	5.620	83.03	0.0131	0.1891
-15	17.0	76.26	0.4383	7.050	83.84	0.0163	0.1890
-10	19.1	77.77	0.4781	8.500	84.64	0.0195	0.1888
-5	21.4	77.28	0.5323	9.950	85.44	0.0227	0.1887
0	23.9	76.78	0.5913	11.41	86.24	0.0259	0.1887
5	26.6	76.27	0.6552	12.89	87.04	0.0291	0.1887
10	29.6	75.76	0.7245	14.37	87.84	0.0322	0.1887
15	32.8	75.24	0.7995	15.87	88.63	0.0354	0.1887
20	36.3	74.72	0.8805	17.38	89.42	0.0385	0.1887
25	40.1	74.19	0.9679	18.90	90.21	0.0417	0.1888
30	44.1	73.65	1.062	20.43	90.99	0.0448	0.1889
35	48.5	73.11	1.163	21.98	91.77	0.0479	0.1890
40	53.1	72.55	1.272	23.54	92.54	0.0510	0.1891
45	58.1	71.99	1.389	25.11	93.30	0.0541	0.1892
50	63.5	71.42	1.515	26.69	94.06	0.0572	0.1894
55	69.2	70.84	1.650	28.28	94.81	0.0603	0.1896
60	75.3	70.25	1.794	29.89	95.55	0.0634	0.1897
65	81.7	69.65	1.949	31.51	96.29	0.0664	0.1899
70	88.6	69.04	2.115	33.15	97.01	0.0695	0.1901
75	95.9	68.42	2.293	34.80	97.72	0.0726	0.1903
80	103.7	67.78	2.483	36.46	98.42	0.0756	0.1904
85	111.9	67.14	2.687	38.14	99.11	0.0787	0.1906
90	120.6	66.47	2.906	39.84	99.78	0.0817	0.1908
95	129.8	65.80	3.140	41.55	100.4	0.0848	0.1910
100	139.6	65.10	3.391	43.28	101.1	0.0878	0.1911
105	149.8	64.39	3.661	45.02	101.7	0.0909	0.1913
110	160.6	63.67	3.950	46.78	102.3	0.0940	0.1914
115	172.0	62.92	4.261	48.57	102.9	0.0970	0.1915
120	183.9	62.14	4.596	50.37	103.4	0.1001	0.1916
125	196.5	61.35	4.957	52.20	104.0	0.1032	0.1917
130	209.7	60.52	5.347	54.05	104.5	0.1062	0.1917
135	223.6	59.66	5.769	55.94	104.9	0.1093	0.1917
140	238.1	58.77	6.227	57.85	105.3	0.1125	0.1917
145	253.4	57.83	6.727	59.79	105.7	0.1156	0.1916
150	269.4	56.84	7.272	61.77	106.1	0.0119	0.1914