



Thermodynamic Properties of **HCFC-124**

(2-chloro-1,1,1,2-tetrafluoroethane)

Du Pont Product Names:
SUVA® 124 Refrigerant



Thermodynamic Properties of HCFC-124 Refrigerant (2-chloro-1,1,1,2-tetrafluoroethane) SI Units

New tables of the thermodynamic properties of HCFC-124 have been developed and are presented here. These tables are based on experimental data from the database at the National Institute of Standards and Technology (NIST). Equations have been developed, based on the Modified Benedict-Webb-Rubin (MBWR) equation of state, which represent the data with accuracy and consistency throughout the entire range of temperature, pressure, and density.

Physical Properties

Chemical Formula	CHClF ₂	
Molecular Weight	136.48	
Boiling Point at One Atmosphere	-12.09°C	(10.25°F)
Critical Temperature	122.47°C	(252.45°F)
	395.62 K	(712.12°R)
Critical Pressure	3634.0 kPa (abs)	(527.1 psia)
Critical Density	553.8 kg/m ³	(34.57 lb/ft ³)
Critical Volume	0.00181 m ³ /kg	(0.029 ft ³ /lb)

Units and Factors

t	= temperature in °C
T	= temperature in K = °C + 273.15
P	= pressure in kiloPascals absolute [kPa (abs)]
v _f	= volume of saturated liquid in m ³ /kg
v _g	= volume of saturated vapor in m ³ /kg
V	= volume of superheated vapor in m ³ /kg
d _f	= 1/v _f = density of saturated liquid in kg/m ³
d _g	= 1/v _g = density of saturated vapor in kg/m ³
h _f	= enthalpy of saturated liquid in kJ/kg
h _{fg}	= enthalpy of vaporization in kJ/kg
h _g	= enthalpy of saturated vapor in kJ/kg
H	= enthalpy of superheated vapor in kJ/kg
s _f	= entropy of saturated liquid in kJ/(kg) (K)
s _g	= entropy of saturated vapor in kJ/(kg) (K)
S	= entropy of superheated vapor in kJ/(kg) (K)
C _p	= heat capacity at constant pressure in kJ/(kg) (°C)
C _v	= heat capacity at constant volume in kJ/(kg) (°C)
v _s	= velocity of sound in m/sec

The gas constant, R = 8.314 J/(mole) (K)
for HCFC-124, R = 0.0609 kJ/kg · K

One atmosphere = 101.325 kPa

Reference point for enthalpy and entropy:

h_f = 200 kJ/kg at 0°C
s_f = 1 kJ/kg · K at 0°C

Equations

The Modified Benedict-Webb-Rubin (MBWR) equation of state was used to calculate the tables of thermodynamic properties. It was chosen as the preferred equation of state because it provided the most accurate fit of the thermodynamic data over the entire range of temperatures and pressures presented in these tables. The data fit and calculation of constants for HCFC-124 were performed for Du Pont at the National Institute of Standards and Technology (NIST) under the supervision of Dr. Mark O. McLinden.

The constants were calculated in SI units. For conversion of thermodynamic properties to Engineering (I/P) units, properties must be calculated in SI units and converted to I/P units. Conversion factors are provided for each property derived from the MBWR equation of state.

1. Equation of State (MBWR)

$$P = \sum_{n=1}^9 a_n/V^n + \exp(-V_c^2/V^2) \sum_{n=10}^{15} a_n/V^{2n-17}$$

where the temperature dependence of the coefficients is given by:

$$a_1 = RT$$

$$a_2 = b_1T + b_2T^{0.5} + b_3 + b_4/T + b_5/T^2$$

$$a_3 = b_6T + b_7 + b_8/T + b_9/T^2$$

$$a_4 = b_{10}T + b_{11} + b_{12}/T$$

$$a_5 = b_{13}$$

$$a_6 = b_{14}/T + b_{15}/T^2$$

$$a_7 = b_{16}/T$$

$$a_8 = b_{17}/T + b_{18}/T^2$$

$$a_9 = b_{19}/T^2$$

$$a_{10} = b_{20}/T^2 + b_{21}/T^3$$

$$a_{11} = b_{22}/T^2 + b_{23}/T^4$$

$$a_{12} = b_{24}/T^2 + b_{25}/T^3$$

$$a_{13} = b_{26}/T^2 + b_{27}/T^4$$

$$a_{14} = b_{28}/T^2 + b_{29}/T^3$$

$$a_{15} = b_{30}/T^2 + b_{31}/T^3 + b_{32}/T^4$$

where T is in K = °C + 273.15, P is in kPa, V is in m³/mole, and R = 8.314471 J/(mole) (K)

MBWR coefficients for HCFC-124:

$b_1 = -1.093\ 499\ 8834\ E-01$
 $b_2 = 1.412\ 915\ 2134\ E+01$
 $b_3 = -3.958\ 118\ 5940\ E+02$
 $b_4 = 8.427\ 861\ 7366\ E+04$
 $b_5 = -1.025\ 411\ 8461\ E+07$
 $b_6 = -1.945\ 626\ 2361\ E-02$
 $b_7 = 1.903\ 030\ 6923\ E+01$
 $b_8 = -6.913\ 678\ 5143\ E+03$
 $b_9 = 3.455\ 992\ 7149\ E+06$
 $b_{10} = 2.582\ 477\ 9719\ E-05$
 $b_{11} = 1.762\ 181\ 2116\ E+00$
 $b_{12} = -7.801\ 144\ 8973\ E+02$
 $b_{13} = -8.871\ 006\ 1339\ E-02$
 $b_{14} = -4.913\ 005\ 8929\ E+00$
 $b_{15} = -1.820\ 624\ 5328\ E+03$
 $b_{16} = 1.201\ 399\ 3516\ E+00$
 $b_{17} = -4.341\ 417\ 4810\ E-02$
 $b_{18} = 6.087\ 601\ 4233\ E+00$
 $b_{19} = -9.236\ 773\ 0850\ E-02$
 $b_{20} = -1.739\ 814\ 0703\ E+06$
 $b_{21} = -2.090\ 178\ 0183\ E+08$
 $b_{22} = -1.396\ 901\ 2702\ E+05$
 $b_{23} = 4.413\ 165\ 7352\ E+09$
 $b_{24} = -1.075\ 659\ 0479\ E+03$
 $b_{25} = -4.917\ 532\ 0614\ E+05$
 $b_{26} = -5.629\ 267\ 6796\ E+01$
 $b_{27} = 1.396\ 047\ 3186\ E+06$
 $b_{28} = 7.325\ 801\ 6846\ E-02$
 $b_{29} = -8.503\ 836\ 2566\ E+01$
 $b_{30} = -5.234\ 670\ 9799\ E-03$
 $b_{31} = 1.265\ 589\ 6060\ E+00$
 $b_{32} = -6.230\ 706\ 3545\ E+02$

Ideal Gas Heat Capacity Equation (at constant pressure):

$$C_p^o \text{ (J/mole} \cdot \text{K)} = cp1 + cp2 T + cp3 T^2$$

$cp1 = 3.097313\ E+01$ $cp3 = -9.360258\ E-05$
 $cp2 = 2.542149\ E-01$ $R = 8.314471\ \text{J/mole} \cdot \text{K}$
 $MW = 136.48$

Properties calculated in SI units from the equation and constants listed above can be converted to I/P units using the conversion factors shown below. Please note that in converting enthalpy and entropy from SI to I/P units, a change in reference states must be included (from $H = 200$ and $S = 1$ at 0°C for SI units to $H = 0$ and $S = 0$ at -40°C for I/P units). In the conversion equation below, H (ref) and S (ref) are the saturated liquid enthalpy and entropy at -40°C . For HCFC-124, H (ref) = $159.1\ \text{kJ/kg}$ and S (ref) = $0.8384\ \text{kJ/kg} \cdot \text{K}$.

$$\begin{aligned}
 P \text{ (psia)} &= P \text{ (kPa)} \cdot 0.14504 \\
 T \text{ (}^\circ\text{F)} &= (T \text{ [}^\circ\text{C]} \cdot 1.8) + 32 \\
 D \text{ (lb/ft}^3\text{)} &= D \text{ (kg/m}^3\text{)} \cdot 0.062428 \\
 V \text{ (ft}^3\text{/lb)} &= V \text{ (m}^3\text{/kg)} \cdot 16.018 \\
 H \text{ (Btu/lb)} &= [H \text{ (kJ/kg)} - H \text{ (ref)}] \cdot 0.43021 \\
 S \text{ (Btu/lb} \cdot \text{ }^\circ\text{R)} &= [S \text{ (kJ/kg} \cdot \text{K)} - S \text{ (ref)}] \cdot 0.23901 \\
 C_p \text{ (Btu/lb} \cdot \text{ }^\circ\text{F)} &= C_p \text{ (kJ/kg} \cdot \text{K)} \cdot 0.23901 \\
 C_v \text{ (Btu/lb} \cdot \text{ }^\circ\text{F)} &= C_v \text{ (kJ/kg} \cdot \text{K)} \cdot 0.23901 \\
 v_s \text{ (ft/sec)} &= v_s \text{ (m/sec)} \cdot 3.2808
 \end{aligned}$$

2. Martin-Hou Equation of State (fit from MBWR data)

As previously stated, the thermodynamic properties presented in these tables are based on the MBWR equation of state. Coefficients for the Martin-Hou equation of state are presented below for the convenience of those who may have existing computer programs based on this equation of state. While not as accurate as the data from the MBWR equation of state, particularly in the superheated region, data calculated using these Martin-Hou coefficients should be sufficient for most engineering calculations.

$$P = RT/(V-b) + \sum_{i=2}^5 (A_i + B_i T + C_i \exp(-kT/T_c))/(V-b)^i$$

For SI units

T and T_c are in $\text{K} = ^\circ\text{C} + 273.15$, V is in m^3/kg , and P is in kPa

$$R = 0.0609\ \text{kJ/kg} \cdot \text{K}$$

b , A_i , B_i , C_i , k are constants:

$$\begin{aligned}
 A_2 &= -1.123096\ E-01 & A_4 &= -1.379305\ E-06 \\
 B_2 &= 1.196140\ E-04 & B_4 &= 2.998337\ E-09 \\
 C_2 &= -1.691846\ E+01 & C_4 &= 5.357853\ E-04 \\
 A_3 &= 3.187058\ E-04 & A_5 &= 3.578654\ E-09 \\
 B_3 &= -5.145344\ E-07 & B_5 &= -8.220673\ E-12 \\
 C_3 &= -4.413965\ E-02 & C_5 &= -1.715991\ E-06 \\
 b &= 4.791519\ E-04 & k &= 8.750000\ E+00
 \end{aligned}$$

For I/P units

T and T_c are in $^{\circ}\text{R} = ^{\circ}\text{F} + 459.67$, V is in ft^3/lb , and P is in psia

$$R = 0.0786 \text{ (psia)(ft}^3\text{)/lb} \cdot ^{\circ}\text{R}$$

b, A_i , B_i , C_i , k are constants:

$$A_2 = -4.179655 \text{ E+00} \quad A_4 = -1.317119 \text{ E-02}$$

$$B_2 = 2.473052 \text{ E-03} \quad B_4 = 1.590643 \text{ E-05}$$

$$C_2 = -6.296286 \text{ E+02} \quad C_4 = 5.116296 \text{ E+00}$$

$$A_3 = 1.899915 \text{ E-01} \quad A_5 = 5.474004 \text{ E-04}$$

$$B_3 = -1.704065 \text{ E-04} \quad B_5 = -6.985867 \text{ E-07}$$

$$C_3 = -2.631317 \text{ E+01} \quad C_5 = -2.624825 \text{ E-01}$$

$$b = 7.675272 \text{ E-03} \quad k = 8.750000 \text{ E+00}$$

Ideal Gas Heat Capacity (at constant vapor):

$$C_v^{\circ} = a + bT + cT^2 + dT^3 + f/T^2$$

For SI units

$$C_v^{\circ} = \text{kJ/kg} \cdot \text{K}$$

T is in $\text{K} = ^{\circ}\text{C} + 273.15$

a, b, c, d, f are constants:

$$a = -1.915931 \text{ E+00} \quad d = 1.408943 \text{ E-08}$$

$$b = 1.303064 \text{ E-02} \quad f = 2.638617 \text{ E+04}$$

$$c = 2.227441 \text{ E-05}$$

For I/P units

$$C_v = \text{Btu/lb} \cdot ^{\circ}\text{R}$$

T is in $^{\circ}\text{R} = ^{\circ}\text{F} + 459.67$

a, b, c, d, f are constants:

$$a = -4.579186 \text{ E-01} \quad d = 5.774098 \text{ E-10}$$

$$b = 1.730221 \text{ E-03} \quad f = 2.043288 \text{ E+04}$$

$$c = -1.643121 \text{ E-06}$$

3. Vapor Pressure

$$\log_{10} P_{\text{sat}} = A + B/T + C \log_{10} T + D T + E \left(\frac{F-T}{T} \right) \log_{10} (F-T)$$

For SI units

T is in $\text{K} = ^{\circ}\text{C} + 273.15$ and P is in kPa

A, B, C, D, E, F are constants:

$$A = 3.863136 \text{ E+01} \quad D = 7.017134 \text{ E-03}$$

$$B = -2.338098 \text{ E+03} \quad E = 1.960258 \text{ E-01}$$

$$C = -1.229615 \text{ E+01} \quad F = 3.956250 \text{ E+02}$$

For I/P units

T is in $^{\circ}\text{R} = ^{\circ}\text{F} + 459.67$ and P is in psia

A, B, C, D, E, F are constants:

$$A = 4.098176 \text{ E+01} \quad D = 3.898408 \text{ E-03}$$

$$B = -4.244211 \text{ E+03} \quad E = 1.960258 \text{ E-01}$$

$$C = -1.229615 \text{ E+01} \quad F = 7.121250 \text{ E+02}$$

4. Density of the Saturated Liquid

$$d_f = A_f + B_f (1-T_r)^{(1/3)} + C_f (1-T_r)^{(2/3)} + D_f (1-T_r) + E_f (1-T_r)^{(4/3)}$$

For SI units

$T_r = T/T_c$, both in $\text{K} = ^{\circ}\text{C} + 273.15$ and d_f is in kg/m^3

A_f, B_f, C_f, D_f, E_f are constants:

$$A_f = 5.726645 \text{ E+02} \quad D_f = -1.483957 \text{ E+03}$$

$$B_f = 7.695289 \text{ E+02} \quad E_f = 9.259285 \text{ E+02}$$

$$C_f = 1.332045 \text{ E+03}$$

For I/P units

$T_r = T/T_c$, both in $^{\circ}\text{R} = ^{\circ}\text{F} + 459.67$ and d_f is in lb/ft^3

A_f, B_f, C_f, D_f, E_f are constants:

$$A_f = 3.575028 \text{ E+01} \quad D_f = -9.264041 \text{ E+01}$$

$$B_f = 4.804012 \text{ E+01} \quad E_f = 5.780383 \text{ E+01}$$

$$C_f = 8.315687 \text{ E+01}$$

TABLE 1
HCFC-124 Saturation Properties—Temperature Table

TEMP. °C	PRESSURE kPa (abs)	VOLUME m ³ /kg		DENSITY kg/m ³		ENTHALPY kJ/kg			ENTROPY kJ/(kg)(K)		TEMP. °C
		LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
-100	0.22	0.0006	47.6190	1711.7	0.021	87.0	215.0	302.0	0.4775	1.7192	-100
-99	0.25	0.0006	41.6667	1709.1	0.024	88.5	214.0	302.5	0.4860	1.7151	-99
-98	0.28	0.0006	38.4615	1706.5	0.026	89.9	213.1	303.0	0.4944	1.7111	-98
-97	0.31	0.0006	34.4828	1704.0	0.029	91.4	212.2	303.6	0.5027	1.7072	-97
-96	0.35	0.0006	30.3030	1701.4	0.033	92.8	211.3	304.1	0.5109	1.7034	-96
-95	0.39	0.0006	27.7778	1698.8	0.036	94.3	210.3	304.6	0.5190	1.6997	-95
-94	0.44	0.0006	25.0000	1696.2	0.040	95.7	209.5	305.1	0.5269	1.6961	-94
-93	0.49	0.0006	22.7273	1693.6	0.044	97.1	208.6	305.7	0.5348	1.6926	-93
-92	0.54	0.0006	20.4082	1691.1	0.049	98.5	207.7	306.2	0.5425	1.6892	-92
-91	0.60	0.0006	18.5185	1688.5	0.054	99.9	206.9	306.7	0.5502	1.6858	-91
-90	0.66	0.0006	16.6667	1685.9	0.060	101.3	206.0	307.3	0.5577	1.6826	-90
-89	0.73	0.0006	15.1515	1683.3	0.066	102.6	205.2	307.8	0.5651	1.6794	-89
-88	0.81	0.0006	13.8889	1680.8	0.072	104.0	204.4	308.3	0.5724	1.6763	-88
-87	0.89	0.0006	12.6582	1678.2	0.079	105.3	203.6	308.9	0.5797	1.6733	-87
-86	0.98	0.0006	11.6279	1675.6	0.086	106.6	202.8	309.4	0.5868	1.6703	-86
-85	1.08	0.0006	10.6383	1673.0	0.094	108.0	202.0	310.0	0.5938	1.6675	-85
-84	1.19	0.0006	9.7087	1670.5	0.103	109.3	201.2	310.5	0.6007	1.6647	-84
-83	1.30	0.0006	8.8496	1667.9	0.113	110.6	200.5	311.1	0.6076	1.6619	-83
-82	1.42	0.0006	8.1301	1665.3	0.123	111.8	199.7	311.6	0.6143	1.6593	-82
-81	1.56	0.0006	7.5188	1662.7	0.133	113.1	199.0	312.1	0.6209	1.6567	-81
-80	1.70	0.0006	6.8966	1660.1	0.145	114.4	198.3	312.7	0.6275	1.6542	-80
-79	1.85	0.0006	6.3694	1657.5	0.157	115.6	197.6	313.2	0.6340	1.6517	-79
-78	2.02	0.0006	5.8480	1655.0	0.171	116.9	196.9	313.8	0.6404	1.6493	-78
-77	2.20	0.0006	5.4054	1652.4	0.185	118.1	196.2	314.3	0.6467	1.6470	-77
-76	2.39	0.0006	5.0000	1649.8	0.200	119.3	195.5	314.9	0.6529	1.6447	-76
-75	2.60	0.0006	4.6296	1647.2	0.216	120.6	194.9	315.4	0.6591	1.6425	-75
-74	2.82	0.0006	4.2918	1644.6	0.233	121.8	194.2	316.0	0.6652	1.6403	-74
-73	3.05	0.0006	3.9683	1642.0	0.252	123.0	193.6	316.5	0.6712	1.6382	-73
-72	3.30	0.0006	3.6900	1639.4	0.271	124.2	192.9	317.1	0.6771	1.6361	-72
-71	3.57	0.0006	3.4247	1636.8	0.292	125.3	192.3	317.6	0.6830	1.6341	-71
-70	3.86	0.0006	3.1847	1634.2	0.314	126.5	191.7	318.2	0.6887	1.6322	-70
-69	4.16	0.0006	2.9674	1631.5	0.337	127.7	191.0	318.7	0.6945	1.6303	-69
-68	4.49	0.0006	2.7624	1628.9	0.362	128.8	190.4	319.3	0.7001	1.6284	-68
-67	4.84	0.0006	2.5773	1626.3	0.388	130.0	189.8	319.8	0.7057	1.6266	-67
-66	5.21	0.0006	2.4038	1623.7	0.416	131.1	189.3	320.4	0.7113	1.6249	-66
-65	5.60	0.0006	2.2472	1621.1	0.445	132.3	188.7	320.9	0.7167	1.6232	-65
-64	6.01	0.0006	2.1008	1618.4	0.476	133.4	188.1	321.5	0.7221	1.6215	-64
-63	6.46	0.0006	1.9646	1615.8	0.509	134.5	187.5	322.1	0.7275	1.6199	-63
-62	6.92	0.0006	1.8382	1613.2	0.544	135.6	187.0	322.6	0.7328	1.6183	-62
-61	7.42	0.0006	1.7241	1610.5	0.580	136.8	186.4	323.2	0.7381	1.6168	-61
-60	7.94	0.0006	1.6155	1607.9	0.619	137.9	185.9	323.7	0.7433	1.6153	-60
-59	8.50	0.0006	1.5175	1605.2	0.659	139.0	185.3	324.3	0.7484	1.6138	-59
-58	9.08	0.0006	1.4245	1602.6	0.702	140.1	184.8	324.8	0.7535	1.6124	-58
-57	9.70	0.0006	1.3405	1599.9	0.746	141.1	184.3	325.4	0.7586	1.6110	-57
-56	10.36	0.0006	1.2610	1597.2	0.793	142.2	183.7	326.0	0.7636	1.6097	-56
-55	11.05	0.0006	1.1862	1594.6	0.843	143.3	183.2	326.5	0.7685	1.6084	-55
-54	11.78	0.0006	1.1173	1591.9	0.895	144.4	182.7	327.1	0.7734	1.6071	-54
-53	12.54	0.0006	1.0537	1589.2	0.949	145.5	182.2	327.6	0.7783	1.6059	-53
-52	13.35	0.0006	0.9940	1586.5	1.006	146.5	181.7	328.2	0.7831	1.6047	-52
-51	14.20	0.0006	0.9381	1583.8	1.066	147.6	181.2	328.8	0.7879	1.6035	-51
-50	15.09	0.0006	0.8857	1581.1	1.129	148.6	180.7	329.3	0.7927	1.6023	-50
-49	16.03	0.0006	0.8375	1578.4	1.194	149.7	180.2	329.9	0.7974	1.6012	-49
-48	17.01	0.0006	0.7918	1575.7	1.263	150.8	179.7	330.4	0.8021	1.6002	-48
-47	18.04	0.0006	0.7496	1573.0	1.334	151.8	179.2	331.0	0.8067	1.5991	-47
-46	19.13	0.0006	0.7097	1570.3	1.409	152.8	178.7	331.6	0.8113	1.5981	-46
-45	20.26	0.0006	0.6720	1567.6	1.488	153.9	178.2	332.1	0.8159	1.5971	-45
-44	21.45	0.0006	0.6373	1564.8	1.569	154.9	177.8	332.7	0.8205	1.5962	-44
-43	22.70	0.0006	0.6042	1562.1	1.655	156.0	177.3	333.2	0.8250	1.5953	-43
-42	24.01	0.0006	0.5734	1559.4	1.744	157.0	176.8	333.8	0.8295	1.5944	-42
-41	25.37	0.0006	0.5447	1556.6	1.836	158.0	176.3	334.4	0.8339	1.5935	-41

TABLE 1 (continued)
HCFC-124 Saturation Properties—Temperature Table

TEMP. °C	PRESSURE kPa (abs)	VOLUME m ³ /kg		DENSITY kg/m ³		ENTHALPY kJ/kg			ENTROPY kJ/(kg)(K)		TEMP. °C
		LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
-40	26.80	0.0006	0.5173	1553.9	1.933	159.1	175.9	334.9	0.8384	1.5927	-40
-39	28.29	0.0006	0.4916	1551.1	2.034	160.1	175.4	335.5	0.8428	1.5919	-39
-38	29.85	0.0006	0.4677	1548.3	2.138	161.1	174.9	336.1	0.8471	1.5911	-38
-37	31.48	0.0006	0.4450	1545.5	2.247	162.2	174.5	336.6	0.8515	1.5903	-37
-36	33.18	0.0006	0.4235	1542.8	2.361	163.2	174.0	337.2	0.8558	1.5896	-36
-35	34.95	0.0006	0.4034	1540.0	2.479	164.2	173.6	337.7	0.8601	1.5888	-35
-34	36.80	0.0007	0.3845	1537.2	2.601	165.2	173.1	338.3	0.8644	1.5882	-34
-33	38.72	0.0007	0.3664	1534.4	2.729	166.2	172.6	338.9	0.8686	1.5875	-33
-32	40.73	0.0007	0.3495	1531.6	2.861	167.3	172.2	339.4	0.8729	1.5868	-32
-31	42.81	0.0007	0.3336	1528.8	2.998	168.3	171.7	340.0	0.8771	1.5862	-31
-30	44.99	0.0007	0.3185	1525.9	3.140	169.3	171.3	340.6	0.8813	1.5856	-30
-29	47.25	0.0007	0.3041	1523.1	3.288	170.3	170.8	341.1	0.8854	1.5850	-29
-28	49.60	0.0007	0.2906	1520.3	3.441	171.3	170.4	341.7	0.8896	1.5845	-28
-27	52.04	0.0007	0.2778	1517.4	3.600	172.3	169.9	342.2	0.8937	1.5840	-27
-26	54.58	0.0007	0.2657	1514.6	3.764	173.4	169.4	342.8	0.8978	1.5834	-26
-25	57.22	0.0007	0.2541	1511.7	3.935	174.4	169.0	343.4	0.9019	1.5829	-25
-24	59.96	0.0007	0.2432	1508.8	4.111	175.4	168.5	343.9	0.9060	1.5825	-24
-23	62.80	0.0007	0.2329	1505.9	4.294	176.4	168.1	344.5	0.9101	1.5820	-23
-22	65.75	0.0007	0.2231	1503.1	4.483	177.4	167.6	345.1	0.9141	1.5816	-22
-21	68.80	0.0007	0.2138	1500.2	4.678	178.4	167.2	345.6	0.9181	1.5812	-21
-20	71.97	0.0007	0.2049	1497.3	4.880	179.5	166.7	346.2	0.9222	1.5808	-20
-19	75.25	0.0007	0.1965	1494.4	5.089	180.5	166.3	346.7	0.9262	1.5804	-19
-18	78.65	0.0007	0.1885	1491.4	5.305	181.5	165.8	347.3	0.9301	1.5800	-18
-17	82.17	0.0007	0.1809	1488.5	5.528	182.5	165.4	347.9	0.9341	1.5797	-17
-16	85.82	0.0007	0.1737	1485.6	5.758	183.5	164.9	348.4	0.9381	1.5793	-16
-15	89.59	0.0007	0.1668	1482.6	5.996	184.6	164.4	349.0	0.9420	1.5790	-15
-14	93.49	0.0007	0.1602	1479.7	6.241	185.6	164.0	349.6	0.9460	1.5787	-14
-13	97.52	0.0007	0.1540	1476.7	6.494	186.6	163.5	350.1	0.9499	1.5785	-13
-12	101.69	0.0007	0.1480	1473.7	6.755	187.6	163.1	350.7	0.9538	1.5782	-12
-11	105.99	0.0007	0.1423	1470.8	7.025	188.6	162.6	351.2	0.9577	1.5779	-11
-10	110.44	0.0007	0.1369	1467.8	7.302	189.7	162.1	351.8	0.9616	1.5777	-10
-9	115.04	0.0007	0.1318	1464.8	7.589	190.7	161.7	352.4	0.9655	1.5775	-9
-8	119.78	0.0007	0.1268	1461.8	7.884	191.7	161.2	352.9	0.9694	1.5773	-8
-7	124.68	0.0007	0.1221	1458.7	8.188	192.8	160.7	353.5	0.9732	1.5771	-7
-6	129.73	0.0007	0.1176	1455.7	8.501	193.8	160.3	354.0	0.9771	1.5769	-6
-5	134.94	0.0007	0.1133	1452.7	8.823	194.8	159.8	354.6	0.9809	1.5768	-5
-4	140.31	0.0007	0.1092	1449.6	9.155	195.8	159.3	355.2	0.9847	1.5766	-4
-3	145.84	0.0007	0.1053	1446.6	9.496	196.9	158.8	355.7	0.9886	1.5765	-3
-2	151.55	0.0007	0.1015	1443.5	9.848	197.9	158.4	356.3	0.9924	1.5764	-2
-1	157.43	0.0007	0.0979	1440.4	10.210	199.0	157.9	356.8	0.9962	1.5763	-1
0	163.48	0.0007	0.0945	1437.3	10.582	200.0	157.4	357.4	1.0000	1.5762	0
1	169.71	0.0007	0.0912	1434.2	10.964	201.0	156.9	358.0	1.0038	1.5761	1
2	176.13	0.0007	0.0881	1431.1	11.357	202.1	156.4	358.5	1.0076	1.5761	2
3	182.73	0.0007	0.0850	1428.0	11.762	203.1	155.9	359.1	1.0114	1.5760	3
4	189.52	0.0007	0.0821	1424.8	12.177	204.2	155.4	359.6	1.0151	1.5760	4
5	196.51	0.0007	0.0793	1421.7	12.604	205.2	154.9	360.2	1.0189	1.5760	5
6	203.69	0.0007	0.0767	1418.5	13.043	206.3	154.4	360.7	1.0227	1.5759	6
7	211.08	0.0007	0.0741	1415.4	13.493	207.3	153.9	361.3	1.0264	1.5759	7
8	218.67	0.0007	0.0717	1412.2	13.956	208.4	153.4	361.8	1.0302	1.5759	8
9	226.46	0.0007	0.0693	1409.0	14.431	209.5	152.9	362.4	1.0339	1.5760	9
10	234.47	0.0007	0.0670	1405.8	14.918	210.5	152.4	363.0	1.0376	1.5760	10
11	242.70	0.0007	0.0649	1402.5	15.419	211.6	151.9	363.5	1.0414	1.5760	11
12	251.15	0.0007	0.0628	1399.3	15.933	212.7	151.4	364.1	1.0451	1.5761	12
13	259.82	0.0007	0.0608	1396.1	16.460	213.7	150.9	364.6	1.0488	1.5761	13
14	268.71	0.0007	0.0588	1392.8	17.000	214.8	150.4	365.2	1.0525	1.5762	14
15	277.84	0.0007	0.0570	1389.5	17.555	215.9	149.9	365.7	1.0563	1.5763	15
16	287.21	0.0007	0.0552	1386.2	18.124	216.9	149.3	366.3	1.0600	1.5764	16
17	296.81	0.0007	0.0535	1382.9	18.707	218.0	148.8	366.8	1.0637	1.5765	17
18	306.66	0.0007	0.0518	1379.6	19.305	219.1	148.3	367.4	1.0674	1.5766	18
19	316.75	0.0007	0.0502	1376.3	19.919	220.2	147.7	367.9	1.0711	1.5767	19

TABLE 1 (continued)
HCFC-124 Saturation Properties—Temperature Table

TEMP. °C	PRESSURE kPa (abs)	VOLUME m ³ /kg		DENSITY kg/m ³		ENTHALPY kJ/kg			ENTROPY kJ/(kg)(K)		TEMP. °C
		LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
20	327.10	0.0007	0.0487	1372.9	20.547	221.3	147.2	368.5	1.0747	1.5768	20
21	337.70	0.0007	0.0472	1369.6	21.191	222.4	146.6	369.0	1.0784	1.5770	21
22	348.56	0.0007	0.0458	1366.2	21.852	223.5	146.1	369.6	1.0821	1.5771	22
23	359.69	0.0007	0.0444	1362.8	22.528	224.6	145.5	370.1	1.0858	1.5773	23
24	371.08	0.0007	0.0431	1359.4	23.221	225.7	145.0	370.7	1.0895	1.5774	24
25	382.74	0.0007	0.0418	1355.9	23.931	226.8	144.4	371.2	1.0931	1.5776	25
26	394.68	0.0007	0.0406	1352.5	24.659	227.9	143.9	371.7	1.0968	1.5778	26
27	406.90	0.0007	0.0394	1349.0	25.403	229.0	143.3	372.3	1.1005	1.5779	27
28	419.41	0.0007	0.0382	1345.6	26.166	230.1	142.7	372.8	1.1042	1.5781	28
29	432.20	0.0007	0.0371	1342.1	26.947	231.2	142.2	373.4	1.1078	1.5783	29
30	445.29	0.0007	0.0360	1338.6	27.747	232.3	141.6	373.9	1.1115	1.5785	30
31	458.67	0.0007	0.0350	1335.0	28.566	233.4	141.0	374.4	1.1151	1.5787	31
32	472.36	0.0008	0.0340	1331.5	29.405	234.6	140.4	375.0	1.1188	1.5789	32
33	486.35	0.0008	0.0330	1327.9	30.263	235.7	139.8	375.5	1.1224	1.5792	33
34	500.64	0.0008	0.0321	1324.3	31.141	236.8	139.2	376.0	1.1261	1.5794	34
35	515.26	0.0008	0.0312	1320.7	32.040	238.0	138.6	376.6	1.1297	1.5796	35
36	530.19	0.0008	0.0303	1317.1	32.961	239.1	138.0	377.1	1.1334	1.5799	36
37	545.45	0.0008	0.0295	1313.4	33.902	240.2	137.4	377.6	1.1370	1.5801	37
38	561.03	0.0008	0.0287	1309.7	34.866	241.4	136.8	378.2	1.1407	1.5803	38
39	576.95	0.0008	0.0279	1306.1	35.852	242.5	136.2	378.7	1.1443	1.5806	39
40	593.20	0.0008	0.0271	1302.3	36.861	243.7	135.6	379.2	1.1480	1.5808	40
41	609.79	0.0008	0.0264	1298.6	37.893	244.8	134.9	379.8	1.1516	1.5811	41
42	626.73	0.0008	0.0257	1294.8	38.950	246.0	134.3	380.3	1.1552	1.5814	42
43	644.01	0.0008	0.0250	1291.1	40.031	247.1	133.7	380.8	1.1589	1.5816	43
44	661.66	0.0008	0.0243	1287.2	41.136	248.3	133.0	381.3	1.1625	1.5819	44
45	679.66	0.0008	0.0237	1283.4	42.267	249.5	132.4	381.8	1.1662	1.5822	45
46	698.02	0.0008	0.0230	1279.5	43.425	250.7	131.7	382.3	1.1698	1.5824	46
47	716.76	0.0008	0.0224	1275.7	44.608	251.8	131.0	382.9	1.1734	1.5827	47
48	735.86	0.0008	0.0218	1271.7	45.819	253.0	130.4	383.4	1.1771	1.5830	48
49	755.35	0.0008	0.0213	1267.8	47.058	254.2	129.7	383.9	1.1807	1.5833	49
50	775.21	0.0008	0.0207	1263.8	48.326	255.4	129.0	384.4	1.1843	1.5836	50
51	795.47	0.0008	0.0202	1259.8	49.622	256.6	128.3	384.9	1.1880	1.5838	51
52	816.11	0.0008	0.0196	1255.8	50.949	257.8	127.6	385.4	1.1916	1.5841	52
53	837.16	0.0008	0.0191	1251.8	52.306	259.0	126.9	385.9	1.1952	1.5844	53
54	858.60	0.0008	0.0186	1247.7	53.694	260.2	126.2	386.4	1.1989	1.5847	54
55	880.45	0.0008	0.0181	1243.6	55.115	261.4	125.5	386.9	1.2025	1.5850	55
56	902.72	0.0008	0.0177	1239.4	56.568	262.6	124.8	387.4	1.2061	1.5853	56
57	925.40	0.0008	0.0172	1235.2	58.055	263.8	124.1	387.9	1.2098	1.5855	57
58	948.50	0.0008	0.0168	1231.0	59.576	265.0	123.3	388.4	1.2134	1.5858	58
59	972.03	0.0008	0.0164	1226.8	61.133	266.3	122.6	388.8	1.2171	1.5861	59
60	995.99	0.0008	0.0159	1222.5	62.726	267.5	121.8	389.3	1.2207	1.5864	60
61	1020.38	0.0008	0.0155	1218.2	64.357	268.7	121.1	389.8	1.2243	1.5867	61
62	1045.22	0.0008	0.0151	1213.8	66.026	270.0	120.3	390.3	1.2280	1.5869	62
63	1070.51	0.0008	0.0148	1209.4	67.734	271.2	119.5	390.7	1.2316	1.5872	63
64	1096.26	0.0008	0.0144	1204.9	69.483	272.5	118.7	391.2	1.2353	1.5875	64
65	1122.45	0.0008	0.0140	1200.5	71.273	273.7	117.9	391.7	1.2389	1.5877	65
66	1149.12	0.0008	0.0137	1195.9	73.106	275.0	117.1	392.1	1.2426	1.5880	66
67	1176.25	0.0008	0.0133	1191.4	74.983	276.2	116.3	392.6	1.2462	1.5882	67
68	1203.85	0.0008	0.0130	1186.7	76.905	277.5	115.5	393.0	1.2499	1.5885	68
69	1231.93	0.0008	0.0127	1182.1	78.874	278.8	114.7	393.5	1.2536	1.5887	69
70	1260.50	0.0008	0.0124	1177.4	80.891	280.1	113.8	393.9	1.2572	1.5890	70
71	1289.57	0.0009	0.0121	1172.6	82.957	281.4	113.0	394.3	1.2609	1.5892	71
72	1319.12	0.0009	0.0118	1167.8	85.075	282.6	112.1	394.8	1.2646	1.5894	72
73	1349.18	0.0009	0.0115	1162.9	87.246	283.9	111.2	395.2	1.2683	1.5897	73
74	1379.75	0.0009	0.0112	1158.0	89.471	285.3	110.4	395.6	1.2719	1.5899	74
75	1410.84	0.0009	0.0109	1153.0	91.752	286.6	109.5	396.0	1.2756	1.5901	75
76	1442.40	0.0009	0.0106	1148.0	94.092	287.9	108.6	396.4	1.2793	1.5903	76
77	1474.53	0.0009	0.0104	1142.9	96.492	289.2	107.6	396.8	1.2830	1.5904	77
78	1507.20	0.0009	0.0101	1137.8	98.955	290.5	106.7	397.2	1.2867	1.5906	78
79	1540.40	0.0009	0.0099	1132.5	101.482	291.9	105.8	397.6	1.2904	1.5908	79

TABLE 1 (continued)
HCFC-124 Saturation Properties—Temperature Table

TEMP. °C	PRESSURE kPa (abs)	VOLUME m ³ /kg		DENSITY kg/m ³		ENTHALPY kJ/kg			ENTROPY kJ/(kg)(K)		TEMP. °C
		LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
80	1574.16	0.0009	0.0096	1127.2	104.077	293.2	104.8	398.0	1.2942	1.5909	80
81	1608.46	0.0009	0.0094	1121.9	106.742	294.5	103.8	398.4	1.2979	1.5910	81
82	1643.32	0.0009	0.0091	1116.4	109.479	295.9	102.8	398.7	1.3016	1.5912	82
83	1678.75	0.0009	0.0089	1110.9	112.291	297.3	101.8	399.1	1.3054	1.5913	83
84	1714.76	0.0009	0.0087	1105.3	115.182	298.6	100.8	399.4	1.3091	1.5913	84
85	1751.34	0.0009	0.0085	1099.6	118.155	300.0	99.8	399.8	1.3129	1.5914	85
86	1788.51	0.0009	0.0082	1093.9	121.214	301.4	98.7	400.1	1.3166	1.5915	86
87	1826.27	0.0009	0.0080	1088.0	124.361	302.8	97.6	400.4	1.3204	1.5915	87
88	1864.64	0.0009	0.0078	1082.1	127.602	304.2	96.5	400.7	1.3242	1.5915	88
89	1903.61	0.0009	0.0076	1076.0	130.941	305.6	95.4	401.0	1.3280	1.5915	89
90	1943.20	0.0009	0.0074	1069.9	134.382	307.0	94.3	401.3	1.3318	1.5915	90
91	1983.42	0.0009	0.0073	1063.6	137.931	308.5	93.1	401.6	1.3357	1.5914	91
92	2024.26	0.0009	0.0071	1057.2	141.593	309.9	91.9	401.8	1.3395	1.5913	92
93	2065.75	0.0010	0.0069	1050.7	145.374	311.4	90.7	402.1	1.3434	1.5912	93
94	2107.89	0.0010	0.0067	1044.1	149.280	312.8	89.5	402.3	1.3473	1.5910	94
95	2150.69	0.0010	0.0065	1037.3	153.320	314.3	88.3	402.5	1.3512	1.5909	95
96	2194.15	0.0010	0.0063	1030.4	157.501	315.8	87.0	402.7	1.3551	1.5907	96
97	2238.30	0.0010	0.0062	1023.4	161.831	317.3	85.7	402.9	1.3590	1.5904	97
98	2283.12	0.0010	0.0060	1016.2	166.320	318.8	84.3	403.1	1.3630	1.5901	98
99	2328.65	0.0010	0.0058	1008.8	170.978	320.3	82.9	403.2	1.3670	1.5898	99
100	2374.88	0.0010	0.0057	1001.2	175.818	321.9	81.5	403.4	1.3710	1.5894	100
101	2421.83	0.0010	0.0055	993.4	180.852	323.4	80.1	403.5	1.3750	1.5890	101
102	2469.51	0.0010	0.0054	985.4	186.096	325.0	78.6	403.6	1.3791	1.5885	102
103	2517.93	0.0010	0.0052	977.2	191.566	326.6	77.0	403.6	1.3832	1.5880	103
104	2567.10	0.0010	0.0051	968.7	197.281	328.2	75.4	403.6	1.3873	1.5874	104
105	2617.04	0.0010	0.0049	960.0	203.263	329.8	73.8	403.6	1.3915	1.5867	105
106	2667.75	0.0011	0.0048	951.0	209.538	331.5	72.1	403.6	1.3958	1.5859	106
107	2719.26	0.0011	0.0046	941.6	216.134	333.2	70.3	403.5	1.4001	1.5851	107
108	2771.58	0.0011	0.0045	931.9	223.085	334.9	68.5	403.4	1.4044	1.5842	108
109	2824.72	0.0011	0.0043	921.7	230.435	336.6	66.6	403.2	1.4088	1.5832	109
110	2878.71	0.0011	0.0042	911.1	238.230	338.4	64.6	403.0	1.4133	1.5820	110
111	2933.55	0.0011	0.0041	900.0	246.533	340.2	62.5	402.8	1.4179	1.5807	111
112	2989.27	0.0011	0.0039	888.3	255.417	342.1	60.3	402.4	1.4226	1.5793	112
113	3045.90	0.0011	0.0038	875.9	264.978	344.0	58.0	402.0	1.4274	1.5777	113
114	3103.45	0.0012	0.0036	862.7	275.340	346.0	55.5	401.5	1.4323	1.5758	114
115	3161.96	0.0012	0.0035	848.4	286.666	348.0	52.9	400.9	1.4375	1.5737	115
116	3221.45	0.0012	0.0033	832.9	299.186	350.2	50.0	400.2	1.4428	1.5713	116
117	3281.97	0.0012	0.0032	815.9	313.229	352.5	46.8	399.3	1.4484	1.5685	117
118	3343.53	0.0013	0.0030	796.7	329.306	354.9	43.3	398.2	1.4545	1.5652	118
119	3406.26	0.0013	0.0029	774.5	348.270	357.5	39.2	396.8	1.4611	1.5611	119
120	3470.16	0.0013	0.0027	747.6	371.748	360.6	34.3	394.9	1.4685	1.5558	120
121	3535.37	0.0014	0.0025	711.9	403.587	364.3	27.9	392.1	1.4777	1.5484	121
122	3602.09	0.0015	0.0022	652.0	458.806	369.9	17.2	387.1	1.4917	1.5353	122

TABLE 2
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 10.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 20.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-56.54	0.0006	141.6	0.7609	1.0847	1.3688	814.6		0.0006	153.7	0.8149	1.0418	1.3942	771.3	-45.23
-56.54	1.3028	325.7	1.6104	0.6161	1.1233	120.2		0.6805	332.0	1.5974	0.6436	1.1248	122.5	-45.23
-55	1.3126	326.6	1.6148	0.6178	1.1224	120.6		—	—	—	—	—	—	-55
-50	1.3446	329.7	1.6288	0.6237	1.1195	122.0		—	—	—	—	—	—	-50
-45	1.3763	332.8	1.6427	0.6297	1.1169	123.4		0.6812	332.1	1.5980	0.6438	1.1246	122.5	-45
-40	1.4079	336.0	1.6564	0.6359	1.1145	124.7		0.6976	335.4	1.6120	0.6484	1.1212	123.9	-40
-35	1.4394	339.2	1.6700	0.6423	1.1122	126.0		0.7139	338.6	1.6258	0.6534	1.1181	125.3	-35
-30	1.4708	342.4	1.6834	0.6488	1.1102	127.3		0.7300	341.9	1.6395	0.6586	1.1152	126.7	-30
-25	1.5021	345.7	1.6967	0.6554	1.1082	128.6		0.7461	345.2	1.6529	0.6642	1.1127	128.0	-25
-20	1.5332	349.0	1.7098	0.6621	1.1064	129.9		0.7621	348.6	1.6662	0.6699	1.1103	129.3	-20
-15	1.5643	352.3	1.7228	0.6689	1.1047	131.1		0.7779	351.9	1.6794	0.6759	1.1081	130.6	-15
-10	1.5954	355.7	1.7357	0.6757	1.1030	132.3		0.7938	355.3	1.6924	0.6820	1.1061	131.9	-10
-5	1.6264	359.1	1.7485	0.6826	1.1015	133.5		0.8095	358.7	1.7053	0.6882	1.1042	133.1	-5
0	1.6573	362.5	1.7612	0.6895	1.1000	134.7		0.8252	362.2	1.7181	0.6945	1.1025	134.3	0
5	1.6882	366.0	1.7738	0.6964	1.0986	135.9		0.8409	365.7	1.7307	0.7010	1.1008	135.5	5
10	1.7190	369.5	1.7862	0.7034	1.0973	137.1		0.8565	369.2	1.7433	0.7075	1.0992	136.7	10
15	1.7498	373.0	1.7986	0.7104	1.0960	138.3		0.8720	372.8	1.7557	0.7140	1.0978	137.9	15
20	1.7806	376.6	1.8109	0.7173	1.0948	139.4		0.8876	376.3	1.7681	0.7206	1.0964	139.1	20
25	1.8112	380.2	1.8231	0.7243	1.0936	140.5		0.9032	380.0	1.7803	0.7273	1.0951	140.2	25
30	1.8420	383.8	1.8352	0.7313	1.0925	141.7		0.9187	383.6	1.7925	0.7340	1.0938	141.4	30
35	1.8727	387.5	1.8472	0.7382	1.0914	142.8		0.9341	387.3	1.8045	0.7407	1.0926	142.5	35
40	1.9036	391.2	1.8591	0.7452	1.0904	143.9		0.9495	391.0	1.8165	0.7474	1.0914	143.6	40
45	1.9339	394.9	1.8710	0.7521	1.0894	145.0		0.9650	394.8	1.8284	0.7542	1.0903	144.7	45
50	1.9647	398.7	1.8828	0.7591	1.0884	146.1		0.9804	398.6	1.8402	0.7609	1.0893	145.8	50
55	1.9955	402.5	1.8945	0.7660	1.0874	147.2		0.9958	402.4	1.8519	0.7677	1.0882	146.9	55
60	2.0260	406.4	1.9061	0.7729	1.0865	148.2		1.0112	406.2	1.8636	0.7744	1.0873	148.0	60
65	2.0565	410.3	1.9177	0.7798	1.0856	149.3		1.0265	410.1	1.8752	0.7812	1.0863	149.1	65
70	2.0871	414.2	1.9292	0.7866	1.0847	150.3		1.0419	414.1	1.8867	0.7879	1.0854	150.1	70
75	2.1179	418.1	1.9406	0.7935	1.0839	151.4		1.0572	418.0	1.8981	0.7946	1.0845	151.2	75
80	2.1482	422.1	1.9520	0.8003	1.0831	152.4		1.0727	422.0	1.9095	0.8013	1.0836	152.2	80
85	2.1789	426.1	1.9633	0.8071	1.0823	153.5		1.0880	426.0	1.9208	0.8080	1.0828	153.3	85
90	2.2095	430.2	1.9745	0.8138	1.0815	154.5		1.1034	430.1	1.9321	0.8147	1.0820	154.3	90
95	2.2401	434.3	1.9857	0.8205	1.0807	155.5		1.1186	434.2	1.9433	0.8214	1.0812	155.3	95
100	—	—	—	—	—	—		1.1341	438.3	1.9544	0.8280	1.0804	156.3	100
105	—	—	—	—	—	—		1.1492	442.4	1.9654	0.8346	1.0797	157.4	105

TEMP °C	PRESSURE = 30.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 40.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-37.91	0.0006	161.2	0.8475	1.0257	1.4098	745.3		0.0007	166.9	0.8713	1.0187	1.4209	726.2	-32.36
-37.91	0.4655	336.1	1.5910	0.6627	1.1265	123.8		0.3555	339.2	1.5871	0.6780	1.1283	124.7	-32.36
-35	0.4720	338.0	1.5991	0.6648	1.1242	124.6		—	—	—	—	—	—	-35
-30	0.4831	341.4	1.6130	0.6688	1.1206	126.0		0.3595	340.8	1.5937	0.6793	1.1262	125.3	-30
-25	0.4941	344.7	1.6267	0.6732	1.1173	127.4		0.3680	344.2	1.6075	0.6824	1.1222	126.8	-25
-20	0.5050	348.1	1.6401	0.6779	1.1144	128.7		0.3764	347.7	1.6212	0.6862	1.1186	128.2	-20
-15	0.5158	351.5	1.6534	0.6830	1.1117	130.1		0.3847	351.1	1.6347	0.6903	1.1154	129.5	-15
-10	0.5265	354.9	1.6666	0.6883	1.1093	131.4		0.3929	354.6	1.6479	0.6949	1.1125	130.9	-10
-5	0.5372	358.4	1.6796	0.6939	1.1070	132.7		0.4010	358.0	1.6611	0.6997	1.1099	132.2	-5
0	0.5478	361.9	1.6925	0.6997	1.1049	133.9		0.4091	361.6	1.6740	0.7049	1.1075	133.5	0
5	0.5584	365.4	1.7052	0.7056	1.1030	135.1		0.4172	365.1	1.6869	0.7102	1.1053	134.8	5
10	0.5690	368.9	1.7178	0.7116	1.1012	136.4		0.4252	368.7	1.6996	0.7158	1.1033	136.0	10
15	0.5795	372.5	1.7304	0.7178	1.0996	137.6		0.4331	372.3	1.7122	0.7215	1.1014	137.2	15
20	0.5899	376.1	1.7427	0.7240	1.0980	138.8		0.4411	375.9	1.7246	0.7274	1.0996	138.4	20
25	0.6004	379.7	1.7551	0.7303	1.0965	139.9		0.4490	379.5	1.7370	0.7334	1.0980	139.6	25
30	0.6108	383.4	1.7672	0.7367	1.0951	141.1		0.4568	383.2	1.7492	0.7395	1.0964	140.8	30
35	0.6211	387.1	1.7793	0.7432	1.0938	142.2		0.4648	386.9	1.7614	0.7457	1.0950	142.0	35
40	0.6316	390.8	1.7914	0.7497	1.0925	143.4		0.4726	390.7	1.7734	0.7519	1.0936	143.1	40
45	0.6419	394.6	1.8033	0.7562	1.0913	144.5		0.4804	394.4	1.7854	0.7583	1.0923	144.2	45
50	0.6523	398.4	1.8151	0.7628	1.0902	145.6		0.4882	398.3	1.7972	0.7646	1.0911	145.4	50
55	0.6626	402.2	1.8269	0.7693	1.0891	146.7		0.4960	402.1	1.8090	0.7710	1.0899	146.5	55
60	0.6729	406.1	1.8386	0.7759	1.0880	147.8		0.5038	406.0	1.8207	0.7775	1.0888	147.6	60
65	0.6831	410.0	1.8502	0.7825	1.0870	148.9		0.5115	409.9	1.8324	0.7839	1.0877	148.7	65
70	0.6935	413.9	1.8617	0.7892	1.0860	149.9		0.5193	413.8	1.8439	0.7904	1.0867	149.7	70
75	0.7037	417.9	1.8732	0.7958	1.0851	151.0		0.5270	417.8	1.8554	0.7969	1.0857	150.8	75
80	0.7140	421.9	1.8846	0.8024	1.0842	152.1		0.5348	421.8	1.8668	0.8034	1.0848	151.9	80
85	0.7243	425.9	1.8959	0.8090	1.0833	153.1		0.5425	425.8	1.8782	0.8100	1.0839	152.9	85
90	0.7346	430.0	1.9072	0.8156	1.0825	154.1		0.5502	429.9	1.8894	0.8165	1.0830	154.0	90
95	0.7448	434.1	1.9184	0.8222	1.0817	155.2		0.5579	434.0	1.9007	0.8230	1.0822	155.0	95
100	0.7551	438.2	1.9295	0.8287	1.0809	156.2		0.5656	438.1	1.9118	0.8295	1.0813	156.0	100
105	0.7653	442.4	1.9406	0.8353	1.0801	157.2		0.5733	442.3	1.9229	0.8360	1.0805	157.1	105
110	0.7756	446.5	1.9516	0.8418	1.0794	158.2		0.5810	446.5	1.9339	0.8424	1.0798	158.1	110
115	0.7858	450.8	1.9625	0.8483	1.0787	159.2		0.5887	450.7	1.9449	0.8489	1.0790	159.1	115
								0.5965	455.0	1.9558	0.8554	1.0783	160.1	120

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 50.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 60.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-27.83	0.0007	171.5	0.8903	1.0158	1.4293	710.7		0.0007	175.4	0.9061	1.0151	1.4359	697.7	-23.98
-27.83	0.2884	341.8	1.5844	0.6909	1.1300	125.3		0.2431	343.9	1.5825	0.7021	1.1316	125.8	-23.98
-25	0.2923	343.7	1.5923	0.6920	1.1273	126.2		—	—	—	—	—	—	-25
-20	0.2992	347.2	1.6062	0.6946	1.1231	127.6		0.2477	346.7	1.5936	0.7033	1.1277	127.0	-20
-15	0.3060	350.7	1.6198	0.6978	1.1193	129.0		0.2535	350.3	1.6074	0.7055	1.1233	128.5	-15
-10	0.3127	354.2	1.6332	0.7015	1.1159	130.4		0.2592	353.8	1.6209	0.7084	1.1194	129.9	-10
-5	0.3193	357.7	1.6464	0.7057	1.1129	131.7		0.2648	357.4	1.6343	0.7117	1.1160	131.3	-5
0	0.3259	361.2	1.6595	0.7102	1.1101	133.1		0.2704	360.9	1.6475	0.7156	1.1128	132.6	0
5	0.3324	364.8	1.6725	0.7150	1.1076	134.4		0.2759	364.5	1.6605	0.7198	1.1100	134.0	5
10	0.3389	368.4	1.6852	0.7201	1.1053	135.6		0.2814	368.1	1.6734	0.7244	1.1075	135.2	10
15	0.3454	372.0	1.6979	0.7254	1.1032	136.9		0.2869	371.8	1.6861	0.7292	1.1051	136.5	15
20	0.3518	375.6	1.7104	0.7308	1.1013	138.1		0.2922	375.4	1.6987	0.7343	1.1030	137.8	20
25	0.3582	379.3	1.7228	0.7365	1.0995	139.3		0.2976	379.1	1.7111	0.7396	1.1010	139.0	25
30	0.3645	383.0	1.7351	0.7423	1.0978	140.5		0.3030	382.8	1.7235	0.7451	1.0991	140.2	30
35	0.3708	386.7	1.7473	0.7482	1.0962	141.7		0.3083	386.5	1.7357	0.7508	1.0974	141.4	35
40	0.3772	390.5	1.7594	0.7542	1.0947	142.8		0.3136	390.3	1.7479	0.7565	1.0958	142.6	40
45	0.3835	394.3	1.7714	0.7603	1.0933	144.0		0.3188	394.1	1.7599	0.7624	1.0943	143.7	45
50	0.3897	398.1	1.7833	0.7665	1.0920	145.1		0.3241	397.9	1.7718	0.7684	1.0929	144.9	50
55	0.3960	401.9	1.7951	0.7727	1.0908	146.3		0.3294	401.8	1.7837	0.7745	1.0916	146.0	55
60	0.4022	405.8	1.8068	0.7790	1.0896	147.4		0.3346	405.7	1.7954	0.7806	1.0904	147.1	60
65	0.4085	409.7	1.8185	0.7854	1.0884	148.5		0.3398	409.6	1.8071	0.7868	1.0892	148.3	65
70	0.4147	413.7	1.8301	0.7917	1.0874	149.5		0.3451	413.6	1.8187	0.7930	1.0880	149.3	70
75	0.4210	417.7	1.8416	0.7981	1.0863	150.6		0.3502	417.5	1.8302	0.7993	1.0870	150.4	75
80	0.4272	421.7	1.8530	0.8045	1.0854	151.7		0.3555	421.5	1.8417	0.8056	1.0859	151.5	80
85	0.4334	425.7	1.8644	0.8109	1.0844	152.8		0.3606	425.6	1.8530	0.8119	1.0850	152.6	85
90	0.4396	429.8	1.8756	0.8174	1.0835	153.8		0.3659	429.7	1.8643	0.8183	1.0840	153.6	90
95	0.4457	433.9	1.8869	0.8238	1.0826	154.8		0.3710	433.8	1.8756	0.8246	1.0831	154.7	95
100	0.4520	438.0	1.8980	0.8302	1.0818	155.9		0.3761	437.9	1.8867	0.8310	1.0822	155.7	100
105	0.4581	442.2	1.9091	0.8367	1.0810	156.9		0.3813	442.1	1.8978	0.8373	1.0814	156.8	105
110	0.4643	446.4	1.9201	0.8431	1.0802	157.9		0.3865	446.3	1.9089	0.8437	1.0806	157.8	110
115	0.4705	450.6	1.9311	0.8495	1.0794	158.9		0.3916	450.5	1.9198	0.8501	1.0798	158.8	115
120	0.4766	454.9	1.9420	0.8559	1.0787	159.9		0.3968	454.8	1.9308	0.8564	1.0790	159.8	120
125	0.4828	459.2	1.9529	0.8623	1.0780	160.9		0.4020	459.1	1.9416	0.8628	1.0783	160.8	125
130	—	—	—	—	—	—		0.4071	463.4	1.9524	0.8691	1.0776	161.8	130

TEMP °C	PRESSURE = 70.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 80.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-20.62	0.0007	178.8	0.9197	1.0158	1.4414	686.3		0.0007	181.9	0.9317	1.0173	1.4461	676.0	-17.61
-20.62	0.2103	345.8	1.5810	0.7122	1.1332	126.2		0.1855	347.5	1.5799	0.7214	1.1348	126.6	-17.61
-20	0.2110	346.3	1.5827	0.7123	1.1325	126.4		0.1879	349.4	1.5872	0.7215	1.1319	127.4	-15
-15	0.2160	349.8	1.5967	0.7134	1.1275	127.9		0.1923	353.0	1.6011	0.7225	1.1268	128.9	-10
-10	0.2210	353.4	1.6104	0.7153	1.1231	129.4		0.1967	356.6	1.6147	0.7243	1.1224	130.3	-5
-5	0.2259	357.0	1.6239	0.7179	1.1191	130.8		0.2010	360.3	1.6281	0.7267	1.1185	131.8	0
0	0.2307	360.6	1.6372	0.7211	1.1156	132.2		0.2053	363.9	1.6413	0.7297	1.1150	133.1	5
5	0.2355	364.2	1.6503	0.7247	1.1125	133.5		0.2095	367.6	1.6543	0.7333	1.1119	134.5	10
10	0.2403	367.8	1.6632	0.7288	1.1096	134.9		0.2136	371.2	1.6672	0.7372	1.1091	135.8	15
15	0.2450	371.5	1.6760	0.7332	1.1071	136.2		0.2178	374.9	1.6799	0.7415	1.1065	137.1	20
20	0.2497	375.2	1.6887	0.7379	1.1047	137.4		0.2219	378.7	1.6925	0.7461	1.1041	138.4	25
25	0.2543	378.9	1.7012	0.7428	1.1025	138.7		0.2260	382.4	1.7049	0.7509	1.1020	139.6	30
30	0.2590	382.6	1.7136	0.7480	1.1005	139.9		0.2300	386.2	1.7173	0.7560	1.1000	140.8	35
35	0.2636	386.4	1.7259	0.7534	1.0987	141.1		0.2341	390.0	1.7295	0.7612	1.0982	142.0	40
40	0.2681	390.1	1.7380	0.7589	1.0970	142.3		0.2381	393.8	1.7416	0.7667	1.0964	143.2	45
45	0.2727	393.9	1.7501	0.7645	1.0954	143.5		0.2421	397.6	1.7536	0.7723	1.0949	144.4	50
50	0.2772	397.8	1.7621	0.7703	1.0939	144.6		0.2460	401.5	1.7655	0.7780	1.0934	145.6	55
55	0.2818	401.6	1.7739	0.7762	1.0925	145.8		0.2500	405.4	1.7773	0.7838	1.0920	146.7	60
60	0.2862	405.5	1.7857	0.7822	1.0912	146.9		0.2540	409.3	1.7890	0.7897	1.0907	147.8	65
65	0.2908	409.5	1.7974	0.7882	1.0899	148.0		0.2579	413.3	1.8006	0.7956	1.0894	148.9	70
70	0.2953	413.4	1.8090	0.7943	1.0887	149.1		0.2619	417.3	1.8122	0.8017	1.0882	150.0	75
75	0.2997	417.4	1.8206	0.8005	1.0876	150.2		0.2658	421.3	1.8237	0.8078	1.0871	151.1	80
80	0.3042	421.4	1.8320	0.8067	1.0865	151.3		0.2697	425.4	1.8351	0.8139	1.0861	152.2	85
85	0.3087	425.5	1.8434	0.8129	1.0855	152.4		0.2736	429.5	1.8464	0.8201	1.0850	153.3	90
90	0.3131	429.6	1.8547	0.8192	1.0845	153.5		0.2776	433.6	1.8576	0.8263	1.0841	154.4	95
95	0.3176	433.7	1.8660	0.8254	1.0836	154.5		0.2814	437.7	1.8688	0.8325	1.0831	155.4	100
100	0.3220	437.8	1.8772	0.8317	1.0827	155.6		0.2853	441.9	1.8800	0.8387	1.0823	156.5	105
105	0.3265	442.0	1.8883	0.8380	1.0818	156.6		0.2892	446.1	1.8910	0.8450	1.0814	157.5	110
110	0.3309	446.2	1.8993	0.8443	1.0810	157.6		0.2931	450.3	1.9020	0.8512	1.0806	158.5	115
115	0.3353	450.4	1.9103	0.8507	1.0802	158.7		0.2970	454.6	1.9129	0.8575	1.0798	159.5	120
120	0.3398	454.7	1.9212	0.8570	1.0794	159.7		0.3009	458.9	1.9238	0.8638	1.0790	160.5	125
125	0.3442	459.0	1.9321	0.8633	1.0787	160.7		0.3048	463.3	1.9346	0.8700	1.0783	161.5	130
130	0.3486	463.3	1.9429	0.8696	1.0779	161.7		0.3087	467.6	1.9454	0.8763	1.0775	162.5	135

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 90.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 100.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-14.89	0.0007	184.7	0.9425	1.0193	1.4500	666.8	SAT LIQ SAT VAP	0.0007	187.2	0.9522	1.0216	1.4535	658.2	-12.4
-14.89	0.1661	349.1	1.5790	0.7299	1.1363	126.8		0.1504	350.5	1.5783	0.7378	1.1377	127.1	-12.4
-10	0.1700	352.6	1.5927	0.7298	1.1308	128.4		0.1521	352.2	1.5851	0.7374	1.1348	127.8	-10
-5	0.1740	356.3	1.6064	0.7308	1.1258	129.9		0.1558	355.9	1.5989	0.7374	1.1293	129.4	-5
0	0.1779	359.9	1.6200	0.7325	1.1215	131.3		0.1593	359.6	1.6126	0.7383	1.1245	130.9	0
5	0.1817	363.6	1.6333	0.7348	1.1176	132.7		0.1628	363.3	1.6260	0.7400	1.1203	132.3	5
10	0.1855	367.3	1.6464	0.7378	1.1142	134.1		0.1663	367.0	1.6392	0.7424	1.1165	133.7	10
15	0.1892	371.0	1.6593	0.7412	1.1111	135.4		0.1697	370.7	1.6522	0.7454	1.1132	135.1	15
20	0.1930	374.7	1.6721	0.7451	1.1083	136.8		0.1731	374.5	1.6651	0.7488	1.1101	136.4	20
25	0.1966	378.4	1.6847	0.7493	1.1057	138.0		0.1764	378.2	1.6777	0.7526	1.1074	137.7	25
30	0.2003	382.2	1.6972	0.7538	1.1034	139.3		0.1798	382.0	1.6903	0.7568	1.1049	139.0	30
35	0.2039	386.0	1.7096	0.7586	1.1013	140.5		0.1831	385.8	1.7027	0.7613	1.1026	140.3	35
40	0.2076	389.8	1.7219	0.7636	1.0993	141.8		0.1863	389.6	1.7150	0.7660	1.1005	141.5	40
45	0.2111	393.6	1.7340	0.7688	1.0975	143.0		0.1896	393.4	1.7272	0.7710	1.0986	142.7	45
50	0.2147	397.5	1.7460	0.7742	1.0958	144.2		0.1929	397.3	1.7392	0.7762	1.0968	143.9	50
55	0.2183	401.3	1.7580	0.7797	1.0943	145.3		0.1961	401.2	1.7512	0.7815	1.0952	145.1	55
60	0.2218	405.3	1.7698	0.7854	1.0928	146.5		0.1993	405.1	1.7631	0.7870	1.0936	146.3	60
65	0.2254	409.2	1.7815	0.7911	1.0914	147.6		0.2025	409.1	1.7748	0.7926	1.0922	147.4	65
70	0.2289	413.2	1.7932	0.7970	1.0901	148.7		0.2057	413.0	1.7865	0.7983	1.0908	148.5	70
75	0.2324	417.2	1.8048	0.8029	1.0889	149.9		0.2089	417.1	1.7981	0.8041	1.0895	149.7	75
80	0.2359	421.2	1.8163	0.8089	1.0877	151.0		0.2120	421.1	1.8096	0.8100	1.0883	150.8	80
85	0.2394	425.3	1.8277	0.8149	1.0866	152.0		0.2152	425.2	1.8210	0.8159	1.0872	151.9	85
90	0.2429	429.4	1.8390	0.8210	1.0856	153.1		0.2183	429.2	1.8324	0.8219	1.0861	153.0	90
95	0.2464	433.5	1.8503	0.8271	1.0846	154.2		0.2215	433.4	1.8437	0.8279	1.0851	154.0	95
100	0.2499	437.6	1.8615	0.8333	1.0836	155.3		0.2246	437.5	1.8549	0.8340	1.0841	155.1	100
105	0.2533	441.8	1.8726	0.8394	1.0827	156.3		0.2277	441.7	1.8660	0.8401	1.0831	156.1	105
110	0.2568	446.0	1.8837	0.8456	1.0818	157.3		0.2309	445.9	1.8771	0.8463	1.0822	157.2	110
115	0.2603	450.3	1.8947	0.8518	1.0810	158.4		0.2340	450.2	1.8881	0.8524	1.0814	158.2	115
120	0.2637	454.5	1.9056	0.8581	1.0801	159.4		0.2371	454.5	1.8990	0.8586	1.0805	159.3	120
125	0.2672	458.8	1.9165	0.8643	1.0794	160.4		0.2402	458.8	1.9099	0.8648	1.0797	160.3	125
130	0.2706	463.2	1.9273	0.8705	1.0786	161.4		0.2434	463.1	1.9208	0.8710	1.0789	161.3	130
135	0.2741	467.5	1.9381	0.8767	1.0779	162.4		0.2465	467.5	1.9315	0.8771	1.0782	162.3	135
140	0.2775	471.9	1.9488	0.8829	1.0772	163.4		0.2496	471.9	1.9423	0.8833	1.0775	163.3	140

TEMP °C	PRESSURE = 101.325 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 110.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-12.09	0.0007	187.5	0.9535	1.0220	1.4539	657.2	SAT LIQ SAT VAP	0.0007	189.6	0.9612	1.0243	1.4566	650.3	-10.1
-12.09	0.1485	350.6	1.5782	0.7388	1.1379	127.1		0.1375	351.7	1.5777	0.7451	1.1392	127.3	-10.1
-10	0.1500	352.2	1.5841	0.7384	1.1354	127.8		0.1375	351.8	1.5780	0.7451	1.1391	127.3	-10
-5	0.1536	355.9	1.5980	0.7383	1.1298	129.3		0.1409	355.5	1.5920	0.7442	1.1330	128.9	-5
0	0.1572	359.6	1.6116	0.7391	1.1250	130.8		0.1442	359.3	1.6058	0.7443	1.1277	130.4	0
5	0.1606	363.3	1.6251	0.7407	1.1207	132.2		0.1474	363.0	1.6193	0.7453	1.1231	131.9	5
10	0.1640	367.0	1.6383	0.7430	1.1169	133.7		0.1506	366.7	1.6326	0.7471	1.1190	133.3	10
15	0.1674	370.7	1.6513	0.7459	1.1134	135.0		0.1537	370.5	1.6457	0.7496	1.1153	134.7	15
20	0.1708	374.4	1.6642	0.7493	1.1104	136.4		0.1568	374.2	1.6586	0.7525	1.1120	136.1	20
25	0.1741	378.2	1.6769	0.7531	1.1076	137.7		0.1599	378.0	1.6714	0.7560	1.1091	137.4	25
30	0.1774	382.0	1.6894	0.7572	1.1051	139.0		0.1630	381.8	1.6840	0.7598	1.1064	138.7	30
35	0.1806	385.8	1.7018	0.7617	1.1028	140.2		0.1660	385.6	1.6964	0.7640	1.1040	140.0	35
40	0.1839	389.6	1.7141	0.7664	1.1007	141.5		0.1690	389.4	1.7088	0.7685	1.1018	141.2	40
45	0.1871	393.4	1.7263	0.7713	1.0987	142.7		0.1720	393.3	1.7210	0.7732	1.0997	142.5	45
50	0.1903	397.3	1.7384	0.7764	1.0970	143.9		0.1749	397.1	1.7331	0.7782	1.0978	143.7	50
55	0.1934	401.2	1.7504	0.7817	1.0953	145.1		0.1779	401.0	1.7450	0.7833	1.0961	144.9	55
60	0.1966	405.1	1.7622	0.7872	1.0937	146.2		0.1808	405.0	1.7569	0.7886	1.0945	146.0	60
65	0.1998	409.1	1.7740	0.7928	1.0923	147.4		0.1838	408.9	1.7687	0.7941	1.0929	147.2	65
70	0.2029	413.0	1.7857	0.7985	1.0909	148.5		0.1866	412.9	1.7804	0.7996	1.0915	148.3	70
75	0.2061	417.0	1.7973	0.8042	1.0896	149.6		0.1896	416.9	1.7920	0.8053	1.0902	149.5	75
80	0.2092	421.1	1.8088	0.8101	1.0884	150.7		0.1924	421.0	1.8036	0.8111	1.0889	150.6	80
85	0.2123	425.1	1.8202	0.8160	1.0873	151.8		0.1953	425.0	1.8150	0.8169	1.0877	151.7	85
90	0.2154	429.2	1.8315	0.8220	1.0862	152.9		0.1982	429.1	1.8264	0.8228	1.0866	152.8	90
95	0.2185	433.4	1.8428	0.8281	1.0851	154.0		0.2011	433.3	1.8377	0.8288	1.0856	153.9	95
100	0.2216	437.5	1.8540	0.8341	1.0841	155.1		0.2039	437.4	1.8489	0.8348	1.0845	154.9	100
105	0.2247	441.7	1.8652	0.8402	1.0832	156.1		0.2068	441.6	1.8600	0.8408	1.0836	156.0	105
110	0.2278	445.9	1.8763	0.8464	1.0823	157.2		0.2096	445.8	1.8711	0.8469	1.0826	157.0	110
115	0.2309	450.2	1.8873	0.8525	1.0814	158.2		0.2125	450.1	1.8821	0.8530	1.0817	158.1	115
120	0.2340	454.4	1.8982	0.8587	1.0806	159.2		0.2154	454.4	1.8931	0.8591	1.0809	159.1	120
125	0.2371	458.7	1.9091	0.8648	1.0798	160.3		0.2182	458.7	1.9040	0.8653	1.0801	160.1	125
130	0.2402	463.1	1.9199	0.8710	1.0790	161.3		0.2210	463.0	1.9148	0.8714	1.0793	161.2	130
135	0.2432	467.5	1.9307	0.8772	1.0782	162.3		0.2239	467.4	1.9256	0.8776	1.0785	162.2	135
140	0.2463	471.9	1.9414	0.8834	1.0775	163.3		0.2267	471.8	1.9363	0.8837	1.0778	163.2	140

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 120.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 130.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-7.95	0.0007	191.8	0.9695	1.0270	1.4593	642.9		0.0007	193.8	0.9773	1.0299	1.4618	635.9	-5.95
-7.95	0.1266	352.9	1.5773	0.7521	1.1406	127.4		0.1174	354.1	1.5769	0.7587	1.1420	127.6	-5.95
-5	0.1285	355.2	1.5856	0.7511	1.1368	128.4		0.1180	354.8	1.5796	0.7583	1.1407	127.9	-5
0	0.1315	358.9	1.5995	0.7504	1.1310	129.9		0.1208	358.6	1.5936	0.7567	1.1343	129.5	0
5	0.1345	362.7	1.6131	0.7508	1.1259	131.5		0.1237	362.4	1.6073	0.7563	1.1288	131.0	5
10	0.1375	366.4	1.6265	0.7519	1.1214	132.9		0.1264	366.1	1.6208	0.7568	1.1240	132.5	10
15	0.1404	370.2	1.6397	0.7538	1.1175	134.3		0.1291	369.9	1.6341	0.7582	1.1197	134.0	15
20	0.1433	374.0	1.6527	0.7563	1.1140	135.7		0.1318	373.7	1.6471	0.7602	1.1159	135.4	20
25	0.1461	377.8	1.6655	0.7594	1.1108	137.1		0.1345	377.5	1.6600	0.7628	1.1125	136.7	25
30	0.1490	381.6	1.6781	0.7629	1.1079	138.4		0.1371	381.4	1.6727	0.7660	1.1095	138.1	30
35	0.1518	385.4	1.6906	0.7667	1.1053	139.7		0.1397	385.2	1.6853	0.7695	1.1067	139.4	35
40	0.1545	389.2	1.7030	0.7709	1.1030	140.9		0.1423	389.0	1.6977	0.7734	1.1042	140.7	40
45	0.1573	393.1	1.7153	0.7754	1.1008	142.2		0.1449	392.9	1.7100	0.7777	1.1020	141.9	45
50	0.1600	397.0	1.7274	0.7802	1.0988	143.4		0.1474	396.8	1.7221	0.7822	1.0999	143.2	50
55	0.1627	400.9	1.7394	0.7851	1.0970	144.6		0.1499	400.7	1.7342	0.7869	1.0979	144.4	55
60	0.1654	404.8	1.7513	0.7903	1.0953	145.8		0.1524	404.7	1.7461	0.7919	1.0962	145.6	60
65	0.1681	408.8	1.7631	0.7956	1.0937	147.0		0.1549	408.7	1.7580	0.7971	1.0945	146.8	65
70	0.1708	412.8	1.7749	0.8010	1.0922	148.1		0.1574	412.7	1.7697	0.8023	1.0930	147.9	70
75	0.1735	416.8	1.7865	0.8065	1.0909	149.3		0.1599	416.7	1.7813	0.8078	1.0915	149.1	75
80	0.1761	420.9	1.7980	0.8122	1.0895	150.4		0.1623	420.7	1.7929	0.8133	1.0902	150.2	80
85	0.1788	424.9	1.8095	0.8179	1.0883	151.5		0.1648	424.8	1.8044	0.8190	1.0889	151.3	85
90	0.1814	429.0	1.8209	0.8238	1.0872	152.6		0.1672	428.9	1.8158	0.8247	1.0877	152.4	90
95	0.1841	433.2	1.8322	0.8296	1.0861	153.7		0.1697	433.1	1.8271	0.8305	1.0866	153.5	95
100	0.1867	437.3	1.8434	0.8356	1.0850	154.8		0.1721	437.2	1.8383	0.8364	1.0855	154.6	100
105	0.1893	441.5	1.8545	0.8416	1.0840	155.8		0.1746	441.4	1.8495	0.8423	1.0845	155.7	105
110	0.1920	445.7	1.8656	0.8476	1.0831	156.9		0.1770	445.7	1.8606	0.8482	1.0835	156.8	110
115	0.1946	450.0	1.8767	0.8536	1.0821	158.0		0.1794	449.9	1.8716	0.8542	1.0825	157.8	115
120	0.1972	454.3	1.8876	0.8597	1.0813	159.0		0.1818	454.2	1.8826	0.8602	1.0816	158.9	120
125	0.1998	458.6	1.8985	0.8658	1.0804	160.0		0.1842	458.5	1.8935	0.8663	1.0808	159.9	125
130	0.2024	462.9	1.9094	0.8719	1.0796	161.0		0.1867	462.9	1.9044	0.8723	1.0800	160.9	130
135	0.2050	467.3	1.9202	0.8780	1.0788	162.1		0.1891	467.2	1.9152	0.8784	1.0792	161.9	135
140	0.2077	471.7	1.9309	0.8841	1.0781	163.1		0.1915	471.6	1.9259	0.8845	1.0784	162.9	140
145	0.2102	476.2	1.9416	0.8902	1.0774	164.1		0.1939	476.1	1.9366	0.8906	1.0777	163.9	145

TEMP °C	PRESSURE = 140.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 150.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-4.06	0.0007	195.8	0.9845	1.0328	1.4641	629.4		0.0007	197.6	0.9914	1.0358	1.4661	623.1	-2.27
-4.06	0.1095	355.1	1.5767	0.7650	1.1433	127.7		0.1025	356.1	1.5764	0.7710	1.1447	127.8	-2.27
0	0.1117	358.2	1.5881	0.7631	1.1378	129.0		0.1037	357.9	1.5829	0.7696	1.1414	128.5	0
5	0.1143	362.0	1.6019	0.7619	1.1318	130.6		0.1062	361.7	1.5968	0.7676	1.1349	130.1	5
10	0.1169	365.8	1.6155	0.7618	1.1266	132.1		0.1087	365.6	1.6105	0.7668	1.1293	131.7	10
15	0.1195	369.7	1.6288	0.7626	1.1220	133.6		0.1111	369.4	1.6239	0.7670	1.1244	133.2	15
20	0.1220	373.5	1.6420	0.7641	1.1179	135.0		0.1135	373.2	1.6371	0.7681	1.1200	134.7	20
25	0.1245	377.3	1.6549	0.7663	1.1143	136.4		0.1158	377.1	1.6501	0.7699	1.1162	136.1	25
30	0.1270	381.1	1.6677	0.7691	1.1111	137.8		0.1181	380.9	1.6629	0.7722	1.1127	137.5	30
35	0.1294	385.0	1.6803	0.7723	1.1082	139.1		0.1204	384.8	1.6756	0.7751	1.1096	138.8	35
40	0.1318	388.9	1.6927	0.7759	1.1055	140.4		0.1227	388.7	1.6881	0.7785	1.1068	140.1	40
45	0.1342	392.8	1.7051	0.7799	1.1031	141.7		0.1250	392.6	1.7004	0.7822	1.1043	141.4	45
50	0.1366	396.7	1.7173	0.7842	1.1009	142.9		0.1272	396.5	1.7127	0.7863	1.1020	142.7	50
55	0.1389	400.6	1.7293	0.7888	1.0989	144.1		0.1294	400.4	1.7248	0.7907	1.0999	143.9	55
60	0.1413	404.5	1.7413	0.7936	1.0970	145.4		0.1316	404.4	1.7368	0.7953	1.0979	145.1	60
65	0.1436	408.5	1.7531	0.7986	1.0953	146.5		0.1338	408.4	1.7486	0.8001	1.0961	146.3	65
70	0.1459	412.5	1.7649	0.8037	1.0937	147.7		0.1359	412.4	1.7604	0.8051	1.0944	147.5	70
75	0.1482	416.6	1.7766	0.8090	1.0922	148.9		0.1381	416.4	1.7721	0.8103	1.0929	148.7	75
80	0.1505	420.6	1.7881	0.8145	1.0908	150.0		0.1403	420.5	1.7837	0.8156	1.0914	149.8	80
85	0.1528	424.7	1.7996	0.8200	1.0895	151.1		0.1424	424.6	1.7952	0.8210	1.0901	151.0	85
90	0.1551	428.8	1.8110	0.8256	1.0882	152.3		0.1445	428.7	1.8066	0.8266	1.0888	152.1	90
95	0.1574	433.0	1.8224	0.8314	1.0871	153.4		0.1467	432.9	1.8180	0.8322	1.0876	153.2	95
100	0.1596	437.1	1.8336	0.8371	1.0860	154.5		0.1488	437.0	1.8292	0.8379	1.0864	154.3	100
105	0.1619	441.3	1.8448	0.8430	1.0849	155.5		0.1509	441.2	1.8404	0.8437	1.0854	155.4	105
110	0.1642	445.6	1.8559	0.8489	1.0839	156.6		0.1530	445.5	1.8515	0.8495	1.0843	156.5	110
115	0.1664	449.8	1.8670	0.8548	1.0829	157.7		0.1552	449.7	1.8626	0.8554	1.0833	157.5	115
120	0.1687	454.1	1.8779	0.8608	1.0820	158.7		0.1573	454.0	1.8736	0.8614	1.0824	158.6	120
125	0.1709	458.4	1.8889	0.8668	1.0811	159.8		0.1594	458.4	1.8845	0.8673	1.0815	159.6	125
130	0.1732	462.8	1.8997	0.8728	1.0803	160.8		0.1615	462.7	1.8954	0.8733	1.0807	160.7	130
135	0.1754	467.2	1.9105	0.8789	1.0795	161.8		0.1636	467.1	1.9062	0.8793	1.0798	161.7	135
140	0.1777	471.6	1.9213	0.8849	1.0787	162.8		0.1657	471.5	1.9169	0.8853	1.0790	162.7	140
145	0.1799	476.0	1.9319	0.8910	1.0780	163.8		0.1678	475.9	1.9276	0.8913	1.0783	163.7	145
150	0.1822	480.5	1.9426	0.8970	1.0772	164.8		0.1699	480.4	1.9382	0.8974	1.0775	164.7	150

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 160.00 kPa (abs)							PRESSURE = 170.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
-0.57	0.0007	199.4	0.9978	1.0389	1.4681	617.1	SAT LIQ SAT VAP	0.0007	201.1	1.0040	1.0419	1.4698	611.4	1.05
-0.57	0.0965	357.1	1.5763	0.7768	1.1460	127.8		0.0911	358.0	1.5761	0.7823	1.1473	1.1243	127.9
0	0.0967	357.5	1.5779	0.7763	1.1451	128.0		—	—	—	—	—	—	0
5	0.0991	361.4	1.5919	0.7735	1.1381	129.7		0.0929	361.1	1.5873	0.7795	1.1414	129.2	5
10	0.1015	365.3	1.6057	0.7720	1.1320	131.3		0.0951	365.0	1.6012	0.7773	1.1349	130.9	10
15	0.1038	369.1	1.6192	0.7716	1.1268	132.8		0.0973	368.8	1.6148	0.7762	1.1292	132.4	15
20	0.1060	373.0	1.6325	0.7721	1.1221	134.3		0.0994	372.7	1.6281	0.7762	1.1243	133.9	20
25	0.1082	376.8	1.6456	0.7734	1.1180	135.7		0.1016	376.6	1.6413	0.7771	1.1199	135.4	25
30	0.1104	380.7	1.6584	0.7754	1.1144	137.1		0.1036	380.5	1.6542	0.7787	1.1161	136.8	30
35	0.1126	384.6	1.6711	0.7780	1.1111	138.5		0.1057	384.4	1.6670	0.7809	1.1126	138.2	35
40	0.1147	388.5	1.6837	0.7811	1.1081	139.8		0.1077	388.3	1.6795	0.7837	1.1095	139.5	40
45	0.1169	392.4	1.6961	0.7845	1.1055	141.1		0.1097	392.2	1.6920	0.7869	1.1067	140.9	45
50	0.1190	396.3	1.7084	0.7884	1.1031	142.4		0.1117	396.2	1.7043	0.7905	1.1041	142.2	50
55	0.1211	400.3	1.7205	0.7925	1.1008	143.7		0.1137	400.1	1.7164	0.7944	1.1018	143.4	55
60	0.1231	404.3	1.7325	0.7970	1.0988	144.9		0.1157	404.1	1.7285	0.7987	1.0997	144.7	60
65	0.1252	408.3	1.7444	0.8016	1.0969	146.1		0.1176	408.1	1.7404	0.8032	1.0977	145.9	65
70	0.1272	412.3	1.7562	0.8065	1.0952	147.3		0.1195	412.1	1.7522	0.8079	1.0959	147.1	70
75	0.1293	416.3	1.7679	0.8115	1.0936	148.5		0.1215	416.2	1.7640	0.8128	1.0943	148.3	75
80	0.1313	420.4	1.7795	0.8167	1.0921	149.6		0.1234	420.3	1.7756	0.8179	1.0927	149.5	80
85	0.1333	424.5	1.7911	0.8221	1.0907	150.8		0.1253	424.4	1.7871	0.8231	1.0913	150.6	85
90	0.1353	428.6	1.8025	0.8275	1.0893	151.9		0.1272	428.5	1.7986	0.8285	1.0899	151.7	90
95	0.1374	432.8	1.8138	0.8331	1.0881	153.0		0.1291	432.7	1.8099	0.8340	1.0886	152.9	95
100	0.1393	436.9	1.8251	0.8387	1.0869	154.1		0.1310	436.8	1.8212	0.8395	1.0874	154.0	100
105	0.1413	441.2	1.8363	0.8444	1.0858	155.2		0.1329	441.1	1.8325	0.8452	1.0863	155.1	105
110	0.1433	445.4	1.8474	0.8502	1.0848	156.3		0.1348	445.3	1.8436	0.8509	1.0852	156.2	110
115	0.1453	449.7	1.8585	0.8560	1.0837	157.4		0.1366	449.6	1.8546	0.8567	1.0842	157.2	115
120	0.1473	453.9	1.8695	0.8619	1.0828	158.4		0.1385	453.9	1.8657	0.8625	1.0832	158.3	120
125	0.1493	458.3	1.8804	0.8678	1.0819	159.5		0.1404	458.2	1.8766	0.8683	1.0822	159.4	125
130	0.1513	462.6	1.8913	0.8738	1.0810	160.5		0.1422	462.5	1.8875	0.8742	1.0814	160.4	130
135	0.1532	467.0	1.9021	0.8797	1.0802	161.6		0.1441	466.9	1.8983	0.8802	1.0805	161.4	135
140	0.1552	471.4	1.9129	0.8857	1.0794	162.6		0.1459	471.4	1.9090	0.8861	1.0797	162.5	140
145	0.1572	475.9	1.9235	0.8917	1.0786	163.6		0.1478	475.8	1.9197	0.8921	1.0789	163.5	145
150	0.1591	480.3	1.9342	0.8977	1.0778	164.6		0.1496	480.3	1.9304	0.8980	1.0781	164.5	150
155	—	—	—	—	—	—		0.1515	484.8	1.9409	0.9040	1.0774	165.5	155

TEMP °C	PRESSURE = 180.00 kPa (abs)							PRESSURE = 190.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
2.59	0.0007	202.7	1.0098	1.0449	1.4715	605.9	SAT LIQ SAT VAP	0.0007	204.3	1.0154	1.0479	1.4731	600.6	4.07
2.59	0.0862	358.8	1.5760	0.7876	1.1486	128.0		0.0819	359.7	1.5760	0.7928	1.1499	1.1280	128.0
5	0.0873	360.7	1.5829	0.7856	1.1448	128.8		0.0823	360.4	1.5786	0.7919	1.1483	128.3	5
10	0.0894	364.7	1.5969	0.7826	1.1378	130.4		0.0844	364.3	1.5927	0.7881	1.1408	130.0	10
15	0.0915	368.6	1.6105	0.7809	1.1318	132.0		0.0864	368.3	1.6065	0.7858	1.1344	131.6	15
20	0.0936	372.5	1.6240	0.7804	1.1265	133.6		0.0883	372.2	1.6200	0.7846	1.1288	133.2	20
25	0.0956	376.4	1.6372	0.7808	1.1219	135.1		0.0903	376.1	1.6333	0.7845	1.1239	134.7	25
30	0.0976	380.3	1.6502	0.7820	1.1178	136.5		0.0922	380.1	1.6463	0.7853	1.1195	136.2	30
35	0.0995	384.2	1.6630	0.7838	1.1141	137.9		0.0940	384.0	1.6592	0.7868	1.1157	137.6	35
40	0.1015	388.1	1.6756	0.7863	1.1109	139.3		0.0959	387.9	1.6718	0.7890	1.1122	139.0	40
45	0.1034	392.1	1.6881	0.7892	1.1079	140.6		0.0977	391.9	1.6844	0.7916	1.1092	140.3	45
50	0.1053	396.0	1.7004	0.7926	1.1052	141.9		0.0995	395.8	1.6967	0.7947	1.1064	141.6	50
55	0.1072	400.0	1.7126	0.7963	1.1028	143.2		0.1013	399.8	1.7090	0.7983	1.1038	142.9	55
60	0.1090	404.0	1.7247	0.8004	1.1006	144.4		0.1031	403.8	1.7211	0.8021	1.1015	144.2	60
65	0.1109	408.0	1.7366	0.8047	1.0986	145.7		0.1048	407.8	1.7330	0.8063	1.0994	145.5	65
70	0.1127	412.0	1.7485	0.8093	1.0967	146.9		0.1066	411.9	1.7449	0.8107	1.0975	146.7	70
75	0.1145	416.1	1.7602	0.8141	1.0950	148.1		0.1083	416.0	1.7567	0.8154	1.0957	147.9	75
80	0.1164	420.2	1.7719	0.8191	1.0934	149.3		0.1101	420.0	1.7683	0.8202	1.0940	149.1	80
85	0.1182	424.3	1.7834	0.8242	1.0919	150.4		0.1118	424.2	1.7799	0.8253	1.0925	150.2	85
90	0.1200	428.4	1.7949	0.8295	1.0905	151.6		0.1135	428.3	1.7914	0.8304	1.0910	151.4	90
95	0.1218	432.6	1.8063	0.8348	1.0891	152.7		0.1152	432.5	1.8028	0.8357	1.0897	152.5	95
100	0.1235	436.7	1.8176	0.8403	1.0879	153.8		0.1169	436.7	1.8141	0.8411	1.0884	153.7	100
105	0.1253	441.0	1.8288	0.8459	1.0867	154.9		0.1186	440.9	1.8253	0.8466	1.0872	154.8	105
110	0.1271	445.2	1.8399	0.8516	1.0856	156.0		0.1203	445.1	1.8365	0.8522	1.0861	155.9	110
115	0.1289	449.5	1.8510	0.8573	1.0846	157.1		0.1220	449.4	1.8475	0.8579	1.0850	157.0	115
120	0.1307	453.8	1.8620	0.8630	1.0836	158.2		0.1236	453.7	1.8586	0.8636	1.0840	158.0	120
125	0.1324	458.1	1.8730	0.8689	1.0826	159.2		0.1253	458.0	1.8695	0.8694	1.0830	159.1	125
130	0.1342	462.5	1.8838	0.8747	1.0817	160.3		0.1270	462.4	1.8804	0.8752	1.0821	160.2	130
135	0.1359	466.9	1.8947	0.8806	1.0808	161.3		0.1287	466.8	1.8912	0.8810	1.0812	161.2	135
140	0.1377	471.3	1.9054	0.8865	1.0800	162.4		0.1304	471.2	1.9020	0.8869	1.0803	162.2	140
145	0.1395	475.7	1.9161	0.8924	1.0792	163.4		0.1320	475.7	1.9127	0.8928	1.0795	163.3	145
150	0.1412	480.2	1.9268	0.8984	1.0784	164.4		0.1337	480.1	1.9233	0.8987	1.0787	164.3	150
155	0.1430	484.7	1.9373	0.9043	1.0777	165.4		0.1354	484.6	1.9339	0.9047	1.0780	165.3	155

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 200.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 210.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
5.49	0.0007	205.7	1.0207	1.0509	1.4746	595.6		0.0007	207.2	1.0259	1.0539	1.4760	590.6	6.86
5.49	0.0780	360.5	1.5759	0.7978	1.1511	128.0		0.0745	361.2	1.5759	0.8026	1.1524	128.0	6.86
10	0.0798	364.0	1.5887	0.7937	1.1439	129.6		0.0757	363.7	1.5849	0.7994	1.1471	129.1	10
15	0.0817	368.0	1.6026	0.7906	1.1371	131.2		0.0775	367.7	1.5988	0.7956	1.1398	130.8	15
20	0.0836	371.9	1.6162	0.7889	1.1311	132.8		0.0794	371.7	1.6125	0.7933	1.1335	132.5	20
25	0.0855	375.9	1.6295	0.7884	1.1259	134.4		0.0811	375.7	1.6259	0.7922	1.1280	134.0	25
30	0.0873	379.8	1.6426	0.7887	1.1213	135.8		0.0829	379.6	1.6391	0.7921	1.1231	135.5	30
35	0.0891	383.8	1.6555	0.7898	1.1173	137.3		0.0846	383.6	1.6520	0.7929	1.1189	137.0	35
40	0.0909	387.7	1.6683	0.7916	1.1137	138.7		0.0863	387.5	1.6648	0.7944	1.1151	138.4	40
45	0.0926	391.7	1.6808	0.7940	1.1104	140.1		0.0880	391.5	1.6774	0.7965	1.1117	139.8	45
50	0.0943	395.7	1.6932	0.7969	1.1075	141.4		0.0896	395.5	1.6899	0.7991	1.1087	141.1	50
55	0.0960	399.7	1.7055	0.8002	1.1049	142.7		0.0913	399.5	1.7022	0.8022	1.1059	142.5	55
60	0.0977	403.7	1.7176	0.8039	1.1025	144.0		0.0929	403.5	1.7143	0.8057	1.1034	143.7	60
65	0.0994	407.7	1.7296	0.8079	1.1003	145.2		0.0945	407.6	1.7263	0.8095	1.1011	145.0	65
70	0.1011	411.8	1.7415	0.8122	1.0983	146.5		0.0961	411.6	1.7383	0.8136	1.0990	146.3	70
75	0.1027	415.8	1.7533	0.8167	1.0964	147.7		0.0977	415.7	1.7500	0.8180	1.0971	147.5	75
80	0.1044	419.9	1.7650	0.8214	1.0947	148.9		0.0993	419.8	1.7617	0.8226	1.0953	148.7	80
85	0.1060	424.0	1.7765	0.8263	1.0931	150.1		0.1008	423.9	1.7733	0.8274	1.0937	149.9	85
90	0.1077	428.2	1.7880	0.8314	1.0916	151.2		0.1024	428.1	1.7848	0.8324	1.0922	151.0	90
95	0.1093	432.4	1.7994	0.8366	1.0902	152.4		0.1040	432.3	1.7963	0.8375	1.0907	152.2	95
100	0.1109	436.6	1.8108	0.8419	1.0889	153.5		0.1055	436.5	1.8076	0.8428	1.0894	153.3	100
105	0.1125	440.8	1.8220	0.8474	1.0877	154.6		0.1070	440.7	1.8189	0.8481	1.0881	154.5	105
110	0.1141	445.0	1.8332	0.8529	1.0865	155.7		0.1086	444.9	1.8300	0.8536	1.0869	155.6	110
115	0.1158	449.3	1.8443	0.8585	1.0854	156.8		0.1101	449.2	1.8411	0.8591	1.0858	156.7	115
120	0.1174	453.6	1.8553	0.8642	1.0844	157.9		0.1116	453.5	1.8522	0.8648	1.0847	157.8	120
125	0.1190	457.9	1.8663	0.8699	1.0834	159.0		0.1132	457.9	1.8631	0.8704	1.0837	158.8	125
130	0.1205	462.3	1.8771	0.8757	1.0824	160.0		0.1147	462.2	1.8740	0.8762	1.0828	159.9	130
135	0.1221	466.7	1.8880	0.8815	1.0815	161.1		0.1162	466.6	1.8849	0.8819	1.0819	161.0	135
140	0.1237	471.1	1.8987	0.8873	1.0806	162.1		0.1177	471.1	1.8956	0.8877	1.0810	162.0	140
145	0.1253	475.6	1.9095	0.8932	1.0798	163.2		0.1192	475.5	1.9064	0.8936	1.0801	163.0	145
150	0.1269	480.1	1.9201	0.8991	1.0790	164.2		0.1207	480.0	1.9170	0.8994	1.0793	164.1	150
155	0.1285	484.6	1.9307	0.9050	1.0783	165.2		0.1223	484.5	1.9276	0.9053	1.0785	165.1	155
160	0.1301	489.1	1.9412	0.9109	1.0775	166.2		0.1238	489.0	1.9382	0.9112	1.0778	166.1	160

TEMP °C	PRESSURE = 220.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 230.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
8.17	0.0007	208.6	1.0308	1.0569	1.4773	585.9		0.0007	209.9	1.0356	1.0598	1.4786	581.3	9.44
8.17	0.0712	361.9	1.5759	0.8073	1.1536	128.1		0.0683	362.6	1.5760	0.8119	1.1548	128.1	9.44
10	0.0719	363.4	1.5812	0.8052	1.1504	128.7		0.0685	363.1	1.5776	0.8112	1.1538	128.3	10
15	0.0737	367.4	1.5952	0.8007	1.1426	130.4		0.0702	367.1	1.5917	0.8059	1.1455	130.0	15
20	0.0755	371.4	1.6090	0.7978	1.1359	132.1		0.0719	371.2	1.6056	0.8023	1.1384	131.7	20
25	0.0772	375.4	1.6224	0.7962	1.1301	133.7		0.0736	375.2	1.6191	0.8002	1.1323	133.3	25
30	0.0789	379.4	1.6357	0.7956	1.1250	135.2		0.0752	379.2	1.6324	0.7991	1.1269	134.9	30
35	0.0805	383.4	1.6487	0.7960	1.1205	136.7		0.0768	383.2	1.6455	0.7991	1.1222	136.4	35
40	0.0822	387.3	1.6615	0.7971	1.1166	138.1		0.0784	387.2	1.6583	0.7999	1.1180	137.8	40
45	0.0838	391.3	1.6742	0.7989	1.1130	139.5		0.0799	391.2	1.6710	0.8014	1.1143	139.2	45
50	0.0854	395.3	1.6866	0.8013	1.1098	140.9		0.0815	395.2	1.6835	0.8035	1.1110	140.6	50
55	0.0869	399.4	1.6990	0.8042	1.1070	142.2		0.0830	399.2	1.6959	0.8062	1.1080	142.0	55
60	0.0885	403.4	1.7111	0.8075	1.1044	143.5		0.0845	403.2	1.7081	0.8093	1.1053	143.3	60
65	0.0900	407.4	1.7232	0.8111	1.1020	144.8		0.0860	407.3	1.7202	0.8127	1.1029	144.6	65
70	0.0916	411.5	1.7351	0.8151	1.0998	146.0		0.0874	411.4	1.7321	0.8165	1.1006	145.8	70
75	0.0931	415.6	1.7470	0.8193	1.0979	147.3		0.0889	415.5	1.7440	0.8206	1.0986	147.1	75
80	0.0946	419.7	1.7587	0.8238	1.0960	148.5		0.0903	419.6	1.7557	0.8250	1.0967	148.3	80
85	0.0961	423.8	1.7703	0.8285	1.0943	149.7		0.0918	423.7	1.7673	0.8296	1.0950	149.5	85
90	0.0976	428.0	1.7818	0.8334	1.0927	150.9		0.0932	427.9	1.7789	0.8344	1.0933	150.7	90
95	0.0991	432.2	1.7932	0.8384	1.0913	152.0		0.0947	432.0	1.7903	0.8393	1.0918	151.9	95
100	0.1006	436.4	1.8046	0.8436	1.0899	153.2		0.0961	436.3	1.8017	0.8444	1.0904	153.0	100
105	0.1021	440.6	1.8158	0.8489	1.0886	154.3		0.0975	440.5	1.8129	0.8496	1.0891	154.1	105
110	0.1035	444.8	1.8270	0.8543	1.0874	155.4		0.0989	444.8	1.8242	0.8550	1.0878	155.3	110
115	0.1050	449.1	1.8381	0.8598	1.0862	156.5		0.1003	449.0	1.8353	0.8604	1.0867	156.4	115
120	0.1065	453.4	1.8492	0.8653	1.0851	157.6		0.1017	453.4	1.8463	0.8659	1.0855	157.5	120
125	0.1079	457.8	1.8602	0.8710	1.0841	158.7		0.1031	457.7	1.8573	0.8715	1.0845	158.6	125
130	0.1094	462.2	1.8710	0.8766	1.0831	159.8		0.1045	462.1	1.8682	0.8771	1.0835	159.6	130
135	0.1108	466.5	1.8819	0.8824	1.0822	160.8		0.1059	466.5	1.8791	0.8828	1.0825	160.7	135
140	0.1123	471.0	1.8927	0.8882	1.0813	161.9		0.1073	470.9	1.8898	0.8886	1.0816	161.8	140
145	0.1137	475.4	1.9034	0.8940	1.0804	162.9		0.1087	475.4	1.9006	0.8943	1.0808	162.8	145
150	0.1152	479.9	1.9140	0.8998	1.0796	164.0		0.1101	479.8	1.9112	0.9001	1.0799	163.9	150
155	0.1166	484.4	1.9247	0.9056	1.0788	165.0		0.1115	484.4	1.9218	0.9060	1.0791	164.9	155
160	0.1181	489.0	1.9352	0.9115	1.0781	166.0		0.1128	489.9	1.9324	0.9118	1.0784	165.9	160

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 240.00 kPa (abs)							PRESSURE = 250.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
10.67	0.0007	211.2	1.0402	1.0627	1.4798	576.8	SAT LIQ SAT VAP	0.0007	212.5	1.0446	1.0656	1.4810	572.5	11.87
10.67	0.0656	363.3	1.5760	0.8164	1.1561	128.1		0.0630	364.0	1.5761	0.8207	1.1573	128.0	11.87
15	0.0670	366.8	1.5883	0.8112	1.1485	129.6		0.0641	366.6	1.5850	0.8166	1.1516	129.2	15
20	0.0687	370.9	1.6022	0.8070	1.1410	131.3		0.0657	370.6	1.5990	0.8117	1.1436	130.9	20
25	0.0703	374.9	1.6159	0.8042	1.1345	132.9		0.0672	374.7	1.6127	0.8083	1.1368	132.6	25
30	0.0719	378.9	1.6292	0.8027	1.1288	134.5		0.0688	378.7	1.6268	0.8064	1.1308	134.2	30
35	0.0734	382.9	1.6424	0.8023	1.1239	136.0		0.0703	382.7	1.6393	0.8055	1.1257	135.7	35
40	0.0749	387.0	1.6553	0.8027	1.1196	137.5		0.0717	386.8	1.6523	0.8056	1.1211	137.2	40
45	0.0764	391.0	1.6680	0.8039	1.1157	139.0		0.0732	390.8	1.6651	0.8065	1.1171	138.7	45
50	0.0779	395.0	1.6805	0.8058	1.1122	140.4		0.0746	394.8	1.6777	0.8081	1.1135	140.1	50
55	0.0794	399.0	1.6929	0.8082	1.1091	141.7		0.0760	398.9	1.6901	0.8102	1.1102	141.5	55
60	0.0808	403.1	1.7052	0.8111	1.1063	143.0		0.0774	402.9	1.7024	0.8129	1.1073	142.8	60
65	0.0822	407.1	1.7173	0.8144	1.1038	144.3		0.0788	407.0	1.7145	0.8160	1.1047	144.1	65
70	0.0836	411.2	1.7293	0.8180	1.1015	145.6		0.0802	411.1	1.7265	0.8195	1.1023	145.4	70
75	0.0851	415.3	1.7411	0.8220	1.0993	146.9		0.0815	415.2	1.7384	0.8233	1.1001	146.7	75
80	0.0864	419.4	1.7529	0.8262	1.0974	148.1		0.0829	419.3	1.7501	0.8274	1.0981	147.9	80
85	0.0878	423.6	1.7645	0.8307	1.0956	149.3		0.0842	423.5	1.7618	0.8318	1.0962	149.1	85
90	0.0892	427.8	1.7761	0.8354	1.0939	150.5		0.0855	427.6	1.7734	0.8364	1.0945	150.3	90
95	0.0906	431.9	1.7875	0.8402	1.0924	151.7		0.0869	431.8	1.7848	0.8411	1.0929	151.5	95
100	0.0920	436.2	1.7989	0.8452	1.0909	152.8		0.0882	436.1	1.7962	0.8461	1.0914	152.7	100
105	0.0933	440.4	1.8102	0.8504	1.0896	154.0		0.0895	440.3	1.8075	0.8512	1.0900	153.8	105
110	0.0947	444.7	1.8214	0.8557	1.0883	155.1		0.0908	444.6	1.8187	0.8564	1.0887	155.0	110
115	0.0960	449.0	1.8325	0.8610	1.0871	156.2		0.0921	448.9	1.8299	0.8617	1.0875	156.1	115
120	0.0974	453.3	1.8436	0.8665	1.0860	157.3		0.0934	453.2	1.8409	0.8671	1.0864	157.2	120
125	0.0987	457.6	1.8546	0.8720	1.0849	158.4		0.0947	457.5	1.8519	0.8726	1.0853	158.3	125
130	0.1001	462.0	1.8655	0.8776	1.0839	159.5		0.0960	461.9	1.8628	0.8781	1.0842	159.4	130
135	0.1014	466.4	1.8763	0.8833	1.0829	160.6		0.0973	466.3	1.8737	0.8837	1.0832	160.5	135
140	0.1027	470.8	1.8871	0.8890	1.0820	161.7		0.0986	470.8	1.8845	0.8894	1.0823	161.5	140
145	0.1041	475.3	1.8978	0.8947	1.0811	162.7		0.0998	475.2	1.8952	0.8951	1.0814	162.6	145
150	0.1054	479.8	1.9085	0.9005	1.0802	163.7		0.1011	479.7	1.9059	0.9009	1.0805	163.6	150
155	0.1067	484.3	1.9191	0.9063	1.0794	164.8		0.1024	484.2	1.9165	0.9066	1.0797	164.7	155
160	0.1081	488.8	1.9297	0.9121	1.0786	165.8		0.1037	488.8	1.9271	0.9124	1.0789	165.7	160
165	0.1094	493.4	1.9402	0.9180	1.0779	166.8		0.1049	493.3	1.9376	0.9182	1.0782	166.7	165

TEMP °C	PRESSURE = 260.00 kPa (abs)							PRESSURE = 270.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
13.02	0.0007	213.7	1.0489	1.0685	1.4822	568.2	SAT LIQ SAT VAP	0.0007	214.9	1.0531	1.0713	1.4833	564.1	14.14
13.02	0.0607	364.6	1.5761	0.8249	1.1585	128.0		0.0586	365.2	1.5762	0.8291	1.1597	128.0	14.14
15	0.0613	366.3	1.5818	0.8221	1.1548	128.8		0.0588	366.0	1.5787	0.8278	1.1580	128.3	15
20	0.0629	370.4	1.5959	0.8165	1.1463	130.5		0.0603	370.1	1.5929	0.8213	1.1491	130.1	20
25	0.0644	374.4	1.6097	0.8125	1.1391	132.2		0.0618	374.2	1.6067	0.8168	1.1415	131.9	25
30	0.0659	378.5	1.6232	0.8101	1.1329	133.8		0.0633	378.2	1.6203	0.8138	1.1349	133.5	30
35	0.0674	382.5	1.6364	0.8088	1.1274	135.4		0.0647	382.3	1.6336	0.8121	1.1292	135.1	35
40	0.0688	386.6	1.6494	0.8085	1.1227	136.9		0.0661	386.4	1.6466	0.8114	1.1243	136.6	40
45	0.0702	390.6	1.6622	0.8091	1.1184	138.4		0.0674	390.4	1.6595	0.8117	1.1199	138.1	45
50	0.0716	394.7	1.6749	0.8104	1.1147	139.8		0.0688	394.5	1.6722	0.8127	1.1160	139.6	50
55	0.0729	398.7	1.6873	0.8123	1.1113	141.2		0.0701	398.6	1.6847	0.8144	1.1125	141.0	55
60	0.0743	402.8	1.6996	0.8148	1.1083	142.6		0.0714	402.6	1.6970	0.8166	1.1093	142.3	60
65	0.0756	406.9	1.7118	0.8177	1.1056	143.9		0.0727	406.7	1.7092	0.8194	1.1065	143.7	65
70	0.0769	411.0	1.7238	0.8210	1.1031	145.2		0.0739	410.8	1.7212	0.8225	1.1040	145.0	70
75	0.0783	415.1	1.7357	0.8247	1.1009	146.5		0.0752	414.9	1.7331	0.8261	1.1016	146.3	75
80	0.0795	419.2	1.7475	0.8287	1.0988	147.7		0.0765	419.1	1.7449	0.8299	1.0995	147.5	80
85	0.0808	423.4	1.7592	0.8329	1.0969	148.9		0.0777	423.2	1.7566	0.8340	1.0975	148.8	85
90	0.0821	427.5	1.7708	0.8374	1.0951	150.2		0.0790	427.4	1.7682	0.8384	1.0957	150.0	90
95	0.0834	431.7	1.7822	0.8421	1.0935	151.3		0.0802	431.6	1.7797	0.8430	1.0940	151.2	95
100	0.0847	436.0	1.7936	0.8469	1.0920	152.5		0.0814	435.9	1.7911	0.8478	1.0925	152.4	100
105	0.0859	440.2	1.8049	0.8519	1.0905	153.7		0.0827	440.1	1.8025	0.8527	1.0910	153.5	105
110	0.0872	444.5	1.8162	0.8571	1.0892	154.8		0.0839	444.4	1.8137	0.8578	1.0897	154.7	110
115	0.0885	448.8	1.8273	0.8623	1.0879	156.0		0.0851	448.7	1.8248	0.8630	1.0884	155.8	115
120	0.0897	453.1	1.8384	0.8677	1.0868	157.1		0.0863	453.0	1.8359	0.8683	1.0872	156.9	120
125	0.0910	457.5	1.8494	0.8731	1.0856	158.2		0.0875	457.4	1.8469	0.8736	1.0860	158.0	125
130	0.0922	461.8	1.8603	0.8786	1.0846	159.3		0.0887	461.8	1.8579	0.8791	1.0850	159.1	130
135	0.0934	466.2	1.8712	0.8842	1.0836	160.3		0.0899	466.2	1.8687	0.8847	1.0839	160.2	135
140	0.0947	470.7	1.8820	0.8898	1.0826	161.4		0.0911	470.6	1.8795	0.8902	1.0830	161.3	140
145	0.0959	475.1	1.8927	0.8955	1.0817	162.5		0.0923	475.1	1.8903	0.8959	1.0820	162.4	145
150	0.0972	479.6	1.9034	0.9012	1.0808	163.5		0.0935	479.6	1.9010	0.9016	1.0812	163.4	150
155	0.0984	484.2	1.9140	0.9070	1.0800	164.6		0.0947	484.1	1.9116	0.9073	1.0803	164.5	155
160	0.0996	488.7	1.9246	0.9127	1.0792	165.6		0.0959	488.6	1.9222	0.9130	1.0795	165.5	160
165	0.1008	493.3	1.9351	0.9185	1.0784	166.6		0.0970	493.2	1.9327	0.9188	1.0787	166.5	165

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 280.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 290.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
15.23	0.0007	216.1	1.0571	1.0741	1.4843	560.1		0.0007	217.3	1.0610	1.0769	1.4854	556.2	16.29
15.23	0.0565	365.8	1.5763	0.8331	1.1609	128.0		0.0547	366.4	1.5764	0.8371	1.1621	127.9	16.29
20	0.0580	369.8	1.5899	0.8263	1.1519	129.7		0.0557	369.5	1.5870	0.8314	1.1549	129.3	20
25	0.0594	373.9	1.6038	0.8211	1.1439	131.5		0.0571	373.7	1.6010	0.8256	1.1464	131.1	25
30	0.0608	378.0	1.6175	0.8176	1.1371	133.2		0.0585	377.8	1.6147	0.8215	1.1392	132.8	30
35	0.0622	382.1	1.6308	0.8154	1.1311	134.8		0.0599	381.9	1.6281	0.8188	1.1330	134.4	35
40	0.0635	386.2	1.6439	0.8144	1.1259	136.3		0.0612	386.0	1.6413	0.8174	1.1275	136.0	40
45	0.0648	390.2	1.6568	0.8143	1.1213	137.8		0.0624	390.1	1.6543	0.8170	1.1228	137.5	45
50	0.0661	394.3	1.6695	0.8151	1.1172	139.3		0.0637	394.1	1.6670	0.8174	1.1185	139.0	50
55	0.0674	398.4	1.6821	0.8165	1.1136	140.7		0.0650	398.2	1.6796	0.8186	1.1148	140.5	55
60	0.0687	402.5	1.6944	0.8185	1.1104	142.1		0.0662	402.3	1.6919	0.8204	1.1114	141.9	60
65	0.0699	406.6	1.7066	0.8211	1.1075	143.4		0.0674	406.4	1.7042	0.8228	1.1084	143.2	65
70	0.0712	410.7	1.7187	0.8241	1.1048	144.8		0.0686	410.6	1.7163	0.8256	1.1057	144.5	70
75	0.0724	414.8	1.7307	0.8274	1.1024	146.1		0.0698	414.7	1.7283	0.8288	1.1032	145.9	75
80	0.0736	419.0	1.7425	0.8312	1.1002	147.3		0.0710	418.8	1.7401	0.8324	1.1009	147.1	80
85	0.0748	423.1	1.7542	0.8352	1.0982	148.6		0.0721	423.0	1.7518	0.8363	1.0989	148.4	85
90	0.0760	427.3	1.7658	0.8394	1.0963	149.8		0.0733	427.2	1.7634	0.8405	1.0969	149.6	90
95	0.0772	431.5	1.7773	0.8439	1.0946	151.0		0.0745	431.4	1.7750	0.8449	1.0952	150.8	95
100	0.0784	435.8	1.7887	0.8486	1.0930	152.2		0.0756	435.7	1.7864	0.8495	1.0935	152.0	100
105	0.0796	440.0	1.8001	0.8535	1.0915	153.4		0.0768	439.9	1.7977	0.8543	1.0920	153.2	105
110	0.0808	444.3	1.8113	0.8585	1.0901	154.5		0.0779	444.2	1.8090	0.8592	1.0906	154.4	110
115	0.0820	448.6	1.8225	0.8636	1.0888	155.7		0.0790	448.5	1.8202	0.8643	1.0893	155.5	115
120	0.0831	452.9	1.8335	0.8688	1.0876	156.8		0.0802	452.8	1.8313	0.8694	1.0880	156.7	120
125	0.0843	457.3	1.8446	0.8742	1.0864	157.9		0.0813	457.2	1.8423	0.8747	1.0868	157.8	125
130	0.0854	461.7	1.8555	0.8796	1.0853	159.0		0.0824	461.6	1.8532	0.8801	1.0857	158.9	130
135	0.0866	466.1	1.8664	0.8851	1.0843	160.1		0.0835	466.0	1.8641	0.8856	1.0846	160.0	135
140	0.0878	470.5	1.8772	0.8907	1.0833	161.2		0.0847	470.4	1.8749	0.8911	1.0836	161.1	140
145	0.0889	475.0	1.8879	0.8963	1.0824	162.3		0.0858	474.9	1.8857	0.8967	1.0827	162.1	145
150	0.0901	479.5	1.8986	0.9019	1.0815	163.3		0.0869	479.4	1.8964	0.9023	1.0818	163.2	150
155	0.0912	484.0	1.9093	0.9076	1.0806	164.4		0.0880	483.9	1.9070	0.9080	1.0809	164.3	155
160	0.0924	488.6	1.9198	0.9134	1.0798	165.4		0.0891	488.5	1.9176	0.9137	1.0801	165.3	160
165	0.0935	493.1	1.9304	0.9191	1.0790	166.4		0.0902	493.1	1.9281	0.9194	1.0793	166.3	165
170	0.0946	497.8	1.9408	0.9249	1.0782	167.5		0.0913	497.7	1.9386	0.9251	1.0785	167.4	170

TEMP °C	PRESSURE = 300.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 310.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
17.33	0.0007	218.4	1.0649	1.0797	1.4864	552.3		0.0007	219.5	1.0686	1.0824	1.4874	548.6	18.33
17.33	0.0529	367.0	1.5765	0.8410	1.1633	127.9		0.0513	367.6	1.5766	0.8448	1.1645	127.9	18.33
20	0.0537	369.2	1.5842	0.8366	1.1579	128.9		0.0517	369.0	1.5814	0.8419	1.1610	128.5	20
25	0.0550	373.4	1.5983	0.8301	1.1490	130.7		0.0531	373.1	1.5956	0.8346	1.1517	130.4	25
30	0.0564	377.5	1.6121	0.8254	1.1414	132.5		0.0544	377.3	1.6094	0.8294	1.1437	132.1	30
35	0.0577	381.7	1.6255	0.8223	1.1349	134.1		0.0556	381.4	1.6230	0.8258	1.1369	133.8	35
40	0.0590	385.8	1.6388	0.8204	1.1292	135.7		0.0569	385.6	1.6363	0.8235	1.1309	135.4	40
45	0.0602	389.9	1.6517	0.8197	1.1243	137.3		0.0581	389.7	1.6493	0.8224	1.1258	137.0	45
50	0.0614	394.0	1.6645	0.8198	1.1199	138.8		0.0593	393.8	1.6621	0.8223	1.1212	138.5	50
55	0.0627	398.1	1.6771	0.8208	1.1160	140.2		0.0605	397.9	1.6747	0.8229	1.1172	139.9	55
60	0.0638	402.2	1.6895	0.8224	1.1125	141.6		0.0617	402.0	1.6872	0.8243	1.1136	141.4	60
65	0.0650	406.3	1.7018	0.8245	1.1094	143.0		0.0628	406.1	1.6995	0.8263	1.1103	142.8	65
70	0.0662	410.4	1.7139	0.8272	1.1066	144.3		0.0639	410.3	1.7116	0.8287	1.1074	144.1	70
75	0.0674	414.6	1.7259	0.8302	1.1040	145.6		0.0651	414.4	1.7236	0.8317	1.1048	145.4	75
80	0.0685	418.7	1.7378	0.8337	1.1017	146.9		0.0662	418.6	1.7355	0.8350	1.1024	146.7	80
85	0.0696	422.9	1.7495	0.8375	1.0995	148.2		0.0673	422.8	1.7473	0.8386	1.1002	148.0	85
90	0.0708	427.1	1.7612	0.8415	1.0976	149.4		0.0684	427.0	1.7589	0.8426	1.0982	149.3	90
95	0.0719	431.3	1.7727	0.8458	1.0958	150.7		0.0695	431.2	1.7705	0.8468	1.0963	150.5	95
100	0.0730	435.6	1.7841	0.8503	1.0941	151.9		0.0706	435.5	1.7819	0.8512	1.0946	151.7	100
105	0.0741	439.8	1.7955	0.8550	1.0925	153.1		0.0716	439.7	1.7933	0.8558	1.0930	152.9	105
110	0.0752	444.1	1.8068	0.8599	1.0911	154.2		0.0727	444.0	1.8046	0.8606	1.0915	154.1	110
115	0.0763	448.4	1.8179	0.8649	1.0897	155.4		0.0738	448.3	1.8158	0.8656	1.0901	155.2	115
120	0.0774	452.8	1.8290	0.8700	1.0884	156.5		0.0748	452.7	1.8269	0.8706	1.0888	156.4	120
125	0.0785	457.1	1.8401	0.8753	1.0872	157.6		0.0759	457.0	1.8379	0.8758	1.0876	157.5	125
130	0.0796	461.5	1.8510	0.8806	1.0861	158.8		0.0770	461.4	1.8489	0.8811	1.0865	158.6	130
135	0.0807	465.9	1.8619	0.8860	1.0850	159.9		0.0780	465.8	1.8598	0.8865	1.0854	159.7	135
140	0.0818	470.4	1.8727	0.8915	1.0840	160.9		0.0791	470.3	1.8706	0.8920	1.0843	160.8	140
145	0.0828	474.8	1.8835	0.8971	1.0830	162.0		0.0801	474.8	1.8814	0.8975	1.0833	161.9	145
150	0.0839	479.3	1.8942	0.9027	1.0821	163.1		0.0811	479.3	1.8921	0.9030	1.0824	163.0	150
155	0.0850	483.9	1.9048	0.9083	1.0812	164.1		0.0822	483.8	1.9027	0.9086	1.0815	164.0	155
160	0.0861	488.4	1.9154	0.9140	1.0803	165.2		0.0832	488.4	1.9133	0.9143	1.0806	165.1	160
165	0.0871	493.0	1.9259	0.9197	1.0795	166.2		0.0843	492.9	1.9238	0.9200	1.0798	166.1	165
170	0.0882	497.6	1.9364	0.9254	1.0788	167.3		0.0853	497.6	1.9343	0.9257	1.0790	167.2	170

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 320.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 330.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
19.32	0.0007	220.5	1.0722	1.0851	1.4884	544.9		0.0007	221.6	1.0758	1.0878	1.4893	541.3	20.28
19.32	0.0497	368.1	1.5767	0.8486	1.1657	127.8		0.0483	368.6	1.5769	0.8523	1.1669	127.8	20.28
20	0.0499	368.7	1.5787	0.8473	1.1642	128.1		—	—	—	—	—	—	20
25	0.0512	372.9	1.5930	0.8393	1.1544	130.0		0.0495	372.6	1.5904	0.8441	1.1571	129.6	25
30	0.0525	377.1	1.6069	0.8335	1.1460	131.8		0.0507	376.8	1.6044	0.8376	1.1484	131.4	30
35	0.0537	381.2	1.6205	0.8293	1.1389	133.5		0.0520	381.0	1.6181	0.8330	1.1409	133.1	35
40	0.0550	385.4	1.6338	0.8267	1.1327	135.1		0.0531	385.2	1.6314	0.8298	1.1345	134.8	40
45	0.0562	389.5	1.6469	0.8252	1.1273	136.7		0.0543	389.3	1.6446	0.8280	1.1289	136.4	45
50	0.0573	393.6	1.6598	0.8247	1.1226	138.2		0.0554	393.4	1.6575	0.8272	1.1240	137.9	50
55	0.0585	397.7	1.6724	0.8251	1.1184	139.7		0.0566	397.6	1.6702	0.8273	1.1196	139.4	55
60	0.0596	401.9	1.6849	0.8263	1.1147	141.1		0.0577	401.7	1.6827	0.8282	1.1158	140.9	60
65	0.0607	406.0	1.6972	0.8280	1.1113	142.5		0.0588	405.9	1.6950	0.8298	1.1123	142.3	65
70	0.0618	410.1	1.7094	0.8303	1.1083	143.9		0.0598	410.0	1.7072	0.8319	1.1092	143.7	70
75	0.0629	414.3	1.7214	0.8331	1.1056	145.2		0.0609	414.2	1.7193	0.8345	1.1064	145.0	75
80	0.0640	418.5	1.7333	0.8363	1.1031	146.5		0.0620	418.4	1.7312	0.8376	1.1039	146.3	80
85	0.0651	422.7	1.7451	0.8398	1.1009	147.8		0.0630	422.6	1.7430	0.8410	1.1016	147.6	85
90	0.0662	426.9	1.7568	0.8436	1.0988	149.1		0.0641	426.8	1.7547	0.8447	1.0995	148.9	90
95	0.0672	431.1	1.7683	0.8477	1.0969	150.3		0.0651	431.0	1.7663	0.8487	1.0975	150.1	95
100	0.0683	435.4	1.7798	0.8521	1.0952	151.5		0.0661	435.3	1.7778	0.8529	1.0957	151.4	100
105	0.0693	439.6	1.7912	0.8566	1.0935	152.7		0.0671	439.5	1.7891	0.8574	1.0940	152.6	105
110	0.0704	443.9	1.8025	0.8613	1.0920	153.9		0.0681	443.8	1.8004	0.8621	1.0925	153.8	110
115	0.0714	448.2	1.8137	0.8662	1.0906	155.1		0.0692	448.2	1.8116	0.8669	1.0910	154.9	115
120	0.0724	452.6	1.8248	0.8713	1.0893	156.2		0.0702	452.5	1.8228	0.8719	1.0897	156.1	120
125	0.0735	457.0	1.8358	0.8764	1.0880	157.4		0.0712	456.9	1.8338	0.8770	1.0884	157.2	125
130	0.0745	461.4	1.8468	0.8816	1.0868	158.5		0.0722	461.3	1.8448	0.8821	1.0872	158.4	130
135	0.0755	465.8	1.8577	0.8870	1.0857	159.6		0.0731	465.7	1.8557	0.8874	1.0861	159.5	135
140	0.0765	470.2	1.8685	0.8924	1.0847	160.7		0.0741	470.1	1.8665	0.8928	1.0850	160.6	140
145	0.0775	474.7	1.8793	0.8979	1.0837	161.8		0.0751	474.6	1.8773	0.8983	1.0840	161.7	145
150	0.0785	479.2	1.8900	0.9034	1.0827	162.9		0.0761	479.1	1.8880	0.9038	1.0830	162.8	150
155	0.0796	483.7	1.9007	0.9090	1.0818	163.9		0.0771	483.7	1.8987	0.9093	1.0821	163.8	155
160	0.0806	488.3	1.9112	0.9146	1.0809	165.0		0.0781	488.2	1.9092	0.9149	1.0812	164.9	160
165	0.0816	492.9	1.9218	0.9203	1.0801	166.0		0.0790	492.8	1.9198	0.9206	1.0804	165.9	165
170	0.0826	497.5	1.9322	0.9259	1.0793	167.1		0.0800	497.4	1.9303	0.9262	1.0796	167.0	170
175	—	—	—	—	—	—		0.0810	502.1	1.9407	0.9319	1.0788	168.0	175

TEMP °C	PRESSURE = 340.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 350.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
21.21	0.0007	222.6	1.0792	1.0905	1.4902	537.8		0.0007	223.6	1.0826	1.0931	1.4912	534.3	22.13
21.21	0.0469	369.1	1.5770	0.8559	1.1680	127.7		0.0456	369.6	1.5771	0.8595	1.1692	127.7	22.13
25	0.0478	372.4	1.5879	0.8489	1.1600	129.2		0.0463	372.1	1.5854	0.8539	1.1629	128.8	25
30	0.0491	376.6	1.6019	0.8418	1.1508	131.0		0.0475	376.3	1.5995	0.8461	1.1533	130.7	30
35	0.0503	380.8	1.6157	0.8366	1.1430	132.8		0.0487	380.6	1.6133	0.8404	1.1452	132.5	35
40	0.0514	385.0	1.6291	0.8331	1.1363	134.5		0.0498	384.7	1.6268	0.8363	1.1382	134.2	40
45	0.0526	389.1	1.6423	0.8308	1.1305	136.1		0.0509	388.9	1.6401	0.8337	1.1321	135.8	45
50	0.0537	393.3	1.6552	0.8297	1.1254	137.7		0.0520	393.1	1.6530	0.8323	1.1268	137.4	50
55	0.0548	397.4	1.6680	0.8296	1.1209	139.2		0.0531	397.2	1.6658	0.8318	1.1222	138.9	55
60	0.0559	401.6	1.6805	0.8302	1.1169	140.6		0.0541	401.4	1.6784	0.8323	1.1180	140.4	60
65	0.0569	405.7	1.6929	0.8316	1.1133	142.1		0.0552	405.6	1.6908	0.8334	1.1144	141.8	65
70	0.0580	409.9	1.7051	0.8335	1.1101	143.5		0.0562	409.7	1.7031	0.8351	1.1111	143.2	70
75	0.0590	414.0	1.7172	0.8360	1.1073	144.8		0.0572	413.9	1.7152	0.8374	1.1081	144.6	75
80	0.0601	418.2	1.7291	0.8389	1.1047	146.1		0.0582	418.1	1.7271	0.8402	1.1054	145.9	80
85	0.0611	422.4	1.7410	0.8421	1.1023	147.4		0.0592	422.3	1.7389	0.8433	1.1030	147.2	85
90	0.0621	426.7	1.7526	0.8458	1.1001	148.7		0.0602	426.5	1.7507	0.8468	1.1008	148.5	90
95	0.0631	430.9	1.7642	0.8497	1.0981	150.0		0.0612	430.8	1.7623	0.8506	1.0987	149.8	95
100	0.0641	435.2	1.7757	0.8538	1.0963	151.2		0.0622	435.1	1.7738	0.8547	1.0968	151.0	100
105	0.0651	439.4	1.7871	0.8582	1.0946	152.4		0.0631	439.3	1.7852	0.8590	1.0951	152.3	105
110	0.0661	443.7	1.7984	0.8628	1.0930	153.6		0.0641	443.6	1.7965	0.8635	1.0935	153.5	110
115	0.0670	448.1	1.8096	0.8676	1.0915	154.8		0.0650	448.0	1.8077	0.8682	1.0920	154.6	115
120	0.0680	452.4	1.8208	0.8725	1.0901	156.0		0.0660	452.3	1.8189	0.8731	1.0905	155.8	120
125	0.0690	456.8	1.8318	0.8775	1.0888	157.1		0.0670	456.7	1.8299	0.8781	1.0892	157.0	125
130	0.0700	461.2	1.8428	0.8827	1.0876	158.2		0.0679	461.1	1.8409	0.8832	1.0880	158.1	130
135	0.0709	465.6	1.8537	0.8879	1.0864	159.4		0.0688	465.5	1.8518	0.8884	1.0868	159.2	135
140	0.0719	470.1	1.8646	0.8933	1.0854	160.5		0.0698	470.0	1.8627	0.8937	1.0857	160.3	140
145	0.0728	474.5	1.8753	0.8987	1.0843	161.6		0.0707	474.5	1.8735	0.8991	1.0847	161.4	145
150	0.0738	479.1	1.8861	0.9041	1.0833	162.7		0.0716	479.0	1.8842	0.9045	1.0837	162.5	150
155	0.0748	483.6	1.8967	0.9097	1.0824	163.7		0.0726	483.5	1.8948	0.9100	1.0827	163.6	155
160	0.0757	488.2	1.9073	0.9152	1.0815	164.8		0.0735	488.1	1.9054	0.9156	1.0818	164.7	160
165	0.0767	492.7	1.9178	0.9208	1.0807	165.8		0.0744	492.7	1.9160	0.9211	1.0809	165.7	165
170	0.0776	497.4	1.9283	0.9265	1.0798	166.9		0.0753	497.3	1.9265	0.9268	1.0801	166.8	170
175	0.0786	502.0	1.9388	0.9322	1.0790	167.9		0.0763	501.9	1.9369	0.9324	1.0793	167.8	175

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 360.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 370.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
23.03	0.0007	224.6	1.0859	1.0957	1.4921	530.9		0.0007	225.6	1.0891	1.0983	1.4930	527.6	23.91
23.03	0.0444	370.1	1.5773	0.8630	1.1704	127.6		0.0432	370.6	1.5774	0.8665	1.1716	127.5	23.91
25	0.0448	371.8	1.5830	0.8589	1.1659	128.4		0.0434	371.5	1.5806	0.8641	1.1690	128.0	25
30	0.0460	376.1	1.5972	0.8504	1.1559	130.3		0.0446	375.8	1.5949	0.8549	1.1585	129.9	30
35	0.0472	380.3	1.6110	0.8441	1.1474	132.1		0.0457	380.1	1.6088	0.8480	1.1496	131.8	35
40	0.0483	384.5	1.6246	0.8396	1.1401	133.8		0.0468	384.3	1.6224	0.8430	1.1420	133.5	40
45	0.0494	388.7	1.6379	0.8366	1.1338	135.5		0.0479	388.5	1.6357	0.8396	1.1354	135.2	45
50	0.0505	392.9	1.6509	0.8349	1.1283	137.1		0.0490	392.7	1.6488	0.8375	1.1298	136.8	50
55	0.0515	397.1	1.6637	0.8341	1.1234	138.6		0.0500	396.9	1.6617	0.8365	1.1248	138.4	55
60	0.0525	401.2	1.6763	0.8343	1.1192	140.1		0.0510	401.1	1.6743	0.8364	1.1204	139.9	60
65	0.0535	405.4	1.6888	0.8352	1.1154	141.6		0.0520	405.3	1.6868	0.8371	1.1164	141.4	65
70	0.0546	409.6	1.7010	0.8368	1.1120	143.0		0.0530	409.5	1.6991	0.8384	1.1130	142.8	70
75	0.0555	413.8	1.7132	0.8389	1.1090	144.4		0.0539	413.7	1.7112	0.8404	1.1098	144.2	75
80	0.0565	418.0	1.7251	0.8415	1.1062	145.7		0.0549	417.9	1.7232	0.8428	1.1070	145.5	80
85	0.0575	422.2	1.7370	0.8445	1.1037	147.1		0.0559	422.1	1.7351	0.8457	1.1044	146.9	85
90	0.0585	426.4	1.7487	0.8479	1.1014	148.4		0.0568	426.3	1.7468	0.8490	1.1021	148.2	90
95	0.0594	430.7	1.7603	0.8516	1.0993	149.6		0.0577	430.6	1.7585	0.8526	1.0999	149.4	95
100	0.0604	435.0	1.7718	0.8556	1.0974	150.9		0.0586	434.8	1.7700	0.8565	1.0980	150.7	100
105	0.0613	439.2	1.7833	0.8598	1.0956	152.1		0.0596	439.1	1.7814	0.8607	1.0961	151.9	105
110	0.0622	443.6	1.7946	0.8643	1.0940	153.3		0.0605	443.5	1.7927	0.8650	1.0944	153.2	110
115	0.0632	447.9	1.8058	0.8689	1.0924	154.5		0.0614	447.8	1.8040	0.8696	1.0929	154.4	115
120	0.0641	452.2	1.8170	0.8737	1.0910	155.7		0.0623	452.2	1.8151	0.8743	1.0914	155.5	120
125	0.0650	456.6	1.8280	0.8786	1.0896	156.8		0.0632	456.5	1.8262	0.8792	1.0900	156.7	125
130	0.0659	461.0	1.8390	0.8837	1.0884	158.0		0.0641	460.9	1.8372	0.8842	1.0888	157.8	130
135	0.0669	465.5	1.8500	0.8889	1.0872	159.1		0.0650	465.4	1.8482	0.8893	1.0876	159.0	135
140	0.0678	469.9	1.8608	0.8941	1.0861	160.2		0.0659	469.8	1.8590	0.8946	1.0864	160.1	140
145	0.0687	474.4	1.8716	0.8995	1.0850	161.3		0.0668	474.3	1.8698	0.8999	1.0853	161.2	145
150	0.0696	478.9	1.8823	0.9049	1.0840	162.4		0.0677	478.8	1.8805	0.9053	1.0843	162.3	150
155	0.0705	483.4	1.8930	0.9104	1.0830	163.5		0.0685	483.4	1.8912	0.9107	1.0833	163.4	155
160	0.0714	488.0	1.9036	0.9159	1.0821	164.6		0.0694	487.9	1.9018	0.9162	1.0824	164.5	160
165	0.0723	492.6	1.9141	0.9214	1.0812	165.6		0.0703	492.5	1.9124	0.9217	1.0815	165.6	165
170	0.0732	497.2	1.9246	0.9270	1.0804	166.7		0.0712	497.2	1.9229	0.9273	1.0807	166.6	170
175	0.0741	501.9	1.9351	0.9327	1.0796	167.7		0.0721	501.8	1.9333	0.9329	1.0798	167.7	175

TEMP °C	PRESSURE = 380.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 390.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
24.77	0.0007	226.5	1.0923	1.1009	1.4938	524.3		0.0007	227.4	1.0954	1.1035	1.4947	521.1	25.61
24.77	0.0421	371.1	1.5775	0.8699	1.1728	127.5		0.0410	371.5	1.5777	0.8732	1.1740	127.4	25.61
25	0.0421	371.3	1.5782	0.8693	1.1722	127.6		0.0420	375.3	1.5904	0.8640	1.1639	129.2	30
30	0.0433	375.6	1.5926	0.8594	1.1612	129.5		0.0431	379.6	1.6044	0.8559	1.1542	131.1	35
35	0.0444	379.9	1.6066	0.8519	1.1519	131.4		0.0442	383.9	1.6181	0.8499	1.1460	132.9	40
40	0.0455	384.1	1.6203	0.8464	1.1440	133.2		0.0452	388.1	1.6316	0.8456	1.1389	134.6	45
45	0.0465	388.3	1.6336	0.8426	1.1372	134.9		0.0462	392.4	1.6447	0.8428	1.1328	136.3	50
50	0.0476	392.5	1.6468	0.8401	1.1313	136.5		0.0472	396.6	1.6577	0.8412	1.1274	137.8	55
55	0.0486	396.7	1.6596	0.8388	1.1261	138.1		0.0482	400.8	1.6704	0.8405	1.1227	139.4	60
60	0.0496	400.9	1.6723	0.8384	1.1215	139.6		0.0491	405.0	1.6829	0.8408	1.1186	140.9	65
65	0.0505	405.1	1.6848	0.8389	1.1175	141.1		0.0501	409.2	1.6953	0.8418	1.1149	142.3	70
70	0.0515	409.3	1.6971	0.8401	1.1139	142.6		0.0510	413.4	1.7074	0.8434	1.1116	143.7	75
75	0.0524	413.5	1.7093	0.8419	1.1107	144.0		0.0519	417.6	1.7195	0.8455	1.1086	145.1	80
80	0.0534	417.7	1.7213	0.8442	1.1078	145.3		0.0528	421.9	1.7314	0.8482	1.1059	146.5	85
85	0.0543	422.0	1.7332	0.8469	1.1051	146.7		0.0537	426.1	1.7432	0.8512	1.1034	147.8	90
90	0.0552	426.2	1.7450	0.8501	1.1027	148.0		0.0546	430.4	1.7548	0.8546	1.1012	149.1	95
95	0.0561	430.5	1.7566	0.8536	1.1005	149.3		0.0555	434.6	1.7664	0.8583	1.0991	150.4	100
100	0.0570	434.7	1.7682	0.8574	1.0985	150.5		0.0564	438.9	1.7778	0.8623	1.0972	151.6	105
105	0.0579	439.0	1.7796	0.8615	1.0967	151.8		0.0573	443.3	1.7892	0.8665	1.0954	152.8	110
110	0.0588	443.4	1.7909	0.8658	1.0949	153.0		0.0581	447.6	1.8004	0.8710	1.0938	154.1	115
115	0.0597	447.7	1.8022	0.8703	1.0933	154.2		0.0590	452.0	1.8116	0.8756	1.0923	155.3	120
120	0.0606	452.1	1.8134	0.8750	1.0919	155.4		0.0598	456.4	1.8227	0.8804	1.0909	156.4	125
125	0.0615	456.5	1.8245	0.8798	1.0905	156.6		0.0607	460.8	1.8337	0.8853	1.0895	157.6	130
130	0.0623	460.9	1.8355	0.8847	1.0892	157.7		0.0615	465.2	1.8447	0.8903	1.0883	158.7	135
135	0.0632	465.3	1.8464	0.8898	1.0879	158.9		0.0624	469.7	1.8556	0.8955	1.0871	159.9	140
140	0.0641	469.8	1.8573	0.8950	1.0868	160.0		0.0632	474.2	1.8664	0.9007	1.0860	161.0	145
145	0.0650	474.3	1.8681	0.9003	1.0857	161.1		0.0641	478.7	1.8771	0.9060	1.0849	162.1	150
150	0.0658	478.8	1.8788	0.9056	1.0846	162.2		0.0649	483.2	1.8878	0.9114	1.0839	163.2	155
155	0.0667	483.3	1.8895	0.9110	1.0836	163.3		0.0658	487.8	1.8984	0.9168	1.0830	164.3	160
160	0.0675	487.9	1.9001	0.9165	1.0827	164.4		0.0666	492.4	1.9089	0.9223	1.0821	165.4	165
165	0.0684	492.5	1.9106	0.9220	1.0818	165.5		0.0674	497.0	1.9194	0.9279	1.0812	166.4	170
170	0.0693	497.1	1.9211	0.9276	1.0809	166.5		0.0683	501.7	1.9299	0.9334	1.0804	167.5	175
175	0.0701	501.7	1.9316	0.9332	1.0801	167.6		0.0691	506.4	1.9403	0.9390	1.0796	168.5	180

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 400.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 425.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
26.44	0.0007	228.3	1.0984	1.1060	1.4956	518.0	SAT LIQ SAT VAP	0.0007	230.6	1.1058	1.1122	1.4977	510.3	28.44
26.44	0.0400	372.0	1.5778	0.8766	1.1751	127.3		0.0377	373.1	1.5782	0.8847	1.1781	127.2	28.44
30	0.0408	375.1	1.5882	0.8687	1.1667	128.8		0.0381	374.4	1.5828	0.8808	1.1741	127.8	30
35	0.0419	379.4	1.6023	0.8599	1.1566	130.7		0.0391	378.8	1.5971	0.8703	1.1629	129.8	35
40	0.0429	383.7	1.6161	0.8534	1.1480	132.5		0.0401	383.1	1.6110	0.8624	1.1534	131.7	40
45	0.0440	387.9	1.6296	0.8487	1.1407	134.3		0.0411	387.4	1.6246	0.8566	1.1453	133.5	45
50	0.0449	392.2	1.6428	0.8455	1.1343	136.0		0.0420	391.7	1.6380	0.8524	1.1384	135.2	50
55	0.0459	396.4	1.6557	0.8436	1.1288	137.6		0.0430	396.0	1.6510	0.8497	1.1324	136.9	55
60	0.0469	400.6	1.6685	0.8427	1.1240	139.1		0.0439	400.2	1.6639	0.8481	1.1271	138.5	60
65	0.0478	404.8	1.6810	0.8427	1.1197	140.6		0.0448	404.4	1.6765	0.8475	1.1225	140.0	65
70	0.0487	409.0	1.6934	0.8435	1.1159	142.1		0.0456	408.7	1.6889	0.8478	1.1184	141.5	70
75	0.0496	413.3	1.7056	0.8449	1.1125	143.5		0.0465	412.9	1.7012	0.8488	1.1147	143.0	75
80	0.0505	417.5	1.7177	0.8469	1.1094	144.9		0.0474	417.2	1.7133	0.8504	1.1114	144.4	80
85	0.0514	421.7	1.7296	0.8494	1.1066	146.3		0.0482	421.4	1.7253	0.8525	1.1085	145.8	85
90	0.0523	426.0	1.7414	0.8523	1.1041	147.6		0.0490	425.7	1.7371	0.8551	1.1058	147.2	90
95	0.0532	430.3	1.7531	0.8556	1.1018	148.9		0.0499	430.0	1.7488	0.8582	1.1034	148.5	95
100	0.0540	434.5	1.7646	0.8592	1.0997	150.2		0.0507	434.3	1.7604	0.8615	1.1011	149.8	100
105	0.0549	438.8	1.7761	0.8631	1.0977	151.5		0.0515	438.6	1.7719	0.8652	1.0991	151.1	105
110	0.0557	443.2	1.7875	0.8673	1.0959	152.7		0.0523	442.9	1.7833	0.8692	1.0972	152.3	110
115	0.0566	447.5	1.7987	0.8717	1.0943	153.9		0.0531	447.3	1.7946	0.8734	1.0955	153.5	115
120	0.0574	451.9	1.8099	0.8762	1.0927	155.1		0.0539	451.7	1.8058	0.8778	1.0939	154.8	120
125	0.0583	456.3	1.8210	0.8809	1.0913	156.3		0.0547	456.1	1.8169	0.8824	1.0924	156.0	125
130	0.0591	460.7	1.8320	0.8858	1.0899	157.5		0.0555	460.5	1.8280	0.8871	1.0909	157.1	130
135	0.0599	465.1	1.8430	0.8908	1.0887	158.6		0.0563	464.9	1.8390	0.8920	1.0896	158.3	135
140	0.0608	469.6	1.8539	0.8959	1.0875	159.7		0.0571	469.4	1.8498	0.8970	1.0884	159.4	140
145	0.0616	474.1	1.8647	0.9011	1.0863	160.9		0.0579	473.9	1.8607	0.9021	1.0872	160.6	145
150	0.0624	478.6	1.8754	0.9064	1.0853	162.0		0.0586	478.4	1.8714	0.9073	1.0861	161.7	150
155	0.0633	483.2	1.8861	0.9117	1.0843	163.1		0.0594	483.0	1.8821	0.9126	1.0850	162.8	155
160	0.0641	487.7	1.8967	0.9172	1.0833	164.2		0.0602	487.6	1.8927	0.9180	1.0840	163.9	160
165	0.0649	492.3	1.9073	0.9226	1.0824	165.3		0.0610	492.2	1.9033	0.9234	1.0831	165.0	165
170	0.0657	497.0	1.9178	0.9282	1.0815	166.3		0.0617	496.8	1.9138	0.9289	1.0822	166.1	170
175	0.0665	501.6	1.9282	0.9337	1.0806	167.4		0.0625	501.5	1.9243	0.9344	1.0813	167.2	175
180	0.0673	506.3	1.9386	0.9393	1.0798	168.4		0.0633	506.1	1.9347	0.9399	1.0805	168.2	180

TEMP °C	PRESSURE = 450.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 475.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
30.35	0.0007	232.7	1.1128	1.1184	1.4998	502.9	SAT LIQ SAT VAP	0.0008	234.8	1.1195	1.1244	1.5019	495.8	32.19
30.35	0.0357	374.1	1.5786	0.8926	1.1811	127.0		0.0338	375.1	1.5790	0.9003	1.1841	126.8	32.19
35	0.0366	378.2	1.5921	0.8812	1.1695	128.9		0.0344	377.6	1.5872	0.8927	1.1765	128.0	35
40	0.0376	382.6	1.6062	0.8718	1.1590	130.9		0.0353	382.0	1.6015	0.8816	1.1650	130.0	40
45	0.0385	386.9	1.6199	0.8647	1.1501	132.7		0.0362	386.4	1.6154	0.8732	1.1552	131.9	45
50	0.0394	391.2	1.6334	0.8596	1.1426	134.5		0.0371	390.8	1.6289	0.8670	1.1470	133.8	50
55	0.0403	395.5	1.6465	0.8560	1.1360	136.2		0.0380	395.1	1.6422	0.8624	1.1399	135.5	55
60	0.0412	399.8	1.6595	0.8536	1.1304	137.9		0.0388	399.4	1.6552	0.8594	1.1337	137.2	60
65	0.0421	404.1	1.6722	0.8524	1.1254	139.4		0.0396	403.7	1.6680	0.8575	1.1284	138.8	65
70	0.0429	408.3	1.6847	0.8522	1.1210	141.0		0.0404	408.0	1.6806	0.8567	1.1236	140.4	70
75	0.0437	412.6	1.6970	0.8527	1.1171	142.5		0.0412	412.3	1.6930	0.8567	1.1195	141.9	75
80	0.0445	416.9	1.7092	0.8539	1.1136	143.9		0.0420	416.5	1.7052	0.8575	1.1157	143.4	80
85	0.0453	421.1	1.7212	0.8557	1.1104	145.3		0.0428	420.8	1.7173	0.8589	1.1124	144.8	85
90	0.0461	425.4	1.7331	0.8580	1.1076	146.7		0.0435	425.1	1.7292	0.8609	1.1094	146.2	90
95	0.0469	429.7	1.7448	0.8608	1.1050	148.0		0.0443	429.4	1.7410	0.8634	1.1067	147.6	95
100	0.0477	434.0	1.7565	0.8639	1.1027	149.4		0.0450	433.8	1.7526	0.8663	1.1042	148.9	100
105	0.0485	438.4	1.7680	0.8674	1.1005	150.6		0.0458	438.1	1.7642	0.8695	1.1019	150.2	105
110	0.0493	442.7	1.7794	0.8711	1.0985	151.9		0.0465	442.5	1.7756	0.8731	1.0998	151.5	110
115	0.0500	447.1	1.7907	0.8752	1.0967	153.2		0.0472	446.8	1.7870	0.8770	1.0979	152.8	115
120	0.0508	451.5	1.8019	0.8794	1.0950	154.4		0.0480	451.2	1.7982	0.8811	1.0962	154.0	120
125	0.0515	455.9	1.8131	0.8839	1.0934	155.6		0.0487	455.6	1.8094	0.8854	1.0945	155.3	125
130	0.0523	460.3	1.8241	0.8885	1.0920	156.8		0.0494	460.1	1.8205	0.8899	1.0930	156.5	130
135	0.0530	464.7	1.8351	0.8933	1.0906	158.0		0.0501	464.5	1.8315	0.8945	1.0916	157.7	135
140	0.0538	469.2	1.8460	0.8982	1.0893	159.1		0.0508	469.0	1.8424	0.8993	1.0902	158.8	140
145	0.0545	473.7	1.8569	0.9032	1.0881	160.3		0.0515	473.5	1.8532	0.9043	1.0890	160.0	145
150	0.0553	478.3	1.8676	0.9083	1.0869	161.4		0.0522	478.1	1.8640	0.9093	1.0878	161.2	150
155	0.0560	482.8	1.8783	0.9135	1.0858	162.6		0.0529	482.6	1.8747	0.9144	1.0866	162.3	155
160	0.0567	487.4	1.8890	0.9188	1.0848	163.7		0.0537	487.2	1.8854	0.9196	1.0856	163.4	160
165	0.0575	492.0	1.8995	0.9242	1.0838	164.8		0.0544	491.8	1.8960	0.9249	1.0846	164.5	165
170	0.0582	496.6	1.9101	0.9296	1.0829	165.9		0.0551	496.5	1.9065	0.9303	1.0836	165.6	170
175	0.0589	501.3	1.9205	0.9350	1.0820	166.9		0.0557	501.1	1.9170	0.9357	1.0827	166.7	175
180	0.0597	506.0	1.9309	0.9405	1.0811	168.0		0.0564	505.8	1.9274	0.9411	1.0818	167.8	180
185	0.0604	510.7	1.9413	0.9460	1.0803	169.1		0.0571	510.5	1.9377	0.9466	1.0809	168.8	185

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 500.0 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 525.0 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
33.96	0.0008	236.8	1.1259	1.1303	1.5039	488.9		0.0008	238.7	1.1321	1.1362	1.5060	482.2	35.65
33.96	0.0322	376.0	1.5794	0.9078	1.1871	126.5		0.0306	376.9	1.5798	0.9151	1.1901	126.3	35.65
35	0.0323	377.0	1.5825	0.9047	1.1841	127.0		—	—	—	—	—	—	35
40	0.0333	381.5	1.5969	0.8918	1.1713	129.1		0.0314	380.9	1.5925	0.9025	1.1780	128.2	40
45	0.0342	385.9	1.6110	0.8820	1.1606	131.1		0.0323	385.4	1.6067	0.8912	1.1662	130.3	45
50	0.0350	390.3	1.6246	0.8746	1.1516	133.0		0.0331	389.8	1.6205	0.8825	1.1564	132.2	50
55	0.0358	394.6	1.6380	0.8691	1.1439	134.8		0.0339	394.2	1.6340	0.8760	1.1480	134.1	55
60	0.0366	399.0	1.6511	0.8653	1.1372	136.5		0.0347	398.6	1.6472	0.8713	1.1409	135.9	60
65	0.0374	403.3	1.6640	0.8627	1.1315	138.2		0.0355	402.9	1.6602	0.8681	1.1347	137.6	65
70	0.0382	407.6	1.6767	0.8613	1.1264	139.8		0.0362	407.2	1.6729	0.8660	1.1293	139.2	70
75	0.0390	411.9	1.6891	0.8608	1.1219	141.3		0.0369	411.6	1.6854	0.8651	1.1245	140.8	75
80	0.0397	416.2	1.7014	0.8612	1.1180	142.9		0.0377	415.9	1.6977	0.8650	1.1203	142.3	80
85	0.0405	420.5	1.7135	0.8623	1.1144	144.3		0.0384	420.2	1.7099	0.8656	1.1165	143.8	85
90	0.0412	424.8	1.7255	0.8639	1.1112	145.7		0.0391	424.5	1.7219	0.8669	1.1131	145.3	90
95	0.0419	429.2	1.7373	0.8661	1.1084	147.1		0.0398	428.9	1.7338	0.8688	1.1101	146.7	95
100	0.0426	433.5	1.7490	0.8687	1.1057	148.5		0.0405	433.2	1.7455	0.8712	1.1073	148.1	100
105	0.0434	437.9	1.7606	0.8717	1.1034	149.8		0.0412	437.6	1.7571	0.8740	1.1048	149.4	105
110	0.0441	442.2	1.7721	0.8751	1.1012	151.1		0.0418	442.0	1.7686	0.8771	1.1026	150.7	110
115	0.0448	446.6	1.7834	0.8788	1.0992	152.4		0.0425	446.4	1.7800	0.8806	1.1005	152.0	115
120	0.0454	451.0	1.7947	0.8827	1.0973	153.7		0.0432	450.8	1.7913	0.8844	1.0985	153.3	120
125	0.0461	455.4	1.8059	0.8869	1.0956	154.9		0.0438	455.2	1.8025	0.8884	1.0967	154.6	125
130	0.0468	459.9	1.8170	0.8912	1.0940	156.1		0.0445	459.7	1.8136	0.8926	1.0950	155.8	130
135	0.0475	464.3	1.8280	0.8958	1.0925	157.4		0.0451	464.1	1.8247	0.8971	1.0935	157.0	135
140	0.0482	468.8	1.8389	0.9005	1.0911	158.5		0.0458	468.6	1.8356	0.9017	1.0921	158.2	140
145	0.0489	473.3	1.8498	0.9053	1.0898	159.7		0.0464	473.2	1.8465	0.9064	1.0907	159.4	145
150	0.0495	477.9	1.8606	0.9103	1.0886	160.9		0.0471	477.7	1.8573	0.9113	1.0895	160.6	150
155	0.0502	482.5	1.8713	0.9153	1.0874	162.0		0.0477	482.3	1.8680	0.9163	1.0883	161.7	155
160	0.0509	487.0	1.8820	0.9205	1.0863	163.2		0.0484	486.9	1.8787	0.9213	1.0871	162.9	160
165	0.0515	491.7	1.8926	0.9257	1.0853	164.3		0.0490	491.5	1.8893	0.9265	1.0861	164.0	165
170	0.0522	496.3	1.9031	0.9310	1.0843	165.4		0.0496	496.1	1.8998	0.9317	1.0850	165.1	170
175	0.0529	501.0	1.9136	0.9364	1.0834	166.5		0.0503	500.8	1.9103	0.9370	1.0841	166.2	175
180	0.0535	505.7	1.9240	0.9418	1.0825	167.6		0.0509	505.5	1.9207	0.9424	1.0831	167.3	180
185	0.0542	510.4	1.9344	0.9472	1.0816	168.6		0.0515	510.2	1.9311	0.9478	1.0822	168.4	185
190	—	—	—	—	—	—		0.0522	515.0	1.9414	0.9532	1.0814	169.5	190

TEMP °C	PRESSURE = 550.0 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 575.0 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
37.29	0.0008	240.6	1.1381	1.1419	1.5081	475.7		0.0008	242.4	1.1439	1.1476	1.5101	469.5	38.88
37.29	0.0293	377.8	1.5802	0.9223	1.1932	126.1		0.0280	378.6	1.5806	0.9294	1.1962	125.8	38.88
40	0.0297	380.3	1.5881	0.9138	1.1851	127.3		0.0282	379.7	1.5839	0.9255	1.1927	126.4	40
45	0.0306	384.8	1.6025	0.9007	1.1722	129.4		0.0290	384.3	1.5984	0.9107	1.1785	128.6	45
50	0.0314	389.3	1.6165	0.8908	1.1615	131.5		0.0298	388.8	1.6125	0.8993	1.1668	130.7	50
55	0.0322	393.7	1.6301	0.8832	1.1524	133.4		0.0306	393.3	1.6263	0.8906	1.1570	132.6	55
60	0.0329	398.1	1.6434	0.8776	1.1447	135.2		0.0313	397.7	1.6397	0.8840	1.1486	134.5	60
65	0.0337	402.5	1.6564	0.8736	1.1380	136.9		0.0320	402.1	1.6528	0.8792	1.1415	136.3	65
70	0.0344	406.9	1.6692	0.8709	1.1322	138.6		0.0327	406.5	1.6657	0.8759	1.1353	138.0	70
75	0.0351	411.2	1.6818	0.8694	1.1271	140.2		0.0334	410.9	1.6784	0.8738	1.1298	139.7	75
80	0.0358	415.6	1.6942	0.8688	1.1226	141.8		0.0341	415.2	1.6908	0.8727	1.1251	141.3	80
85	0.0365	419.9	1.7064	0.8691	1.1186	143.3		0.0348	419.6	1.7031	0.8726	1.1208	142.8	85
90	0.0372	424.3	1.7185	0.8700	1.1151	144.8		0.0354	424.0	1.7152	0.8732	1.1171	144.3	90
95	0.0378	428.6	1.7304	0.8716	1.1119	146.2		0.0361	428.3	1.7271	0.8744	1.1137	145.8	95
100	0.0385	433.0	1.7422	0.8737	1.1090	147.6		0.0367	432.7	1.7389	0.8762	1.1106	147.2	100
105	0.0392	437.3	1.7538	0.8762	1.1064	149.0		0.0373	437.1	1.7506	0.8785	1.1079	148.6	105
110	0.0398	441.7	1.7653	0.8792	1.1040	150.3		0.0380	441.5	1.7622	0.8813	1.1054	149.9	110
115	0.0404	446.1	1.7768	0.8825	1.1018	151.7		0.0386	445.9	1.7736	0.8844	1.1031	151.3	115
120	0.0411	450.6	1.7881	0.8861	1.0997	153.0		0.0392	450.3	1.7849	0.8878	1.1010	152.6	120
125	0.0417	455.0	1.7993	0.8900	1.0979	154.2		0.0398	454.8	1.7962	0.8915	1.0990	153.9	125
130	0.0424	459.5	1.8104	0.8941	1.0962	155.5		0.0404	459.3	1.8073	0.8955	1.0972	155.1	130
135	0.0430	463.9	1.8215	0.8984	1.0946	156.7		0.0410	463.7	1.8184	0.8997	1.0956	156.4	135
140	0.0436	468.4	1.8324	0.9029	1.0931	157.9		0.0416	468.2	1.8294	0.9041	1.0940	157.6	140
145	0.0442	473.0	1.8433	0.9075	1.0917	159.1		0.0422	472.8	1.8403	0.9086	1.0926	158.8	145
150	0.0448	477.5	1.8541	0.9123	1.0903	160.3		0.0428	477.3	1.8511	0.9133	1.0912	160.0	150
155	0.0455	482.1	1.8649	0.9172	1.0891	161.5		0.0434	481.9	1.8619	0.9181	1.0899	161.2	155
160	0.0461	486.7	1.8756	0.9222	1.0879	162.6		0.0440	486.5	1.8726	0.9231	1.0887	162.4	160
165	0.0467	491.3	1.8862	0.9273	1.0868	163.8		0.0446	491.1	1.8832	0.9281	1.0876	163.5	165
170	0.0473	496.0	1.8967	0.9325	1.0858	164.9		0.0452	495.8	1.8937	0.9332	1.0865	164.7	170
175	0.0479	500.6	1.9072	0.9377	1.0848	166.0		0.0457	500.5	1.9042	0.9384	1.0855	165.8	175
180	0.0485	505.3	1.9177	0.9430	1.0838	167.1		0.0463	505.2	1.9147	0.9437	1.0845	166.9	180
185	0.0491	510.1	1.9280	0.9484	1.0829	168.2		0.0469	509.9	1.9251	0.9490	1.0836	168.0	185
190	0.0497	514.8	1.9384	0.9538	1.0820	169.3		0.0475	514.7	1.9354	0.9544	1.0827	169.1	190

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 600.00 kPa (abs)							PRESSURE = 625.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
40.41	0.0008	244.1	1.1495	1.1533	1.5122	463.3	SAT LIQ	0.0008	245.9	1.1549	1.1588	1.5143	457.4	41.9
40.41	0.0268	379.4	1.5809	0.9364	1.1994	125.6	SAT VAP	0.0257	380.2	1.5813	0.9433	1.2025	125.3	41.9
45	0.0276	383.7	1.5944	0.9212	1.1852	127.7		0.0262	383.1	1.5905	0.9321	1.1923	126.8	45
50	0.0283	388.3	1.6087	0.9082	1.1724	129.8		0.0270	387.8	1.6049	0.9175	1.1784	129.0	50
55	0.0291	392.8	1.6226	0.8982	1.1618	131.9		0.0277	392.3	1.6189	0.9062	1.1668	131.1	55
60	0.0298	397.3	1.6361	0.8906	1.1528	133.8		0.0284	396.8	1.6326	0.8975	1.1571	133.1	60
65	0.0305	401.7	1.6493	0.8850	1.1451	135.6		0.0291	401.3	1.6459	0.8910	1.1488	135.0	65
70	0.0312	406.1	1.6623	0.8810	1.1384	137.4		0.0298	405.7	1.6589	0.8863	1.1417	136.8	70
75	0.0319	410.5	1.6750	0.8783	1.1326	139.1		0.0304	410.2	1.6717	0.8830	1.1355	138.5	75
80	0.0325	414.9	1.6875	0.8768	1.1276	140.7		0.0311	414.6	1.6843	0.8809	1.1302	140.2	80
85	0.0332	419.3	1.6998	0.8762	1.1231	142.3		0.0317	419.0	1.6967	0.8798	1.1254	141.8	85
90	0.0338	423.7	1.7120	0.8764	1.1191	143.8		0.0323	423.4	1.7089	0.8797	1.1212	143.3	90
95	0.0344	428.0	1.7240	0.8773	1.1155	145.3		0.0329	427.8	1.7209	0.8802	1.1174	144.8	95
100	0.0350	432.4	1.7358	0.8788	1.1123	146.7		0.0335	432.2	1.7328	0.8815	1.1141	146.3	100
105	0.0357	436.8	1.7475	0.8809	1.1095	148.2		0.0341	436.6	1.7445	0.8833	1.1111	147.7	105
110	0.0363	441.2	1.7591	0.8834	1.1068	149.5		0.0347	441.0	1.7561	0.8856	1.1083	149.1	110
115	0.0369	445.7	1.7706	0.8863	1.1044	150.9		0.0353	445.4	1.7676	0.8883	1.1058	150.5	115
120	0.0374	450.1	1.7819	0.8896	1.1022	152.2		0.0358	449.9	1.7790	0.8913	1.1035	151.9	120
125	0.0380	454.6	1.7932	0.8931	1.1002	153.5		0.0364	454.3	1.7903	0.8947	1.1014	153.2	125
130	0.0386	459.0	1.8044	0.8970	1.0983	154.8		0.0370	458.8	1.8015	0.8984	1.0995	154.5	130
135	0.0392	463.5	1.8154	0.9010	1.0966	156.1		0.0375	463.3	1.8126	0.9024	1.0977	155.8	135
140	0.0398	468.1	1.8264	0.9053	1.0950	157.3		0.0381	467.9	1.8236	0.9065	1.0960	157.0	140
145	0.0404	472.6	1.8374	0.9097	1.0935	158.5		0.0387	472.4	1.8345	0.9109	1.0945	158.2	145
150	0.0409	477.1	1.8482	0.9143	1.0921	159.7		0.0392	477.0	1.8454	0.9154	1.0930	159.5	150
155	0.0415	481.7	1.8590	0.9191	1.0908	160.9		0.0398	481.6	1.8562	0.9200	1.0916	160.7	155
160	0.0421	486.3	1.8697	0.9239	1.0895	162.1		0.0403	486.2	1.8669	0.9248	1.0904	161.9	160
165	0.0426	491.0	1.8803	0.9289	1.0884	163.3		0.0409	490.8	1.8775	0.9297	1.0891	163.0	165
170	0.0432	495.6	1.8909	0.9340	1.0872	164.4		0.0414	495.5	1.8881	0.9347	1.0880	164.2	170
175	0.0438	500.3	1.9014	0.9391	1.0862	165.6		0.0419	500.1	1.8986	0.9398	1.0869	165.3	175
180	0.0443	505.0	1.9118	0.9443	1.0852	166.7		0.0425	504.9	1.9091	0.9450	1.0859	166.5	180
185	0.0449	509.8	1.9222	0.9496	1.0842	167.8		0.0430	509.6	1.9195	0.9502	1.0849	167.6	185
190	0.0454	514.5	1.9326	0.9549	1.0833	168.9		0.0436	514.4	1.9298	0.9555	1.0839	168.7	190
195	0.0460	519.3	1.9428	0.9603	1.0824	170.0		0.0441	519.2	1.9401	0.9608	1.0830	169.8	195

TEMP °C	PRESSURE = 650.00 kPa (abs)							PRESSURE = 675.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
43.34	0.0008	247.5	1.1601	1.1643	1.5164	451.6	SAT LIQ	0.0008	249.2	1.1652	1.1698	1.5185	445.9	44.74
43.34	0.0247	381.0	1.5817	0.9500	1.2057	125.1	SAT VAP	0.0238	381.7	1.5821	0.9568	1.2089	124.8	44.74
45	0.0250	382.5	1.5867	0.9436	1.1999	125.9		0.0239	381.9	1.5829	0.9557	1.2080	124.9	45
50	0.0258	387.2	1.6012	0.9271	1.1846	128.2		0.0246	386.7	1.5976	0.9372	1.1913	127.3	50
55	0.0265	391.8	1.6154	0.9144	1.1721	130.3		0.0253	391.3	1.6119	0.9230	1.1776	129.5	55
60	0.0272	396.4	1.6291	0.9046	1.1616	132.4		0.0260	395.9	1.6258	0.9120	1.1663	131.6	60
65	0.0278	400.9	1.6425	0.8972	1.1527	134.3		0.0266	400.4	1.6393	0.9036	1.1567	133.6	65
70	0.0285	405.3	1.6557	0.8917	1.1451	136.1		0.0273	405.0	1.6525	0.8972	1.1486	135.5	70
75	0.0291	409.8	1.6685	0.8877	1.1385	137.9		0.0279	409.4	1.6654	0.8926	1.1416	137.3	75
80	0.0297	414.2	1.6812	0.8851	1.1328	139.6		0.0285	413.9	1.6781	0.8894	1.1356	139.0	80
85	0.0303	418.6	1.6936	0.8836	1.1278	141.2		0.0291	418.3	1.6906	0.8874	1.1302	140.7	85
90	0.0309	423.1	1.7059	0.8830	1.1233	142.8		0.0297	422.8	1.7029	0.8864	1.1256	142.3	90
95	0.0315	427.5	1.7179	0.8832	1.1194	144.4		0.0302	427.2	1.7151	0.8863	1.1214	143.9	95
100	0.0321	431.9	1.7299	0.8842	1.1159	145.9		0.0308	431.6	1.7270	0.8869	1.1177	145.4	100
105	0.0327	436.3	1.7416	0.8857	1.1127	147.3		0.0314	436.1	1.7388	0.8882	1.1144	146.9	105
110	0.0332	440.8	1.7533	0.8877	1.1098	148.7		0.0319	440.5	1.7505	0.8900	1.1113	148.3	110
115	0.0338	445.2	1.7648	0.8902	1.1072	150.1		0.0325	445.0	1.7621	0.8923	1.1086	149.7	115
120	0.0344	449.7	1.7762	0.8931	1.1048	151.5		0.0330	449.4	1.7735	0.8950	1.1061	151.1	120
125	0.0349	454.1	1.7875	0.8964	1.1026	152.8		0.0335	453.9	1.7848	0.8980	1.1039	152.5	125
130	0.0355	458.6	1.7987	0.8999	1.1006	154.1		0.0341	458.4	1.7960	0.9014	1.1018	153.8	130
135	0.0360	463.1	1.8099	0.9037	1.0987	155.4		0.0346	462.9	1.8072	0.9051	1.0998	155.1	135
140	0.0366	467.7	1.8209	0.9078	1.0970	156.7		0.0351	467.5	1.8182	0.9090	1.0980	156.4	140
145	0.0371	472.2	1.8318	0.9120	1.0954	157.9		0.0356	472.0	1.8292	0.9132	1.0964	157.7	145
150	0.0376	476.8	1.8427	0.9164	1.0939	159.2		0.0361	476.6	1.8401	0.9175	1.0948	158.9	150
155	0.0382	481.4	1.8535	0.9210	1.0925	160.4		0.0367	481.2	1.8509	0.9220	1.0934	160.1	155
160	0.0387	486.0	1.8642	0.9257	1.0912	161.6		0.0372	485.8	1.8616	0.9266	1.0920	161.3	160
165	0.0392	490.6	1.8749	0.9306	1.0899	162.8		0.0377	490.5	1.8723	0.9314	1.0907	162.5	165
170	0.0397	495.3	1.8854	0.9355	1.0888	163.9		0.0382	495.1	1.8829	0.9363	1.0895	163.7	170
175	0.0403	500.0	1.8960	0.9405	1.0876	165.1		0.0387	499.8	1.8934	0.9413	1.0884	164.9	175
180	0.0408	504.7	1.9064	0.9456	1.0866	166.2		0.0392	504.5	1.9039	0.9463	1.0873	166.0	180
185	0.0413	509.4	1.9168	0.9508	1.0856	167.4		0.0397	509.3	1.9143	0.9515	1.0862	167.2	185
190	0.0418	514.2	1.9272	0.9561	1.0846	168.5		0.0402	514.1	1.9246	0.9567	1.0853	168.3	190
195	0.0423	519.0	1.9375	0.9614	1.0837	169.6		0.0407	518.8	1.9349	0.9619	1.0843	169.4	195

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 700.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 725.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
46.11	0.0008	250.8	1.1702	1.1753	1.5207	440.4		0.0008	252.3	1.1750	1.1807	1.5228	435.0	47.43
46.11	0.0230	382.4	1.5825	0.9634	1.2122	124.5		0.0222	383.1	1.5828	0.9700	1.2155	124.2	47.43
50	0.0235	386.1	1.5940	0.9478	1.1983	126.4		0.0225	385.6	1.5905	0.9589	1.2058	125.5	50
55	0.0242	390.8	1.6085	0.9319	1.1835	128.7		0.0232	390.3	1.6051	0.9412	1.1896	127.9	55
60	0.0249	395.4	1.6225	0.9196	1.1712	130.9		0.0239	395.0	1.6192	0.9275	1.1764	130.1	60
65	0.0255	400.0	1.6361	0.9101	1.1610	132.9		0.0245	399.6	1.6330	0.9169	1.1654	132.2	65
70	0.0262	404.6	1.6494	0.9029	1.1523	134.9		0.0251	404.2	1.6464	0.9088	1.1561	134.2	70
75	0.0268	409.1	1.6624	0.8976	1.1448	136.7		0.0257	408.7	1.6595	0.9028	1.1482	136.1	75
80	0.0273	413.5	1.6752	0.8938	1.1384	138.5		0.0263	413.2	1.6723	0.8984	1.1413	137.9	80
85	0.0279	418.0	1.6877	0.8913	1.1328	140.2		0.0268	417.7	1.6849	0.8953	1.1354	139.6	85
90	0.0285	422.4	1.7001	0.8899	1.1278	141.8		0.0274	422.1	1.6973	0.8935	1.1302	141.3	90
95	0.0291	426.9	1.7122	0.8894	1.1234	143.4		0.0279	426.6	1.7095	0.8926	1.1255	142.9	95
100	0.0296	431.3	1.7243	0.8897	1.1195	145.0		0.0285	431.1	1.7216	0.8925	1.1215	144.5	100
105	0.0301	435.8	1.7361	0.8907	1.1161	146.5		0.0290	435.5	1.7334	0.8932	1.1178	146.0	105
110	0.0307	440.3	1.7478	0.8922	1.1129	147.9		0.0295	440.0	1.7452	0.8945	1.1145	147.5	110
115	0.0312	444.7	1.7594	0.8943	1.1101	149.4		0.0300	444.5	1.7568	0.8964	1.1115	149.0	115
120	0.0317	449.2	1.7709	0.8968	1.1075	150.8		0.0305	449.0	1.7683	0.8987	1.1088	150.4	120
125	0.0322	453.7	1.7822	0.8997	1.1051	152.1		0.0311	453.5	1.7797	0.9014	1.1064	151.8	125
130	0.0328	458.2	1.7934	0.9030	1.1029	153.5		0.0315	458.0	1.7909	0.9045	1.1041	153.1	130
135	0.0333	462.7	1.8046	0.9065	1.1009	154.8		0.0320	462.5	1.8021	0.9079	1.1020	154.5	135
140	0.0338	467.3	1.8157	0.9103	1.0991	156.1		0.0325	467.1	1.8132	0.9116	1.1001	155.8	140
145	0.0343	471.8	1.8266	0.9143	1.0974	157.4		0.0330	471.6	1.8242	0.9155	1.0983	157.1	145
150	0.0348	476.4	1.8375	0.9186	1.0958	158.6		0.0335	476.2	1.8351	0.9197	1.0967	158.3	150
155	0.0353	481.0	1.8483	0.9230	1.0943	159.8		0.0340	480.8	1.8459	0.9240	1.0952	159.6	155
160	0.0358	485.6	1.8591	0.9275	1.0929	161.1		0.0345	485.5	1.8567	0.9285	1.0937	160.8	160
165	0.0363	490.3	1.8698	0.9322	1.0915	162.3		0.0350	490.1	1.8673	0.9331	1.0923	162.0	165
170	0.0368	495.0	1.8804	0.9371	1.0903	163.5		0.0354	494.8	1.8779	0.9378	1.0911	163.2	170
175	0.0373	499.7	1.8909	0.9420	1.0891	164.6		0.0359	499.5	1.8885	0.9427	1.0899	164.4	175
180	0.0377	504.4	1.9014	0.9470	1.0880	165.8		0.0364	504.2	1.8990	0.9477	1.0887	165.6	180
185	0.0382	509.1	1.9118	0.9521	1.0869	166.9		0.0369	509.0	1.9094	0.9527	1.0876	166.7	185
190	0.0387	513.9	1.9222	0.9572	1.0859	168.1		0.0373	513.7	1.9198	0.9578	1.0866	167.9	190
195	0.0392	518.7	1.9325	0.9625	1.0850	169.2		0.0378	518.5	1.9301	0.9630	1.0856	169.0	195
200	0.0397	523.5	1.9427	0.9677	1.0840	170.3		0.0383	523.4	1.9403	0.9682	1.0847	170.1	200

TEMP °C	PRESSURE = 750.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 800.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
48.73	0.0008	253.9	1.1797	1.1860	1.5251	429.7		0.0008	256.8	1.1888	1.1967	1.5296	419.5	51.22
48.73	0.0214	383.7	1.5832	0.9765	1.2189	124.0		0.0200	385.0	1.5839	0.9895	1.2257	123.4	51.22
50	0.0216	385.0	1.5870	0.9706	1.2137	124.6		—	—	—	—	—	—	50
55	0.0223	389.8	1.6018	0.9510	1.1961	127.1		0.0205	388.7	1.5953	0.9718	1.2103	125.3	55
60	0.0229	394.5	1.6160	0.9358	1.1818	129.4		0.0212	393.5	1.6098	0.9532	1.1936	127.8	60
65	0.0235	399.1	1.6299	0.9240	1.1700	131.5		0.0218	398.3	1.6239	0.9388	1.1798	130.1	65
70	0.0241	403.7	1.6434	0.9149	1.1600	133.6		0.0223	402.9	1.6376	0.9277	1.1685	132.2	70
75	0.0247	408.3	1.6566	0.9081	1.1516	135.5		0.0229	407.5	1.6509	0.9191	1.1589	134.2	75
80	0.0253	412.8	1.6695	0.9030	1.1443	137.3		0.0235	412.1	1.6640	0.9127	1.1507	136.2	80
85	0.0258	417.3	1.6821	0.8994	1.1380	139.1		0.0240	416.7	1.6768	0.9079	1.1436	138.0	85
90	0.0264	421.8	1.6946	0.8971	1.1325	140.8		0.0245	421.2	1.6894	0.9046	1.1375	139.8	90
95	0.0269	426.3	1.7069	0.8958	1.1277	142.4		0.0250	425.7	1.7017	0.9025	1.1322	141.5	95
100	0.0274	430.8	1.7189	0.8954	1.1234	144.0		0.0255	430.2	1.7139	0.9014	1.1274	143.1	100
105	0.0279	435.3	1.7309	0.8958	1.1196	145.6		0.0260	434.7	1.7259	0.9011	1.1232	144.7	105
110	0.0284	439.7	1.7426	0.8969	1.1161	147.1		0.0265	439.2	1.7377	0.9017	1.1195	146.3	110
115	0.0289	444.2	1.7543	0.8985	1.1130	148.6		0.0270	443.7	1.7494	0.9028	1.1161	147.8	115
120	0.0294	448.7	1.7658	0.9006	1.1102	150.0		0.0274	448.3	1.7610	0.9045	1.1131	149.2	120
125	0.0299	453.2	1.7772	0.9032	1.1077	151.4		0.0279	452.8	1.7724	0.9067	1.1103	150.7	125
130	0.0304	457.8	1.7885	0.9061	1.1053	152.8		0.0284	457.3	1.7838	0.9093	1.1078	152.1	130
135	0.0309	462.3	1.7997	0.9094	1.1032	154.1		0.0288	461.9	1.7950	0.9123	1.1055	153.5	135
140	0.0314	466.9	1.8107	0.9129	1.1012	155.5		0.0293	466.5	1.8061	0.9156	1.1034	154.8	140
145	0.0319	471.4	1.8218	0.9167	1.0994	156.8		0.0297	471.0	1.8171	0.9192	1.1014	156.2	145
150	0.0323	476.0	1.8327	0.9208	1.0976	158.0		0.0302	475.6	1.8281	0.9230	1.0996	157.5	150
155	0.0328	480.6	1.8435	0.9250	1.0961	159.3		0.0306	480.3	1.8390	0.9271	1.0979	158.8	155
160	0.0333	485.3	1.8543	0.9294	1.0946	160.5		0.0311	484.9	1.8497	0.9313	1.0963	160.0	160
165	0.0337	489.9	1.8650	0.9340	1.0932	161.8		0.0315	489.6	1.8604	0.9357	1.0948	161.3	165
170	0.0342	494.6	1.8756	0.9386	1.0919	163.0		0.0319	494.3	1.8711	0.9403	1.0934	162.5	170
175	0.0347	499.3	1.8862	0.9435	1.0906	164.2		0.0324	499.0	1.8817	0.9450	1.0921	163.7	175
180	0.0351	504.0	1.8967	0.9484	1.0894	165.4		0.0328	503.7	1.8922	0.9498	1.0909	164.9	180
185	0.0356	508.8	1.9071	0.9534	1.0883	166.5		0.0332	508.5	1.9026	0.9547	1.0897	166.1	185
190	0.0360	513.6	1.9175	0.9584	1.0873	167.7		0.0337	513.3	1.9130	0.9596	1.0886	167.3	190
195	0.0365	518.4	1.9278	0.9636	1.0862	168.8		0.0341	518.1	1.9234	0.9647	1.0876	168.4	195
200	0.0369	523.2	1.9380	0.9688	1.0853	169.9		0.0345	522.9	1.9336	0.9698	1.0865	169.6	200
205	—	—	—	—	—	—		0.0350	527.8	1.9439	0.9750	1.0856	170.7	205

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 850.00 kPa (abs)							PRESSURE = 900.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
53.6	0.0008	259.7	1.1974	1.2073	1.5343	409.6	SAT LIQ SAT VAP	0.0008	262.5	1.2057	1.2178	1.5391	400.1	55.88
53.6	0.0188	386.2	1.5846	1.0023	1.2328	122.8		0.0177	387.3	1.5852	1.0151	1.2402	122.2	55.88
55	0.0190	387.6	1.5888	0.9948	1.2264	123.5		—	—	—	—	—	—	55
60	0.0196	392.5	1.6037	0.9723	1.2066	126.1		0.0182	391.5	1.5977	0.9931	1.2212	124.4	60
65	0.0202	397.3	1.6181	0.9548	1.1907	128.6		0.0188	396.4	1.6123	0.9722	1.2026	127.0	65
70	0.0208	402.1	1.6320	0.9413	1.1776	130.8		0.0194	401.2	1.6265	0.9560	1.1876	129.4	70
75	0.0213	406.7	1.6455	0.9309	1.1667	132.9		0.0199	405.9	1.6402	0.9434	1.1752	131.6	75
80	0.0218	411.4	1.6587	0.9229	1.1575	135.0		0.0204	410.6	1.6536	0.9337	1.1648	133.7	80
85	0.0224	416.0	1.6716	0.9168	1.1496	136.9		0.0209	415.3	1.6667	0.9262	1.1560	135.7	85
90	0.0229	420.5	1.6843	0.9125	1.1428	138.7		0.0214	419.9	1.6795	0.9207	1.1484	137.6	90
95	0.0233	425.1	1.6968	0.9094	1.1369	140.5		0.0219	424.5	1.6920	0.9167	1.1419	139.5	95
100	0.0238	429.6	1.7090	0.9076	1.1317	142.2		0.0223	429.1	1.7044	0.9140	1.1361	141.2	100
105	0.0243	434.2	1.7211	0.9067	1.1271	143.8		0.0228	433.6	1.7165	0.9124	1.1311	142.9	105
110	0.0248	438.7	1.7330	0.9066	1.1230	145.4		0.0232	438.2	1.7285	0.9117	1.1266	144.6	110
115	0.0252	443.2	1.7448	0.9073	1.1193	147.0		0.0237	442.7	1.7403	0.9119	1.1227	146.2	115
120	0.0257	447.8	1.7564	0.9085	1.1160	148.5		0.0241	447.3	1.7520	0.9127	1.1191	147.7	120
125	0.0261	452.3	1.7679	0.9103	1.1131	150.0		0.0245	451.9	1.7636	0.9141	1.1159	149.2	125
130	0.0266	456.9	1.7793	0.9126	1.1103	151.4		0.0249	456.4	1.7750	0.9160	1.1130	150.7	130
135	0.0270	461.5	1.7905	0.9153	1.1079	152.8		0.0254	461.0	1.7863	0.9184	1.1103	152.1	135
140	0.0274	466.0	1.8017	0.9183	1.1056	154.2		0.0258	465.6	1.7975	0.9211	1.1079	153.6	140
145	0.0278	470.6	1.8128	0.9217	1.1035	155.6		0.0262	470.2	1.8086	0.9242	1.1057	154.9	145
150	0.0283	475.3	1.8237	0.9253	1.1016	156.9		0.0266	474.9	1.8196	0.9276	1.1036	156.3	150
155	0.0287	479.9	1.8346	0.9292	1.0998	158.2		0.0270	479.5	1.8305	0.9313	1.1017	157.6	155
160	0.0291	484.6	1.8454	0.9332	1.0981	159.5		0.0274	484.2	1.8413	0.9352	1.0999	159.0	160
165	0.0295	489.2	1.8562	0.9375	1.0965	160.8		0.0278	488.9	1.8521	0.9393	1.0983	160.2	165
170	0.0300	493.9	1.8668	0.9419	1.0951	162.0		0.0282	493.6	1.8628	0.9436	1.0967	161.5	170
175	0.0304	498.7	1.8774	0.9465	1.0937	163.2		0.0286	498.3	1.8734	0.9480	1.0953	162.8	175
180	0.0308	503.4	1.8880	0.9512	1.0924	164.5		0.0290	503.1	1.8839	0.9526	1.0939	164.0	180
185	0.0312	508.2	1.8984	0.9560	1.0912	165.7		0.0294	507.8	1.8944	0.9573	1.0926	165.2	185
190	0.0316	513.0	1.9088	0.9609	1.0900	166.9		0.0298	512.6	1.9048	0.9621	1.0914	166.4	190
195	0.0320	517.8	1.9192	0.9658	1.0889	168.0		0.0301	517.5	1.9152	0.9670	1.0902	167.6	195
200	0.0324	522.6	1.9295	0.9709	1.0878	169.2		0.0305	522.3	1.9255	0.9720	1.0891	168.8	200
205	0.0328	527.5	1.9397	0.9760	1.0868	170.3		0.0309	527.2	1.9357	0.9770	1.0881	170.0	205
210	—	—	—	—	—	—		0.0313	532.1	1.9459	0.9821	1.0871	171.1	210

TEMP °C	PRESSURE = 950.00 kPa (abs)							PRESSURE = 1000.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
58.06	0.0008	265.1	1.2137	1.2284	1.5441	390.9	SAT LIQ SAT VAP	0.0008	267.7	1.2213	1.2389	1.5494	382.1	60.17
58.06	0.0168	388.4	1.5858	1.0279	1.2478	121.5		0.0159	389.4	1.5864	1.0408	1.2556	120.9	60.17
60	0.0170	390.4	1.5918	1.0162	1.2378	122.7		—	—	—	—	—	—	60
65	0.0176	395.4	1.6067	0.9911	1.2159	125.4		0.0164	394.4	1.6012	1.0118	1.2308	123.7	65
70	0.0181	400.3	1.6211	0.9717	1.1986	127.9		0.0170	399.4	1.6159	0.9888	1.2107	126.4	70
75	0.0186	405.1	1.6351	0.9567	1.1844	130.3		0.0175	404.3	1.6300	0.9711	1.1944	128.9	75
80	0.0191	409.9	1.6486	0.9451	1.1727	132.5		0.0180	409.1	1.6438	0.9573	1.1811	131.2	80
85	0.0196	414.6	1.6619	0.9362	1.1628	134.6		0.0184	413.8	1.6572	0.9467	1.1701	133.4	85
90	0.0201	419.2	1.6748	0.9294	1.1544	136.5		0.0189	418.5	1.6702	0.9385	1.1607	135.4	90
95	0.0205	423.9	1.6875	0.9243	1.1471	138.4		0.0193	423.2	1.6830	0.9323	1.1527	137.4	95
100	0.0210	428.5	1.6999	0.9207	1.1408	140.3		0.0198	427.9	1.6956	0.9277	1.1458	139.3	100
105	0.0214	433.1	1.7121	0.9184	1.1353	142.0		0.0202	432.5	1.7079	0.9246	1.1397	141.1	105
110	0.0218	437.7	1.7242	0.9171	1.1305	143.7		0.0206	437.1	1.7200	0.9226	1.1344	142.8	110
115	0.0223	442.2	1.7361	0.9166	1.1261	145.3		0.0210	441.7	1.7320	0.9216	1.1298	144.5	115
120	0.0227	446.8	1.7478	0.9170	1.1223	146.9		0.0214	446.3	1.7438	0.9214	1.1256	146.2	120
125	0.0231	451.4	1.7594	0.9180	1.1188	148.5		0.0218	450.9	1.7554	0.9219	1.1219	147.7	125
130	0.0235	456.0	1.7709	0.9195	1.1157	150.0		0.0222	455.6	1.7669	0.9231	1.1185	149.3	130
135	0.0239	460.6	1.7822	0.9215	1.1128	151.5		0.0226	460.2	1.7783	0.9248	1.1155	150.8	135
140	0.0243	465.2	1.7935	0.9240	1.1103	152.9		0.0230	464.8	1.7896	0.9270	1.1127	152.3	140
145	0.0247	469.8	1.8046	0.9269	1.1079	154.3		0.0233	469.4	1.8008	0.9296	1.1101	153.7	145
150	0.0251	474.5	1.8156	0.9300	1.1057	155.7		0.0237	474.1	1.8118	0.9325	1.1078	155.1	150
155	0.0255	479.2	1.8266	0.9335	1.1037	157.1		0.0241	478.8	1.8228	0.9358	1.1057	156.5	155
160	0.0258	483.8	1.8374	0.9372	1.1018	158.4		0.0244	483.5	1.8337	0.9393	1.1037	157.9	160
165	0.0262	488.5	1.8482	0.9412	1.1000	159.7		0.0248	488.2	1.8445	0.9431	1.1019	159.2	165
170	0.0266	493.2	1.8589	0.9453	1.0984	161.0		0.0252	492.9	1.8552	0.9471	1.1001	160.5	170
175	0.0270	498.0	1.8695	0.9496	1.0969	162.3		0.0255	497.6	1.8659	0.9513	1.0985	161.8	175
180	0.0274	502.7	1.8801	0.9541	1.0955	163.6		0.0259	502.4	1.8764	0.9556	1.0970	163.1	180
185	0.0277	507.5	1.8906	0.9587	1.0941	164.8		0.0263	507.2	1.8869	0.9601	1.0956	164.4	185
190	0.0281	512.3	1.9010	0.9634	1.0928	166.0		0.0266	512.0	1.8974	0.9647	1.0943	165.6	190
195	0.0285	517.2	1.9114	0.9682	1.0916	167.3		0.0270	516.8	1.9078	0.9694	1.0930	166.9	195
200	0.0288	522.0	1.9217	0.9731	1.0905	168.4		0.0273	521.7	1.9181	0.9742	1.0918	168.1	200
205	0.0292	526.9	1.9320	0.9781	1.0894	169.6		0.0277	526.6	1.9284	0.9791	1.0907	169.3	205
210	0.0296	531.8	1.9422	0.9831	1.0883	170.8		0.0280	531.5	1.9386	0.9841	1.0896	170.5	210
215	—	—	—	—	—	—		0.0284	536.4	1.9487	0.9892	1.0885	171.6	215

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 1100.00 kPa (abs)							PRESSURE = 1200.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
64.14	0.0008	272.6	1.2358	1.2603	1.5605	365.1	SAT LIQ SAT VAP	0.0008	277.3	1.2494	1.2820	1.5726	349.1	67.86
64.14	0.0143	391.3	1.5875	1.0668	1.2723	119.6		0.0130	393.0	1.5885	1.0935	1.2904	118.2	67.86
65	0.0144	392.2	1.5902	1.0602	1.2667	120.1		—	—	—	—	—	—	65
70	0.0150	397.4	1.6055	1.0278	1.2391	123.2		0.0133	395.3	1.5952	1.0755	1.2751	119.7	70
75	0.0155	402.5	1.6202	1.0033	1.2176	125.9		0.0138	400.6	1.6105	1.0414	1.2459	122.8	75
80	0.0159	407.4	1.6344	0.9843	1.2004	128.5		0.0142	405.7	1.6252	1.0156	1.2233	125.6	80
85	0.0164	412.3	1.6481	0.9696	1.1863	130.9		0.0147	410.7	1.6393	0.9958	1.2054	128.3	85
90	0.0168	417.1	1.6615	0.9582	1.1747	133.1		0.0151	415.7	1.6530	0.9804	1.1908	130.7	90
95	0.0173	421.9	1.6745	0.9494	1.1649	135.2		0.0155	420.5	1.6663	0.9685	1.1787	133.0	95
100	0.0177	426.6	1.6873	0.9427	1.1565	137.3		0.0159	425.4	1.6793	0.9592	1.1685	135.2	100
105	0.0181	431.3	1.6998	0.9378	1.1493	139.2		0.0163	430.1	1.6921	0.9522	1.1598	137.3	105
110	0.0185	436.0	1.7121	0.9343	1.1430	141.1		0.0167	434.9	1.7045	0.9470	1.1524	139.2	110
115	0.0188	440.7	1.7242	0.9320	1.1375	142.8		0.0170	439.6	1.7168	0.9432	1.1459	141.1	115
120	0.0192	445.3	1.7361	0.9307	1.1326	144.6		0.0174	444.3	1.7289	0.9407	1.1402	142.9	120
125	0.0196	450.0	1.7478	0.9303	1.1283	146.2		0.0177	449.0	1.7407	0.9392	1.1352	144.7	125
130	0.0199	454.6	1.7594	0.9306	1.1244	147.9		0.0181	453.7	1.7524	0.9386	1.1307	146.4	130
135	0.0203	459.3	1.7709	0.9316	1.1209	149.4		0.0184	458.4	1.7640	0.9388	1.1267	148.1	135
140	0.0207	464.0	1.7823	0.9331	1.1177	151.0		0.0187	463.1	1.7754	0.9397	1.1231	149.7	140
145	0.0210	468.6	1.7935	0.9352	1.1149	152.5		0.0191	467.8	1.7868	0.9411	1.1199	151.2	145
150	0.0214	473.3	1.8046	0.9376	1.1123	154.0		0.0194	472.5	1.7980	0.9430	1.1169	152.8	150
155	0.0217	478.0	1.8157	0.9404	1.1099	155.4		0.0197	477.2	1.8090	0.9453	1.1142	154.3	155
160	0.0220	482.7	1.8266	0.9436	1.1076	156.8		0.0200	482.0	1.8200	0.9481	1.1118	155.7	160
165	0.0224	487.4	1.8375	0.9470	1.1056	158.2		0.0204	486.7	1.8309	0.9511	1.1095	157.2	165
170	0.0227	492.2	1.8482	0.9507	1.1037	159.6		0.0207	491.5	1.8417	0.9545	1.1074	158.6	170
175	0.0231	497.0	1.8589	0.9546	1.1019	160.9		0.0210	496.3	1.8525	0.9581	1.1054	160.0	175
180	0.0234	501.7	1.8695	0.9587	1.1002	162.2		0.0213	501.1	1.8631	0.9619	1.1036	161.3	180
185	0.0237	506.5	1.8801	0.9630	1.0987	163.5		0.0216	505.9	1.8737	0.9659	1.1019	162.7	185
190	0.0240	511.4	1.8906	0.9674	1.0972	164.8		0.0219	510.7	1.8842	0.9701	1.1003	164.0	190
195	0.0244	516.2	1.9010	0.9719	1.0958	166.1		0.0222	515.6	1.8947	0.9745	1.0988	165.3	195
200	0.0247	521.1	1.9113	0.9766	1.0945	167.3		0.0225	520.5	1.9050	0.9790	1.0973	166.6	200
205	0.0250	526.0	1.9216	0.9813	1.0933	168.5		0.0228	525.4	1.9153	0.9836	1.0960	167.8	205
210	0.0254	530.9	1.9318	0.9862	1.0921	169.8		0.0231	530.3	1.9256	0.9883	1.0947	169.1	210
215	0.0257	535.8	1.9420	0.9911	1.0910	171.0		0.0234	535.3	1.9358	0.9931	1.0935	170.3	215
220	—	—	—	—	—	—		0.0237	540.2	1.9459	0.9979	1.0923	171.5	220

TEMP °C	PRESSURE = 1300.00 kPa (abs)							PRESSURE = 1400.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
71.35	0.0009	281.8	1.2622	1.3044	1.5858	333.8	SAT LIQ SAT VAP	0.0009	286.1	1.2744	1.3276	1.6003	319.3	74.65
71.35	0.0119	394.5	1.5893	1.1212	1.3101	116.8		0.0110	395.9	1.5900	1.1503	1.3316	115.4	74.65
75	0.0123	398.5	1.6009	1.0878	1.2816	119.4		0.0110	396.3	1.5911	1.1463	1.3282	115.7	75
80	0.0128	403.9	1.6162	1.0525	1.2513	122.6		0.0115	401.9	1.6071	1.0973	1.2863	119.3	80
85	0.0132	409.1	1.6308	1.0260	1.2280	125.5		0.0119	407.3	1.6223	1.0615	1.2554	122.6	85
90	0.0136	414.1	1.6448	1.0056	1.2095	128.2		0.0124	412.5	1.6368	1.0346	1.2316	125.5	90
95	0.0140	419.1	1.6585	0.9898	1.1945	130.7		0.0127	417.6	1.6508	1.0139	1.2128	128.3	95
100	0.0144	424.0	1.6718	0.9775	1.1820	133.0		0.0131	422.7	1.6644	0.9979	1.1975	130.8	100
105	0.0148	428.9	1.6847	0.9680	1.1716	135.2		0.0135	427.6	1.6776	0.9855	1.1849	133.2	105
110	0.0151	433.7	1.6974	0.9607	1.1627	137.3		0.0138	432.5	1.6904	0.9758	1.1742	135.4	110
115	0.0155	438.5	1.7098	0.9553	1.1551	139.4		0.0142	437.4	1.7031	0.9685	1.1652	137.5	115
120	0.0158	443.3	1.7220	0.9514	1.1485	141.3		0.0145	442.2	1.7154	0.9630	1.1575	139.6	120
125	0.0161	448.0	1.7340	0.9487	1.1426	143.1		0.0148	447.0	1.7275	0.9590	1.1507	141.5	125
130	0.0165	452.8	1.7458	0.9471	1.1375	144.9		0.0151	451.8	1.7395	0.9562	1.1448	143.4	130
135	0.0168	457.5	1.7575	0.9465	1.1329	146.6		0.0154	456.6	1.7513	0.9546	1.1396	145.2	135
140	0.0171	462.2	1.7690	0.9465	1.1289	148.3		0.0157	461.3	1.7629	0.9538	1.1349	147.0	140
145	0.0174	467.0	1.7804	0.9473	1.1252	150.0		0.0160	466.1	1.7744	0.9539	1.1308	148.7	145
150	0.0177	471.7	1.7917	0.9486	1.1219	151.6		0.0163	470.9	1.7857	0.9546	1.1271	150.3	150
155	0.0180	476.5	1.8028	0.9505	1.1188	153.1		0.0166	475.7	1.7969	0.9559	1.1237	151.9	155
160	0.0183	481.2	1.8139	0.9527	1.1161	154.6		0.0169	480.4	1.8080	0.9577	1.1206	153.5	160
165	0.0186	486.0	1.8248	0.9554	1.1135	156.1		0.0172	485.2	1.8190	0.9599	1.1178	155.1	165
170	0.0189	490.8	1.8357	0.9584	1.1112	157.6		0.0174	490.0	1.8299	0.9625	1.1152	156.6	170
175	0.0192	495.6	1.8464	0.9617	1.1090	159.0		0.0177	494.9	1.8408	0.9655	1.1128	158.0	175
180	0.0195	500.4	1.8571	0.9652	1.1070	160.4		0.0180	499.7	1.8515	0.9687	1.1106	159.5	180
185	0.0198	505.2	1.8677	0.9690	1.1052	161.8		0.0183	504.6	1.8621	0.9722	1.1086	160.9	185
190	0.0201	510.1	1.8783	0.9730	1.1034	163.1		0.0185	509.4	1.8727	0.9760	1.1067	162.3	190
195	0.0204	515.0	1.8888	0.9771	1.1018	164.5		0.0188	514.3	1.8832	0.9799	1.1049	163.7	195
200	0.0207	519.8	1.8992	0.9814	1.1002	165.8		0.0191	519.2	1.8936	0.9840	1.1032	165.0	200
205	0.0209	524.8	1.9095	0.9859	1.0988	167.1		0.0193	524.2	1.9040	0.9883	1.1016	166.4	205
210	0.0212	529.7	1.9198	0.9904	1.0974	168.4		0.0196	529.1	1.9143	0.9927	1.1001	167.7	210
215	0.0215	534.7	1.9300	0.9951	1.0961	169.7		0.0199	534.1	1.9246	0.9972	1.0987	169.0	215
220	0.0218	539.7	1.9402	0.9998	1.0948	170.9		0.0201	539.1	1.9347	1.0018	1.0974	170.3	220
225	0.0221	544.7	1.9503	1.0047	1.0936	172.1		0.0204	544.1	1.9449	1.0065	1.0961	171.5	225

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 1500.00 kPa (abs)							PRESSURE = 1600.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
77.78	0.0009	290.2	1.2859	1.3520	1.6163	305.4	SAT LIQ SAT VAP	0.0009	294.2	1.2970	1.3777	1.6340	292.0	80.75
77.78	0.0102	397.1	1.5906	1.1812	1.3553	114.0		0.0094	398.3	1.5910	1.2141	1.3816	112.5	80.75
80	0.0104	399.7	1.5979	1.1533	1.3314	115.8		—	—	—	—	—	—	80
85	0.0108	405.4	1.6138	1.1043	1.2892	119.4		0.0098	403.3	1.6051	1.1572	1.3323	116.0	85
90	0.0112	410.8	1.6288	1.0685	1.2581	122.7		0.0102	409.0	1.6208	1.1089	1.2906	119.7	90
95	0.0116	416.1	1.6432	1.0415	1.2342	125.7		0.0106	414.4	1.6357	1.0737	1.2597	123.0	95
100	0.0120	421.2	1.6571	1.0209	1.2152	128.5		0.0110	419.7	1.6500	1.0471	1.2359	126.0	100
105	0.0123	426.3	1.6706	1.0049	1.1999	131.0		0.0113	424.9	1.6638	1.0267	1.2170	128.8	105
110	0.0127	431.3	1.6837	0.9925	1.1871	133.4		0.0117	430.0	1.6772	1.0109	1.2016	131.3	110
115	0.0130	436.2	1.6965	0.9829	1.1764	135.7		0.0120	435.0	1.6902	0.9986	1.1889	133.8	115
120	0.0133	441.1	1.7091	0.9755	1.1673	137.8		0.0123	440.0	1.7029	0.9892	1.1782	136.1	120
125	0.0136	446.0	1.7214	0.9700	1.1595	139.9		0.0126	444.9	1.7154	0.9819	1.1691	138.2	125
130	0.0139	450.8	1.7335	0.9660	1.1527	141.9		0.0129	449.8	1.7276	0.9764	1.1612	140.3	130
135	0.0142	455.6	1.7453	0.9632	1.1467	143.8		0.0132	454.7	1.7396	0.9725	1.1544	142.3	135
140	0.0145	460.4	1.7570	0.9616	1.1415	145.6		0.0134	459.5	1.7515	0.9698	1.1484	144.2	140
145	0.0148	465.3	1.7686	0.9608	1.1367	147.4		0.0137	464.4	1.7631	0.9682	1.1431	146.1	145
150	0.0151	470.1	1.7800	0.9608	1.1326	149.1		0.0140	469.2	1.7746	0.9675	1.1384	147.9	150
155	0.0153	474.9	1.7913	0.9615	1.1288	150.8		0.0142	474.0	1.7860	0.9675	1.1342	149.6	155
160	0.0156	479.7	1.8025	0.9628	1.1254	152.4		0.0145	478.9	1.7972	0.9682	1.1303	151.3	160
165	0.0159	484.5	1.8136	0.9646	1.1222	154.0		0.0148	483.7	1.8083	0.9695	1.1269	152.9	165
170	0.0161	489.3	1.8245	0.9668	1.1194	155.6		0.0150	488.6	1.8193	0.9713	1.1237	154.6	170
175	0.0164	494.2	1.8354	0.9694	1.1168	157.1		0.0153	493.4	1.8302	0.9735	1.1208	156.1	175
180	0.0167	499.0	1.8461	0.9723	1.1143	158.6		0.0155	498.3	1.8411	0.9761	1.1182	157.7	180
185	0.0169	503.9	1.8568	0.9755	1.1121	160.0		0.0158	503.2	1.8518	0.9790	1.1158	159.2	185
190	0.0172	508.8	1.8674	0.9790	1.1100	161.5		0.0160	508.1	1.8624	0.9822	1.1135	160.7	190
195	0.0174	513.7	1.8780	0.9828	1.1081	162.9		0.0163	513.0	1.8730	0.9857	1.1114	162.1	195
200	0.0177	518.6	1.8884	0.9867	1.1063	164.3		0.0165	518.0	1.8835	0.9894	1.1094	163.5	200
205	0.0180	523.5	1.8988	0.9908	1.1045	165.7		0.0167	522.9	1.8939	0.9933	1.1076	164.9	205
210	0.0182	528.5	1.9092	0.9950	1.1029	167.0		0.0170	527.9	1.9043	0.9974	1.1058	166.3	210
215	0.0185	533.5	1.9194	0.9994	1.1014	168.3		0.0172	532.9	1.9146	1.0016	1.1042	167.7	215
220	0.0187	538.5	1.9296	1.0038	1.1000	169.6		0.0175	537.9	1.9248	1.0059	1.1026	169.0	220
225	0.0190	543.5	1.9398	1.0084	1.0986	170.9		0.0177	543.0	1.9350	1.0104	1.1012	170.3	225
230	0.0192	548.6	1.9499	1.0131	1.0973	172.2		0.0179	548.0	1.9451	1.0150	1.0998	171.6	230
235	—	—	—	—	—	—		0.0182	553.1	1.9551	1.0196	1.0984	172.9	235

TEMP °C	PRESSURE = 1700.00 kPa (abs)							PRESSURE = 1800.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
83.59	0.0009	298.1	1.3076	1.4051	1.6537	279.2	SAT LIQ SAT VAP	0.0009	301.8	1.3178	1.4345	1.6757	266.7	86.31
83.59	0.0088	399.3	1.5913	1.2497	1.4107	111.0		0.0082	400.2	1.5915	1.2885	1.4433	109.4	86.31
85	0.0089	401.0	1.5962	1.2254	1.3895	112.3		—	—	—	—	—	—	85
90	0.0093	407.0	1.6127	1.1585	1.3314	116.5		0.0085	404.8	1.6043	1.2214	1.3844	112.9	90
95	0.0097	412.7	1.6282	1.1117	1.2905	120.1		0.0089	410.8	1.6205	1.1577	1.3287	117.1	95
100	0.0101	418.1	1.6429	1.0773	1.2602	123.4		0.0093	416.4	1.6358	1.1128	1.2892	120.7	100
105	0.0104	423.4	1.6571	1.0514	1.2367	126.4		0.0096	421.9	1.6504	1.0797	1.2597	124.0	105
110	0.0108	428.6	1.6708	1.0315	1.2180	129.2		0.0100	427.2	1.6644	1.0546	1.2368	127.0	110
115	0.0111	433.8	1.6840	1.0160	1.2028	131.8		0.0103	432.5	1.6780	1.0354	1.2185	129.8	115
120	0.0114	438.8	1.6970	1.0041	1.1902	134.2		0.0106	437.6	1.6911	1.0204	1.2035	132.3	120
125	0.0117	443.8	1.7096	0.9948	1.1795	136.5		0.0109	442.7	1.7039	1.0088	1.1911	134.8	125
130	0.0120	448.8	1.7220	0.9877	1.1705	138.7		0.0111	447.7	1.7165	0.9999	1.1806	137.1	130
135	0.0122	453.7	1.7341	0.9824	1.1626	140.8		0.0114	452.7	1.7287	0.9930	1.1716	139.3	135
140	0.0125	458.6	1.7460	0.9786	1.1558	142.8		0.0117	457.6	1.7408	0.9880	1.1638	141.4	140
145	0.0128	463.5	1.7578	0.9760	1.1499	144.7		0.0119	462.6	1.7527	0.9843	1.1570	143.4	145
150	0.0130	468.3	1.7694	0.9745	1.1446	146.6		0.0122	467.5	1.7644	0.9819	1.1511	145.3	150
155	0.0133	473.2	1.7808	0.9738	1.1398	148.4		0.0124	472.4	1.7759	0.9804	1.1458	147.2	155
160	0.0135	478.1	1.7921	0.9739	1.1356	150.2		0.0127	477.3	1.7873	0.9799	1.1411	149.0	160
165	0.0138	483.0	1.8033	0.9746	1.1318	151.9		0.0129	482.2	1.7985	0.9800	1.1369	150.8	165
170	0.0140	487.8	1.8144	0.9760	1.1283	153.5		0.0131	487.1	1.8096	0.9808	1.1330	152.5	170
175	0.0143	492.7	1.8253	0.9778	1.1251	155.2		0.0134	492.0	1.8206	0.9822	1.1295	154.2	175
180	0.0145	497.6	1.8362	0.9800	1.1222	156.7		0.0136	496.9	1.8315	0.9841	1.1264	155.8	180
185	0.0147	502.5	1.8470	0.9826	1.1195	158.3		0.0138	501.8	1.8424	0.9863	1.1234	157.4	185
190	0.0150	507.4	1.8577	0.9855	1.1171	159.8		0.0140	506.8	1.8531	0.9890	1.1208	159.0	190
195	0.0152	512.4	1.8683	0.9888	1.1148	161.3		0.0143	511.7	1.8637	0.9919	1.1183	160.5	195
200	0.0154	517.3	1.8788	0.9922	1.1126	162.8		0.0145	516.7	1.8743	0.9952	1.1160	162.0	200
205	0.0157	522.3	1.8892	0.9959	1.1106	164.2		0.0147	521.7	1.8847	0.9987	1.1138	163.5	205
210	0.0159	527.3	1.8996	0.9998	1.1088	165.6		0.0149	526.7	1.8952	1.0024	1.1118	164.9	210
215	0.0161	532.3	1.9099	1.0039	1.1070	167.0		0.0151	531.7	1.9055	1.0063	1.1099	166.4	215
220	0.0163	537.3	1.9202	1.0081	1.1054	168.4		0.0154	536.7	1.9158	1.0103	1.1081	167.8	220
225	0.0166	542.4	1.9304	1.0124	1.1038	169.7		0.0156	541.8	1.9260	1.0145	1.1065	169.2	225
230	0.0168	547.5	1.9405	1.0169	1.1023	171.1		0.0158	546.9	1.9361	1.0188	1.1049	170.5	230
235	0.0170	552.5	1.9506	1.0214	1.1009	172.4		0.0160	552.0	1.9462	1.0233	1.1034	171.9	235
240	—	—	—	—	—	—		0.0162	557.1	1.9563	1.0278	1.1019	173.2	240

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 1900.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 2000.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
88.91	0.0009	305.5	1.3277	1.4664	1.7004	254.7		0.0009	309.0	1.3372	1.5014	1.7282	243.1	91.41
88.91	0.0077	401.0	1.5915	1.3311	1.4799	107.9		0.0072	401.7	1.5914	1.3783	1.5213	106.3	91.41
90	0.0078	402.4	1.5955	1.3050	1.4568	109.0		—	—	—	—	—	—	90
95	0.0082	408.7	1.6126	1.2151	1.3774	113.8		0.0075	406.5	1.6044	1.2896	1.4421	110.1	95
100	0.0086	414.6	1.6286	1.1552	1.3247	117.8		0.0079	412.7	1.6212	1.2072	1.3691	114.7	100
105	0.0089	420.3	1.6437	1.1125	1.2869	121.4		0.0083	418.6	1.6369	1.1513	1.3197	118.7	105
110	0.0092	425.8	1.6581	1.0810	1.2585	124.7		0.0086	424.2	1.6517	1.1113	1.2839	122.3	110
115	0.0095	431.1	1.6719	1.0570	1.2363	127.7		0.0089	429.7	1.6659	1.0814	1.2566	125.5	115
120	0.0098	436.4	1.6853	1.0385	1.2184	130.4		0.0092	435.1	1.6796	1.0586	1.2352	128.4	120
125	0.0101	441.5	1.6984	1.0242	1.2038	133.0		0.0095	440.3	1.6929	1.0411	1.2179	131.2	125
130	0.0104	446.6	1.7111	1.0131	1.1916	135.4		0.0097	445.5	1.7058	1.0275	1.2037	133.7	130
135	0.0107	451.6	1.7235	1.0045	1.1813	137.7		0.0100	450.6	1.7184	1.0169	1.1918	136.2	135
140	0.0109	456.7	1.7357	0.9980	1.1724	139.9		0.0102	455.7	1.7307	1.0088	1.1817	138.5	140
145	0.0112	461.6	1.7477	0.9932	1.1648	142.0		0.0105	460.7	1.7428	1.0026	1.1730	140.7	145
150	0.0114	466.6	1.7595	0.9897	1.1580	144.1		0.0107	465.7	1.7547	0.9981	1.1655	142.8	150
155	0.0116	471.5	1.7711	0.9874	1.1521	146.0		0.0109	470.7	1.7664	0.9949	1.1589	144.8	155
160	0.0119	476.5	1.7825	0.9861	1.1469	147.9		0.0112	475.6	1.7780	0.9928	1.1530	146.7	160
165	0.0121	481.4	1.7939	0.9857	1.1422	149.7		0.0114	480.6	1.7893	0.9917	1.1478	148.6	165
170	0.0123	486.3	1.8050	0.9860	1.1380	151.5		0.0116	485.6	1.8006	0.9914	1.1432	150.5	170
175	0.0126	491.3	1.8161	0.9869	1.1342	153.2		0.0118	490.5	1.8117	0.9918	1.1390	152.2	175
180	0.0128	496.2	1.8271	0.9883	1.1307	154.9		0.0120	495.5	1.8227	0.9928	1.1352	154.0	180
185	0.0130	501.1	1.8379	0.9902	1.1275	156.5		0.0123	500.4	1.8336	0.9943	1.1317	155.7	185
190	0.0132	506.1	1.8487	0.9926	1.1246	158.1		0.0125	505.4	1.8444	0.9963	1.1285	157.3	190
195	0.0134	511.1	1.8593	0.9952	1.1219	159.7		0.0127	510.4	1.8551	0.9986	1.1256	158.9	195
200	0.0136	516.0	1.8699	0.9982	1.1194	161.3		0.0129	515.4	1.8658	1.0014	1.1229	160.5	200
205	0.0139	521.0	1.8804	1.0015	1.1171	162.8		0.0131	520.4	1.8763	1.0044	1.1204	162.0	205
210	0.0141	526.1	1.8909	1.0050	1.1149	164.3		0.0133	525.4	1.8868	1.0077	1.1181	163.6	210
215	0.0143	531.1	1.9012	1.0087	1.1129	165.7		0.0135	530.5	1.8972	1.0112	1.1159	165.1	215
220	0.0145	536.2	1.9115	1.0126	1.1110	167.1		0.0137	535.6	1.9075	1.0149	1.1139	166.5	220
225	0.0147	541.2	1.9218	1.0167	1.1092	168.6		0.0139	540.6	1.9177	1.0188	1.1120	168.0	225
230	0.0149	546.3	1.9320	1.0209	1.1075	170.0		0.0141	545.7	1.9279	1.0229	1.1102	169.4	230
235	0.0151	551.4	1.9421	1.0252	1.1059	171.3		0.0143	550.9	1.9381	1.0271	1.1085	170.8	235
240	0.0153	556.6	1.9521	1.0296	1.1044	172.7		0.0145	556.0	1.9482	1.0314	1.1068	172.2	240
245	—	—	—	—	—	—		0.0147	561.2	1.9582	1.0359	1.1053	173.5	245

TEMP °C	PRESSURE = 2200.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 2400.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
96.13	0.0010	316.0	1.3556	1.5831	1.7964	220.7		0.0010	322.7	1.3731	1.6877	1.8880	199.5	100.54
96.13	0.0063	402.8	1.5906	1.4910	1.6226	103.1		0.0056	403.4	1.5892	1.6386	1.7587	99.7	100.54
100	0.0067	408.3	1.6054	1.3602	1.5039	107.7		—	—	—	—	—	—	100
105	0.0071	414.8	1.6228	1.2561	1.4105	112.8		0.0060	410.2	1.6073	1.4302	1.5668	105.8	105
110	0.0074	420.9	1.6388	1.1886	1.3501	117.1		0.0064	417.0	1.6252	1.3028	1.4510	111.2	110
115	0.0077	426.7	1.6539	1.1414	1.3076	120.8		0.0067	423.3	1.6415	1.2235	1.3795	115.7	115
120	0.0080	432.3	1.6683	1.1067	1.2760	124.2		0.0070	429.3	1.6568	1.1691	1.3302	119.7	120
125	0.0083	437.8	1.6821	1.0805	1.2514	127.3		0.0073	435.0	1.6713	1.1299	1.2942	123.3	125
130	0.0086	443.1	1.6954	1.0604	1.2318	130.2		0.0076	440.6	1.6852	1.1007	1.2667	126.5	130
135	0.0088	448.4	1.7084	1.0449	1.2159	132.9		0.0078	446.1	1.6986	1.0783	1.2450	129.5	135
140	0.0091	453.6	1.7211	1.0329	1.2026	135.4		0.0081	451.4	1.7117	1.0611	1.2274	132.3	140
145	0.0093	458.7	1.7334	1.0235	1.1914	137.8		0.0083	456.7	1.7243	1.0477	1.2128	135.0	145
150	0.0095	463.8	1.7455	1.0164	1.1818	140.1		0.0085	461.9	1.7367	1.0373	1.2006	137.4	150
155	0.0097	468.9	1.7575	1.0110	1.1736	142.3		0.0087	467.1	1.7489	1.0293	1.1902	139.8	155
160	0.0100	473.9	1.7692	1.0072	1.1663	144.4		0.0089	472.2	1.7608	1.0232	1.1812	142.1	160
165	0.0102	479.0	1.7807	1.0045	1.1600	146.4		0.0091	477.3	1.7725	1.0188	1.1734	144.2	165
170	0.0104	484.0	1.7921	1.0029	1.1543	148.4		0.0093	482.4	1.7840	1.0156	1.1666	146.3	170
175	0.0106	489.0	1.8033	1.0022	1.1493	150.3		0.0095	487.4	1.7954	1.0136	1.1605	148.3	175
180	0.0108	494.0	1.8145	1.0022	1.1447	152.1		0.0097	492.5	1.8067	1.0125	1.1551	150.2	180
185	0.0110	499.0	1.8255	1.0029	1.1406	153.9		0.0099	497.6	1.8178	1.0122	1.1502	152.1	185
190	0.0112	504.0	1.8364	1.0041	1.1369	155.6		0.0101	502.6	1.8287	1.0126	1.1458	154.0	190
195	0.0114	509.1	1.8472	1.0058	1.1335	157.3		0.0103	507.7	1.8396	1.0136	1.1418	155.7	195
200	0.0116	514.1	1.8578	1.0080	1.1303	159.0		0.0105	512.8	1.8504	1.0151	1.1382	157.5	200
205	0.0118	519.1	1.8685	1.0105	1.1274	160.6		0.0106	517.9	1.8611	1.0170	1.1348	159.2	205
210	0.0119	524.2	1.8790	1.0133	1.1247	162.2		0.0108	522.9	1.8717	1.0193	1.1317	160.8	210
215	0.0121	529.3	1.8894	1.0165	1.1222	163.8		0.0110	528.0	1.8822	1.0220	1.1289	162.5	215
220	0.0123	534.4	1.8998	1.0198	1.1199	165.3		0.0112	533.2	1.8926	1.0250	1.1262	164.1	220
225	0.0125	539.5	1.9101	1.0234	1.1177	166.8		0.0114	538.3	1.9030	1.0282	1.1237	165.6	225
230	0.0127	544.6	1.9204	1.0272	1.1157	168.3		0.0115	543.4	1.9133	1.0317	1.1214	167.2	230
235	0.0129	549.7	1.9305	1.0311	1.1137	169.7		0.0117	548.6	1.9235	1.0354	1.1192	168.7	235
240	0.0131	554.9	1.9406	1.0352	1.1119	171.2		0.0119	553.8	1.9336	1.0392	1.1172	170.2	240
245	0.0132	560.1	1.9507	1.0395	1.1102	172.6		0.0120	559.0	1.9437	1.0432	1.1152	171.6	245
250	0.0134	565.3	1.9607	1.0438	1.1085	174.0		0.0122	564.2	1.9538	1.0473	1.1134	173.1	250
255	—	—	—	—	—	—		0.0124	569.5	1.9637	1.0516	1.1117	174.5	255

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

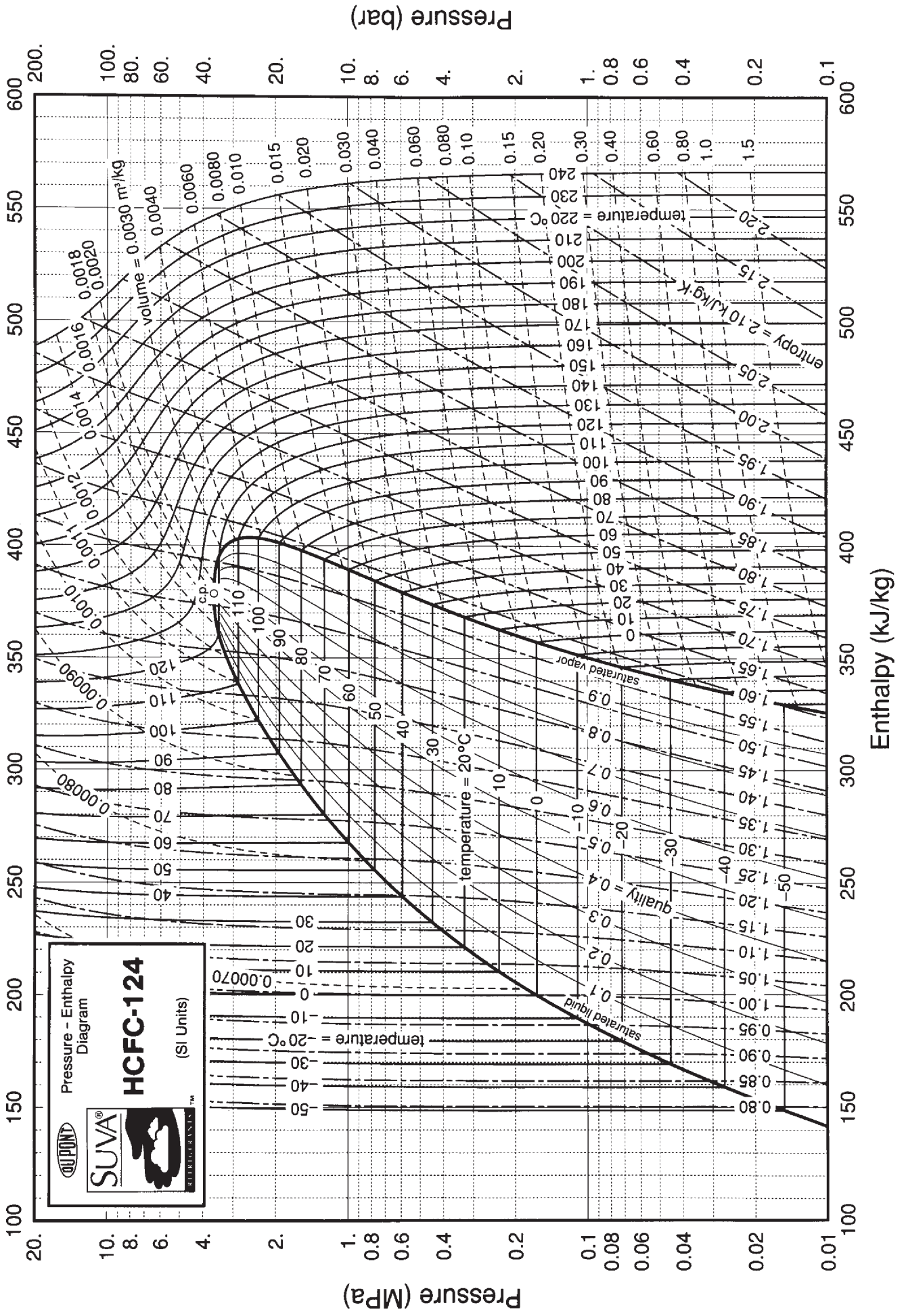
TEMP °C	PRESSURE = 2600.00 kPa (abs)							PRESSURE = 2800.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
104.66	0.0010	329.3	1.3901	1.8294	2.0171	179.1	SAT LIQ	0.0011	335.8	1.4068	2.0363	2.2118	159.4	108.54
104.66	0.0050	403.6	1.5869	1.8421	1.9500	96.3	SAT VAP	0.0044	403.3	1.5836	2.1430	2.2367	92.8	108.54
105	0.0050	404.3	1.5886	1.8073	1.9173	96.9		—	—	—	—	—	—	105
110	0.0055	412.4	1.6100	1.4950	1.6263	104.3		0.0046	406.3	1.5914	1.9202	2.0251	95.7	110
115	0.0058	419.5	1.6283	1.3449	1.4885	110.1		0.0050	414.8	1.6135	1.5493	1.6768	103.5	115
120	0.0062	425.9	1.6449	1.2546	1.4062	114.8		0.0054	422.1	1.6321	1.3804	1.5206	109.4	120
125	0.0065	432.1	1.6603	1.1940	1.3509	119.0		0.0057	428.7	1.6489	1.2811	1.4294	114.3	125
130	0.0067	437.9	1.6749	1.1508	1.3110	122.7		0.0060	435.0	1.6645	1.2155	1.3690	118.6	130
135	0.0070	443.6	1.6889	1.1188	1.2808	126.0		0.0062	440.9	1.6791	1.1691	1.3258	122.4	135
140	0.0072	449.1	1.7024	1.0945	1.2571	129.1		0.0065	446.7	1.6932	1.1349	1.2933	125.8	140
145	0.0074	454.5	1.7154	1.0758	1.2380	132.0		0.0067	452.3	1.7067	1.1090	1.2679	129.0	145
150	0.0077	459.9	1.7281	1.0613	1.2223	134.7		0.0069	457.8	1.7197	1.0891	1.2476	131.9	150
155	0.0079	465.2	1.7405	1.0500	1.2092	137.2		0.0071	463.2	1.7324	1.0736	1.2309	134.7	155
160	0.0081	470.4	1.7527	1.0413	1.1980	139.7		0.0073	468.5	1.7448	1.0616	1.2170	137.3	160
165	0.0083	475.6	1.7646	1.0346	1.1884	142.0		0.0075	473.8	1.7569	1.0523	1.2051	139.7	165
170	0.0085	480.7	1.7763	1.0296	1.1801	144.2		0.0077	479.0	1.7688	1.0452	1.1950	142.1	170
175	0.0086	485.9	1.7878	1.0261	1.1728	146.3		0.0079	484.2	1.7805	1.0398	1.1862	144.4	175
180	0.0088	491.0	1.7992	1.0237	1.1663	148.4		0.0081	489.4	1.7920	1.0359	1.1785	146.5	180
185	0.0090	496.1	1.8104	1.0223	1.1605	150.4		0.0082	494.6	1.8034	1.0332	1.1717	148.6	185
190	0.0092	501.2	1.8215	1.0217	1.1554	152.3		0.0084	499.8	1.8146	1.0316	1.1656	150.6	190
195	0.0094	506.3	1.8325	1.0219	1.1507	154.2		0.0086	504.9	1.8257	1.0308	1.1602	152.6	195
200	0.0095	511.4	1.8433	1.0226	1.1465	156.0		0.0087	510.1	1.8366	1.0308	1.1553	154.5	200
205	0.0097	516.6	1.8541	1.0240	1.1426	157.8		0.0089	515.2	1.8475	1.0314	1.1509	156.4	205
210	0.0099	521.7	1.8648	1.0257	1.1391	159.5		0.0091	520.4	1.8582	1.0325	1.1468	158.2	210
215	0.0100	526.8	1.8753	1.0279	1.1358	161.2		0.0092	525.6	1.8688	1.0342	1.1431	159.9	215
220	0.0102	532.0	1.8858	1.0305	1.1328	162.9		0.0094	530.7	1.8794	1.0363	1.1396	161.7	220
225	0.0104	537.1	1.8962	1.0333	1.1300	164.5		0.0095	535.9	1.8898	1.0387	1.1365	163.4	225
230	0.0105	542.3	1.9066	1.0364	1.1274	166.1		0.0097	541.1	1.9002	1.0414	1.1335	165.0	230
235	0.0107	547.5	1.9168	1.0398	1.1249	167.6		0.0099	546.3	1.9105	1.0444	1.1308	166.6	235
240	0.0109	552.7	1.9270	1.0434	1.1226	169.2		0.0100	551.6	1.9208	1.0477	1.1282	168.2	240
245	0.0110	557.9	1.9372	1.0471	1.1204	170.7		0.0102	556.8	1.9310	1.0512	1.1258	169.8	245
250	0.0112	563.2	1.9472	1.0510	1.1184	172.2		0.0103	562.1	1.9411	1.0549	1.1235	171.3	250
255	0.0113	568.4	1.9573	1.0551	1.1165	173.6		0.0105	567.4	1.9511	1.0587	1.1214	172.8	255
260	—	—	—	—	—	—		0.0106	572.7	1.9611	1.0627	1.1194	174.3	260

TEMP °C	PRESSURE = 3000.00 kPa (abs)							PRESSURE = 3200.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
112.19	0.0011	342.4	1.4235	2.3740	2.5374	140.1	SAT LIQ	0.0012	349.4	1.4409	3.0363	3.1868	120.9	115.64
112.19	0.0039	402.4	1.5790	2.6351	2.7100	89.2	SAT VAP	0.0034	400.5	1.5722	3.5894	3.6328	85.4	115.64
115	0.0042	408.7	1.5954	1.9938	2.0966	95.4		—	—	—	—	—	—	115
120	0.0047	417.5	1.6179	1.5877	1.7132	103.2		0.0040	411.6	1.6006	2.0169	2.1201	95.8	120
125	0.0050	424.9	1.6367	1.4072	1.5452	109.2		0.0044	420.5	1.6231	1.6089	1.7339	103.5	125
130	0.0053	431.7	1.6535	1.3020	1.4479	114.2		0.0047	428.0	1.6419	1.4246	1.5614	109.5	130
135	0.0056	438.0	1.6691	1.2330	1.3838	118.5		0.0050	434.8	1.6587	1.3170	1.4612	114.4	135
140	0.0058	444.0	1.6838	1.1843	1.3382	122.3		0.0053	441.2	1.6743	1.2463	1.3951	118.8	140
145	0.0061	449.9	1.6979	1.1486	1.3040	125.8		0.0055	447.3	1.6890	1.1965	1.3481	122.6	145
150	0.0063	455.5	1.7114	1.1216	1.2773	129.0		0.0057	453.2	1.7030	1.1599	1.3127	126.1	150
155	0.0065	461.1	1.7244	1.1008	1.2560	132.0		0.0059	458.9	1.7165	1.1323	1.2852	129.4	155
160	0.0067	466.6	1.7371	1.0847	1.2385	134.8		0.0061	464.5	1.7295	1.1110	1.2632	132.4	160
165	0.0069	472.0	1.7495	1.0722	1.2239	137.5		0.0063	470.1	1.7421	1.0946	1.2451	135.2	165
170	0.0070	477.3	1.7616	1.0625	1.2116	140.0		0.0065	475.5	1.7545	1.0817	1.2301	137.9	170
175	0.0072	482.6	1.7734	1.0550	1.2010	142.4		0.0066	480.9	1.7665	1.0717	1.2173	140.4	175
180	0.0074	487.8	1.7851	1.0493	1.1918	144.7		0.0068	486.2	1.7784	1.0640	1.2064	142.8	180
185	0.0076	493.1	1.7966	1.0452	1.1838	146.9		0.0070	491.5	1.7900	1.0581	1.1969	145.2	185
190	0.0077	498.3	1.8079	1.0423	1.1767	149.0		0.0071	496.8	1.8015	1.0538	1.1886	147.4	190
195	0.0079	503.5	1.8191	1.0404	1.1704	151.1		0.0073	502.1	1.8128	1.0508	1.1812	149.5	195
200	0.0081	508.7	1.8302	1.0395	1.1647	153.0		0.0074	507.3	1.8239	1.0488	1.1747	151.6	200
205	0.0082	513.9	1.8411	1.0393	1.1596	155.0		0.0076	512.5	1.8350	1.0477	1.1688	153.6	205
210	0.0084	519.1	1.8519	1.0398	1.1549	156.9		0.0077	517.8	1.8459	1.0475	1.1635	155.6	210
215	0.0085	524.3	1.8626	1.0408	1.1507	158.7		0.0079	523.0	1.8566	1.0478	1.1587	157.5	215
220	0.0087	529.5	1.8732	1.0424	1.1468	160.5		0.0080	528.3	1.8673	1.0488	1.1543	159.3	220
225	0.0088	534.7	1.8838	1.0443	1.1433	162.2		0.0082	533.5	1.8779	1.0502	1.1503	161.1	225
230	0.0090	539.9	1.8942	1.0467	1.1400	163.9		0.0083	538.8	1.8884	1.0521	1.1466	162.9	230
235	0.0091	545.2	1.9046	1.0493	1.1369	165.6		0.0085	544.0	1.8988	1.0544	1.1432	164.6	235
240	0.0093	550.4	1.9148	1.0523	1.1340	167.3		0.0086	549.3	1.9092	1.0570	1.1400	166.3	240
245	0.0094	555.7	1.9251	1.0554	1.1313	168.9		0.0087	554.6	1.9194	1.0599	1.1370	168.0	245
250	0.0095	561.0	1.9352	1.0589	1.1288	170.5		0.0089	559.9	1.9296	1.0630	1.1343	169.6	250
255	0.0097	566.3	1.9453	1.0625	1.1265	172.0		0.0090	565.2	1.9397	1.0664	1.1317	171.2	255
260	0.0098	571.6	1.9553	1.0662	1.1242	173.5		0.0092	570.6	1.9498	1.0699	1.1292	172.8	260
265	0.0100	577.0	1.9653	1.0701	1.1221	175.1		0.0093	575.9	1.9598	1.0736	1.1269	174.3	265
270	—	—	—	—	—	—		0.0094	581.3	1.9698	1.0775	1.1247	175.9	270

TABLE 2 (continued)
HCFC-124 Superheated Vapor—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg)(K) v_s = Velocity of Sound in m/sec
 Cp = Heat Capacity at Constant Pressure in kJ/(kg)(°C) Cp/Cv = Heat Capacity Ratio (Dimensionless)

TEMP °C	PRESSURE = 3400.00 kPa (abs)						SAT LIQ SAT VAP	PRESSURE = 3600.00 kPa (abs)						TEMP °C
	V	H	S	Cp	Cp/Cv	v _s		V	H	S	Cp	Cp/Cv	v _s	
118.9	0.0013	357.3	1.4604	4.9408	5.0697	101.6		0.0015	369.6	1.4911	35.9342	35.4837	81.1	121.97
118.9	0.0029	396.9	1.5615	6.2390	6.1992	81.4		0.0022	387.4	1.5359	43.8633	42.5577	77.0	121.97
120	0.0032	402.0	1.5746	3.7237	3.7647	85.7		—	—	—	—	—	—	120
125	0.0038	414.8	1.6069	1.9937	2.0996	96.9		0.0031	406.7	1.5847	3.0845	3.1495	88.8	125
130	0.0042	423.7	1.6290	1.6124	1.7380	104.3		0.0036	418.5	1.6141	1.9393	2.0492	98.6	130
135	0.0045	431.3	1.6477	1.4327	1.5691	110.1		0.0040	427.2	1.6357	1.6015	1.7285	105.5	135
140	0.0047	438.1	1.6644	1.3262	1.4693	115.0		0.0043	434.7	1.6540	1.4326	1.5691	111.1	140
145	0.0050	444.6	1.6800	1.2557	1.4029	119.3		0.0045	441.6	1.6706	1.3301	1.4725	115.9	145
150	0.0052	450.7	1.6946	1.2058	1.3553	123.2		0.0047	448.1	1.6860	1.2613	1.4073	120.2	150
155	0.0054	456.7	1.7085	1.1690	1.3195	126.7		0.0049	454.3	1.7005	1.2123	1.3601	124.0	155
160	0.0056	462.4	1.7219	1.1412	1.2915	129.9		0.0051	460.2	1.7143	1.1760	1.3244	127.5	160
165	0.0058	468.1	1.7349	1.1198	1.2691	132.9		0.0053	466.0	1.7277	1.1485	1.2963	130.7	165
170	0.0060	473.6	1.7475	1.1032	1.2507	135.8		0.0055	471.7	1.7406	1.1272	1.2738	133.7	170
175	0.0061	479.1	1.7598	1.0902	1.2353	138.5		0.0057	477.3	1.7531	1.1106	1.2552	136.5	175
180	0.0063	484.5	1.7718	1.0801	1.2223	141.0		0.0058	482.8	1.7654	1.0977	1.2396	139.2	180
185	0.0065	489.9	1.7836	1.0722	1.2111	143.4		0.0060	488.3	1.7774	1.0876	1.2264	141.8	185
190	0.0066	495.3	1.7952	1.0663	1.2013	145.8		0.0061	493.7	1.7891	1.0798	1.2151	144.2	190
195	0.0068	500.6	1.8067	1.0619	1.1928	148.0		0.0063	499.1	1.8007	1.0739	1.2052	146.5	195
200	0.0069	505.9	1.8179	1.0588	1.1853	150.2		0.0064	504.5	1.8121	1.0694	1.1965	148.8	200
205	0.0071	511.2	1.8290	1.0567	1.1786	152.3		0.0066	509.8	1.8233	1.0663	1.1889	151.0	205
210	0.0072	516.5	1.8400	1.0556	1.1725	154.3		0.0067	515.1	1.8344	1.0642	1.1820	153.1	210
215	0.0073	521.7	1.8509	1.0553	1.1671	156.3		0.0069	520.4	1.8453	1.0631	1.1759	155.1	215
220	0.0075	527.0	1.8617	1.0556	1.1622	158.2		0.0070	525.8	1.8562	1.0627	1.1703	157.1	220
225	0.0076	532.3	1.8723	1.0565	1.1576	160.1		0.0071	531.1	1.8669	1.0630	1.1653	159.0	225
230	0.0078	537.6	1.8829	1.0579	1.1535	161.9		0.0073	536.4	1.8775	1.0639	1.1607	160.9	230
235	0.0079	542.9	1.8933	1.0597	1.1497	163.7		0.0074	541.7	1.8880	1.0653	1.1564	162.7	235
240	0.0080	548.2	1.9037	1.0619	1.1462	165.4		0.0075	547.0	1.8985	1.0671	1.1525	164.5	240
245	0.0082	553.5	1.9140	1.0645	1.1429	167.1		0.0077	552.4	1.9088	1.0693	1.1489	166.3	245
250	0.0083	558.8	1.9243	1.0673	1.1398	168.8		0.0078	557.7	1.9191	1.0718	1.1455	168.0	250
255	0.0084	564.2	1.9344	1.0704	1.1370	170.5		0.0079	563.1	1.9293	1.0746	1.1424	169.7	255
260	0.0086	569.5	1.9445	1.0737	1.1343	172.1		0.0080	568.5	1.9395	1.0776	1.1395	171.4	260
265	0.0087	574.9	1.9546	1.0772	1.1318	173.7		0.0082	573.9	1.9495	1.0809	1.1367	173.0	265
270	0.0088	580.3	1.9645	1.0808	1.1294	175.2		0.0083	579.3	1.9595	1.0843	1.1341	174.6	270
275	—	—	—	—	—	—		0.0084	584.7	1.9695	1.0880	1.1317	176.2	275



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