Technical Information

T-95—SI

DuPont™ Suva®
refrigerants

Thermodynamic Properties of DuPont™ Suva® 95 Refrigerant

(R-508B)

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Thermodynamic Properties of DuPont™ Suva® 95 Refrigerant

SI Units

New tables of the thermodynamic properties of DuPont™ Suva® 95 refrigerant [ASHRAE designation: R-508B (46/54)], have been developed and are presented here. These tables are based on extensive experimental measurements. Equations have been developed, based on the Martin-Hou equation of state, which represent the data with accuracy and consistency throughout the entire range of temperature, pressure, and density. Vapor enthalpy and entropy are calculated from the standard Martin-Hou equations. Additional equations have been developed for the calculation of saturated liquid enthalpy, latent enthalpy, and saturated liquid entropy, and are presented here.

Physical Properties

Chemical Formula	CHF_3/CF_3CF_3 (46/54% by weight)	
Molecular Weight	95.39	
Boiling Point at One Atmosphere	–88.27°C	(–126.89°F)
Critical Temperature	14.00°C 287.15 K	(57.19°F) (516.86°R)
Critical Pressure	3926.0 kPa (abs)	(569.40 psia)
Critical Density	586.20 kg/m^3	(36.60 lb/ft^3)
Critical Volume	0.00171 m^3/kg	(0.0277 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 Suva® 95, R = 0.08716 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

1. Conversion Factors—SI Units to IP Units

Properties listed in the following thermodynamic tables in SI units 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°F 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 Suva® 95, H (ref) = 141.3 kJ/kg and S (ref) = 0.7765 kJ/kg•K.

P (psia)	=	P (kPa [abs])•0.14504
T (°F)	=	(T[°C]•1.8) + 32
D (lb/ft^3)	=	D (kg/m^3)•0.062428
V (ft^3/lb)	=	V (m^3/kg)•16.018
H (Btu/lb)	=	[H (kJ/kg) – H (ref)]•0.43021
S (Btu/lb•°R)	=	[S (kJ/kg•K) – S (ref)]•0.23901
C_p (Btu/lb•°F)	=	C_p (kJ/kg•K)•0.23901
C_v (Btu/lb•°F)	=	C_v (kJ/kg•K)•0.23901
v_s (ft/sec)	=	v_s (m/sec)•3.2808

2. Martin-Hou Equation of State

Coefficients for the Martin-Hou equation of state are presented below:

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

For SI units

T and T_c are in K = °C + 273.15, V is in m^3/kg, and P is in kPa (abs).

R = 0.08716 kJ/kg•K for Suva® 95

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

A_2 = –9.859954 E–02	A_4 = –2.415544 E–07
B_2 = 1.329512 E–04	B_4 = 6.399736 E–10
C_2 = –2.750786 E+00	C_4 = –3.173366 E–05
A_3 = 1.943104 E–04	A_5 = 1.741779 E–10
B_3 = –3.673400 E–07	B_5 = –5.966795 E–13
C_3 = 8.136346 E–03	C_5 = 3.819294 E–08
b = 4.309291 E–04	k = 6.250000 E+00

X and Y are constants used in the vapor enthalpy and entropy equations for the Martin-Hou equation of state:

X = 1.860592 E+02 Y = 7.702750 E–01

For I/P units

T and T_c are in °R = °F + 459.67, V is in ft^3/lb, and P is in psia.

R = 0.1125 (psia) (ft^3)/lb•°R for Suva® 95

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

A_2 = –3.669430 E+00	A_4 = –2.306640 E–03
B_2 = 2.748802 E–03	B_4 = 3.395114 E–06
C_2 = –1.023718 E+02	C_4 = –3.030296 E–01
A_3 = 1.158351 E–01	A_5 = 2.664271 E–05
B_3 = –1.216578 E–04	B_5 = –5.070538 E–08
C_3 = 4.850357 E+00	C_5 = 5.842093 E–03
b = 6.902818 E–03	k = 6.250000 E+00

X and Y are constants used in the vapor enthalpy and entropy equations for the Martin-Hou equation of state:

X = 1.923200 E+01 Y = –6.939920 E–02

Ideal Gas Heat Capacity (at constant pressure):

$$C_p^o = a + bT + cT^2 + dT^3$$

Ideal Gas Heat Capacity (at constant volume):

$$C_v^o = C_p^o - R$$

For SI units

C_p^o and C_v^o = kJ/kg•K

R = 0.08716 kJ/kg•K for Suva® 95

T is in K = °C + 273.15

a, b, c, d, are constants:

a = 1.585254 E–01	c = –2.028597 E–06
b = 2.544197 E–03	d = 5.770334 E–10

For I/P units

C_p^o and C_v^o = Btu/lb•°R

R = 0.02083 Btu/lb•°R for Suva® 95

T is in °R = °F + 459.67

a, b, c, d, are constants:

a = 3.788847 E–02	c = –1.496440 E–07
b = 3.378210 E–04	d = 2.364786 E–11

3. Liquid Enthalpy, Latent Enthalpy and Liquid Entropy Equations

Saturated Liquid Enthalpy:

$$h_f = A + B \cdot X + C \cdot (X)^2 + D \cdot (X)^3 + E \cdot (X)^4 + F \cdot (X)^5$$

where $X = (1 - T_r)^{1/3} - X_o$, and $T_r = T/T_c$

Latent Enthalpy:

$$h_{fg} = h_g - h_f$$

Saturated Liquid Entropy:

$$s_f = s_g - ([h_g - h_f]/T)$$

For SI units

h_f, h_g, and h_{fg} are in kJ/kg

s_f and s_g are in kJ/(kg) (K)

T and T_c are in K = °C + 273.15

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

A = 1.410669 E+02	D = 4.048125 E+02
B = –3.562656 E+02	E = 2.480000 E+03
C = –3.493750 E+02	F = 2.840000 E+03
	X_o = 5.735279 E–01

For I/P units

h_f, h_g, and h_{fg} are in Btu/lb

s_f and s_g are in Btu/(lb) (°R)

T and T_c are in °R = °F + 459.67

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

A	= –9.021000 E–02	D	= 1.741544 E+02
B	= –1.532690 E+02	E	= 1.066921 E+03
C	= –1.503046 E+02	F	= 1.221796 E+03
		X_o	= 5.735279 E–01

4. Vapor Pressure

$$\log_n (P_{sat}/P_c) = 1/T_r (A + B \cdot X + C \cdot X^2 + D \cdot X^3 + E \cdot X^4 + F \cdot X^5)$$

where $X = (1 - T_r) - X_o$, and $T_r = T/T_c$

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

Constants for vapor pressure of saturated liquid (bubble point), p_f:

A	= –1.418010 E+00	D	= –1.453240 E+00
B	= –6.576200 E+00	E	= –6.623000 E–02
C	= –2.799100 E–01	F	= –2.917970 E+00
		X_o	= 2.152446 E–01

Constants for vapor pressure of saturated vapor (dew point), p_g:

A	= –1.418424 E+00	D	= –4.215820 E+00
B	= –6.591629 E+00	E	= –1.127539 E+01
C	= –6.120300 E–01	F	= –2.193750 E+01
		X_o	= 2.152446 E–01

Because both pressure and temperature appear in the reduced form in the equation, the same constants can be used for either SI or I/P units.

For SI units

T and T_c are in K = °C + 273.15

P and P_c are in kPa (abs)

For I/P units

T and T_c are in °R = °F + 459.67

P and P_c are in psia

5. Density of the Saturated Liquid

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

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

A_f	= 1.000000 E+00	D_f	= –9.550139 E+00
B_f	= –1.670326 E–01	E_f	= 4.713835 E+00
C_f	= 7.885847 E+00		

Because both density and temperature appear in the reduced form in the equation, the same constants can be used for either SI or I/P units.

For SI units

T_r and T/T_c, both in K = °C + 273.15

d_f and D_c are in kg/m^3

For I/P units

T_r and T/T_c, both in °R = °F + 459.67

d_f and D_c are in lb/ft^3

Table 1
Suva® 95 Saturation Properties—Temperature Table

TEMP.	PRESSURE kPa		VOLUME m^3/kg		DENSITY kg/m^3		ENTHALPY kJ/kg			ENTROPY kJ/(kg)(K)		TEMP.
°C	LIQUID p_f	VAPOR p_g	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	°C
–110	25.1	21.7	0.0006	0.6439	1637.6	1.553	70.3	171.7	242.0	0.4288	1.4815	–110
–109	27.0	23.6	0.0006	0.5968	1633.4	1.676	71.0	171.5	242.5	0.4329	1.4774	–109
–108	29.0	25.5	0.0006	0.5538	1629.2	1.806	71.8	171.2	242.9	0.4370	1.4733	–108
–107	31.1	27.6	0.0006	0.5146	1624.9	1.943	72.5	170.8	243.4	0.4411	1.4694	–107
–106	33.4	29.8	0.0006	0.4787	1620.7	2.089	73.3	170.5	243.9	0.4453	1.4656	–106
–105	35.8	32.2	0.0006	0.4458	1616.5	2.243	74.1	170.2	244.3	0.4496	1.4618	–105
–104	38.3	34.7	0.0006	0.4157	1612.2	2.406	74.9	169.9	244.8	0.4539	1.4582	–104
–103	41.0	37.3	0.0006	0.3880	1607.9	2.577	75.7	169.5	245.2	0.4582	1.4546	–103
–102	43.8	40.1	0.0006	0.3626	1603.6	2.758	76.5	169.2	245.7	0.4626	1.4511	–102
–101	46.8	43.1	0.0006	0.3392	1599.3	2.948	77.3	168.8	246.1	0.4671	1.4477	–101
–100	49.9	46.2	0.0006	0.3176	1595.0	3.149	78.1	168.4	246.6	0.4716	1.4444	–100
–99	53.3	49.5	0.0006	0.2977	1590.7	3.359	79.0	168.1	247.0	0.4761	1.4411	–99
–98	56.8	53.0	0.0006	0.2793	1586.3	3.581	79.8	167.7	247.5	0.4807	1.4379	–98
–97	60.4	56.7	0.0006	0.2623	1581.9	3.813	80.7	167.3	247.9	0.4853	1.4348	–97
–96	64.3	60.6	0.0006	0.2465	1577.6	4.057	81.5	166.9	248.4	0.4899	1.4318	–96
–95	68.4	64.6	0.0006	0.2319	1573.2	4.312	82.4	166.4	248.8	0.4946	1.4288	–95
–94	72.6	68.9	0.0006	0.2184	1568.8	4.579	83.3	166.0	249.3	0.4993	1.4260	–94
–93	77.1	73.4	0.0006	0.2058	1564.3	4.859	84.2	165.6	249.7	0.5040	1.4231	–93
–92	81.8	78.2	0.0006	0.1941	1559.9	5.152	85.0	165.1	250.2	0.5088	1.4203	–92
–91	86.7	83.1	0.0006	0.1832	1555.4	5.458	85.9	164.7	250.6	0.5135	1.4176	–91
–90	91.9	88.3	0.0006	0.1731	1551.0	5.778	86.8	164.2	251.1	0.5184	1.4150	–90
–89	97.3	93.8	0.0007	0.1636	1546.5	6.112	87.8	163.7	251.5	0.5232	1.4124	–89
–88	102.9	99.5	0.0007	0.1548	1542.0	6.460	88.7	163.3	251.9	0.5281	1.4099	–88
–87	108.8	105.4	0.0007	0.1466	1537.4	6.823	89.6	162.8	252.4	0.5330	1.4074	–87
–86	115.0	111.7	0.0007	0.1389	1532.9	7.202	90.5	162.3	252.8	0.5379	1.4049	–86
–85	121.4	118.2	0.0007	0.1316	1528.3	7.597	91.5	161.8	253.2	0.5428	1.4026	–85
–84	128.2	125.0	0.0007	0.1249	1523.7	8.007	92.4	161.2	253.7	0.5478	1.4002	–84
–83	135.2	132.1	0.0007	0.1186	1519.1	8.435	93.4	160.7	254.1	0.5528	1.3979	–83
–82	142.5	139.5	0.0007	0.1126	1514.5	8.879	94.4	160.2	254.5	0.5578	1.3957	–82
–81	150.1	147.2	0.0007	0.1071	1509.9	9.342	95.3	159.6	255.0	0.5628	1.3935	–81
–80	158.1	155.2	0.0007	0.1018	1505.2	9.822	96.3	159.1	255.4	0.5678	1.3914	–80
–79	166.3	163.6	0.0007	0.0969	1500.5	10.321	97.3	158.5	255.8	0.5729	1.3893	–79
–78	175.0	172.3	0.0007	0.0923	1495.8	10.840	98.3	157.9	256.2	0.5779	1.3872	–78
–77	183.9	181.3	0.0007	0.0879	1491.1	11.378	99.3	157.3	256.7	0.5830	1.3852	–77
–76	193.2	190.7	0.0007	0.0838	1486.3	11.936	100.3	156.8	257.1	0.5881	1.3832	–76
–75	202.9	200.5	0.0007	0.0799	1481.5	12.515	101.3	156.2	257.5	0.5932	1.3813	–75
–74	213.0	210.6	0.0007	0.0763	1476.7	13.115	102.4	155.5	257.9	0.5983	1.3794	–74
–73	223.4	221.2	0.0007	0.0728	1471.9	13.737	103.4	154.9	258.3	0.6035	1.3775	–73
–72	234.2	232.1	0.0007	0.0695	1467.0	14.382	104.4	154.3	258.7	0.6086	1.3756	–72
–71	245.5	243.4	0.0007	0.0665	1462.1	15.050	105.5	153.6	259.1	0.6138	1.3738	–71
–70	257.1	255.2	0.0007	0.0635	1457.2	15.741	106.5	153.0	259.5	0.6189	1.3721	–70
–69	269.2	267.4	0.0007	0.0608	1452.3	16.457	107.6	152.3	259.9	0.6241	1.3703	–69
–68	281.7	280.0	0.0007	0.0582	1447.3	17.197	108.7	151.7	260.3	0.6293	1.3686	–68
–67	294.7	293.0	0.0007	0.0557	1442.3	17.963	109.7	151.0	260.7	0.6345	1.3670	–67
–66	308.1	306.5	0.0007	0.0533	1437.2	18.756	110.8	150.3	261.1	0.6397	1.3653	–66
–65	321.9	320.5	0.0007	0.0511	1432.2	19.575	111.9	149.6	261.5	0.6449	1.3637	–65
–64	336.3	334.9	0.0007	0.0490	1427.1	20.422	113.0	148.9	261.9	0.6501	1.3621	–64
–63	351.1	349.9	0.0007	0.0470	1421.9	21.297	114.1	148.2	262.3	0.6553	1.3605	–63
–62	366.5	365.3	0.0007	0.0450	1416.8	22.202	115.2	147.5	262.7	0.6606	1.3590	–62
–61	382.3	381.2	0.0007	0.0432	1411.6	23.136	116.3	146.7	263.1	0.6658	1.3575	–61
–60	398.7	397.7	0.0007	0.0415	1406.3	24.100	117.4	146.0	263.4	0.6710	1.3560	–60
–59	415.6	414.7	0.0007	0.0399	1401.1	25.097	118.6	145.2	263.8	0.6763	1.3545	–59
–58	433.1	432.2	0.0007	0.0383	1395.8	26.125	119.7	144.5	264.2	0.6815	1.3531	–58
–57	451.1	450.3	0.0007	0.0368	1390.4	27.187	120.9	143.7	264.6	0.6868	1.3516	–57
–56	469.6	468.9	0.0007	0.0354	1385.0	28.282	122.0	142.9	264.9	0.6920	1.3502	–56
–55	488.8	488.1	0.0007	0.0340	1379.6	29.413	123.2	142.1	265.3	0.6973	1.3489	–55
–54	508.5	507.9	0.0007	0.0327	1374.1	30.579	124.3	141.3	265.7	0.7026	1.3475	–54
–53	528.9	528.3	0.0007	0.0315	1368.6	31.782	125.5	140.5	266.0	0.7078	1.3461	–53
–52	549.8	549.3	0.0007	0.0303	1363.1	33.022	126.7	139.7	266.4	0.7131	1.3448	–52
–51	571.4	570.9	0.0007	0.0292	1357.4	34.302	127.8	138.9	266.7	0.7184	1.3435	–51

Table 1 (continued)
Suva® 95 Saturation Properties—Temperature Table

TEMP.	PRESSURE kPa		VOLUME m^3/kg		DENSITY kg/m^3		ENTHALPY kJ/kg			ENTROPY kJ/(kg)(K)		TEMP.
°C	LIQUID p_f	VAPOR p_g	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	°C
–50	593.6	593.2	0.0007	0.0281	1351.8	35.621	129.0	138.0	267.1	0.7236	1.3422	–50
–49	616.4	616.1	0.0007	0.0270	1346.1	36.981	130.2	137.2	267.4	0.7289	1.3409	–49
–48	640.0	639.6	0.0008	0.0261	1340.3	38.383	131.4	136.3	267.8	0.7342	1.3397	–48
–47	664.1	663.8	0.0008	0.0251	1334.5	39.828	132.6	135.5	268.1	0.7395	1.3384	–47
–46	689.0	688.7	0.0008	0.0242	1328.7	41.317	133.9	134.6	268.4	0.7447	1.3372	–46
–45	714.6	714.3	0.0008	0.0233	1322.8	42.853	135.1	133.7	268.8	0.7500	1.3359	–45
–44	740.9	740.6	0.0008	0.0225	1316.8	44.434	136.3	132.8	269.1	0.7553	1.3347	–44
–43	767.8	767.6	0.0008	0.0217	1310.8	46.065	137.5	131.9	269.4	0.7606	1.3335	–43
–42	795.6	795.4	0.0008	0.0209	1304.7	47.744	138.8	130.9	269.7	0.7659	1.3323	–42
–41	824.0	823.8	0.0008	0.0202	1298.6	49.475	140.0	130.0	270.0	0.7712	1.3311	–41
–40	853.3	853.1	0.0008	0.0195	1292.4	51.258	141.3	129.0	270.3	0.7765	1.3299	–40
–39	883.3	883.1	0.0008	0.0188	1286.1	53.096	142.5	128.1	270.6	0.7818	1.3288	–39
–38	914.0	913.9	0.0008	0.0182	1279.7	54.988	143.8	127.1	270.9	0.7871	1.3276	–38
–37	945.6	945.4	0.0008	0.0176	1273.3	56.939	145.1	126.1	271.2	0.7924	1.3264	–37
–36	978.0	977.8	0.0008	0.0170	1266.8	58.948	146.4	125.1	271.5	0.7977	1.3253	–36
–35	1011.2	1011.0	0.0008	0.0164	1260.3	61.019	147.7	124.1	271.8	0.8030	1.3241	–35
–34	1045.2	1045.0	0.0008	0.0158	1253.6	63.152	149.0	123.1	272.0	0.8083	1.3230	–34
–33	1080.1	1079.9	0.0008	0.0153	1246.9	65.350	150.3	122.0	272.3	0.8136	1.3218	–33
–32	1115.8	1115.6	0.0008	0.0148	1240.1	67.615	151.6	121.0	272.6	0.8189	1.3207	–32
–31	1152.5	1152.2	0.0008	0.0143	1233.2	69.950	152.9	119.9	272.8	0.8242	1.3195	–31
–30	1189.9	1189.6	0.0008	0.0138	1226.2	72.356	154.2	118.9	273.1	0.8295	1.3184	–30
–29	1228.3	1228.0	0.0008	0.0134	1219.2	74.835	155.6	117.8	273.3	0.8349	1.3172	–29
–28	1267.6	1267.3	0.0008	0.0129	1212.0	77.392	156.9	116.6	273.6	0.8402	1.3160	–28
–27	1307.9	1307.5	0.0008	0.0125	1204.7	80.027	158.3	115.5	273.8	0.8456	1.3149	–27
–26	1349.0	1348.6	0.0008	0.0121	1197.3	82.745	159.6	114.4	274.0	0.8509	1.3137	–26
–25	1391.1	1390.7	0.0008	0.0117	1189.8	85.547	161.0	113.2	274.2	0.8563	1.3125	–25
–24	1434.2	1433.7	0.0009	0.0113	1182.2	88.438	162.4	112.0	274.4	0.8616	1.3114	–24
–23	1478.3	1477.7	0.0009	0.0109	1174.5	91.421	163.7	110.9	274.6	0.8670	1.3102	–23
–22	1523.3	1522.7	0.0009	0.0106	1166.6	94.498	165.1	109.6	274.8	0.8724	1.3090	–22
–21	1569.4	1568.7	0.0009	0.0102	1158.7	97.675	166.5	108.4	274.9	0.8778	1.3077	–21
–20	1616.4	1615.8	0.0009	0.0099	1150.5	100.955	168.0	107.2	275.1	0.8832	1.3065	–20
–19	1664.5	1663.8	0.0009	0.0096	1142.3	104.342	169.4	105.9	275.3	0.8887	1.3053	–19
–18	1713.7	1712.9	0.0009	0.0093	1133.9	107.841	170.8	104.6	275.4	0.8941	1.3040	–18
–17	1763.9	1763.1	0.0009	0.0090	1125.3	111.456	172.3	103.3	275.5	0.8996	1.3027	–17
–16	1815.1	1814.3	0.0009	0.0087	1116.6	115.194	173.7	101.9	275.6	0.9051	1.3014	–16
–15	1867.5	1866.6	0.0009	0.0084	1107.6	119.060	175.2	100.5	275.8	0.9106	1.3001	–15
–14	1921.0	1920.1	0.0009	0.0081	1098.6	123.060	176.7	99.1	275.8	0.9162	1.2987	–14
–13	1975.6	1974.6	0.0009	0.0079	1089.3	127.201	178.2	97.7	275.9	0.9218	1.2973	–13
–12	2031.3	2030.3	0.0009	0.0076	1079.8	131.489	179.7	96.2	276.0	0.9274	1.2959	–12
–11	2088.1	2087.1	0.0009	0.0074	1070.0	135.933	181.3	94.7	276.0	0.9330	1.2944	–11
–10	2146.1	2145.1	0.0009	0.0071	1060.1	140.541	182.8	93.2	276.0	0.9388	1.2930	–10
–9	2205.3	2204.2	0.0010	0.0069	1049.9	145.322	184.4	91.6	276.1	0.9445	1.2914	–9
–8	2265.7	2264.6	0.0010	0.0067	1039.5	150.287	186.0	90.0	276.0	0.9503	1.2898	–8
–7	2327.3	2326.1	0.0010	0.0064	1028.7	155.445	187.7	88.4	276.0	0.9562	1.2882	–7
–6	2390.1	2388.9	0.0010	0.0062	1017.7	160.811	189.3	86.7	276.0	0.9622	1.2865	–6
–5	2454.1	2452.9	0.0010	0.0060	1006.3	166.396	191.0	84.9	275.9	0.9682	1.2848	–5
–4	2519.4	2518.1	0.0010	0.0058	994.6	172.215	192.7	83.1	275.8	0.9743	1.2830	–4
–3	2586.0	2584.7	0.0010	0.0056	982.5	178.286	194.5	81.2	275.7	0.9805	1.2811	–3
–2	2653.8	2652.5	0.0010	0.0054	970.0	184.626	196.3	79.2	275.5	0.9869	1.2792	–2
–1	2722.9	2721.6	0.0010	0.0052	957.0	191.256	198.1	77.2	275.3	0.9934	1.2771	–1
0	2793.4	2792.0	0.0011	0.0051	943.6	198.199	200.0	75.1	275.1	1.0000	1.2750	0
1	2865.2	2863.8	0.0011	0.0049	929.6	205.479	202.0	72.9	274.9	1.0069	1.2727	1
2	2938.3	2936.9	0.0011	0.0047	915.0	213.126	204.0	70.6	274.6	1.0139	1.2704	2
3	3012.8	3011.4	0.0011	0.0045	899.7	221.171	206.1	68.1	274.2	1.0212	1.2679	3
4	3088.7	3087.3	0.0011	0.0044	883.6	229.651	208.3	65.6	273.8	1.0288	1.2653	4
5	3165.9	3164.5	0.0012	0.0042	866.6	238.602	210.6	62.8	273.4	1.0367	1.2626	5
6	3244.6	3243.3	0.0012	0.0040	848.6	248.068	213.0	59.9	272.9	1.0451	1.2597	6
7	3324.8	3323.4	0.0012	0.0039	829.4	258.089	215.6	56.8	272.4	1.0540	1.2566	7
8	3406.4	3405.0	0.0012	0.0037	808.7	268.705	218.4	53.4	271.8	1.0636	1.2533	8
9	3489.5	3488.1	0.0013	0.0036	786.3	279.944	221.5	49.6	271.1	1.0740	1.2499	9
10	3574.0	3572.7	0.0013	0.0034	761.4	291.808	224.9	45.5	270.4	1.0856	1.2463	10

Table 2
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	10.0 (–118.78°C)			20.0 (–111.00°C)			30.0 (–105.92°C)			40.0 (–102.04°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.3329)	(237.9)	(1.5225)	(0.6958)	(241.5)	(1.4857)	(0.4759)	(243.9)	(1.4653)	(0.3636)	(245.7)	(1.4512)	
–115	1.3668	239.9	1.5351	—	—	—	—	—	—	—	—	—	–115
–110	1.4114	242.5	1.5515	0.7003	242.1	1.4890	—	—	—	—	—	—	–110
–105	1.4560	245.2	1.5676	0.7231	244.8	1.5054	0.4788	244.4	1.4683	—	—	—	–105
–100	1.5004	247.9	1.5835	0.7457	247.6	1.5216	0.4941	247.2	1.4846	0.3683	246.8	1.4580	–100
–95	1.5447	250.7	1.5993	0.7683	250.3	1.5375	0.5094	250.0	1.5007	0.3800	249.7	1.4742	–95
–90	1.5889	253.5	1.6148	0.7907	253.2	1.5531	0.5246	252.9	1.5166	0.3916	252.6	1.4902	–90
–85	1.6331	256.3	1.6301	0.8131	256.0	1.5686	0.5397	255.8	1.5322	0.4030	255.5	1.5060	–85
–80	1.6771	259.2	1.6453	0.8354	259.0	1.5839	0.5548	258.7	1.5476	0.4145	258.5	1.5215	–80
–75	1.7212	262.1	1.6603	0.8576	261.9	1.5990	0.5698	261.7	1.5628	0.4258	261.5	1.5368	–75
–70	1.7652	265.1	1.6751	0.8798	264.9	1.6139	0.5847	264.7	1.5778	0.4371	264.5	1.5520	–70
–65	1.8091	268.1	1.6898	0.9020	268.0	1.6287	0.5996	267.8	1.5927	0.4484	267.6	1.5669	–65
–60	1.8530	271.2	1.7044	0.9241	271.0	1.6433	0.6145	270.8	1.6073	0.4596	270.7	1.5816	–60
–55	1.8969	274.3	1.7188	0.9462	274.1	1.6578	0.6293	274.0	1.6219	0.4708	273.8	1.5962	–55
–50	1.9408	277.5	1.7330	0.9683	277.3	1.6721	0.6441	277.1	1.6362	0.4820	277.0	1.6106	–50
–45	1.9846	280.7	1.7472	0.9903	280.5	1.6863	0.6589	280.4	1.6505	0.4932	280.2	1.6249	–45
–40	2.0284	283.9	1.7612	1.0123	283.8	1.7003	0.6736	283.6	1.6646	0.5043	283.5	1.6391	–40
–35	2.0722	287.2	1.7751	1.0343	287.0	1.7143	0.6884	286.9	1.6785	0.5154	286.8	1.6531	–35
–30	2.1160	290.5	1.7889	1.0563	290.4	1.7281	0.7031	290.2	1.6924	0.5265	290.1	1.6669	–30
–25	2.1597	293.8	1.8025	1.0783	293.7	1.7418	0.7178	293.6	1.7061	0.5375	293.5	1.6807	–25
–20	2.2035	297.2	1.8161	1.1002	297.1	1.7553	0.7325	297.0	1.7197	0.5486	296.9	1.6943	–20
–15	2.2472	300.7	1.8295	1.1222	300.6	1.7688	0.7471	300.5	1.7332	0.5596	300.4	1.7078	–15
–10	2.2909	304.1	1.8428	1.1441	304.0	1.7822	0.7618	303.9	1.7466	0.5707	303.8	1.7212	–10
–5	2.3346	307.7	1.8561	1.1660	307.6	1.7954	0.7765	307.5	1.7598	0.5817	307.4	1.7345	–5
0	2.3783	311.2	1.8692	1.1879	311.1	1.8086	0.7911	311.0	1.7730	0.5927	310.9	1.7477	0
5	2.4220	314.8	1.8822	1.2098	314.7	1.8216	0.8057	314.6	1.7860	0.6037	314.6	1.7608	5
10	2.4657	318.4	1.8952	1.2317	318.4	1.8346	0.8204	318.3	1.7990	0.6147	318.2	1.7737	10
15	2.5094	322.1	1.9080	1.2536	322.0	1.8474	0.8350	321.9	1.8119	0.6257	321.9	1.7866	15
20	2.5530	325.8	1.9208	1.2755	325.7	1.8602	0.8496	325.7	1.8247	0.6367	325.6	1.7994	20
25	2.5967	329.6	1.9334	1.2973	329.5	1.8729	0.8642	329.4	1.8373	0.6477	329.3	1.8121	25
30	2.6404	333.3	1.9460	1.3192	333.3	1.8854	0.8788	333.2	1.8499	0.6586	333.1	1.8247	30
35	2.6840	337.2	1.9585	1.3411	337.1	1.8979	0.8934	337.0	1.8625	0.6696	337.0	1.8372	35
40	1.3629	340.9	1.9104	0.9080	340.9	1.8749	0.6806	340.8	1.8497	—	—	—	40
45	0.9226	344.8	1.8872	0.6916	344.7	1.8620	—	—	—	—	—	—	45
50	0.7025	348.6	1.8743	—	—	—	—	—	—	—	—	—	50

TEMP. °C	50.0 (–98.86°C)			60.0 (–96.14°C)			70.0 (–93.76°C)			80.0 (–91.62°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.2950)	(247.1)	(1.4407)	(0.2487)	(248.3)	(1.4322)	(0.2152)	(249.4)	(1.4253)	(0.1899)	(250.3)	(1.4193)	
–95	0.3023	249.3	1.4534	0.2505	249.0	1.4360	—	—	—	—	—	—	–95
–90	0.3117	252.3	1.4695	0.2585	252.0	1.4524	0.2204	251.6	1.4376	0.1919	251.3	1.4247	–90
–85	0.3210	255.2	1.4854	0.2663	254.9	1.4684	0.2273	254.6	1.4538	0.1979	254.4	1.4410	–85
–80	0.3303	258.2	1.5011	0.2741	257.9	1.4842	0.2340	257.7	1.4697	0.2039	257.4	1.4571	–80
–75	0.3395	261.2	1.5165	0.2819	261.0	1.4997	0.2407	260.7	1.4854	0.2099	260.5	1.4728	–75
–70	0.3486	264.3	1.5317	0.2896	264.0	1.5150	0.2474	263.8	1.5008	0.2157	263.6	1.4883	–70
–65	0.3577	267.4	1.5467	0.2972	267.2	1.5301	0.2540	267.0	1.5160	0.2216	266.7	1.5036	–65
–60	0.3667	270.5	1.5615	0.3048	270.3	1.5450	0.2606	270.1	1.5309	0.2274	269.9	1.5186	–60
–55	0.3758	273.6	1.5762	0.3124	273.5	1.5597	0.2671	273.3	1.5457	0.2331	273.1	1.5335	–55
–50	0.3848	276.8	1.5907	0.3199	276.7	1.5743	0.2736	276.5	1.5603	0.2389	276.3	1.5481	–50
–45	0.3937	280.1	1.6050	0.3274	279.9	1.5886	0.2801	279.8	1.5747	0.2446	279.6	1.5626	–45
–40	0.4027	283.3	1.6192	0.3349	283.2	1.6029	0.2865	283.1	1.5890	0.2502	282.9	1.5769	–40
–35	0.4116	286.6	1.6332	0.3424	286.5	1.6169	0.2930	286.4	1.6031	0.2559	286.2	1.5910	–35
–30	0.4205	290.0	1.6471	0.3498	289.9	1.6309	0.2994	289.7	1.6171	0.2615	289.6	1.6051	–30
–25	0.4294	293.4	1.6609	0.3573	293.3	1.6447	0.3058	293.1	1.6309	0.2672	293.0	1.6189	–25
–20	0.4383	296.8	1.6745	0.3647	296.7	1.6583	0.3122	296.6	1.6446	0.2728	296.5	1.6326	–20
–15	0.4471	300.3	1.6881	0.3721	300.2	1.6719	0.3186	300.0	1.6582	0.2784	299.9	1.6463	–15
–10	0.4560	303.8	1.7015	0.3795	303.7	1.6853	0.3249	303.6	1.6716	0.2840	303.5	1.6597	–10
–5	0.4648	307.3	1.7148	0.3869	307.2	1.6987	0.3313	307.1	1.6850	0.2895	307.0	1.6731	–5
0	0.4737	310.9	1.7280	0.3943	310.8	1.7119	0.3376	310.7	1.6982	0.2951	310.6	1.6863	0
5	0.4825	314.5	1.7411	0.4017	314.4	1.7250	0.3440	314.3	1.7113	0.3007	314.2	1.6995	5
10	0.4913	318.1	1.7541	0.4090	318.0	1.7380	0.3503	318.0	1.7244	0.3062	317.9	1.7125	10
15	0.5001	321.8	1.7670	0.4164	321.7	1.7509	0.3566	321.6	1.7373	0.3118	321.6	1.7254	15
20	0.5089	325.5	1.7798	0.4238	325.4	1.7637	0.3629	325.4	1.7501	0.3173	325.3	1.7383	20
25	0.5177	329.3	1.7925	0.4311	329.2	1.7764	0.3692	329.1	1.7628	0.3228	329.1	1.7510	25
30	0.5265	333.1	1.8051	0.4385	333.0	1.7891	0.3755	332.9	1.7755	0.3284	332.9	1.7637	30
35	0.5353	336.9	1.8176	0.4458	336.8	1.8016	0.3818	336.8	1.7880	0.3339	336.7	1.7762	35
40	0.5441	340.8	1.8301	0.4531	340.7	1.8140	0.3881	340.6	1.8004	0.3394	340.6	1.7887	40
45	0.5529	344.7	1.8424	0.4605	344.6	1.8264	0.3944	344.5	1.8128	0.3449	344.5	1.8010	45
50	0.5617	348.6	1.8547	0.4678	348.5	1.8387	0.4007	348.5	1.8251	0.3504	348.4	1.8133	50
55	0.5705	352.6	1.8669	0.4751	352.5	1.8509	0.4070	352.4	1.8373	0.3560	352.4	1.8255	55
60	0.4133	356.5	1.8494	0.3615	356.4	1.8377	—	—	—	—	—	—	60

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	90.0 (–89.69°C)			100.0 (–87.91°C)			101.325 (–87.68°C)			110.0 (–86.26°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1700)	(251.2)	(1.4142)	(0.1540)	(252.0)	(1.4096)	(0.1521)	(252.1)	(1.4091)	(0.1408)	(252.7)	(1.4056)	
–85	0.1751	254.1	1.4296	0.1569	253.8	1.4193	0.1548	253.7	1.4180	0.1420	253.5	1.4098	–85
–80	0.1805	257.2	1.4458	0.1618	256.9	1.4356	0.1596	256.9	1.4343	0.1465	256.6	1.4262	–80
–75	0.1859	260.3	1.4617	0.1667	260.0	1.4516	0.1644	260.0	1.4503	0.1509	259.8	1.4423	–75
–70	0.1911	263.4	1.4772	0.1715	263.2	1.4672	0.1691	263.1	1.4660	0.1553	262.9	1.4581	–70
–65	0.1964	266.5	1.4926	0.1762	266.3	1.4827	0.1738	266.3	1.4814	0.1597	266.1	1.4736	–65
–60	0.2016	269.7	1.5077	0.1809	269.5	1.4979	0.1785	269.5	1.4966	0.1640	269.3	1.4889	–60
–55	0.2067	272.9	1.5226	0.1856	272.8	1.5128	0.1831	272.7	1.5116	0.1683	272.6	1.5039	–55
–50	0.2118	276.2	1.5373	0.1902	276.0	1.5276	0.1877	276.0	1.5264	0.1725	275.9	1.5187	–50
–45	0.2169	279.5	1.5518	0.1948	279.3	1.5422	0.1922	279.3	1.5410	0.1767	279.2	1.5334	–45
–40	0.2220	282.8	1.5662	0.1994	282.6	1.5566	0.1968	282.6	1.5554	0.1809	282.5	1.5478	–40
–35	0.2271	286.1	1.5804	0.2040	286.0	1.5708	0.2013	286.0	1.5696	0.1851	285.9	1.5621	–35
–30	0.2321	289.5	1.5944	0.2085	289.4	1.5849	0.2058	289.4	1.5837	0.1893	289.2	1.5762	–30
–25	0.2371	292.9	1.6083	0.2131	292.8	1.5988	0.2103	292.8	1.5976	0.1934	292.7	1.5901	–25
–20	0.2421	296.4	1.6221	0.2176	296.2	1.6126	0.2147	296.2	1.6114	0.1975	296.1	1.6040	–20
–15	0.2471	299.8	1.6357	0.2221	299.7	1.6262	0.2192	299.7	1.6250	0.2017	299.6	1.6176	–15
–10	0.2521	303.4	1.6492	0.2266	303.3	1.6397	0.2236	303.2	1.6386	0.2058	303.2	1.6312	–10
–5	0.2571	306.9	1.6626	0.2311	306.8	1.6531	0.2280	306.8	1.6520	0.2098	306.7	1.6446	–5
0	0.2620	310.5	1.6758	0.2356	310.4	1.6664	0.2325	310.4	1.6653	0.2139	310.3	1.6579	0
5	0.2670	314.1	1.6890	0.2400	314.0	1.6796	0.2369	314.0	1.6784	0.2180	314.0	1.6711	5
10	0.2719	317.8	1.7020	0.2445	317.7	1.6927	0.2413	317.7	1.6915	0.2221	317.6	1.6841	10
15	0.2769	321.5	1.7150	0.2490	321.4	1.7056	0.2457	321.4	1.7044	0.2261	321.3	1.6971	15
20	0.2818	325.2	1.7278	0.2534	325.1	1.7185	0.2501	325.1	1.7173	0.2302	325.1	1.7100	20
25	0.2867	329.0	1.7406	0.2579	328.9	1.7312	0.2545	328.9	1.7301	0.2342	328.8	1.7227	25
30	0.2917	332.8	1.7532	0.2623	332.7	1.7439	0.2588	332.7	1.7427	0.2383	332.7	1.7354	30
35	0.2966	336.6	1.7658	0.2667	336.6	1.7565	0.2632	336.6	1.7553	0.2423	336.5	1.7480	35
40	0.3015	340.5	1.7783	0.2712	340.4	1.7689	0.2676	340.4	1.7678	0.2464	340.4	1.7605	40
45	0.3064	344.4	1.7906	0.2756	344.4	1.7813	0.2720	344.3	1.7802	0.2504	344.3	1.7729	45
50	0.3113	348.4	1.8029	0.2800	348.3	1.7936	0.2763	348.3	1.7925	0.2544	348.2	1.7852	50
55	0.3162	352.3	1.8151	0.2844	352.3	1.8058	0.2807	352.3	1.8047	0.2584	352.2	1.7974	55
60	0.3211	356.3	1.8273	0.2889	356.3	1.8180	0.2851	356.3	1.8168	0.2625	356.2	1.8095	60
65	0.3260	360.4	1.8393	0.2933	360.3	1.8300	0.2894	360.3	1.8289	0.2665	360.3	1.8216	65

TEMP. °C	120.0 (–84.73°C)			130.0 (–83.29°C)			140.0 (–81.93°C)			150.0 (–80.64°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1297)	(253.4)	(1.4019)	(0.1203)	(254.0)	(1.3986)	(0.1122)	(254.6)	(1.3955)	(0.1051)	(255.1)	(1.3927)	
–80	0.1337	256.4	1.4176	0.1229	256.1	1.4095	0.1136	255.8	1.4020	0.1056	255.5	1.3949	–80
–75	0.1378	259.5	1.4338	0.1267	259.3	1.4259	0.1172	259.0	1.4185	0.1090	258.8	1.4115	–75
–70	0.1419	262.7	1.4497	0.1305	262.5	1.4419	0.1208	262.3	1.4346	0.1124	262.0	1.4277	–70
–65	0.1459	265.9	1.4653	0.1343	265.7	1.4576	0.1243	265.5	1.4504	0.1157	265.3	1.4436	–65
–60	0.1499	269.2	1.4806	0.1380	269.0	1.4730	0.1278	268.8	1.4659	0.1189	268.6	1.4592	–60
–55	0.1539	272.4	1.4957	0.1417	272.2	1.4882	0.1312	272.1	1.4811	0.1222	271.9	1.4745	–55
–50	0.1578	275.7	1.5106	0.1453	275.5	1.5031	0.1346	275.4	1.4961	0.1254	275.2	1.4895	–50
–45	0.1617	279.0	1.5253	0.1489	278.9	1.5178	0.1380	278.7	1.5109	0.1285	278.5	1.5044	–45
–40	0.1655	282.3	1.5398	0.1525	282.2	1.5324	0.1413	282.1	1.5254	0.1317	281.9	1.5190	–40
–35	0.1694	285.7	1.5541	0.1561	285.6	1.5467	0.1447	285.5	1.5398	0.1348	285.3	1.5334	–35
–30	0.1732	289.1	1.5682	0.1596	289.0	1.5609	0.1480	288.9	1.5540	0.1379	288.7	1.5477	–30
–25	0.1770	292.6	1.5822	0.1632	292.4	1.5749	0.1513	292.3	1.5681	0.1410	292.2	1.5617	–25
–20	0.1808	296.0	1.5961	0.1667	295.9	1.5888	0.1546	295.8	1.5820	0.1440	295.7	1.5757	–20
–15	0.1846	299.5	1.6098	0.1702	299.4	1.6025	0.1578	299.3	1.5957	0.1471	299.2	1.5894	–15
–10	0.1884	303.1	1.6233	0.1737	303.0	1.6161	0.1611	302.9	1.6093	0.1501	302.8	1.6031	–10
–5	0.1921	306.6	1.6368	0.1772	306.5	1.6295	0.1643	306.4	1.6228	0.1532	306.4	1.6166	–5
0	0.1959	310.2	1.6501	0.1806	310.1	1.6429	0.1675	310.1	1.6362	0.1562	310.0	1.6299	0
5	0.1996	313.9	1.6633	0.1841	313.8	1.6561	0.1708	313.7	1.6494	0.1592	313.6	1.6432	5
10	0.2034	317.6	1.6764	0.1876	317.5	1.6692	0.1740	317.4	1.6625	0.1622	317.3	1.6563	10
15	0.2071	321.3	1.6893	0.1910	321.2	1.6822	0.1772	321.1	1.6755	0.1652	321.0	1.6693	15
20	0.2108	325.0	1.7022	0.1944	324.9	1.6951	0.1804	324.9	1.6884	0.1682	324.8	1.6822	20
25	0.2145	328.8	1.7150	0.1979	328.7	1.7078	0.1836	328.6	1.7012	0.1712	328.6	1.6950	25
30	0.2183	332.6	1.7277	0.2013	332.5	1.7205	0.1868	332.5	1.7139	0.1742	332.4	1.7077	30
35	0.2220	336.4	1.7403	0.2048	336.4	1.7331	0.1900	336.3	1.7265	0.1772	336.2	1.7204	35
40	0.2257	340.3	1.7527	0.2082	340.3	1.7456	0.1932	340.2	1.7390	0.1802	340.1	1.7329	40
45	0.2294	344.2	1.7652	0.2116	344.2	1.7580	0.1964	344.1	1.7514	0.1832	344.0	1.7453	45
50	0.2331	348.2	1.7775	0.2150	348.1	1.7704	0.1995	348.1	1.7638	0.1861	348.0	1.7576	50
55	0.2368	352.2	1.7897	0.2184	352.1	1.7826	0.2027	352.0	1.7760	0.1891	352.0	1.7699	55
60	0.2405	356.2	1.8018	0.2219	356.1	1.7947	0.2059	356.1	1.7882	0.1921	356.0	1.7820	60
65	0.2442	360.2	1.8139	0.2253	360.2	1.8068	0.2091	360.1	1.8002	0.1950	360.1	1.7941	65
70	0.2478	364.3	1.8259	0.2287	364.3	1.8188	0.2122	364.2	1.8122	0.1980	364.2	1.8061	70

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	160.0 (–79.42°C)			170.0 (–78.26°C)			180.0 (–77.14°C)			190.0 (–76.07°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0989)	(255.6)	(1.3901)	(0.0934)	(256.1)	(1.3877)	(0.0885)	(256.6)	(1.3855)	(0.0841)	(257.0)	(1.3833)	
–75	0.1018	258.5	1.4049	0.0954	258.3	1.3987	0.0898	258.0	1.3927	0.0847	257.8	1.3870	–75
–70	0.1050	261.8	1.4212	0.0984	261.6	1.4151	0.0926	261.3	1.4092	0.0874	261.1	1.4037	–70
–65	0.1081	265.1	1.4372	0.1014	264.9	1.4312	0.0955	264.7	1.4254	0.0901	264.4	1.4199	–65
–60	0.1112	268.4	1.4529	0.1043	268.2	1.4469	0.0983	268.0	1.4412	0.0928	267.8	1.4358	–60
–55	0.1142	271.7	1.4682	0.1072	271.5	1.4623	0.1010	271.3	1.4567	0.0954	271.2	1.4514	–55
–50	0.1172	275.0	1.4834	0.1101	274.9	1.4775	0.1037	274.7	1.4720	0.0980	274.5	1.4667	–50
–45	0.1202	278.4	1.4982	0.1129	278.2	1.4925	0.1064	278.1	1.4870	0.1006	277.9	1.4818	–45
–40	0.1232	281.8	1.5129	0.1157	281.6	1.5072	0.1091	281.5	1.5017	0.1031	281.3	1.4966	–40
–35	0.1261	285.2	1.5274	0.1185	285.1	1.5217	0.1117	284.9	1.5163	0.1056	284.8	1.5111	–35
–30	0.1290	288.6	1.5417	0.1213	288.5	1.5360	0.1143	288.4	1.5306	0.1081	288.2	1.5255	–30
–25	0.1320	292.1	1.5558	0.1240	292.0	1.5501	0.1169	291.9	1.5448	0.1106	291.7	1.5397	–25
–20	0.1348	295.6	1.5697	0.1267	295.5	1.5641	0.1195	295.4	1.5588	0.1131	295.2	1.5538	–20
–15	0.1377	299.1	1.5835	0.1294	299.0	1.5779	0.1221	298.9	1.5727	0.1155	298.8	1.5676	–15
–10	0.1406	302.7	1.5972	0.1322	302.6	1.5916	0.1247	302.5	1.5863	0.1179	302.4	1.5814	–10
–5	0.1434	306.3	1.6107	0.1348	306.2	1.6051	0.1272	306.1	1.5999	0.1204	306.0	1.5949	–5
0	0.1463	309.9	1.6241	0.1375	309.8	1.6185	0.1297	309.7	1.6133	0.1228	309.6	1.6084	0
5	0.1491	313.5	1.6373	0.1402	313.5	1.6318	0.1323	313.4	1.6266	0.1252	313.3	1.6217	5
10	0.1520	317.2	1.6505	0.1429	317.1	1.6450	0.1348	317.1	1.6398	0.1276	317.0	1.6349	10
15	0.1548	320.9	1.6635	0.1455	320.9	1.6580	0.1373	320.8	1.6528	0.1300	320.7	1.6479	15
20	0.1576	324.7	1.6764	0.1482	324.6	1.6710	0.1398	324.6	1.6658	0.1324	324.5	1.6609	20
25	0.1604	328.5	1.6892	0.1509	328.4	1.6838	0.1424	328.4	1.6786	0.1348	328.3	1.6737	25
30	0.1632	332.3	1.7020	0.1535	332.2	1.6965	0.1449	332.2	1.6914	0.1371	332.1	1.6865	30
35	0.1660	336.2	1.7146	0.1561	336.1	1.7091	0.1474	336.0	1.7040	0.1395	336.0	1.6991	35
40	0.1688	340.1	1.7271	0.1588	340.0	1.7217	0.1499	339.9	1.7165	0.1419	339.9	1.7117	40
45	0.1716	344.0	1.7395	0.1614	343.9	1.7341	0.1523	343.9	1.7290	0.1442	343.8	1.7241	45
50	0.1744	347.9	1.7519	0.1640	347.9	1.7464	0.1548	347.8	1.7413	0.1466	347.8	1.7365	50
55	0.1772	351.9	1.7641	0.1667	351.9	1.7587	0.1573	351.8	1.7536	0.1490	351.8	1.7488	55
60	0.1800	356.0	1.7763	0.1693	355.9	1.7709	0.1598	355.8	1.7658	0.1513	355.8	1.7609	60
65	0.1828	360.0	1.7884	0.1719	360.0	1.7830	0.1623	359.9	1.7779	0.1537	359.9	1.7730	65
70	0.1855	364.1	1.8004	0.1745	364.1	1.7950	0.1648	364.0	1.7899	0.1560	363.9	1.7851	70
75	0.1883	368.2	1.8123	0.1772	368.2	1.8069	0.1672	368.1	1.8018	0.1584	368.1	1.7970	75

TEMP. °C	200.0 (–75.05°C)			210.0 (–74.06°C)			220.0 (–73.11°C)			230.0 (–72.19°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0801)	(257.5)	(1.3814)	(0.0765)	(257.9)	(1.3795)	(0.0732)	(258.3)	(1.3777)	(0.0701)	(258.6)	(1.3760)	
–75	0.0801	257.5	1.3815	—	—	—	—	—	—	—	—	—	–75
–70	0.0828	260.9	1.3983	0.0785	260.6	1.3932	0.0747	260.4	1.3882	0.0712	260.1	1.3834	–70
–65	0.0854	264.2	1.4147	0.0810	264.0	1.4096	0.0771	263.8	1.4048	0.0735	263.6	1.4001	–65
–60	0.0879	267.6	1.4307	0.0835	267.4	1.4257	0.0794	267.2	1.4209	0.0758	267.0	1.4164	–60
–55	0.0904	271.0	1.4463	0.0859	270.8	1.4414	0.0818	270.6	1.4367	0.0780	270.4	1.4322	–55
–50	0.0929	274.4	1.4617	0.0883	274.2	1.4569	0.0840	274.0	1.4522	0.0802	273.9	1.4478	–50
–45	0.0953	277.8	1.4768	0.0906	277.6	1.4720	0.0863	277.5	1.4674	0.0824	277.3	1.4631	–45
–40	0.0978	281.2	1.4916	0.0929	281.1	1.4869	0.0885	280.9	1.4824	0.0845	280.8	1.4781	–40
–35	0.1002	284.6	1.5063	0.0952	284.5	1.5016	0.0907	284.4	1.4971	0.0866	284.2	1.4928	–35
–30	0.1025	288.1	1.5207	0.0975	288.0	1.5160	0.0929	287.9	1.5116	0.0887	287.7	1.5073	–30
–25	0.1049	291.6	1.5349	0.0998	291.5	1.5303	0.0951	291.4	1.5259	0.0908	291.3	1.5217	–25
–20	0.1073	295.1	1.5490	0.1020	295.0	1.5444	0.0972	294.9	1.5400	0.0929	294.8	1.5358	–20
–15	0.1096	298.7	1.5629	0.1042	298.6	1.5583	0.0994	298.5	1.5540	0.0949	298.4	1.5498	–15
–10	0.1119	302.3	1.5766	0.1064	302.2	1.5721	0.1015	302.1	1.5678	0.0969	302.0	1.5636	–10
–5	0.1142	305.9	1.5902	0.1087	305.8	1.5857	0.1036	305.7	1.5814	0.0990	305.6	1.5773	–5
0	0.1165	309.5	1.6037	0.1108	309.4	1.5992	0.1057	309.3	1.5949	0.1010	309.3	1.5908	0
5	0.1188	313.2	1.6170	0.1130	313.1	1.6125	0.1078	313.0	1.6082	0.1030	312.9	1.6041	5
10	0.1211	316.9	1.6302	0.1152	316.8	1.6257	0.1099	316.7	1.6215	0.1050	316.7	1.6174	10
15	0.1234	320.6	1.6433	0.1174	320.6	1.6388	0.1120	320.5	1.6346	0.1070	320.4	1.6305	15
20	0.1257	324.4	1.6562	0.1196	324.3	1.6518	0.1140	324.3	1.6476	0.1090	324.2	1.6435	20
25	0.1279	328.2	1.6691	0.1217	328.1	1.6647	0.1161	328.1	1.6605	0.1110	328.0	1.6564	25
30	0.1302	332.0	1.6819	0.1239	332.0	1.6774	0.1182	331.9	1.6732	0.1129	331.8	1.6692	30
35	0.1324	335.9	1.6945	0.1260	335.8	1.6901	0.1202	335.8	1.6859	0.1149	335.7	1.6819	35
40	0.1347	339.8	1.7071	0.1282	339.7	1.7027	0.1223	339.7	1.6985	0.1169	339.6	1.6944	40
45	0.1369	343.7	1.7195	0.1303	343.7	1.7151	0.1243	343.6	1.7109	0.1189	343.6	1.7069	45
50	0.1392	347.7	1.7319	0.1325	347.6	1.7275	0.1264	347.6	1.7233	0.1208	347.5	1.7193	50
55	0.1414	351.7	1.7442	0.1346	351.6	1.7398	0.1284	351.6	1.7356	0.1228	351.5	1.7316	55
60	0.1437	355.7	1.7564	0.1368	355.7	1.7520	0.1305	355.6	1.7478	0.1247	355.6	1.7438	60
65	0.1459	359.8	1.7685	0.1389	359.7	1.7641	0.1325	359.7	1.7599	0.1267	359.6	1.7559	65
70	0.1481	363.9	1.7805	0.1410	363.8	1.7761	0.1346	363.8	1.7720	0.1286	363.7	1.7680	70
75	0.1504	368.0	1.7924	0.1432	368.0	1.7881	0.1366	367.9	1.7839	0.1306	367.9	1.7799	75
80	0.1453	372.1	1.7999	0.1386	372.1	1.7958	0.1325	372.0	1.7918	—	—	—	80

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	240.0 (–71.30°C)			250.0 (–70.44°C)			260.0 (–69.60°C)			270.0 (–68.79°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0674)	(259.0)	(1.3744)	(0.0648)	(259.4)	(1.3728)	(0.0624)	(259.7)	(1.3714)	(0.0602)	(260.0)	(1.3700)	
–70	0.0679	259.9	1.3788	0.0650	259.7	1.3743	—	—	—	—	—	—	–70
–65	0.0702	263.4	1.3956	0.0672	263.1	1.3912	0.0643	262.9	1.3870	0.0617	262.7	1.3829	–65
–60	0.0724	266.8	1.4119	0.0693	266.6	1.4077	0.0664	266.4	1.4035	0.0637	266.2	1.3995	–60
–55	0.0745	270.2	1.4279	0.0714	270.0	1.4237	0.0684	269.9	1.4196	0.0657	269.7	1.4157	–55
–50	0.0767	273.7	1.4435	0.0734	273.5	1.4394	0.0704	273.3	1.4354	0.0676	273.2	1.4315	–50
–45	0.0787	277.1	1.4588	0.0754	277.0	1.4548	0.0724	276.8	1.4508	0.0695	276.7	1.4470	–45
–40	0.0808	280.6	1.4739	0.0774	280.5	1.4699	0.0743	280.3	1.4660	0.0714	280.2	1.4622	–40
–35	0.0828	284.1	1.4887	0.0794	284.0	1.4847	0.0762	283.8	1.4808	0.0732	283.7	1.4771	–35
–30	0.0849	287.6	1.5033	0.0813	287.5	1.4993	0.0781	287.3	1.4955	0.0750	287.2	1.4918	–30
–25	0.0869	291.1	1.5176	0.0833	291.0	1.5137	0.0799	290.9	1.5099	0.0768	290.8	1.5063	–25
–20	0.0889	294.7	1.5318	0.0852	294.6	1.5279	0.0818	294.5	1.5242	0.0786	294.3	1.5205	–20
–15	0.0908	298.3	1.5458	0.0871	298.2	1.5419	0.0836	298.1	1.5382	0.0804	297.9	1.5346	–15
–10	0.0928	301.9	1.5596	0.0890	301.8	1.5558	0.0854	301.7	1.5521	0.0822	301.6	1.5485	–10
–5	0.0947	305.5	1.5733	0.0908	305.4	1.5695	0.0872	305.3	1.5658	0.0839	305.2	1.5623	–5
0	0.0967	309.2	1.5868	0.0927	309.1	1.5830	0.0890	309.0	1.5794	0.0856	308.9	1.5758	0
5	0.0986	312.9	1.6002	0.0946	312.8	1.5964	0.0908	312.7	1.5928	0.0874	312.6	1.5893	5
10	0.1005	316.6	1.6135	0.0964	316.5	1.6097	0.0926	316.4	1.6061	0.0891	316.3	1.6026	10
15	0.1024	320.3	1.6266	0.0983	320.2	1.6229	0.0944	320.2	1.6192	0.0908	320.1	1.6158	15
20	0.1044	324.1	1.6396	0.1001	324.0	1.6359	0.0962	324.0	1.6323	0.0925	323.9	1.6288	20
25	0.1063	327.9	1.6525	0.1019	327.9	1.6488	0.0979	327.8	1.6452	0.0942	327.7	1.6417	25
30	0.1082	331.8	1.6653	0.1038	331.7	1.6616	0.0997	331.6	1.6580	0.0959	331.6	1.6546	30
35	0.1101	335.6	1.6780	0.1056	335.6	1.6743	0.1014	335.5	1.6707	0.0976	335.4	1.6673	35
40	0.1119	339.6	1.6906	0.1074	339.5	1.6869	0.1032	339.4	1.6833	0.0993	339.4	1.6799	40
45	0.1138	343.5	1.7031	0.1092	343.4	1.6994	0.1049	343.4	1.6958	0.1010	343.3	1.6924	45
50	0.1157	347.5	1.7155	0.1110	347.4	1.7118	0.1067	347.4	1.7082	0.1027	347.3	1.7048	50
55	0.1176	351.5	1.7278	0.1128	351.4	1.7241	0.1084	351.4	1.7205	0.1044	351.3	1.7171	55
60	0.1195	355.5	1.7400	0.1146	355.5	1.7363	0.1102	355.4	1.7328	0.1060	355.3	1.7294	60
65	0.1213	359.6	1.7521	0.1164	359.5	1.7484	0.1119	359.5	1.7449	0.1077	359.4	1.7415	65
70	0.1232	363.7	1.7641	0.1182	363.6	1.7605	0.1136	363.6	1.7569	0.1094	363.5	1.7535	70
75	0.1251	367.8	1.7761	0.1200	367.8	1.7724	0.1154	367.7	1.7689	0.1110	367.7	1.7655	75
80	0.1270	372.0	1.7880	0.1218	371.9	1.7843	0.1171	371.9	1.7808	0.1127	371.8	1.7774	80
85	0.1188	376.1	1.7926	0.1144	376.0	1.7892	—	—	—	—	—	—	85

TEMP. °C	280.0 (–68.00°C)			290.0 (–67.23°C)			300.0 (–66.48°C)			310.0 (–65.75°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0581)	(260.3)	(1.3686)	(0.0562)	(260.6)	(1.3673)	(0.0544)	(260.9)	(1.3661)	(0.0527)	(261.2)	(1.3649)	
–65	0.0593	262.5	1.3789	0.0571	262.2	1.3750	0.0550	262.0	1.3712	0.0530	261.8	1.3675	–65
–60	0.0613	266.0	1.3956	0.0590	265.8	1.3918	0.0568	265.6	1.3881	0.0548	265.3	1.3845	–60
–55	0.0632	269.5	1.4119	0.0608	269.3	1.4082	0.0586	269.1	1.4045	0.0566	268.9	1.4010	–55
–50	0.0650	273.0	1.4278	0.0626	272.8	1.4241	0.0604	272.6	1.4206	0.0583	272.5	1.4171	–50
–45	0.0669	276.5	1.4433	0.0644	276.3	1.4397	0.0621	276.2	1.4362	0.0600	276.0	1.4328	–45
–40	0.0687	280.0	1.4586	0.0662	279.9	1.4550	0.0638	279.7	1.4516	0.0616	279.6	1.4482	–40
–35	0.0705	283.5	1.4735	0.0679	283.4	1.4700	0.0655	283.3	1.4667	0.0633	283.1	1.4634	–35
–30	0.0722	287.1	1.4883	0.0696	287.0	1.4848	0.0672	286.8	1.4815	0.0649	286.7	1.4782	–30
–25	0.0740	290.6	1.5028	0.0713	290.5	1.4993	0.0688	290.4	1.4960	0.0665	290.3	1.4928	–25
–20	0.0757	294.2	1.5170	0.0730	294.1	1.5137	0.0704	294.0	1.5104	0.0681	293.9	1.5072	–20
–15	0.0774	297.8	1.5311	0.0746	297.7	1.5278	0.0721	297.6	1.5245	0.0696	297.5	1.5214	–15
–10	0.0791	301.5	1.5451	0.0763	301.4	1.5417	0.0737	301.3	1.5385	0.0712	301.2	1.5354	–10
–5	0.0808	305.1	1.5588	0.0779	305.0	1.5555	0.0752	304.9	1.5523	0.0727	304.8	1.5492	–5
0	0.0825	308.8	1.5724	0.0796	308.7	1.5691	0.0768	308.6	1.5659	0.0743	308.5	1.5628	0
5	0.0842	312.5	1.5859	0.0812	312.4	1.5826	0.0784	312.3	1.5794	0.0758	312.2	1.5763	5
10	0.0858	316.2	1.5992	0.0828	316.2	1.5959	0.0800	316.1	1.5928	0.0773	316.0	1.5897	10
15	0.0875	320.0	1.6124	0.0844	319.9	1.6091	0.0815	319.9	1.6060	0.0788	319.8	1.6029	15
20	0.0891	323.8	1.6255	0.0860	323.7	1.6222	0.0831	323.7	1.6191	0.0803	323.6	1.6160	20
25	0.0908	327.6	1.6384	0.0876	327.6	1.6352	0.0846	327.5	1.6320	0.0818	327.4	1.6290	25
30	0.0924	331.5	1.6512	0.0892	331.4	1.6480	0.0861	331.4	1.6449	0.0833	331.3	1.6419	30
35	0.0941	335.4	1.6639	0.0908	335.3	1.6607	0.0877	335.2	1.6576	0.0848	335.2	1.6546	35
40	0.0957	339.3	1.6766	0.0923	339.2	1.6734	0.0892	339.2	1.6703	0.0863	339.1	1.6673	40
45	0.0973	343.3	1.6891	0.0939	343.2	1.6859	0.0907	343.1	1.6828	0.0877	343.1	1.6798	45
50	0.0989	347.2	1.7015	0.0955	347.2	1.6983	0.0922	347.1	1.6952	0.0892	347.1	1.6922	50
55	0.1006	351.2	1.7138	0.0970	351.2	1.7106	0.0938	351.1	1.7076	0.0907	351.1	1.7046	55
60	0.1022	355.3	1.7261	0.0986	355.2	1.7229	0.0953	355.2	1.7198	0.0922	355.1	1.7168	60
65	0.1038	359.4	1.7382	0.1002	359.3	1.7350	0.0968	359.3	1.7320	0.0936	359.2	1.7290	65
70	0.1054	363.5	1.7503	0.1017	363.4	1.7471	0.0983	363.4	1.7440	0.0951	363.3	1.7411	70
75	0.1070	367.6	1.7622	0.1033	367.6	1.7591	0.0998	367.5	1.7560	0.0965	367.5	1.7531	75
80	0.1086	371.8	1.7741	0.1048	371.7	1.7710	0.1013	371.7	1.7679	0.0980	371.6	1.7650	80
85	0.1102	376.0	1.7859	0.1064	375.9	1.7828	0.1028	375.9	1.7797	0.0995	375.8	1.7768	85

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	320.0 (–65.03°C)			330.0 (–64.34°C)			340.0 (–63.66°C)			350.0 (–62.99°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0512)	(261.5)	(1.3637)	(0.0497)	(261.8)	(1.3626)	(0.0483)	(262.0)	(1.3616)	(0.0469)	(262.3)	(1.3605)	
–65	0.0512	261.5	1.3639	—	—	—	—	—	—	—	—	—	–65
–60	0.0529	265.1	1.3810	0.0512	264.9	1.3775	0.0495	264.7	1.3742	0.0479	264.5	1.3709	–60
–55	0.0547	268.7	1.3976	0.0528	268.5	1.3942	0.0511	268.3	1.3909	0.0495	268.1	1.3877	–55
–50	0.0563	272.3	1.4138	0.0545	272.1	1.4105	0.0527	271.9	1.4073	0.0511	271.7	1.4041	–50
–45	0.0580	275.8	1.4295	0.0561	275.7	1.4263	0.0543	275.5	1.4232	0.0526	275.4	1.4201	–45
–40	0.0596	279.4	1.4450	0.0577	279.3	1.4418	0.0558	279.1	1.4387	0.0541	279.0	1.4357	–40
–35	0.0612	283.0	1.4602	0.0592	282.8	1.4570	0.0574	282.7	1.4540	0.0556	282.6	1.4510	–35
–30	0.0628	286.6	1.4750	0.0607	286.4	1.4720	0.0589	286.3	1.4690	0.0571	286.2	1.4660	–30
–25	0.0643	290.2	1.4897	0.0623	290.0	1.4866	0.0603	289.9	1.4837	0.0585	289.8	1.4808	–25
–20	0.0658	293.8	1.5041	0.0638	293.7	1.5011	0.0618	293.5	1.4981	0.0599	293.4	1.4953	–20
–15	0.0674	297.4	1.5183	0.0652	297.3	1.5153	0.0632	297.2	1.5124	0.0613	297.1	1.5096	–15
–10	0.0689	301.1	1.5323	0.0667	301.0	1.5293	0.0647	300.9	1.5265	0.0627	300.7	1.5236	–10
–5	0.0704	304.7	1.5461	0.0682	304.6	1.5432	0.0661	304.5	1.5403	0.0641	304.4	1.5376	–5
0	0.0719	308.4	1.5598	0.0696	308.3	1.5569	0.0675	308.3	1.5541	0.0655	308.2	1.5513	0
5	0.0733	312.2	1.5733	0.0710	312.1	1.5704	0.0689	312.0	1.5676	0.0668	311.9	1.5649	5
10	0.0748	315.9	1.5867	0.0725	315.8	1.5838	0.0703	315.7	1.5810	0.0682	315.7	1.5783	10
15	0.0763	319.7	1.6000	0.0739	319.6	1.5971	0.0717	319.5	1.5943	0.0695	319.5	1.5916	15
20	0.0777	323.5	1.6131	0.0753	323.4	1.6102	0.0730	323.4	1.6074	0.0709	323.3	1.6047	20
25	0.0792	327.3	1.6261	0.0767	327.3	1.6232	0.0744	327.2	1.6204	0.0722	327.1	1.6177	25
30	0.0806	331.2	1.6389	0.0781	331.1	1.6361	0.0758	331.1	1.6333	0.0735	331.0	1.6306	30
35	0.0821	335.1	1.6517	0.0795	335.0	1.6489	0.0771	335.0	1.6461	0.0749	334.9	1.6434	35
40	0.0835	339.0	1.6643	0.0809	339.0	1.6615	0.0785	338.9	1.6588	0.0762	338.9	1.6561	40
45	0.0849	343.0	1.6769	0.0823	342.9	1.6741	0.0798	342.9	1.6713	0.0775	342.8	1.6687	45
50	0.0864	347.0	1.6893	0.0837	346.9	1.6865	0.0812	346.9	1.6838	0.0788	346.8	1.6811	50
55	0.0878	351.0	1.7017	0.0851	351.0	1.6989	0.0825	350.9	1.6961	0.0801	350.8	1.6935	55
60	0.0892	355.1	1.7139	0.0865	355.0	1.7111	0.0839	355.0	1.7084	0.0814	354.9	1.7058	60
65	0.0906	359.2	1.7261	0.0879	359.1	1.7233	0.0852	359.0	1.7206	0.0827	359.0	1.7179	65
70	0.0921	363.3	1.7382	0.0892	363.2	1.7354	0.0866	363.2	1.7327	0.0841	363.1	1.7300	70
75	0.0935	367.4	1.7502	0.0906	367.4	1.7474	0.0879	367.3	1.7447	0.0854	367.3	1.7420	75
80	0.0949	371.6	1.7621	0.0920	371.5	1.7593	0.0892	371.5	1.7566	0.0866	371.4	1.7540	80
85	0.0963	375.8	1.7739	0.0934	375.8	1.7711	0.0906	375.7	1.7684	0.0879	375.7	1.7658	85
90	0.0947	380.0	1.7829	0.0919	379.9	1.7802	0.0892	379.9	1.7776	—	—	—	90

TEMP. °C	360.0 (–62.34°C)			370.0 (–61.70°C)			380.0 (–61.08°C)			390.0 (–60.46°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0457)	(262.6)	(1.3595)	(0.0445)	(262.8)	(1.3585)	(0.0434)	(263.0)	(1.3576)	(0.0423)	(263.3)	(1.3567)	
–60	0.0464	264.3	1.3676	0.0450	264.1	1.3645	0.0437	263.8	1.3614	0.0424	263.6	1.3583	–60
–55	0.0480	267.9	1.3846	0.0466	267.7	1.3815	0.0452	267.5	1.3785	0.0439	267.3	1.3755	–55
–50	0.0495	271.6	1.4011	0.0481	271.4	1.3981	0.0467	271.2	1.3951	0.0454	271.0	1.3922	–50
–45	0.0510	275.2	1.4171	0.0495	275.0	1.4142	0.0481	274.8	1.4113	0.0468	274.7	1.4085	–45
–40	0.0525	278.8	1.4328	0.0510	278.6	1.4299	0.0495	278.5	1.4271	0.0482	278.3	1.4243	–40
–35	0.0540	282.4	1.4481	0.0524	282.3	1.4453	0.0509	282.1	1.4425	0.0495	282.0	1.4398	–35
–30	0.0554	286.0	1.4632	0.0538	285.9	1.4604	0.0523	285.8	1.4576	0.0508	285.6	1.4550	–30
–25	0.0568	289.7	1.4779	0.0552	289.5	1.4752	0.0536	289.4	1.4725	0.0522	289.3	1.4699	–25
–20	0.0582	293.3	1.4925	0.0565	293.2	1.4898	0.0549	293.1	1.4871	0.0534	293.0	1.4845	–20
–15	0.0595	297.0	1.5068	0.0579	296.9	1.5041	0.0562	296.7	1.5015	0.0547	296.6	1.4989	–15
–10	0.0609	300.6	1.5209	0.0592	300.5	1.5182	0.0575	300.4	1.5156	0.0560	300.3	1.5131	–10
–5	0.0622	304.3	1.5348	0.0605	304.2	1.5322	0.0588	304.2	1.5296	0.0572	304.1	1.5271	–5
0	0.0636	308.1	1.5486	0.0618	308.0	1.5460	0.0601	307.9	1.5434	0.0585	307.8	1.5409	0
5	0.0649	311.8	1.5622	0.0631	311.7	1.5596	0.0614	311.6	1.5570	0.0597	311.5	1.5545	5
10	0.0662	315.6	1.5756	0.0644	315.5	1.5730	0.0626	315.4	1.5705	0.0610	315.3	1.5680	10
15	0.0675	319.4	1.5889	0.0657	319.3	1.5863	0.0639	319.2	1.5838	0.0622	319.1	1.5813	15
20	0.0689	323.2	1.6021	0.0669	323.1	1.5995	0.0651	323.1	1.5970	0.0634	323.0	1.5945	20
25	0.0702	327.1	1.6151	0.0682	327.0	1.6125	0.0664	326.9	1.6100	0.0646	326.8	1.6076	25
30	0.0715	330.9	1.6280	0.0695	330.9	1.6255	0.0676	330.8	1.6230	0.0658	330.7	1.6205	30
35	0.0727	334.8	1.6408	0.0707	334.8	1.6383	0.0688	334.7	1.6358	0.0670	334.6	1.6334	35
40	0.0740	338.8	1.6535	0.0720	338.7	1.6509	0.0700	338.7	1.6485	0.0682	338.6	1.6461	40
45	0.0753	342.8	1.6661	0.0732	342.7	1.6635	0.0713	342.6	1.6611	0.0694	342.6	1.6587	45
50	0.0766	346.8	1.6785	0.0745	346.7	1.6760	0.0725	346.6	1.6736	0.0706	346.6	1.6712	50
55	0.0779	350.8	1.6909	0.0757	350.7	1.6884	0.0737	350.7	1.6859	0.0718	350.6	1.6835	55
60	0.0791	354.8	1.7032	0.0770	354.8	1.7007	0.0749	354.7	1.6982	0.0729	354.7	1.6958	60
65	0.0804	358.9	1.7154	0.0782	358.9	1.7129	0.0761	358.8	1.7104	0.0741	358.8	1.7080	65
70	0.0817	363.1	1.7275	0.0794	363.0	1.7250	0.0773	363.0	1.7225	0.0753	362.9	1.7202	70
75	0.0829	367.2	1.7395	0.0807	367.2	1.7370	0.0785	367.1	1.7346	0.0765	367.1	1.7322	75
80	0.0842	371.4	1.7514	0.0819	371.3	1.7489	0.0797	371.3	1.7465	0.0776	371.2	1.7441	80
85	0.0855	375.6	1.7633	0.0831	375.6	1.7608	0.0809	375.5	1.7583	0.0788	375.5	1.7560	85
90	0.0867	379.9	1.7750	0.0843	379.8	1.7725	0.0821	379.8	1.7701	0.0800	379.7	1.7678	90

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	400.0 (–59.86°C)			425.0 (–58.41°C)			450.0 (–57.01°C)			475.0 (–55.68°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0413)	(263.5)	(1.3558)	(0.0389)	(264.0)	(1.3537)	(0.0368)	(264.6)	(1.3517)	(0.0349)	(265.1)	(1.3498)	
–55	0.0427	267.1	1.3726	0.0399	266.6	1.3656	0.0373	266.1	1.3588	0.0351	265.6	1.3522	–55
–50	0.0441	270.8	1.3894	0.0412	270.4	1.3825	0.0387	269.9	1.3760	0.0364	269.4	1.3696	–50
–45	0.0455	274.5	1.4057	0.0425	274.1	1.3990	0.0399	273.7	1.3926	0.0376	273.2	1.3865	–45
–40	0.0468	278.2	1.4216	0.0438	277.8	1.4151	0.0412	277.4	1.4088	0.0388	277.0	1.4028	–40
–35	0.0482	281.8	1.4371	0.0451	281.5	1.4307	0.0424	281.1	1.4246	0.0399	280.7	1.4187	–35
–30	0.0495	285.5	1.4524	0.0463	285.2	1.4460	0.0436	284.8	1.4400	0.0411	284.5	1.4343	–30
–25	0.0508	289.2	1.4673	0.0476	288.9	1.4611	0.0447	288.5	1.4551	0.0422	288.2	1.4495	–25
–20	0.0520	292.8	1.4819	0.0488	292.5	1.4758	0.0459	292.2	1.4700	0.0433	292.0	1.4644	–20
–15	0.0533	296.5	1.4964	0.0500	296.3	1.4903	0.0470	296.0	1.4845	0.0444	295.7	1.4790	–15
–10	0.0545	300.2	1.5106	0.0511	300.0	1.5046	0.0481	299.7	1.4989	0.0454	299.4	1.4934	–10
–5	0.0557	304.0	1.5246	0.0523	303.7	1.5186	0.0492	303.5	1.5130	0.0465	303.2	1.5076	–5
0	0.0570	307.7	1.5384	0.0535	307.5	1.5325	0.0503	307.2	1.5269	0.0476	307.0	1.5216	0
5	0.0582	311.5	1.5521	0.0546	311.2	1.5462	0.0514	311.0	1.5407	0.0486	310.8	1.5354	5
10	0.0594	315.2	1.5656	0.0557	315.0	1.5598	0.0525	314.8	1.5542	0.0496	314.6	1.5490	10
15	0.0606	319.1	1.5789	0.0569	318.9	1.5731	0.0536	318.7	1.5677	0.0506	318.5	1.5624	15
20	0.0618	322.9	1.5921	0.0580	322.7	1.5864	0.0547	322.5	1.5809	0.0517	322.3	1.5757	20
25	0.0629	326.8	1.6052	0.0591	326.6	1.5995	0.0557	326.4	1.5941	0.0527	326.2	1.5889	25
30	0.0641	330.7	1.6182	0.0602	330.5	1.6125	0.0568	330.3	1.6071	0.0537	330.1	1.6019	30
35	0.0653	334.6	1.6310	0.0613	334.4	1.6253	0.0578	334.2	1.6199	0.0547	334.1	1.6148	35
40	0.0664	338.5	1.6437	0.0624	338.4	1.6380	0.0589	338.2	1.6327	0.0557	338.0	1.6276	40
45	0.0676	342.5	1.6563	0.0635	342.4	1.6507	0.0599	342.2	1.6453	0.0567	342.0	1.6403	45
50	0.0688	346.5	1.6688	0.0646	346.4	1.6632	0.0609	346.2	1.6579	0.0576	346.1	1.6528	50
55	0.0699	350.6	1.6812	0.0657	350.4	1.6756	0.0620	350.3	1.6703	0.0586	350.1	1.6653	55
60	0.0711	354.6	1.6935	0.0668	354.5	1.6879	0.0630	354.3	1.6826	0.0596	354.2	1.6776	60
65	0.0722	358.7	1.7057	0.0679	358.6	1.7002	0.0640	358.5	1.6949	0.0606	358.3	1.6899	65
70	0.0734	362.9	1.7178	0.0690	362.7	1.7123	0.0651	362.6	1.7070	0.0616	362.5	1.7020	70
75	0.0745	367.0	1.7299	0.0700	366.9	1.7243	0.0661	366.8	1.7191	0.0625	366.6	1.7141	75
80	0.0757	371.2	1.7418	0.0711	371.1	1.7363	0.0671	371.0	1.7310	0.0635	370.8	1.7261	80
85	0.0768	375.4	1.7537	0.0722	375.3	1.7481	0.0681	375.2	1.7429	0.0645	375.1	1.7380	85
90	0.0779	379.7	1.7655	0.0733	379.5	1.7599	0.0691	379.4	1.7547	0.0654	379.3	1.7498	90
95	0.0791	383.9	1.7772	0.0743	383.8	1.7716	0.0702	383.7	1.7664	0.0664	383.6	1.7615	95

TEMP. °C	500.0 (–54.40°C)			525.0 (–53.16°C)			550.0 (–51.97°C)			575.0 (–50.81°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0332)	(265.5)	(1.3480)	(0.0317)	(266.0)	(1.3464)	(0.0302)	(266.4)	(1.3448)	(0.0289)	(266.8)	(1.3433)	
–50	0.0343	268.9	1.3635	0.0324	268.4	1.3576	0.0307	267.9	1.3518	0.0291	267.4	1.3462	–50
–45	0.0355	272.8	1.3805	0.0336	272.3	1.3748	0.0318	271.9	1.3692	0.0302	271.4	1.3638	–45
–40	0.0366	276.6	1.3970	0.0347	276.2	1.3915	0.0329	275.8	1.3861	0.0313	275.3	1.3808	–40
–35	0.0377	280.4	1.4131	0.0357	280.0	1.4076	0.0339	279.6	1.4024	0.0323	279.2	1.3973	–35
–30	0.0388	284.1	1.4287	0.0368	283.8	1.4234	0.0350	283.4	1.4183	0.0333	283.1	1.4133	–30
–25	0.0399	287.9	1.4440	0.0378	287.6	1.4388	0.0360	287.2	1.4338	0.0342	286.9	1.4289	–25
–20	0.0410	291.7	1.4590	0.0389	291.3	1.4539	0.0369	291.0	1.4490	0.0352	290.7	1.4442	–20
–15	0.0420	295.4	1.4738	0.0399	295.1	1.4687	0.0379	294.8	1.4638	0.0361	294.6	1.4591	–15
–10	0.0430	299.2	1.4882	0.0408	298.9	1.4832	0.0388	298.7	1.4784	0.0370	298.4	1.4738	–10
–5	0.0440	303.0	1.5025	0.0418	302.7	1.4975	0.0398	302.5	1.4928	0.0379	302.2	1.4882	–5
0	0.0450	306.8	1.5165	0.0428	306.5	1.5116	0.0407	306.3	1.5069	0.0388	306.0	1.5024	0
5	0.0460	310.6	1.5303	0.0437	310.4	1.5255	0.0416	310.1	1.5208	0.0397	309.9	1.5164	5
10	0.0470	314.4	1.5440	0.0447	314.2	1.5392	0.0425	314.0	1.5346	0.0406	313.8	1.5301	10
15	0.0480	318.3	1.5575	0.0456	318.1	1.5527	0.0434	317.9	1.5481	0.0414	317.7	1.5437	15
20	0.0490	322.1	1.5708	0.0465	321.9	1.5661	0.0443	321.7	1.5615	0.0423	321.6	1.5572	20
25	0.0499	326.0	1.5840	0.0475	325.9	1.5793	0.0452	325.7	1.5748	0.0431	325.5	1.5705	25
30	0.0509	330.0	1.5970	0.0484	329.8	1.5924	0.0461	329.6	1.5879	0.0440	329.4	1.5836	30
35	0.0518	333.9	1.6100	0.0493	333.7	1.6053	0.0470	333.6	1.6009	0.0448	333.4	1.5966	35
40	0.0528	337.9	1.6228	0.0502	337.7	1.6181	0.0478	337.6	1.6137	0.0457	337.4	1.6094	40
45	0.0537	341.9	1.6354	0.0511	341.7	1.6308	0.0487	341.6	1.6264	0.0465	341.4	1.6222	45
50	0.0547	345.9	1.6480	0.0520	345.8	1.6434	0.0496	345.6	1.6390	0.0473	345.5	1.6348	50
55	0.0556	350.0	1.6605	0.0529	349.8	1.6559	0.0504	349.7	1.6515	0.0482	349.5	1.6473	55
60	0.0565	354.1	1.6728	0.0538	353.9	1.6683	0.0513	353.8	1.6639	0.0490	353.6	1.6597	60
65	0.0575	358.2	1.6851	0.0547	358.0	1.6806	0.0521	357.9	1.6762	0.0498	357.8	1.6720	65
70	0.0584	362.3	1.6973	0.0556	362.2	1.6927	0.0530	362.1	1.6884	0.0506	361.9	1.6842	70
75	0.0593	366.5	1.7093	0.0564	366.4	1.7048	0.0538	366.2	1.7005	0.0514	366.1	1.6964	75
80	0.0603	370.7	1.7213	0.0573	370.6	1.7168	0.0547	370.5	1.7125	0.0522	370.3	1.7084	80
85	0.0612	374.9	1.7332	0.0582	374.8	1.7287	0.0555	374.7	1.7244	0.0530	374.6	1.7203	85
90	0.0621	379.2	1.7451	0.0591	379.1	1.7406	0.0563	379.0	1.7363	0.0538	378.8	1.7322	90
95	0.0630	383.5	1.7568	0.0600	383.4	1.7523	0.0572	383.3	1.7480	0.0547	383.1	1.7439	95
100	0.0639	387.8	1.7684	0.0608	387.7	1.7640	0.0580	387.6	1.7597	0.0555	387.5	1.7556	100

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	600.0 (–49.70°C)			625.0 (–48.62°C)			650.0 (–47.57°C)			675.0 (–46.55°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0278)	(267.2)	(1.3418)	(0.0267)	(267.5)	(1.3404)	(0.0256)	(267.9)	(1.3391)	(0.0247)	(268.2)	(1.3378)	
–45	0.0288	271.0	1.3586	0.0274	270.5	1.3534	0.0262	270.0	1.3484	0.0250	269.5	1.3435	–45
–40	0.0298	274.9	1.3758	0.0284	274.5	1.3708	0.0271	274.1	1.3660	0.0260	273.6	1.3612	–40
–35	0.0308	278.8	1.3924	0.0294	278.4	1.3876	0.0281	278.1	1.3829	0.0269	277.7	1.3783	–35
–30	0.0317	282.7	1.4085	0.0303	282.4	1.4038	0.0290	282.0	1.3993	0.0278	281.6	1.3949	–30
–25	0.0327	286.6	1.4242	0.0312	286.2	1.4197	0.0299	285.9	1.4152	0.0286	285.6	1.4109	–25
–20	0.0336	290.4	1.4396	0.0321	290.1	1.4351	0.0307	289.8	1.4308	0.0295	289.5	1.4266	–20
–15	0.0345	294.3	1.4546	0.0330	294.0	1.4502	0.0316	293.7	1.4460	0.0303	293.4	1.4418	–15
–10	0.0354	298.1	1.4693	0.0338	297.8	1.4650	0.0324	297.6	1.4608	0.0311	297.3	1.4568	–10
–5	0.0362	302.0	1.4838	0.0347	301.7	1.4796	0.0332	301.4	1.4754	0.0319	301.2	1.4714	–5
0	0.0371	305.8	1.4981	0.0355	305.6	1.4938	0.0340	305.3	1.4898	0.0327	305.1	1.4858	0
5	0.0379	309.7	1.5121	0.0363	309.4	1.5079	0.0348	309.2	1.5039	0.0334	309.0	1.5000	5
10	0.0388	313.6	1.5259	0.0371	313.3	1.5218	0.0356	313.1	1.5178	0.0342	312.9	1.5140	10
15	0.0396	317.4	1.5395	0.0379	317.2	1.5354	0.0364	317.0	1.5315	0.0350	316.8	1.5277	15
20	0.0404	321.4	1.5530	0.0387	321.2	1.5489	0.0372	321.0	1.5450	0.0357	320.8	1.5413	20
25	0.0413	325.3	1.5663	0.0395	325.1	1.5623	0.0379	324.9	1.5584	0.0364	324.7	1.5547	25
30	0.0421	329.2	1.5795	0.0403	329.1	1.5755	0.0387	328.9	1.5716	0.0372	328.7	1.5679	30
35	0.0429	333.2	1.5925	0.0411	333.1	1.5885	0.0394	332.9	1.5847	0.0379	332.7	1.5810	35
40	0.0437	337.2	1.6054	0.0419	337.1	1.6014	0.0402	336.9	1.5976	0.0386	336.7	1.5939	40
45	0.0445	341.3	1.6181	0.0426	341.1	1.6142	0.0409	340.9	1.6104	0.0393	340.8	1.6068	45
50	0.0453	345.3	1.6308	0.0434	345.2	1.6269	0.0417	345.0	1.6231	0.0401	344.9	1.6195	50
55	0.0461	349.4	1.6433	0.0442	349.2	1.6394	0.0424	349.1	1.6357	0.0408	349.0	1.6321	55
60	0.0469	353.5	1.6557	0.0449	353.4	1.6518	0.0431	353.2	1.6481	0.0415	353.1	1.6445	60
65	0.0477	357.6	1.6680	0.0457	357.5	1.6642	0.0439	357.4	1.6605	0.0422	357.2	1.6569	65
70	0.0484	361.8	1.6803	0.0464	361.7	1.6764	0.0446	361.5	1.6727	0.0429	361.4	1.6691	70
75	0.0492	366.0	1.6924	0.0472	365.9	1.6885	0.0453	365.7	1.6849	0.0436	365.6	1.6813	75
80	0.0500	370.2	1.7044	0.0479	370.1	1.7006	0.0461	370.0	1.6969	0.0443	369.8	1.6934	80
85	0.0508	374.5	1.7163	0.0487	374.3	1.7125	0.0468	374.2	1.7089	0.0450	374.1	1.7053	85
90	0.0516	378.7	1.7282	0.0494	378.6	1.7244	0.0475	378.5	1.7207	0.0457	378.4	1.7172	90
95	0.0523	383.0	1.7400	0.0502	382.9	1.7362	0.0482	382.8	1.7325	0.0464	382.7	1.7290	95
100	0.0531	387.4	1.7517	0.0509	387.3	1.7479	0.0489	387.1	1.7442	0.0471	387.0	1.7407	100
105	0.0539	391.7	1.7633	0.0517	391.6	1.7595	0.0496	391.5	1.7559	0.0478	391.4	1.7523	105

TEMP. °C	700.0 (–45.56°C)			725.0 (–44.59°C)			750.0 (–43.65°C)			800.0 (–41.84°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0238)	(268.6)	(1.3366)	(0.0230)	(268.9)	(1.3354)	(0.0222)	(269.2)	(1.3343)	(0.0208)	(269.8)	(1.3321)	
–45	0.0239	269.0	1.3387	—	—	—	—	—	—	—	—	—	–45
–40	0.0249	273.2	1.3566	0.0238	272.7	1.3521	0.0229	272.3	1.3476	0.0211	271.3	1.3389	–40
–35	0.0258	277.2	1.3739	0.0247	276.8	1.3695	0.0237	276.4	1.3652	0.0220	275.6	1.3569	–35
–30	0.0266	281.3	1.3906	0.0256	280.9	1.3863	0.0246	280.5	1.3822	0.0228	279.7	1.3742	–30
–25	0.0275	285.2	1.4067	0.0264	284.9	1.4026	0.0254	284.5	1.3986	0.0236	283.8	1.3908	–25
–20	0.0283	289.2	1.4225	0.0272	288.9	1.4185	0.0262	288.5	1.4146	0.0243	287.9	1.4070	–20
–15	0.0291	293.1	1.4378	0.0280	292.8	1.4339	0.0269	292.5	1.4301	0.0250	291.9	1.4227	–15
–10	0.0299	297.0	1.4528	0.0287	296.7	1.4490	0.0277	296.5	1.4453	0.0257	295.9	1.4380	–10
–5	0.0306	300.9	1.4676	0.0295	300.7	1.4638	0.0284	300.4	1.4601	0.0264	299.9	1.4530	–5
0	0.0314	304.8	1.4820	0.0302	304.6	1.4783	0.0291	304.3	1.4747	0.0271	303.9	1.4677	0
5	0.0322	308.8	1.4962	0.0310	308.5	1.4926	0.0298	308.3	1.4890	0.0278	307.8	1.4821	5
10	0.0329	312.7	1.5102	0.0317	312.5	1.5066	0.0305	312.2	1.5031	0.0285	311.8	1.4963	10
15	0.0336	316.6	1.5240	0.0324	316.4	1.5204	0.0312	316.2	1.5169	0.0291	315.8	1.5103	15
20	0.0343	320.6	1.5376	0.0331	320.4	1.5341	0.0319	320.2	1.5306	0.0298	319.8	1.5240	20
25	0.0351	324.5	1.5510	0.0338	324.4	1.5475	0.0326	324.2	1.5441	0.0304	323.8	1.5375	25
30	0.0358	328.5	1.5643	0.0345	328.4	1.5608	0.0333	328.2	1.5574	0.0310	327.8	1.5509	30
35	0.0365	332.5	1.5774	0.0352	332.4	1.5740	0.0339	332.2	1.5706	0.0317	331.8	1.5641	35
40	0.0372	336.6	1.5904	0.0358	336.4	1.5870	0.0346	336.2	1.5836	0.0323	335.9	1.5772	40
45	0.0379	340.6	1.6032	0.0365	340.5	1.5998	0.0352	340.3	1.5965	0.0329	340.0	1.5901	45
50	0.0386	344.7	1.6160	0.0372	344.6	1.6126	0.0359	344.4	1.6093	0.0335	344.1	1.6029	50
55	0.0393	348.8	1.6286	0.0379	348.7	1.6252	0.0365	348.5	1.6219	0.0342	348.2	1.6156	55
60	0.0399	352.9	1.6410	0.0385	352.8	1.6377	0.0372	352.6	1.6344	0.0348	352.4	1.6281	60
65	0.0406	357.1	1.6534	0.0392	357.0	1.6501	0.0378	356.8	1.6468	0.0354	356.5	1.6406	65
70	0.0413	361.3	1.6657	0.0398	361.1	1.6623	0.0385	361.0	1.6591	0.0360	360.7	1.6529	70
75	0.0420	365.5	1.6779	0.0405	365.3	1.6745	0.0391	365.2	1.6713	0.0366	365.0	1.6651	75
80	0.0427	369.7	1.6899	0.0412	369.6	1.6866	0.0397	369.5	1.6834	0.0372	369.2	1.6772	80
85	0.0433	374.0	1.7019	0.0418	373.8	1.6986	0.0404	373.7	1.6954	0.0378	373.5	1.6893	85
90	0.0440	378.3	1.7138	0.0425	378.1	1.7105	0.0410	378.0	1.7073	0.0384	377.8	1.7012	90
95	0.0447	382.6	1.7256	0.0431	382.5	1.7223	0.0416	382.3	1.7191	0.0390	382.1	1.7130	95
100	0.0454	386.9	1.7373	0.0437	386.8	1.7340	0.0423	386.7	1.7309	0.0395	386.5	1.7248	100
105	0.0460	391.3	1.7490	0.0444	391.2	1.7457	0.0429	391.1	1.7425	0.0401	390.9	1.7365	105
110	0.0450	395.6	1.7572	0.0435	395.5	1.7541	0.0407	395.3	1.7480	—	—	—	110

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	850.0 (–40.10°C)			900.0 (–38.45°C)			950.0 (–36.86°C)			1000.0 (–35.33°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0196)	(270.3)	(1.3301)	(0.0185)	(270.8)	(1.3281)	(0.0175)	(271.3)	(1.3263)	(0.0166)	(271.7)	(1.3245)	
–40	0.0196	270.4	1.3304	—	—	—	—	—	—	—	—	—	–40
–35	0.0204	274.7	1.3488	0.0190	273.8	1.3410	0.0178	272.9	1.3333	0.0166	272.0	1.3258	–35
–30	0.0212	279.0	1.3664	0.0198	278.2	1.3589	0.0185	277.3	1.3516	0.0174	276.5	1.3445	–30
–25	0.0219	283.1	1.3834	0.0205	282.4	1.3761	0.0192	281.6	1.3691	0.0180	280.9	1.3623	–25
–20	0.0227	287.2	1.3998	0.0212	286.5	1.3928	0.0199	285.9	1.3860	0.0187	285.2	1.3794	–20
–15	0.0234	291.3	1.4157	0.0219	290.7	1.4089	0.0205	290.0	1.4023	0.0193	289.4	1.3960	–15
–10	0.0240	295.3	1.4311	0.0225	294.7	1.4245	0.0212	294.2	1.4181	0.0200	293.6	1.4120	–10
–5	0.0247	299.3	1.4463	0.0232	298.8	1.4398	0.0218	298.3	1.4336	0.0206	297.7	1.4276	–5
0	0.0254	303.3	1.4611	0.0238	302.8	1.4547	0.0224	302.3	1.4486	0.0211	301.8	1.4428	0
5	0.0260	307.4	1.4756	0.0244	306.9	1.4694	0.0230	306.4	1.4634	0.0217	305.9	1.4576	5
10	0.0266	311.4	1.4899	0.0250	310.9	1.4837	0.0236	310.5	1.4778	0.0223	310.0	1.4722	10
15	0.0273	315.4	1.5039	0.0256	314.9	1.4978	0.0241	314.5	1.4920	0.0228	314.1	1.4865	15
20	0.0279	319.4	1.5177	0.0262	319.0	1.5117	0.0247	318.6	1.5060	0.0234	318.2	1.5005	20
25	0.0285	323.4	1.5313	0.0268	323.0	1.5254	0.0253	322.6	1.5197	0.0239	322.2	1.5143	25
30	0.0291	327.4	1.5448	0.0274	327.1	1.5389	0.0258	326.7	1.5333	0.0244	326.3	1.5279	30
35	0.0297	331.5	1.5580	0.0279	331.1	1.5522	0.0264	330.8	1.5467	0.0249	330.4	1.5414	35
40	0.0303	335.6	1.5712	0.0285	335.2	1.5654	0.0269	334.9	1.5599	0.0255	334.6	1.5546	40
45	0.0309	339.7	1.5841	0.0291	339.3	1.5784	0.0274	339.0	1.5729	0.0260	338.7	1.5677	45
50	0.0315	343.8	1.5970	0.0296	343.5	1.5913	0.0280	343.2	1.5859	0.0265	342.8	1.5807	50
55	0.0320	347.9	1.6097	0.0302	347.6	1.6040	0.0285	347.3	1.5986	0.0270	347.0	1.5935	55
60	0.0326	352.1	1.6222	0.0307	351.8	1.6166	0.0290	351.5	1.6113	0.0275	351.2	1.6062	60
65	0.0332	356.3	1.6347	0.0313	356.0	1.6291	0.0295	355.7	1.6238	0.0280	355.4	1.6187	65
70	0.0338	360.5	1.6470	0.0318	360.2	1.6415	0.0301	359.9	1.6362	0.0285	359.7	1.6311	70
75	0.0343	364.7	1.6593	0.0324	364.4	1.6538	0.0306	364.2	1.6485	0.0290	363.9	1.6435	75
80	0.0349	369.0	1.6714	0.0329	368.7	1.6659	0.0311	368.5	1.6607	0.0295	368.2	1.6557	80
85	0.0355	373.2	1.6835	0.0334	373.0	1.6780	0.0316	372.8	1.6728	0.0300	372.5	1.6678	85
90	0.0360	377.5	1.6954	0.0340	377.3	1.6900	0.0321	377.1	1.6848	0.0304	376.8	1.6798	90
95	0.0366	381.9	1.7073	0.0345	381.7	1.7018	0.0326	381.4	1.6967	0.0309	381.2	1.6917	95
100	0.0372	386.2	1.7191	0.0350	386.0	1.7136	0.0331	385.8	1.7085	0.0314	385.6	1.7035	100
105	0.0377	390.6	1.7307	0.0356	390.4	1.7253	0.0336	390.2	1.7202	0.0319	390.0	1.7153	105
110	0.0383	395.1	1.7423	0.0361	394.8	1.7369	0.0341	394.6	1.7318	0.0324	394.4	1.7269	110
115	0.0366	399.3	1.7485	0.0346	399.1	1.7434	0.0328	398.9	1.7385	—	—	—	115

TEMP. °C	1100.0 (–32.43°C)			1200.0 (–29.73°C)			1300.0 (–27.18°C)			1400.0 (–24.78°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0150)	(272.5)	(1.3212)	(0.0137)	(273.1)	(1.3180)	(0.0126)	(273.7)	(1.3151)	(0.0116)	(274.2)	(1.3123)	
–30	0.0153	274.7	1.3306	—	—	—	—	—	—	—	—	—	–30
–25	0.0160	279.3	1.3491	0.0143	277.6	1.3363	0.0128	275.9	1.3238	—	—	—	–25
–20	0.0166	283.7	1.3668	0.0149	282.2	1.3547	0.0135	280.7	1.3429	0.0122	279.0	1.3313	–20
–15	0.0173	288.1	1.3838	0.0155	286.7	1.3722	0.0140	285.3	1.3610	0.0127	283.8	1.3501	–15
–10	0.0178	292.3	1.4002	0.0161	291.1	1.3890	0.0146	289.8	1.3783	0.0133	288.5	1.3679	–10
–5	0.0184	296.6	1.4161	0.0166	295.4	1.4053	0.0151	294.2	1.3949	0.0138	293.0	1.3850	–5
0	0.0189	300.8	1.4316	0.0171	299.7	1.4210	0.0156	298.6	1.4110	0.0142	297.4	1.4014	0
5	0.0195	304.9	1.4467	0.0176	303.9	1.4364	0.0161	302.9	1.4267	0.0147	301.8	1.4174	5
10	0.0200	309.1	1.4614	0.0181	308.1	1.4514	0.0165	307.2	1.4419	0.0151	306.2	1.4328	10
15	0.0205	313.2	1.4759	0.0186	312.3	1.4660	0.0170	311.4	1.4567	0.0156	310.5	1.4479	15
20	0.0210	317.3	1.4901	0.0191	316.5	1.4804	0.0174	315.6	1.4713	0.0160	314.8	1.4626	20
25	0.0215	321.5	1.5041	0.0195	320.7	1.4945	0.0179	319.8	1.4855	0.0164	319.0	1.4770	25
30	0.0220	325.6	1.5178	0.0200	324.8	1.5084	0.0183	324.1	1.4996	0.0168	323.3	1.4912	30
35	0.0225	329.7	1.5314	0.0205	329.0	1.5221	0.0187	328.3	1.5133	0.0172	327.5	1.5051	35
40	0.0230	333.9	1.5447	0.0209	333.2	1.5355	0.0191	332.5	1.5269	0.0176	331.8	1.5188	40
45	0.0235	338.0	1.5579	0.0213	337.4	1.5488	0.0196	336.7	1.5403	0.0180	336.0	1.5323	45
50	0.0239	342.2	1.5709	0.0218	341.6	1.5619	0.0200	340.9	1.5535	0.0184	340.3	1.5456	50
55	0.0244	346.4	1.5838	0.0222	345.8	1.5749	0.0204	345.2	1.5665	0.0188	344.6	1.5587	55
60	0.0248	350.6	1.5966	0.0226	350.0	1.5877	0.0208	349.5	1.5794	0.0192	348.9	1.5716	60
65	0.0253	354.9	1.6092	0.0231	354.3	1.6004	0.0212	353.7	1.5921	0.0196	353.2	1.5844	65
70	0.0258	359.1	1.6217	0.0235	358.6	1.6129	0.0216	358.0	1.6048	0.0199	357.5	1.5971	70
75	0.0262	363.4	1.6340	0.0239	362.9	1.6253	0.0220	362.3	1.6172	0.0203	361.8	1.6096	75
80	0.0267	367.7	1.6463	0.0243	367.2	1.6376	0.0224	366.7	1.6296	0.0207	366.2	1.6220	80
85	0.0271	372.0	1.6585	0.0248	371.5	1.6498	0.0227	371.0	1.6418	0.0210	370.5	1.6343	85
90	0.0276	376.4	1.6705	0.0252	375.9	1.6619	0.0231	375.4	1.6540	0.0214	374.9	1.6465	90
95	0.0280	380.7	1.6825	0.0256	380.3	1.6739	0.0235	379.8	1.6660	0.0218	379.3	1.6586	95
100	0.0285	385.1	1.6943	0.0260	384.7	1.6858	0.0239	384.2	1.6779	0.0221	383.8	1.6705	100
105	0.0289	389.5	1.7061	0.0264	389.1	1.6976	0.0243	388.7	1.6898	0.0225	388.2	1.6824	105
110	0.0293	394.0	1.7178	0.0268	393.6	1.7093	0.0247	393.1	1.7015	0.0228	392.7	1.6942	110
115	0.0298	398.5	1.7293	0.0272	398.0	1.7209	0.0250	397.6	1.7131	0.0232	397.2	1.7059	115
120	0.0302	403.0	1.7409	0.0276	402.5	1.7325	0.0254	402.1	1.7247	0.0235	401.7	1.7175	120
125	0.0280	407.1	1.7439	0.0258	406.7	1.7362	0.0239	406.3	1.7290	—	—	—	125
130	0.0242	410.9	1.7404	—	—	—	—	—	—	—	—	—	130

Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	1500.0 (–22.50°C)			1600.0 (–20.33°C)			1700.0 (–18.26°C)			1800.0 (–16.28°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0108)	(274.7)	(1.3096)	(0.0100)	(275.1)	(1.3069)	(0.0094)	(275.4)	(1.3043)	(0.0088)	(275.6)	(1.3018)	
–20	0.0111	277.3	1.3199	0.0101	275.4	1.3083	—	—	—	—	—	—	–20
–15	0.0116	282.3	1.3394	0.0106	280.6	1.3288	0.0097	278.9	1.3182	0.0089	277.1	1.3074	–15
–10	0.0121	287.1	1.3578	0.0111	285.6	1.3479	0.0102	284.1	1.3380	0.0094	282.5	1.3282	–10
–5	0.0126	291.7	1.3753	0.0116	290.4	1.3659	0.0107	289.1	1.3567	0.0099	287.6	1.3476	–5
0	0.0131	296.3	1.3922	0.0121	295.1	1.3832	0.0111	293.8	1.3744	0.0103	292.6	1.3658	0
5	0.0135	300.8	1.4084	0.0125	299.7	1.3998	0.0116	298.5	1.3914	0.0107	297.3	1.3831	5
10	0.0140	305.2	1.4241	0.0129	304.1	1.4158	0.0120	303.1	1.4077	0.0111	302.0	1.3998	10
15	0.0144	309.5	1.4394	0.0133	308.6	1.4313	0.0124	307.6	1.4235	0.0115	306.6	1.4159	15
20	0.0148	313.9	1.4544	0.0137	313.0	1.4465	0.0127	312.1	1.4388	0.0119	311.1	1.4315	20
25	0.0152	318.2	1.4690	0.0141	317.4	1.4612	0.0131	316.5	1.4538	0.0123	315.6	1.4466	25
30	0.0156	322.5	1.4833	0.0145	321.7	1.4757	0.0135	320.9	1.4684	0.0126	320.1	1.4614	30
35	0.0160	326.8	1.4973	0.0148	326.0	1.4899	0.0138	325.3	1.4827	0.0129	324.5	1.4759	35
40	0.0163	331.1	1.5111	0.0152	330.4	1.5038	0.0142	329.6	1.4968	0.0133	328.9	1.4900	40
45	0.0167	335.4	1.5247	0.0155	334.7	1.5175	0.0145	334.0	1.5106	0.0136	333.3	1.5039	45
50	0.0171	339.7	1.5381	0.0159	339.0	1.5309	0.0149	338.3	1.5241	0.0139	337.7	1.5176	50
55	0.0174	343.9	1.5513	0.0162	343.3	1.5442	0.0152	342.7	1.5375	0.0142	342.1	1.5311	55
60	0.0178	348.3	1.5643	0.0166	347.7	1.5573	0.0155	347.0	1.5507	0.0146	346.4	1.5443	60
65	0.0182	352.6	1.5772	0.0169	352.0	1.5703	0.0158	351.4	1.5637	0.0149	350.8	1.5574	65
70	0.0185	356.9	1.5899	0.0173	356.4	1.5831	0.0162	355.8	1.5766	0.0152	355.2	1.5704	70
75	0.0189	361.3	1.6025	0.0176	360.7	1.5957	0.0165	360.2	1.5893	0.0155	359.6	1.5831	75
80	0.0192	365.6	1.6149	0.0179	365.1	1.6082	0.0168	364.6	1.6018	0.0158	364.1	1.5957	80
85	0.0195	370.0	1.6273	0.0182	369.5	1.6206	0.0171	369.0	1.6143	0.0161	368.5	1.6082	85
90	0.0199	374.4	1.6395	0.0186	373.9	1.6329	0.0174	373.5	1.6266	0.0164	373.0	1.6206	90
95	0.0202	378.9	1.6516	0.0189	378.4	1.6450	0.0177	377.9	1.6388	0.0167	377.4	1.6328	95
100	0.0206	383.3	1.6636	0.0192	382.9	1.6571	0.0180	382.4	1.6508	0.0169	381.9	1.6449	100
105	0.0209	387.8	1.6755	0.0195	387.3	1.6690	0.0183	386.9	1.6628	0.0172	386.4	1.6569	105
110	0.0212	392.3	1.6873	0.0198	391.8	1.6808	0.0186	391.4	1.6747	0.0175	391.0	1.6688	110
115	0.0216	396.8	1.6990	0.0202	396.4	1.6926	0.0189	395.9	1.6865	0.0178	395.5	1.6806	115
120	0.0219	401.3	1.7106	0.0205	400.9	1.7042	0.0192	400.5	1.6981	0.0181	400.1	1.6924	120
125	0.0222	405.9	1.7222	0.0208	405.5	1.7158	0.0195	405.1	1.7097	0.0184	404.7	1.7040	125
130	0.0226	410.5	1.7336	0.0211	410.1	1.7273	0.0198	409.7	1.7212	0.0186	409.3	1.7155	130
135	0.0201	414.3	1.7326	0.0189	413.9	1.7269	—	—	—	—	—	—	135

TEMP. °C	1900.0 (–14.37°C)			2000.0 (–12.54°C)			2200.0 (–9.07°C)			2400.0 (–5.82°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0082)	(275.8)	(1.2992)	(0.0077)	(275.9)	(1.2967)	(0.0069)	(276.1)	(1.2915)	(0.0062)	(276.0)	(1.2862)	
–10	0.0087	280.8	1.3183	0.0080	279.0	1.3082	—	—	—	—	—	—	–10
–5	0.0092	286.1	1.3385	0.0085	284.6	1.3293	0.0073	281.1	1.3106	0.0063	277.1	1.2905	–5
0	0.0096	291.2	1.3573	0.0089	289.8	1.3488	0.0078	286.9	1.3318	0.0068	283.5	1.3143	0
5	0.0100	296.1	1.3751	0.0093	294.9	1.3671	0.0082	292.3	1.3514	0.0072	289.4	1.3355	5
10	0.0104	300.9	1.3921	0.0097	299.8	1.3845	0.0086	297.4	1.3697	0.0076	294.9	1.3550	10
15	0.0108	305.6	1.4085	0.0101	304.6	1.4012	0.0089	302.4	1.3871	0.0079	300.1	1.3733	15
20	0.0111	310.2	1.4243	0.0104	309.2	1.4173	0.0093	307.2	1.4038	0.0082	305.1	1.3907	20
25	0.0115	314.7	1.4397	0.0108	313.8	1.4329	0.0096	312.0	1.4199	0.0086	310.1	1.4073	25
30	0.0118	319.2	1.4546	0.0111	318.4	1.4481	0.0099	316.7	1.4354	0.0089	314.9	1.4233	30
35	0.0122	323.7	1.4692	0.0114	322.9	1.4628	0.0102	321.3	1.4505	0.0092	319.6	1.4388	35
40	0.0125	328.1	1.4835	0.0117	327.4	1.4773	0.0105	325.9	1.4653	0.0094	324.3	1.4539	40
45	0.0128	332.6	1.4976	0.0121	331.9	1.4914	0.0108	330.4	1.4797	0.0097	328.9	1.4686	45
50	0.0131	337.0	1.5114	0.0124	336.3	1.5053	0.0111	334.9	1.4938	0.0100	333.5	1.4830	50
55	0.0134	341.4	1.5249	0.0126	340.8	1.5190	0.0113	339.4	1.5077	0.0102	338.1	1.4970	55
60	0.0137	345.8	1.5383	0.0129	345.2	1.5324	0.0116	343.9	1.5213	0.0105	342.7	1.5108	60
65	0.0140	350.2	1.5514	0.0132	349.6	1.5456	0.0119	348.4	1.5347	0.0108	347.2	1.5244	65
70	0.0143	354.7	1.5644	0.0135	354.1	1.5587	0.0121	352.9	1.5479	0.0110	351.8	1.5377	70
75	0.0146	359.1	1.5772	0.0138	358.5	1.5716	0.0124	357.4	1.5609	0.0112	356.3	1.5509	75
80	0.0149	363.5	1.5899	0.0141	363.0	1.5843	0.0127	361.9	1.5737	0.0115	360.9	1.5639	80
85	0.0152	368.0	1.6024	0.0143	367.5	1.5969	0.0129	366.5	1.5864	0.0117	365.4	1.5767	85
90	0.0154	372.5	1.6149	0.0146	372.0	1.6094	0.0132	371.0	1.5990	0.0120	370.0	1.5893	90
95	0.0157	377.0	1.6271	0.0149	376.5	1.6217	0.0134	375.5	1.6114	0.0122	374.6	1.6018	95
100	0.0160	381.5	1.6393	0.0151	381.0	1.6339	0.0137	380.1	1.6237	0.0124	379.1	1.6142	100
105	0.0163	386.0	1.6513	0.0154	385.5	1.6460	0.0139	384.6	1.6358	0.0126	383.7	1.6264	105
110	0.0165	390.5	1.6633	0.0157	390.1	1.6579	0.0141	389.2	1.6479	0.0129	388.3	1.6385	110
115	0.0168	395.1	1.6751	0.0159	394.7	1.6698	0.0144	393.8	1.6598	0.0131	393.0	1.6505	115
120	0.0171	399.7	1.6868	0.0162	399.3	1.6816	0.0146	398.4	1.6716	0.0133	397.6	1.6624	120
125	0.0174	404.3	1.6985	0.0164	403.9	1.6932	0.0149	403.1	1.6834	0.0135	402.3	1.6742	125
130	0.0176	408.9	1.7100	0.0167	408.5	1.7048	0.0151	407.7	1.6950	0.0138	407.0	1.6859	130
135	0.0179	413.6	1.7215	0.0169	413.2	1.7163	0.0153	412.4	1.7065	0.0140	411.7	1.6975	135
140	0.0182	418.2	1.7329	0.0172	417.9	1.7277	0.0156	417.1	1.7180	0.0142	416.4	1.7090	140
145	0.0158	421.8	1.7293	0.0144	421.1	1.7204	—	—	—	—	—	—	145

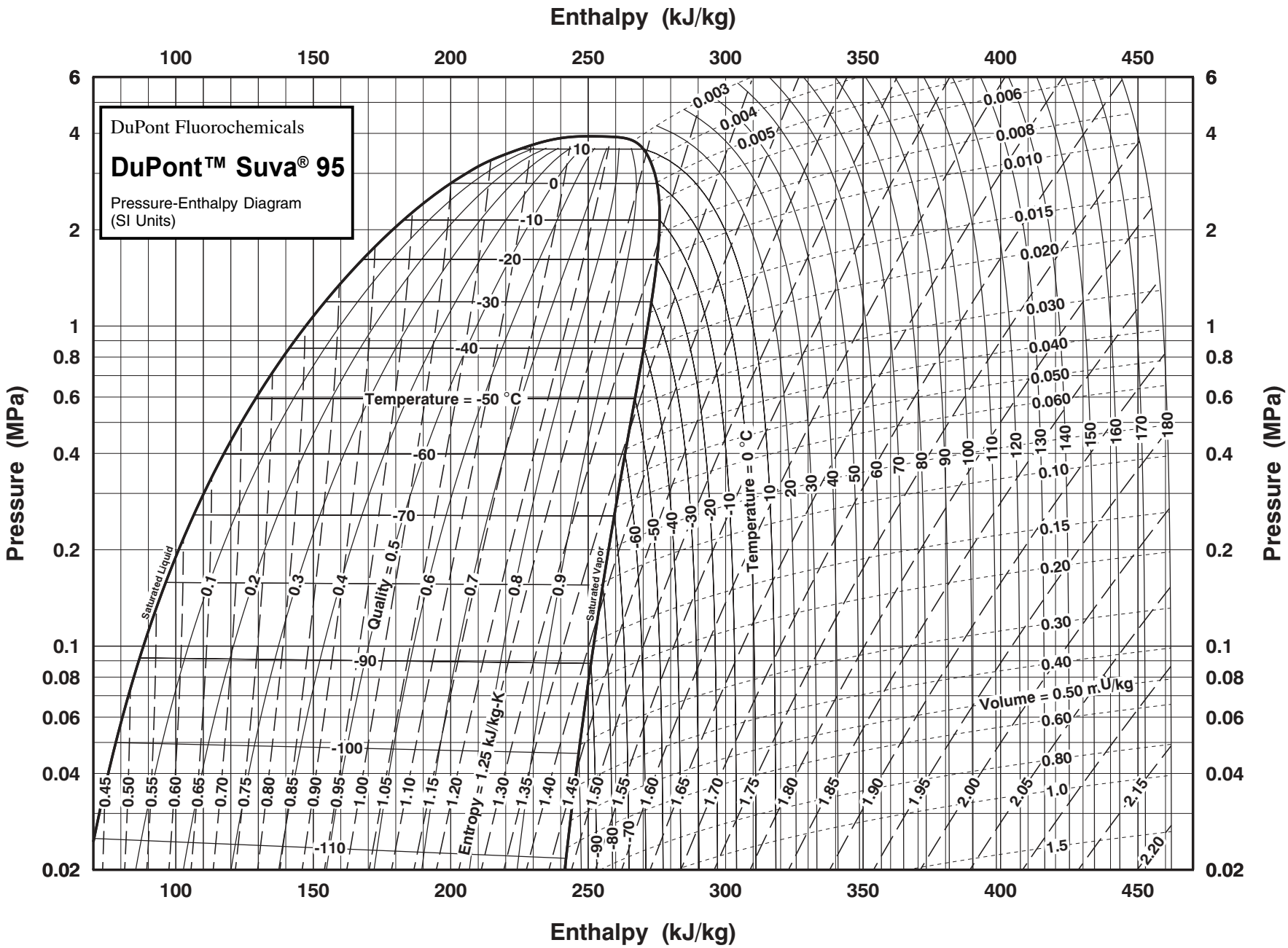
Table 2 (continued)
Suva® 95 Superheated Vapor—Constant Pressure Tables

V = Volume in m^3/kg H = Enthalpy in kJ/kg S = Entropy in kJ/(kg) (K) (Saturated Vapor Properties in parentheses)

ABSOLUTE PRESSURE, kPa

TEMP. °C	2600.0 (–2.77°C)			2800.0 (0.11°C)			3000.0 (2.85°C)			3200.0 (5.45°C)			TEMP. °C
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.0056)	(275.6)	(1.2807)	(0.0050)	(275.1)	(1.2747)	(0.0045)	(274.3)	(1.2683)	(0.0041)	(273.2)	(1.2613)	
0	0.0059	279.7	1.2956	—	—	—	—	—	—	—	—	—	0
5	0.0063	286.2	1.3192	0.0055	282.5	1.3018	0.0048	278.1	1.2822	—	—	—	5
10	0.0067	292.1	1.3403	0.0059	289.1	1.3251	0.0053	285.6	1.3090	0.0046	281.6	1.2913	10
15	0.0071	297.6	1.3597	0.0063	295.0	1.3459	0.0056	292.1	1.3318	0.0050	289.0	1.3170	15
20	0.0074	302.9	1.3778	0.0066	300.6	1.3651	0.0060	298.1	1.3523	0.0054	295.4	1.3392	20
25	0.0077	308.0	1.3951	0.0070	305.9	1.3831	0.0063	303.7	1.3712	0.0057	301.3	1.3593	25
30	0.0080	313.0	1.4116	0.0072	311.1	1.4002	0.0066	309.1	1.3890	0.0060	306.9	1.3779	30
35	0.0083	317.9	1.4276	0.0075	316.1	1.4167	0.0069	314.2	1.4060	0.0063	312.3	1.3955	35
40	0.0085	322.7	1.4430	0.0078	321.0	1.4325	0.0071	319.3	1.4223	0.0065	317.5	1.4123	40
45	0.0088	327.4	1.4580	0.0080	325.8	1.4478	0.0074	324.2	1.4380	0.0068	322.6	1.4284	45
50	0.0091	332.1	1.4726	0.0083	330.6	1.4627	0.0076	329.1	1.4532	0.0070	327.6	1.4439	50
55	0.0093	336.7	1.4869	0.0085	335.4	1.4773	0.0078	333.9	1.4680	0.0072	332.5	1.4590	55
60	0.0096	341.4	1.5009	0.0088	340.1	1.4915	0.0081	338.7	1.4824	0.0074	337.4	1.4737	60
65	0.0098	346.0	1.5147	0.0090	344.7	1.5054	0.0083	343.5	1.4966	0.0077	342.2	1.4880	65
70	0.0100	350.6	1.5282	0.0092	349.4	1.5191	0.0085	348.2	1.5104	0.0079	347.0	1.5021	70
75	0.0103	355.2	1.5415	0.0094	354.0	1.5325	0.0087	352.9	1.5240	0.0081	351.7	1.5158	75
80	0.0105	359.8	1.5546	0.0096	358.7	1.5458	0.0089	357.6	1.5374	0.0083	356.5	1.5294	80
85	0.0107	364.4	1.5675	0.0099	363.3	1.5588	0.0091	362.3	1.5505	0.0085	361.2	1.5426	85
90	0.0109	369.0	1.5802	0.0101	368.0	1.5717	0.0093	366.9	1.5635	0.0087	365.9	1.5557	90
95	0.0112	373.6	1.5928	0.0103	372.6	1.5844	0.0095	371.6	1.5763	0.0088	370.6	1.5686	95
100	0.0114	378.2	1.6053	0.0105	377.2	1.5969	0.0097	376.3	1.5889	0.0090	375.3	1.5814	100
105	0.0116	382.8	1.6176	0.0107	381.9	1.6093	0.0099	381.0	1.6014	0.0092	380.1	1.5939	105
110	0.0118	387.5	1.6298	0.0109	386.6	1.6216	0.0101	385.7	1.6138	0.0094	384.8	1.6064	110
115	0.0120	392.1	1.6419	0.0111	391.3	1.6337	0.0103	390.4	1.6260	0.0096	389.5	1.6186	115
120	0.0122	396.8	1.6538	0.0113	396.0	1.6457	0.0105	395.1	1.6381	0.0098	394.3	1.6308	120
125	0.0124	401.5	1.6657	0.0115	400.7	1.6576	0.0107	399.8	1.6500	0.0099	399.0	1.6428	125
130	0.0126	406.2	1.6774	0.0117	405.4	1.6694	0.0108	404.6	1.6619	0.0101	403.8	1.6547	130
135	0.0128	410.9	1.6890	0.0119	410.1	1.6811	0.0110	409.4	1.6736	0.0103	408.6	1.6665	135
140	0.0130	415.6	1.7006	0.0121	414.9	1.6927	0.0112	414.1	1.6853	0.0105	413.4	1.6782	140
145	0.0132	420.4	1.7120	0.0122	419.7	1.7042	0.0114	418.9	1.6968	0.0106	418.2	1.6898	145
150	0.0135	425.2	1.7234	0.0124	424.5	1.7156	0.0116	423.7	1.7082	0.0108	423.0	1.7013	150
155	0.0126	429.3	1.7269	0.0117	428.6	1.7196	0.0110	427.9	1.7127	—	—	—	155
160	0.0111	432.8	1.7240	—	—	—	—	—	—	—	—	—	160

TEMP. °C	3400.0 (7.94°C)			3600.0 (10.32°C)			3800.0 (12.60°C)						TEMP. °C
	V	H	S	V	H	S	V	H	S				
	(0.0037)	(271.8)	(1.2535)	(0.0034)	(270.1)	(1.2451)	(0.0031)	(268.4)	(1.2366)				
10	0.0040	276.6	1.2704	—	—	—	—	—	—	—	—	—	10
15	0.0045	285.3	1.3011	0.0040	281.0	1.2832	0.0034	275.5	1.2615	—	—	—	15
20	0.0049	292.5	1.3256	0.0044	289.2	1.3113	0.0039	285.4	1.2957	—	—	—	20
25	0.0052	298.8	1.3471	0.0047	296.1	1.3347	0.0043	293.1	1.3218	—	—	—	25
30	0.0055	304.7	1.3668	0.0050	302.4	1.3556	0.0046	299.9	1.3441	—	—	—	30
35	0.0058	310.3	1.3851	0.0053	308.2	1.3747	0.0049	306.0	1.3643	—	—	—	35
40	0.0060	315.7	1.4024	0.0055	313.8	1.3927	0.0051	311.8	1.3830	—	—	—	40
45	0.0062	320.9	1.4190	0.0058	319.2	1.4098	0.0054	317.4	1.4006	—	—	—	45
50	0.0065	326.0	1.4349	0.0060	324.4	1.4261	0.0056	322.8	1.4174	—	—	—	50
55	0.0067	331.0	1.4503	0.0062	329.5	1.4418	0.0058	328.0	1.4335	—	—	—	55
60	0.0069	336.0	1.4652	0.0064	334.6	1.4570	0.0060	333.1	1.4490	—	—	—	60
65	0.0071	340.9	1.4798	0.0066	339.5	1.4718	0.0062	338.2	1.4641	—	—	—	65
70	0.0073	345.7	1.4940	0.0068	344.5	1.4863	0.0064	343.2	1.4787	—	—	—	70
75	0.0075	350.5	1.5080	0.0070	349.3	1.5004	0.0066	348.1	1.4930	—	—	—	75
80	0.0077	355.3	1.5216	0.0072	354.2	1.5142	0.0067	353.0	1.5070	—	—	—	80
85	0.0079	360.1	1.5351	0.0074	359.0	1.5278	0.0069	357.9	1.5207	—	—	—	85
90	0.0081	364.9	1.5483	0.0076	363.8	1.5411	0.0071	362.8	1.5342	—	—	—	90
95	0.0083	369.6	1.5613	0.0077	368.6	1.5542	0.0073	367.6	1.5474	—	—	—	95
100	0.0084	374.4	1.5741	0.0079	373.4	1.5672	0.0074	372.4	1.5605	—	—	—	100
105	0.0086	379.1	1.5868	0.0081	378.2	1.5799	0.0076	377.3	1.5733	—	—	—	105
110	0.0088	383.9	1.5993	0.0082	383.0	1.5925	0.0077	382.1	1.5860	—	—	—	110
115	0.0090	388.7	1.6116	0.0084	387.8	1.6049	0.0079	386.9	1.5985	—	—	—	115
120	0.0091	393.4	1.6239	0.0086	392.6	1.6172	0.0081	391.7	1.6108	—	—	—	120
125	0.0093	398.2	1.6359	0.0087	397.4	1.6294	0.0082	396.6	1.6231	—	—	—	125
130	0.0095	403.0	1.6479	0.0089	402.2	1.6414	0.0084	401.4	1.6352	—	—	—	130
135	0.0096	407.8	1.6598	0.0090	407.0	1.6533	0.0085	406.3	1.6471	—	—	—	135
140	0.0098	412.6	1.6715	0.0092	411.9	1.6651	0.0087	411.1	1.6590	—	—	—	140
145	0.0100	417.5	1.6831	0.0094	416.7	1.6768	0.0088	416.0	1.6707	—	—	—	145
150	0.0101	422.3	1.6947	0.0095	421.6	1.6884	0.0090	420.9	1.6823	—	—	—	150
155	0.0103	427.2	1.7061	0.0097	426.5	1.6998	0.0091	425.8	1.6938	—	—	—	155
160	0.0104	432.1	1.7175	0.0098	431.4	1.7112	0.0093	430.7	1.7053	—	—	—	160
165	0.0100	436.3	1.7225	0.0094	435.7	1.7166	—	—	—	—	—	—	165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Pressure-Enthalpy Diagram
(SI Units)
Enthalpy (kJ/kg)
Pressure (MPa)
Saturated Liquid
Saturated Vapor
Quality = 0.5
Temperature = -50 °C
Temperature = 0 °C
Entropy = 1.25 kJ/kg-K
Volume = 0.50 m³/kg

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