

DuPont™ ISCEON® 9 Series

REFRIGERANTS

Technical Information

Thermodynamic Properties of DuPont™ ISCEON® M029 SI Units



The miracles of science™

Thermodynamic Properties of DuPont™ ISCEON® MO29 Refrigerant (R-125/R-134a/R-600a – 65.1/31.5/3.4% by weight)

SI Units

Tables of the thermodynamic properties of ISCEON® MO29 have been developed and are presented here. This information is based on values calculated using the NIST REFPROP Database (McLinden, M.O., Klein, S.A., Lemmon, E.W., and Peskin, A.P., NIST Standard Reference Database 23, NIST thermodynamic and transport properties of refrigerants and refrigerant mixtures – REFPROP version 7.0, Standard Reference Data Program, National Institute of Standards and Technology, 2005).

Units

P = Pressure in kPa. Absolute

T = Temperature in Celsius

V_f = Fluid (liquid) specific volume in cubic meters per kilogram

V_g = Vapour (gas) specific volume in cubic meters per kilogram

d_f = Density of saturated vapour in kilograms per cubic meter

d_g = Density of saturated liquid in kilograms per cubic meter

h = Enthalpy (kJ/kg)

s = Entropy (kJ/kg·K)

Reference points for Enthalpy and Entropy:

h_f = 200 kJ/kg at 0°C

s_f = 1 kJ/kg·K at 0°C

Physical Properties

Chemical Formula	CHF ₂ CF ₃ /CH ₂ FCF ₃ /(CH ₃) ₃ CH (65.1/31.5/3.4% by weight)
Molecular mass	109.94
Boiling Point At one atmosphere	-43.20°C
Critical Temperature	79.56°C
Critical Pressure	3903 kPa
Critical Density	529.0 kg/m ³
Critical Volume	0.0019 m ³ /kg

Table 1
DuPont™ ISCEON® MO29 Saturation Properties—Temperature Table

TEMP. °C	PRESSURE (kPa)		VOLUME (m ³ /kg)		DENSITY (kg/m ³)		ENTHALPY (kJ/kg)			ENTROPY (kJ/K·kg)		TEMP. °C
	LIQUID	VAPOUR	LIQUID v _l	VAPOUR v _g	LIQUID d _l	VAPOUR d _g	LIQUID h _l	LATENT h _{lg}	VAPOUR h _g	LIQUID s _l	VAPOUR s _g	
-100	2.4	1.2	0.0006	10.6440	1576.4	0.094	78.9	219.0	298.0	0.4524	1.7471	-100
-99	2.6	1.4	0.0006	9.6506	1573.3	0.104	80.1	218.5	298.6	0.4591	1.7427	-99
-98	2.9	1.5	0.0006	8.7626	1570.3	0.114	81.3	217.9	299.2	0.4658	1.7383	-98
-97	3.2	1.7	0.0006	7.9676	1567.2	0.126	82.4	217.3	299.7	0.4724	1.7341	-97
-96	3.4	1.8	0.0006	7.2548	1564.1	0.138	83.6	216.7	300.3	0.4790	1.7300	-96
-95	3.8	2.0	0.0006	6.6146	1561.1	0.151	84.8	216.2	300.9	0.4855	1.7259	-95
-94	4.1	2.2	0.0006	6.0389	1558.0	0.166	85.9	215.6	301.5	0.4920	1.7220	-94
-93	4.4	2.5	0.0006	5.5205	1555.0	0.181	87.1	215.0	302.1	0.4985	1.7181	-93
-92	4.8	2.7	0.0006	5.0531	1551.9	0.198	88.2	214.5	302.7	0.5049	1.7143	-92
-91	5.2	3.0	0.0006	4.6310	1548.9	0.216	89.4	213.9	303.3	0.5113	1.7106	-91
-90	5.7	3.2	0.0006	4.2493	1545.8	0.235	90.6	213.3	303.9	0.5177	1.7070	-90
-89	6.1	3.6	0.0006	3.9038	1542.8	0.256	91.7	212.8	304.5	0.5240	1.7035	-89
-88	6.7	3.9	0.0006	3.5906	1539.8	0.279	92.9	212.2	305.1	0.5302	1.7001	-88
-87	7.2	4.2	0.0007	3.3064	1536.7	0.302	94.0	211.7	305.7	0.5365	1.6967	-87
-86	7.8	4.6	0.0007	3.0481	1533.7	0.328	95.2	211.1	306.3	0.5427	1.6935	-86
-85	8.4	5.0	0.0007	2.8131	1530.7	0.355	96.4	210.6	306.9	0.5489	1.6903	-85
-84	9.0	5.5	0.0007	2.5990	1527.6	0.385	97.5	210.0	307.5	0.5550	1.6872	-84
-83	9.7	5.9	0.0007	2.4038	1524.6	0.416	98.7	209.5	308.1	0.5612	1.6841	-83
-82	10.4	6.5	0.0007	2.2256	1521.6	0.449	99.8	208.9	308.7	0.5672	1.6811	-82
-81	11.2	7.0	0.0007	2.0627	1518.6	0.485	101.0	208.3	309.3	0.5733	1.6782	-81
-80	12.1	7.6	0.0007	1.9136	1515.5	0.523	102.2	207.8	310.0	0.5793	1.6754	-80
-79	12.9	8.2	0.0007	1.7771	1512.5	0.563	103.3	207.3	310.6	0.5853	1.6726	-79
-78	13.9	8.9	0.0007	1.6520	1509.5	0.605	104.5	206.7	311.2	0.5913	1.6699	-78
-77	14.9	9.6	0.0007	1.5371	1506.5	0.651	105.7	206.1	311.8	0.5972	1.6673	-77
-76	15.9	10.3	0.0007	1.4315	1503.4	0.699	106.8	205.6	312.4	0.6032	1.6647	-76
-75	17.0	11.1	0.0007	1.3344	1500.4	0.749	108.0	205.0	313.0	0.6090	1.6622	-75
-74	18.2	12.0	0.0007	1.2450	1497.4	0.803	109.1	204.5	313.6	0.6149	1.6598	-74
-73	19.4	12.9	0.0007	1.1626	1494.3	0.860	110.3	203.9	314.3	0.6207	1.6574	-73
-72	20.7	13.9	0.0007	1.0866	1491.3	0.920	111.5	203.4	314.9	0.6266	1.6551	-72
-71	22.1	14.9	0.0007	1.0164	1488.3	0.984	112.6	202.8	315.5	0.6323	1.6528	-71
-70	23.5	16.0	0.0007	0.9516	1485.2	1.051	113.8	202.3	316.1	0.6381	1.6506	-70
-69	25.0	17.1	0.0007	0.8916	1482.2	1.122	115.0	201.7	316.7	0.6438	1.6485	-69
-68	26.6	18.3	0.0007	0.8361	1479.1	1.196	116.2	201.2	317.3	0.6496	1.6464	-68
-67	28.3	19.6	0.0007	0.7846	1476.1	1.275	117.3	200.6	318.0	0.6553	1.6443	-67
-66	30.1	21.0	0.0007	0.7369	1473.0	1.357	118.5	200.1	318.6	0.6609	1.6423	-66
-65	31.9	22.4	0.0007	0.6926	1470.0	1.444	119.7	199.5	319.2	0.6666	1.6404	-65
-64	33.9	23.9	0.0007	0.6515	1466.9	1.535	120.9	199.0	319.8	0.6722	1.6385	-64
-63	35.9	25.5	0.0007	0.6132	1463.8	1.631	122.0	198.4	320.4	0.6778	1.6366	-63
-62	38.0	27.2	0.0007	0.5776	1460.7	1.731	123.2	197.9	321.1	0.6834	1.6348	-62
-61	40.3	29.0	0.0007	0.5445	1457.7	1.837	124.4	197.3	321.7	0.6890	1.6330	-61
-60	42.6	30.8	0.0007	0.5136	1454.6	1.947	125.6	196.7	322.3	0.6945	1.6313	-60
-59	45.1	32.8	0.0007	0.4848	1451.5	2.063	126.8	196.2	322.9	0.7000	1.6297	-59
-58	47.6	34.8	0.0007	0.4579	1448.4	2.184	127.9	195.6	323.5	0.7055	1.6280	-58
-57	50.3	37.0	0.0007	0.4328	1445.3	2.311	129.1	195.0	324.2	0.7110	1.6265	-57
-56	53.1	39.3	0.0007	0.4093	1442.2	2.443	130.3	194.5	324.8	0.7165	1.6249	-56
-55	56.1	41.6	0.0007	0.3874	1439.1	2.582	131.5	193.9	325.4	0.7219	1.6234	-55
-54	59.1	44.1	0.0007	0.3668	1435.9	2.726	132.7	193.3	326.0	0.7274	1.6220	-54
-53	62.3	46.7	0.0007	0.3475	1432.8	2.877	133.9	192.8	326.6	0.7328	1.6205	-53
-52	65.6	49.5	0.0007	0.3295	1429.7	3.035	135.1	192.2	327.3	0.7382	1.6192	-52
-51	69.1	52.3	0.0007	0.3126	1426.5	3.199	136.3	191.6	327.9	0.7435	1.6178	-51
-50	72.7	55.3	0.0007	0.2967	1423.4	3.371	137.5	191.0	328.5	0.7489	1.6165	-50
-49	76.4	58.5	0.0007	0.2818	1420.2	3.549	138.6	190.5	329.1	0.7542	1.6152	-49
-48	80.3	61.7	0.0007	0.2677	1417.1	3.735	139.8	189.9	329.7	0.7596	1.6140	-48
-47	84.4	65.1	0.0007	0.2546	1413.9	3.929	141.0	189.3	330.3	0.7649	1.6128	-47
-46	88.6	68.7	0.0007	0.2421	1410.7	4.130	142.3	188.7	331.0	0.7702	1.6116	-46
-45	93.0	72.4	0.0007	0.2305	1407.5	4.339	143.5	188.1	331.6	0.7754	1.6105	-45
-44	97.6	76.3	0.0007	0.2195	1404.3	4.557	144.7	187.5	332.2	0.7807	1.6094	-44
-43	102.3	80.3	0.0007	0.2091	1401.1	4.783	145.9	187.0	332.8	0.7859	1.6083	-43
-42	107.2	84.5	0.0007	0.1993	1397.9	5.018	147.1	186.4	333.4	0.7912	1.6072	-42
-41	112.3	88.8	0.0007	0.1901	1394.6	5.262	148.3	185.8	334.0	0.7964	1.6062	-41

Table 1 (continued)
DuPont™ ISCEON® MO29 Saturation Properties—Temperature Table

TEMP. °C	PRESSURE (kPa)		VOLUME (m ³ /kg)		DENSITY (kg/m ³)		ENTHALPY (kJ/kg)			ENTROPY (kJ/K·kg)		TEMP. °C
	LIQUID	VAPOUR	LIQUID v _l	VAPOUR v _g	LIQUID d _l	VAPOUR d _g	LIQUID h _l	LATENT h _{lg}	VAPOUR h _g	LIQUID s _l	VAPOUR s _g	
-40	117.6	93.4	0.0007	0.1813	1391.4	5.515	149.5	185.2	334.7	0.8016	1.6052	-40
-39	123.1	98.1	0.0007	0.1731	1388.2	5.778	150.7	184.6	335.3	0.8068	1.6043	-39
-38	128.7	103.0	0.0007	0.1653	1384.9	6.050	151.9	183.9	335.9	0.8119	1.6033	-38
-37	134.6	108.1	0.0007	0.1579	1381.6	6.332	153.2	183.3	336.5	0.8171	1.6024	-37
-36	140.7	113.4	0.0007	0.1510	1378.3	6.625	154.4	182.7	337.1	0.8222	1.6015	-36
-35	147.0	118.9	0.0007	0.1444	1375.0	6.928	155.6	182.1	337.7	0.8274	1.6007	-35
-34	153.5	124.6	0.0007	0.1381	1371.7	7.241	156.8	181.5	338.3	0.8325	1.5999	-34
-33	160.2	130.5	0.0007	0.1322	1368.4	7.566	158.1	180.9	338.9	0.8376	1.5991	-33
-32	167.2	136.7	0.0007	0.1266	1365.1	7.902	159.3	180.2	339.5	0.8427	1.5983	-32
-31	174.4	143.0	0.0007	0.1212	1361.8	8.250	160.5	179.6	340.1	0.8478	1.5975	-31
-30	181.8	149.6	0.0007	0.1162	1358.4	8.610	161.7	179.0	340.7	0.8528	1.5968	-30
-29	189.5	156.4	0.0007	0.1113	1355.0	8.982	163.0	178.4	341.3	0.8579	1.5961	-29
-28	197.4	163.5	0.0007	0.1068	1351.7	9.366	164.2	177.7	341.9	0.8629	1.5954	-28
-27	205.6	170.8	0.0007	0.1024	1348.3	9.763	165.5	177.1	342.5	0.8679	1.5947	-27
-26	214.0	178.3	0.0007	0.0983	1344.9	10.173	166.7	176.4	343.1	0.8730	1.5941	-26
-25	222.7	186.1	0.0007	0.0944	1341.5	10.597	168.0	175.8	343.7	0.8780	1.5934	-25
-24	231.7	194.2	0.0007	0.0906	1338.0	11.034	169.2	175.1	344.3	0.8830	1.5928	-24
-23	241.0	202.5	0.0007	0.0871	1334.6	11.485	170.5	174.5	344.9	0.8879	1.5922	-23
-22	250.5	211.1	0.0008	0.0837	1331.1	11.951	171.7	173.8	345.5	0.8929	1.5917	-22
-21	260.3	220.0	0.0008	0.0804	1327.6	12.432	173.0	173.1	346.1	0.8979	1.5911	-21
-20	270.4	229.2	0.0008	0.0774	1324.2	12.927	174.2	172.5	346.7	0.9028	1.5906	-20
-19	280.8	238.7	0.0008	0.0744	1320.6	13.438	175.5	171.8	347.3	0.9078	1.5900	-19
-18	291.6	248.4	0.0008	0.0716	1317.1	13.965	176.8	171.1	347.9	0.9127	1.5895	-18
-17	302.6	258.5	0.0008	0.0689	1313.6	14.508	178.0	170.4	348.4	0.9176	1.5891	-17
-16	313.9	268.8	0.0008	0.0664	1310.0	15.067	179.3	169.7	349.0	0.9225	1.5886	-16
-15	325.6	279.5	0.0008	0.0639	1306.4	15.644	180.6	169.0	349.6	0.9274	1.5881	-15
-14	337.6	290.5	0.0008	0.0616	1302.9	16.237	181.8	168.3	350.2	0.9323	1.5877	-14
-13	349.9	301.9	0.0008	0.0594	1299.2	16.849	183.1	167.6	350.7	0.9372	1.5873	-13
-12	362.5	313.5	0.0008	0.0572	1295.6	17.478	184.4	166.9	351.3	0.9421	1.5868	-12
-11	375.5	325.6	0.0008	0.0552	1292.0	18.127	185.7	166.2	351.9	0.9470	1.5864	-11
-10	388.9	337.9	0.0008	0.0532	1288.3	18.794	187.0	165.5	352.5	0.9518	1.5861	-10
-9	402.6	350.6	0.0008	0.0513	1284.6	19.480	188.3	164.8	353.0	0.9567	1.5857	-9
-8	416.7	363.7	0.0008	0.0495	1280.9	20.187	189.5	164.0	353.6	0.9615	1.5853	-8
-7	431.1	377.1	0.0008	0.0478	1277.2	20.914	190.8	163.3	354.1	0.9663	1.5850	-7
-6	446.0	390.9	0.0008	0.0462	1273.4	21.661	192.1	162.6	354.7	0.9712	1.5846	-6
-5	461.2	405.1	0.0008	0.0446	1269.7	22.430	193.4	161.8	355.3	0.9760	1.5843	-5
-4	476.8	419.7	0.0008	0.0431	1265.9	23.221	194.7	161.1	355.8	0.9808	1.5840	-4
-3	492.8	434.7	0.0008	0.0416	1262.1	24.034	196.1	160.3	356.4	0.9856	1.5837	-3
-2	509.1	450.0	0.0008	0.0402	1258.2	24.870	197.4	159.5	356.9	0.9904	1.5834	-2
-1	525.9	465.8	0.0008	0.0389	1254.4	25.729	198.7	158.8	357.4	0.9952	1.5831	-1
0	543.2	482.0	0.0008	0.0376	1250.5	26.613	200.0	158.0	358.0	1.0000	1.5828	0
1	560.8	498.6	0.0008	0.0363	1246.6	27.521	201.3	157.2	358.5	1.0048	1.5825	1
2	578.8	515.6	0.0008	0.0351	1242.7	28.454	202.7	156.4	359.1	1.0096	1.5822	2
3	597.3	533.1	0.0008	0.0340	1238.7	29.413	204.0	155.6	359.6	1.0143	1.5820	3
4	616.3	551.0	0.0008	0.0329	1234.7	30.398	205.3	154.8	360.1	1.0191	1.5817	4
5	635.7	569.4	0.0008	0.0318	1230.7	31.410	206.7	154.0	360.6	1.0239	1.5814	5
6	655.5	588.2	0.0008	0.0308	1226.7	32.450	208.0	153.2	361.2	1.0286	1.5812	6
7	675.8	607.5	0.0008	0.0298	1222.6	33.519	209.3	152.3	361.7	1.0334	1.5809	7
8	696.6	627.2	0.0008	0.0289	1218.5	34.617	210.7	151.5	362.2	1.0381	1.5807	8
9	717.8	647.5	0.0008	0.0280	1214.4	35.744	212.0	150.7	362.7	1.0429	1.5805	9
10	739.5	668.2	0.0008	0.0271	1210.2	36.902	213.4	149.8	363.2	1.0476	1.5802	10
11	761.7	689.4	0.0008	0.0263	1206.0	38.092	214.8	148.9	363.7	1.0523	1.5800	11
12	784.4	711.1	0.0008	0.0254	1201.8	39.314	216.1	148.1	364.2	1.0571	1.5798	12
13	807.6	733.3	0.0008	0.0246	1197.5	40.569	217.5	147.2	364.7	1.0618	1.5795	13
14	831.3	756.1	0.0008	0.0239	1193.2	41.859	218.9	146.3	365.2	1.0665	1.5793	14
15	855.6	779.3	0.0008	0.0232	1188.9	43.183	220.3	145.4	365.7	1.0713	1.5791	15
16	880.3	803.1	0.0008	0.0225	1184.5	44.543	221.6	144.5	366.1	1.0760	1.5789	16
17	905.6	827.4	0.0008	0.0218	1180.1	45.940	223.0	143.6	366.6	1.0807	1.5786	17
18	931.4	852.3	0.0009	0.0211	1175.7	47.376	224.4	142.6	367.1	1.0854	1.5784	18
19	957.8	877.7	0.0009	0.0205	1171.2	48.850	225.8	141.7	367.5	1.0901	1.5782	19

Table 1 (continued)
DuPont™ ISCEON® MO29 Saturation Properties—Temperature Table

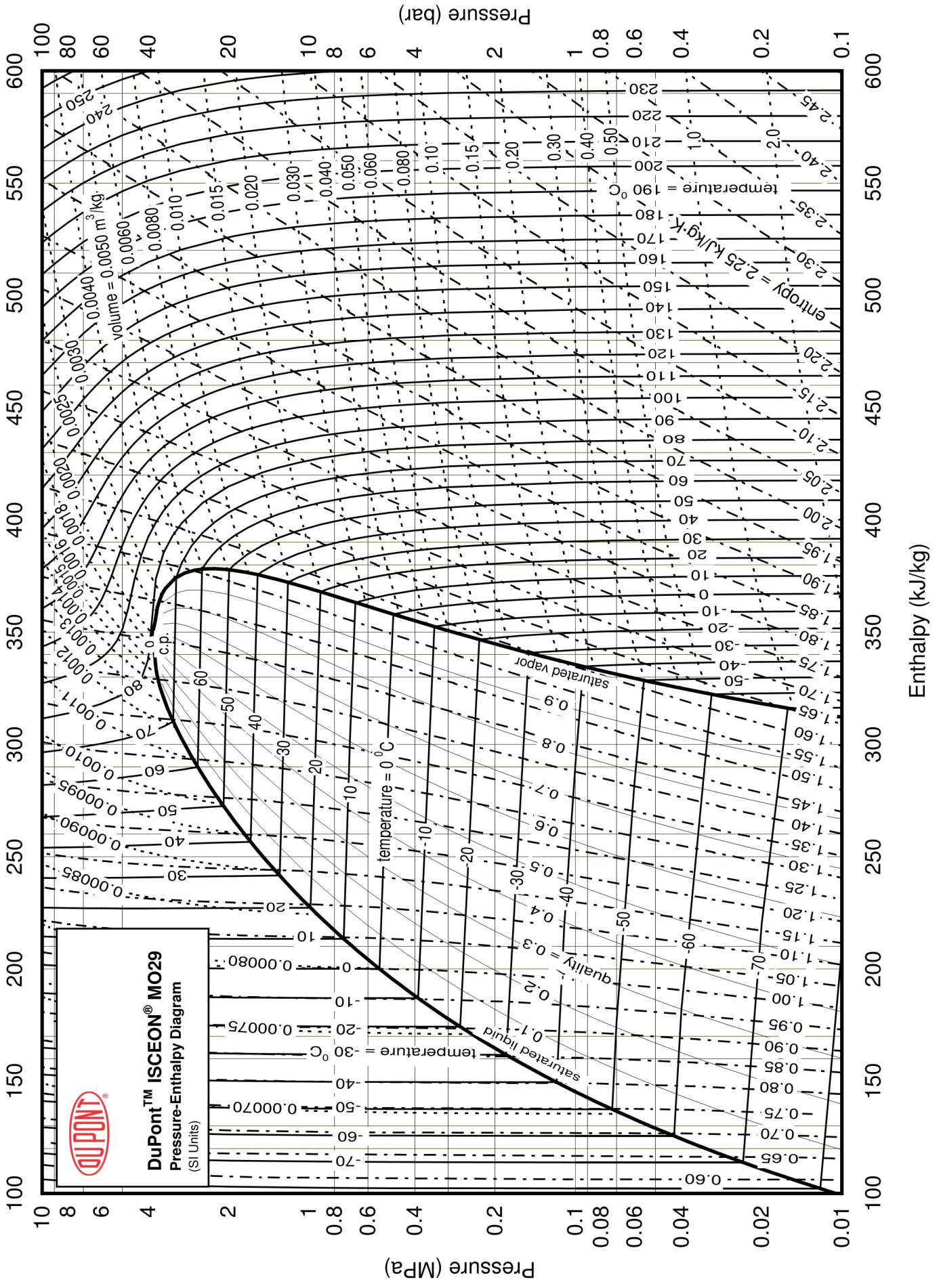
TEMP. °C	PRESSURE (kPa)		VOLUME (m ³ /kg)		DENSITY (kg/m ³)		ENTHALPY (kJ/kg)			ENTROPY (kJ/K·kg)		TEMP. °C
	LIQUID	VAPOUR	LIQUID v _l	VAPOUR v _g	LIQUID d _l	VAPOUR d _g	LIQUID h _l	LATENT h _{lg}	VAPOUR h _g	LIQUID s _l	VAPOUR s _g	
20	984.7	903.7	0.0009	0.0199	1166.7	50.364	227.2	140.8	368.0	1.0949	1.5779	20
21	1012.2	930.3	0.0009	0.0193	1162.1	51.920	228.6	139.8	368.4	1.0996	1.5777	21
22	1040.3	957.4	0.0009	0.0187	1157.5	53.518	230.1	138.8	368.9	1.1043	1.5774	22
23	1068.9	985.2	0.0009	0.0181	1152.9	55.160	231.5	137.8	369.3	1.1090	1.5772	23
24	1098.1	1013.5	0.0009	0.0176	1148.2	56.848	232.9	136.8	369.7	1.1137	1.5769	24
25	1127.9	1042.4	0.0009	0.0171	1143.4	58.582	234.3	135.8	370.2	1.1185	1.5767	25
26	1158.3	1072.0	0.0009	0.0166	1138.6	60.364	235.8	134.8	370.6	1.1232	1.5764	26
27	1189.3	1102.1	0.0009	0.0161	1133.8	62.196	237.2	133.8	371.0	1.1279	1.5761	27
28	1220.9	1132.9	0.0009	0.0156	1128.9	64.078	238.7	132.7	371.4	1.1326	1.5759	28
29	1253.2	1164.4	0.0009	0.0151	1124.0	66.014	240.1	131.7	371.8	1.1374	1.5756	29
30	1286.0	1196.4	0.0009	0.0147	1119.0	68.004	241.6	130.6	372.2	1.1421	1.5753	30
31	1319.5	1229.2	0.0009	0.0143	1113.9	70.051	243.0	129.5	372.6	1.1468	1.5749	31
32	1353.7	1262.6	0.0009	0.0139	1108.8	72.157	244.5	128.4	372.9	1.1516	1.5746	32
33	1388.5	1296.7	0.0009	0.0135	1103.6	74.323	246.0	127.3	373.3	1.1563	1.5743	33
34	1424.0	1331.4	0.0009	0.0131	1098.3	76.551	247.5	126.2	373.6	1.1611	1.5739	34
35	1460.1	1366.9	0.0009	0.0127	1093.0	78.845	249.0	125.0	374.0	1.1658	1.5736	35
36	1497.0	1403.1	0.0009	0.0123	1087.6	81.206	250.5	123.8	374.3	1.1706	1.5732	36
37	1534.5	1440.0	0.0009	0.0120	1082.2	83.638	252.0	122.6	374.7	1.1754	1.5728	37
38	1572.7	1477.6	0.0009	0.0116	1076.6	86.142	253.5	121.4	375.0	1.1802	1.5724	38
39	1611.6	1515.9	0.0009	0.0113	1071.0	88.722	255.1	120.2	375.3	1.1850	1.5720	39
40	1651.2	1555.0	0.0009	0.0109	1065.3	91.381	256.6	119.0	375.6	1.1898	1.5715	40
41	1691.6	1594.9	0.0009	0.0106	1059.5	94.122	258.1	117.7	375.8	1.1946	1.5710	41
42	1732.7	1635.5	0.0009	0.0103	1053.7	96.949	259.7	116.4	376.1	1.1994	1.5706	42
43	1774.5	1676.9	0.0010	0.0100	1047.7	99.866	261.3	115.1	376.4	1.2042	1.5700	43
44	1817.1	1719.1	0.0010	0.0097	1041.7	102.880	262.8	113.8	376.6	1.2091	1.5695	44
45	1860.4	1762.1	0.0010	0.0094	1035.5	105.980	264.4	112.4	376.9	1.2139	1.5689	45
46	1904.5	1805.8	0.0010	0.0092	1029.2	109.200	266.0	111.0	377.1	1.2188	1.5683	46
47	1949.4	1850.5	0.0010	0.0089	1022.9	112.520	267.6	109.6	377.3	1.2237	1.5677	47
48	1995.1	1895.9	0.0010	0.0086	1016.4	115.950	269.3	108.2	377.5	1.2286	1.5671	48
49	2041.6	1942.2	0.0010	0.0084	1009.8	119.500	270.9	106.7	377.6	1.2336	1.5664	49
50	2088.9	1989.4	0.0010	0.0081	1003.0	123.180	272.5	105.2	377.8	1.2385	1.5656	50
51	2137.0	2037.5	0.0010	0.0079	996.1	127.000	274.2	103.7	377.9	1.2435	1.5649	51
52	2186.0	2086.4	0.0010	0.0076	989.1	130.950	275.9	102.2	378.0	1.2485	1.5641	52
53	2235.8	2136.3	0.0010	0.0074	981.9	135.060	277.6	100.6	378.1	1.2536	1.5632	53
54	2286.4	2187.0	0.0010	0.0072	974.5	139.320	279.3	98.9	378.2	1.2586	1.5623	54
55	2337.9	2238.7	0.0010	0.0070	967.0	143.760	281.0	97.3	378.3	1.2637	1.5613	55
56	2390.3	2291.4	0.0010	0.0067	959.3	148.380	282.7	95.6	378.3	1.2689	1.5603	56
57	2443.6	2345.0	0.0011	0.0065	951.3	153.190	284.5	93.8	378.3	1.2740	1.5592	57
58	2497.8	2399.6	0.0011	0.0063	943.2	158.220	286.3	92.0	378.3	1.2792	1.5581	58
59	2552.9	2455.3	0.0011	0.0061	934.8	163.470	288.1	90.1	378.2	1.2845	1.5569	59
60	2609.0	2511.9	0.0011	0.0059	926.1	168.970	289.9	88.2	378.1	1.2898	1.5556	60
61	2666.0	2569.6	0.0011	0.0057	917.2	174.740	291.8	86.2	378.0	1.2952	1.5542	61
62	2723.9	2628.4	0.0011	0.0055	907.9	180.800	293.7	84.2	377.8	1.3006	1.5527	62
63	2782.8	2688.3	0.0011	0.0053	898.3	187.190	295.6	82.0	377.6	1.3061	1.5511	63
64	2842.8	2749.3	0.0011	0.0052	888.4	193.940	297.5	79.8	377.3	1.3117	1.5494	64
65	2903.7	2811.5	0.0011	0.0050	878.0	201.090	299.5	77.5	377.0	1.3174	1.5475	65
66	2965.6	2874.9	0.0012	0.0048	867.1	208.690	301.5	75.1	376.6	1.3232	1.5455	66
67	3028.6	2939.5	0.0012	0.0046	855.7	216.800	303.6	72.6	376.2	1.3291	1.5433	67
68	3092.6	3005.3	0.0012	0.0044	843.6	225.500	305.7	70.0	375.7	1.3351	1.5409	68
69	3157.7	3072.5	0.0012	0.0043	830.8	234.890	307.9	67.2	375.1	1.3413	1.5383	69
70	3223.8	3141.1	0.0012	0.0041	817.2	245.080	310.2	64.2	374.4	1.3477	1.5354	70
71	3291.1	3211.1	0.0012	0.0039	802.5	256.240	312.6	61.0	373.5	1.3544	1.5321	71
72	3359.4	3282.7	0.0013	0.0037	786.5	268.610	315.1	57.5	372.5	1.3613	1.5284	72
73	3428.9	3355.9	0.0013	0.0035	768.8	282.500	317.7	53.7	371.4	1.3686	1.5242	73
74	3499.4	3431.0	0.0013	0.0034	748.8	298.440	320.5	49.4	369.9	1.3765	1.5193	74
75	3571.0	3508.1	0.0014	0.0032	725.5	317.280	323.6	44.5	368.1	1.3852	1.5134	75
76	3643.3	3587.7	0.0014	0.0029	696.8	340.680	327.2	38.5	365.7	1.3952	1.5058	76
77	3715.9	3670.7	0.0015	0.0027	657.4	372.770	331.7	30.6	362.3	1.4078	1.4954	77

Table 2 (continued)
DuPont™ ISCEON® MO29 Superheated Vapour—Constant Pressure Tables

V = Volume in m³/kg H = Enthalpy in kJ/kg S = Entropy in kJ/kg·K (Saturation Properties in parentheses)

TEMP. °C	ABSOLUTE PRESSURE, kPa												TEMP. °C
	2400			2600			2800			3000			
	(58.01°C)			(61.52°C)			(64.82°C)			(67.92°C)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0063)	(378.4)	(1.5581)	(0.0056)	(377.9)	(1.5534)	(0.0050)	(377.1)	(1.5479)	(0.0044)	(375.7)	(1.5411)		
60	0.0065	381.6	1.5682	—	—	—	—	—	—	—	—	—	60
65	0.0070	389.3	1.5910	0.0060	384.2	1.5721	0.0050	377.5	1.5491	—	—	—	65
70	0.0074	396.3	1.6115	0.0065	392.1	1.5953	0.0056	387.1	1.5773	0.0047	380.8	1.5558	70
75	0.0078	402.8	1.6306	0.0069	399.2	1.6160	0.0060	395.2	1.6006	0.0053	390.4	1.5837	75
80	0.0082	409.2	1.6486	0.0072	406.0	1.6352	0.0064	402.5	1.6214	0.0057	398.5	1.6069	80
85	0.0085	415.3	1.6658	0.0075	412.4	1.6533	0.0067	409.3	1.6407	0.0060	405.9	1.6277	85
90	0.0088	421.3	1.6825	0.0079	418.7	1.6706	0.0070	415.9	1.6588	0.0063	412.9	1.6469	90
95	0.0091	427.2	1.6986	0.0081	424.8	1.6873	0.0073	422.2	1.6762	0.0066	419.5	1.6650	95
100	0.0094	433.0	1.7143	0.0084	430.7	1.7035	0.0076	428.4	1.6929	0.0069	425.9	1.6823	100
105	0.0096	438.8	1.7296	0.0087	436.7	1.7192	0.0079	434.5	1.7090	0.0072	432.2	1.6990	105
110	0.0099	444.5	1.7447	0.0089	442.5	1.7346	0.0081	440.4	1.7248	0.0074	438.3	1.7152	110
115	0.0101	450.2	1.7594	0.0092	448.3	1.7496	0.0083	446.4	1.7401	0.0076	444.4	1.7309	115
120	0.0104	455.8	1.7739	0.0094	454.1	1.7644	0.0086	452.2	1.7552	0.0079	450.4	1.7462	120
125	0.0106	461.5	1.7882	0.0096	459.8	1.7789	0.0088	458.1	1.7699	0.0081	456.3	1.7612	125
130	0.0109	467.1	1.8023	0.0099	465.5	1.7932	0.0090	463.9	1.7844	0.0083	462.2	1.7760	130
135	0.0111	472.8	1.8162	0.0101	471.2	1.8072	0.0092	469.7	1.7987	0.0085	468.1	1.7904	135
140	0.0113	478.4	1.8299	0.0103	476.9	1.8211	0.0094	475.4	1.8127	0.0087	473.9	1.8047	140
145	0.0115	484.0	1.8435	0.0105	482.6	1.8348	0.0096	481.2	1.8266	0.0089	479.8	1.8187	145
150	0.0118	489.7	1.8569	0.0107	488.3	1.8484	0.0098	487.0	1.8403	0.0091	485.6	1.8325	150
155	0.0120	495.3	1.8701	0.0109	494.0	1.8618	0.0100	492.7	1.8538	0.0093	491.4	1.8462	155
160	0.0122	501.0	1.8833	0.0111	499.7	1.8750	0.0102	498.5	1.8672	0.0094	497.2	1.8597	160
165	0.0124	506.7	1.8963	0.0113	505.5	1.8881	0.0104	504.2	1.8804	0.0096	503.0	1.8730	165
170	0.0126	512.3	1.9092	0.0115	511.2	1.9011	0.0106	510.0	1.8935	0.0098	508.8	1.8862	170
175	0.0128	518.0	1.9219	0.0117	516.9	1.9140	0.0108	515.8	1.9064	0.0100	514.6	1.8993	175
180	0.0130	523.7	1.9346	0.0119	522.7	1.9267	0.0110	521.6	1.9193	0.0102	520.5	1.9122	180
185	0.0132	529.5	1.9472	0.0121	528.4	1.9394	0.0112	527.4	1.9320	0.0103	526.3	1.9250	185
190	0.0134	535.2	1.9597	0.0123	534.2	1.9519	0.0113	533.2	1.9446	0.0105	532.2	1.9377	190
195	0.0136	541.0	1.9720	0.0125	540.0	1.9644	0.0115	539.0	1.9571	0.0107	538.0	1.9503	195
200	0.0138	546.8	1.9843	0.0127	545.8	1.9767	0.0117	544.9	1.9696	0.0108	543.9	1.9628	200
205	0.0140	552.6	1.9965	0.0129	551.6	1.9890	0.0119	550.7	1.9819	0.0110	549.8	1.9752	205
210	0.0142	558.4	2.0086	—	—	—	—	—	—	—	—	—	210

TEMP. °C	ABSOLUTE PRESSURE, kPa												TEMP. °C
	3200			3400			()			()			
	(70.84°C)			(73.59°C)			()			()			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.0039)	(373.7)	(1.5326)	(0.0034)	(370.5)	(1.5214)	()	()	()	()	()	()		
75	0.0045	384.5	1.5639	0.0037	376.1	1.5373							75
80	0.0050	394.0	1.5911	0.0043	388.6	1.5731							80
85	0.0054	402.2	1.6140	0.0048	397.9	1.5994							85
90	0.0057	409.6	1.6346	0.0051	406.0	1.6218							90
95	0.0060	416.6	1.6537	0.0054	413.5	1.6422							95
100	0.0063	423.3	1.6718	0.0057	420.5	1.6612							100
105	0.0065	429.8	1.6891	0.0060	427.3	1.6791							105
110	0.0068	436.1	1.7057	0.0062	433.8	1.6963							110
115	0.0070	442.3	1.7218	0.0064	440.2	1.7128							115
120	0.0072	448.4	1.7375	0.0067	446.4	1.7289							120
125	0.0074	454.5	1.7528	0.0069	452.6	1.7445							125
130	0.0076	460.5	1.7678	0.0071	458.7	1.7597							130
135	0.0078	466.4	1.7824	0.0073	464.8	1.7747							135
140	0.0080	472.4	1.7969	0.0074	470.8	1.7893							140
145	0.0082	478.3	1.8111	0.0076	476.8	1.8037							145
150	0.0084	484.2	1.8251	0.0078	482.7	1.8179							150
155	0.0086	490.0	1.8389	0.0080	488.7	1.8318							155
160	0.0088	495.9	1.8525	0.0082	494.6	1.8456							160
165	0.0089	501.8	1.8659	0.0083	500.5	1.8591							165
170	0.0091	507.6	1.8792	0.0085	506.4	1.8726							170
175	0.0093	513.5	1.8924	0.0087	512.3	1.8858							175
180	0.0094	519.4	1.9054	0.0088	518.2	1.8989							180
185	0.0096	525.2	1.9183	0.0090	524.2	1.9119							185
190	0.0098	531.1	1.9311	0.0091	530.1	1.9248							190
195	0.0099	537.0	1.9438	0.0093	536.0	1.9375							195
200	0.0101	542.9	1.9563	0.0094	541.9	1.9501							200
205	0.0103	548.8	1.9688	0.0096	547.9	1.9626							205



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