



# Opteon™ XL41

Refrigerant (R-454B)

## Product Information

### Pressure Temperature Tables for Opteon™ XL41 (R-454B)

#### Physical Property Summary

Molecular Weight	62.6 g/mol
Saturated Liquid Temperature at One Atmosphere	-50.5 °C
Saturated Vapor Temperature at One Atmosphere	-49.5 °C
Critical Temperature	78.1 °C
Critical Pressure	52.669 bar
Critical Density	443.03 kg/m <sup>3</sup>
Critical Volume	0.00226 m <sup>3</sup> /kg
Ozone Depletion Potential	0
Global Warming Potential (AR4)	466
ASHRAE Standard 34 / ISO 817 Safety Rating	A2L
Lower Flammable Limit	0.303 kg/m <sup>3</sup>

Opteon™ XL41 (R-454B) is a mildly flammable low global warming potential (GWP) hydrofluoro-olefin (HFO) based refrigerant to replace R-410A in new equipment designs. Opteon™ XL41 offers the optimal balance of properties to replace R-410A in positive displacement, direct expansion air conditioning, heat pump and chiller applications.

Opteon™ XL41 is the lowest GWP Opteon™ replacement for R-410A (78% reduction) and provides improved performance. Opteon™ XL41 offers similar properties to R-410A which makes it easy and cost-effective to apply in new equipment without major modifications.

Opteon™ XL41 is classified as a mildly flammable (ISO/ ASHRAE class 2L) refrigerant. Please check your local regulations and Standards such as PED, EN 378 or ISO 5149 to verify the allowable filling charge, new equipment design and safe handling requirements for the intended application.

Temperature Pressure Tables

Units: Temperature = °C, Pressure = bar gauge (Torr for <0 bar gauge)

Temperature (°C)	Saturated Pressure (bar)		Temperature (°C)	Saturated Pressure (bar)		Temperature (°C)	Saturated Pressure (bar)	
	Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)
-60	300 Torr	323 Torr	-13	3.900	3.692	34	18.797	18.152
-59	274 Torr	298 Torr	-12	4.076	3.861	35	19.298	18.643
-58	246 Torr	272 Torr	-11	4.257	4.035	36	19.808	19.142
-57	218 Torr	245 Torr	-10	4.443	4.214	37	20.327	19.652
-56	188 Torr	217 Torr	-9	4.634	4.398	38	20.857	20.171
-55	157 Torr	187 Torr	-8	4.829	4.587	39	21.396	20.700
-54	125 Torr	156 Torr	-7	5.030	4.780	40	21.945	21.239
-53	91 Torr	124 Torr	-6	5.236	4.979	41	22.504	21.789
-52	56 Torr	90 Torr	-5	5.448	5.182	42	23.073	22.348
-51	19 Torr	55 Torr	-4	5.664	5.391	43	23.652	22.919
-50	0.026	19 Torr	-3	5.886	5.606	44	24.242	23.500
-49	0.079	0.025	-2	6.114	5.825	45	24.842	24.091
-48	0.134	0.078	-1	6.347	6.050	46	25.453	24.694
-47	0.191	0.133	0	6.586	6.281	47	26.075	25.308
-46	0.250	0.189	1	6.831	6.518	48	26.708	25.934
-45	0.312	0.248	2	7.082	6.760	49	27.352	26.570
-44	0.376	0.310	3	7.339	7.008	50	28.007	27.219
-43	0.443	0.373	4	7.601	7.262	51	28.674	27.880
-42	0.512	0.439	5	7.870	7.522	52	29.352	28.552
-41	0.583	0.508	6	8.146	7.788	53	30.042	29.237
-40	0.657	0.579	7	8.427	8.061	54	30.744	29.934
-39	0.734	0.652	8	8.715	8.339	55	31.458	30.644
-38	0.814	0.729	9	9.010	8.625	56	32.184	31.368
-37	0.896	0.807	10	9.311	8.916	57	32.922	32.104
-36	0.981	0.889	11	9.619	9.215	58	33.673	32.854
-35	1.069	0.974	12	9.934	9.520	59	34.437	33.617
-34	1.161	1.061	13	10.256	9.832	60	35.213	34.394
-33	1.255	1.151	14	10.585	10.151	61	36.003	35.186
-32	1.352	1.245	15	10.921	10.477	62	36.806	35.992
-31	1.453	1.341	16	11.264	10.810	63	37.622	36.814
-30	1.557	1.441	17	11.614	11.150	64	38.452	37.650
-29	1.664	1.544	18	11.972	11.498	65	39.296	38.502
-28	1.775	1.650	19	12.338	11.853	66	40.154	39.370
-27	1.889	1.759	20	12.711	12.215	67	41.027	40.255
-26	2.007	1.873	21	13.092	12.586	68	41.914	41.157
-25	2.129	1.989	22	13.481	12.964	69	-	-
-24	2.254	2.109	23	13.877	13.350	70	-	-
-23	2.383	2.233	24	14.282	13.744	71	-	-
-22	2.516	2.361	25	14.695	14.146	72	-	-
-21	2.653	2.492	26	15.116	14.557	73	-	-
-20	2.794	2.628	27	15.546	14.976	74	-	-
-19	2.939	2.767	28	15.984	15.403	75	-	-
-18	3.088	2.911	29	16.431	15.839	76	-	-
-17	3.242	3.058	30	16.886	16.284	77	-	-
-16	3.399	3.210	31	17.350	16.737	78	-	-
-15	3.562	3.366	32	17.823	17.200	79	-	-
-14	3.729	3.527	33	18.306	17.671	80	-	-

Pressure Temperature Tables

Units: Pressure = bar gauge (Torr for <0 bar gauge), Temperature = °C

Pressure (bar)	Saturated Temperature (°C)		Pressure (bar)	Saturated Temperature (°C)		Pressure (bar)	Saturated Temperature (°C)	
	Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)
310 Torr	-60.4	-59.5	1.459	-30.9	-29.8	9.163	9.5	10.8
297 Torr	-59.9	-58.9	1.529	-30.3	-29.1	9.449	10.4	11.8
284 Torr	-59.4	-58.5	1.601	-29.6	-28.5	9.743	11.4	12.7
271 Torr	-58.9	-57.9	1.675	-28.9	-27.8	10.046	12.4	13.7
257 Torr	-58.4	-57.4	1.751	-28.2	-27.1	10.357	13.3	14.6
243 Torr	-57.9	-56.9	1.829	-27.5	-26.4	10.677	14.3	15.6
229 Torr	-57.4	-56.4	1.909	-26.8	-25.7	11.006	15.3	16.6
214 Torr	-56.9	-55.9	1.991	-26.1	-25.0	11.344	16.2	17.6
199 Torr	-56.4	-55.4	2.075	-25.4	-24.3	11.692	17.2	18.6
183 Torr	-55.8	-54.9	2.162	-24.7	-23.6	12.049	18.2	19.5
167 Torr	-55.3	-54.3	2.251	-24.0	-22.9	12.416	19.2	20.5
150 Torr	-54.8	-53.8	2.343	-23.3	-22.1	12.794	20.2	21.6
133 Torr	-54.3	-53.3	2.437	-22.6	-21.4	13.182	21.2	22.6
115 Torr	-53.7	-52.7	2.534	-21.9	-20.7	13.581	22.3	23.6
97 Torr	-53.2	-52.2	2.634	-21.1	-20.0	13.992	23.3	24.6
78 Torr	-52.6	-51.6	2.737	-20.4	-19.2	14.414	24.3	25.7
59 Torr	-52.1	-51.1	2.842	-19.7	-18.5	14.848	25.4	26.7
39 Torr	-51.5	-50.5	2.95	-18.9	-17.7	15.294	26.4	27.7
19 Torr	-51.0	-50.0	3.061	-18.2	-17.0	15.753	27.5	28.8
0.003	-50.4	-49.4	3.176	-17.4	-16.2	16.225	28.5	29.9
0.032	-49.9	-48.9	3.294	-16.7	-15.5	16.71	29.6	30.9
0.061	-49.3	-48.3	3.415	-15.9	-14.7	17.209	30.7	32.0
0.091	-48.8	-47.8	3.54	-15.1	-13.9	17.722	31.8	33.1
0.122	-48.2	-47.2	3.668	-14.4	-13.1	18.249	32.9	34.2
0.154	-47.6	-46.6	3.8	-13.6	-12.4	18.791	34.0	35.3
0.187	-47.1	-46.0	3.935	-12.8	-11.6	19.348	35.1	36.4
0.221	-46.5	-45.5	4.074	-12.0	-10.8	19.921	36.2	37.5
0.256	-45.9	-44.9	4.217	-11.2	-10.0	20.51	37.3	38.6
0.292	-45.3	-44.3	4.364	-10.4	-9.2	21.115	38.5	39.8
0.329	-44.7	-43.7	4.515	-9.6	-8.4	21.737	39.6	40.9
0.367	-44.1	-43.1	4.67	-8.8	-7.6	22.377	40.8	42.1
0.406	-43.5	-42.5	4.83	-8.0	-6.7	23.035	41.9	43.2
0.446	-43.0	-41.9	4.994	-7.2	-5.9	23.711	43.1	44.4
0.487	-42.4	-41.3	5.163	-6.4	-5.1	24.406	44.3	45.5
0.529	-41.8	-40.7	5.337	-5.5	-4.3	25.121	45.5	46.7
0.572	-41.2	-40.1	5.516	-4.7	-3.4	25.856	46.6	47.9
0.617	-40.5	-39.5	5.7	-3.8	-2.6	26.612	47.8	49.1
0.663	-39.9	-38.9	5.889	-3.0	-1.7	27.389	49.1	50.3
0.71	-39.3	-38.2	6.083	-2.1	-0.9	28.188	50.3	51.5
0.758	-38.7	-37.6	6.283	-1.3	0.0	29.009	51.5	52.7
0.808	-38.1	-37.0	6.488	-0.4	0.9	29.853	52.7	53.9
0.859	-37.4	-36.4	6.699	0.5	1.8	30.721	54.0	55.1
0.912	-36.8	-35.7	6.916	1.3	2.6	31.614	55.2	56.3
0.966	-36.2	-35.1	7.139	2.2	3.5	32.532	56.5	57.6
1.022	-35.5	-34.4	7.368	3.1	4.4	33.476	57.7	58.8
1.079	-34.9	-33.8	7.604	4.0	5.3	34.446	59.0	60.1
1.138	-34.2	-33.1	7.846	4.9	6.2	35.443	60.3	61.3
1.199	-33.6	-32.5	8.095	5.8	7.1	36.468	61.6	62.6
1.261	-32.9	-31.8	8.351	6.7	8.0	37.522	62.9	63.8
1.325	-32.3	-31.2	8.614	7.7	9.0	38.606	64.2	65.1
1.391	-31.6	-30.5	8.885	8.6	9.9	39.72	65.5	66.4
						40.866	66.8	67.7

Temperature Pressure Tables

Units: Temperature = °C, Pressure = bar absolute

Temperature (°C)	Saturated Pressure (bar)	
	Liquid (Bubble)	Vapor (Dew)
-60	0.613	0.582
-59	0.648	0.615
-58	0.685	0.650
-57	0.723	0.686
-56	0.762	0.724
-55	0.804	0.764
-54	0.847	0.805
-53	0.892	0.848
-52	0.939	0.893
-51	0.988	0.939
-50	1.039	0.988
-49	1.092	1.038
-48	1.147	1.091
-47	1.204	1.146
-46	1.263	1.202
-45	1.325	1.261
-44	1.389	1.323
-43	1.456	1.386
-42	1.525	1.452
-41	1.596	1.521
-40	1.670	1.592
-39	1.747	1.665
-38	1.827	1.742
-37	1.909	1.820
-36	1.994	1.902
-35	2.082	1.987
-34	2.174	2.074
-33	2.268	2.164
-32	2.365	2.258
-31	2.466	2.354
-30	2.570	2.454
-29	2.677	2.557
-28	2.788	2.663
-27	2.902	2.772
-26	3.020	2.886
-25	3.142	3.002
-24	3.267	3.122
-23	3.396	3.246
-22	3.529	3.374
-21	3.666	3.505
-20	3.807	3.641
-19	3.952	3.780
-18	4.101	3.924
-17	4.255	4.071
-16	4.412	4.223
-15	4.575	4.379
-14	4.742	4.540

Temperature (°C)	Saturated Pressure (bar)	
	Liquid (Bubble)	Vapor (Dew)
-13	4.913	4.705
-12	5.089	4.874
-11	5.270	5.048
-10	5.456	5.227
-9	5.647	5.411
-8	5.842	5.600
-7	6.043	5.793
-6	6.249	5.992
-5	6.461	6.195
-4	6.677	6.404
-3	6.899	6.619
-2	7.127	6.838
-1	7.360	7.063
0	7.599	7.294
1	7.844	7.531
2	8.095	7.773
3	8.352	8.021
4	8.614	8.275
5	8.883	8.535
6	9.159	8.801
7	9.440	9.074
8	9.728	9.352
9	10.023	9.638
10	10.324	9.929
11	10.632	10.228
12	10.947	10.533
13	11.269	10.845
14	11.598	11.164
15	11.934	11.490
16	12.277	11.823
17	12.627	12.163
18	12.985	12.511
19	13.351	12.866
20	13.724	13.228
21	14.105	13.599
22	14.494	13.977
23	14.890	14.363
24	15.295	14.757
25	15.708	15.159
26	16.129	15.570
27	16.559	15.989
28	16.997	16.416
29	17.444	16.852
30	17.899	17.297
31	18.363	17.750
32	18.836	18.213
33	19.319	18.684

Temperature (°C)	Saturated Pressure (bar)	
	Liquid (Bubble)	Vapor (Dew)
34	19.810	19.165
35	20.311	19.656
36	20.821	20.155
37	21.340	20.665
38	21.870	21.184
39	22.409	21.713
40	22.958	22.252
41	23.517	22.802
42	24.086	23.361
43	24.665	23.932
44	25.255	24.513
45	25.855	25.104
46	26.466	25.707
47	27.088	26.321
48	27.721	26.947
49	28.365	27.583
50	29.020	28.232
51	29.687	28.893
52	30.365	29.565
53	31.055	30.250
54	31.757	30.947
55	32.471	31.657
56	33.197	32.381
57	33.935	33.117
58	34.686	33.867
59	35.450	34.630
60	36.226	35.407
61	37.016	36.199
62	37.819	37.005
63	38.635	37.827
64	39.465	38.663
65	40.309	39.515
66	41.167	40.383
67	42.040	41.268
68	42.927	42.170
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-

Pressure Temperature Tables

Units: Pressure = bar absolute, Temperature = °C

Pressure (bar)	Saturated Temperature (°C)	
	Liquid (Bubble)	Vapor (Dew)
0.6	-60.4	-59.5
0.617	-59.9	-58.9
0.634	-59.4	-58.5
0.652	-58.9	-57.9
0.67	-58.4	-57.4
0.689	-57.9	-56.9
0.708	-57.4	-56.4
0.728	-56.9	-55.9
0.748	-56.4	-55.4
0.769	-55.8	-54.9
0.791	-55.3	-54.3
0.813	-54.8	-53.8
0.836	-54.3	-53.3
0.86	-53.7	-52.7
0.884	-53.2	-52.2
0.909	-52.6	-51.6
0.935	-52.1	-51.1
0.961	-51.5	-50.5
0.988	-51.0	-50.0
1.016	-50.4	-49.4
1.045	-49.9	-48.9
1.074	-49.3	-48.3
1.104	-48.8	-47.8
1.135	-48.2	-47.2
1.167	-47.6	-46.6
1.2	-47.1	-46.0
1.234	-46.5	-45.5
1.269	-45.9	-44.9
1.305	-45.3	-44.3
1.342	-44.7	-43.7
1.38	-44.1	-43.1
1.419	-43.5	-42.5
1.459	-43.0	-41.9
1.5	-42.4	-41.3
1.542	-41.8	-40.7
1.585	-41.2	-40.1
1.63	-40.5	-39.5
1.676	-39.9	-38.9
1.723	-39.3	-38.2
1.771	-38.7	-37.6
1.821	-38.1	-37.0
1.872	-37.4	-36.4
1.925	-36.8	-35.7
1.979	-36.2	-35.1
2.035	-35.5	-34.4
2.092	-34.9	-33.8
2.151	-34.2	-33.1
2.212	-33.6	-32.5
2.274	-32.9	-31.8
2.338	-32.3	-31.2
2.404	-31.6	-30.5

Pressure (bar)	Saturated Temperature (°C)	
	Liquid (Bubble)	Vapor (Dew)
2.472	-30.9	-29.8
2.542	-30.3	-29.1
2.614	-29.6	-28.5
2.688	-28.9	-27.8
2.764	-28.2	-27.1
2.842	-27.5	-26.4
2.922	-26.8	-25.7
3.004	-26.1	-25.0
3.088	-25.4	-24.3
3.175	-24.7	-23.6
3.264	-24.0	-22.9
3.356	-23.3	-22.1
3.45	-22.6	-21.4
3.547	-21.9	-20.7
3.647	-21.1	-20.0
3.75	-20.4	-19.2
3.855	-19.7	-18.5
3.963	-18.9	-17.7
4.074	-18.2	-17.0
4.189	-17.4	-16.2
4.307	-16.7	-15.5
4.428	-15.9	-14.7
4.553	-15.1	-13.9
4.681	-14.4	-13.1
4.813	-13.6	-12.4
4.948	-12.8	-11.6
5.087	-12.0	-10.8
5.23	-11.2	-10.0
5.377	-10.4	-9.2
5.528	-9.6	-8.4
5.683	-8.8	-7.6
5.843	-8.0	-6.7
6.007	-7.2	-5.9
6.176	-6.4	-5.1
6.35	-5.5	-4.3
6.529	-4.7	-3.4
6.713	-3.8	-2.6
6.902	-3.0	-1.7
7.096	-2.1	-0.9
7.296	-1.3	0.0
7.501	-0.4	0.9
7.712	0.5	1.8
7.929	1.3	2.6
8.152	2.2	3.5
8.381	3.1	4.4
8.617	4.0	5.3
8.859	4.9	6.2
9.108	5.8	7.1
9.364	6.7	8.0
9.627	7.7	9.0
9.898	8.6	9.9

Pressure (bar)	Saturated Temperature (°C)	
	Liquid (Bubble)	Vapor (Dew)
10.176	9.5	10.8
10.462	10.4	11.8
10.756	11.4	12.7
11.059	12.4	13.7
11.37	13.3	14.6
11.69	14.3	15.6
12.019	15.3	16.6
12.357	16.2	17.6
12.705	17.2	18.6
13.062	18.2	19.5
13.429	19.2	20.5
13.807	20.2	21.6
14.195	21.2	22.6
14.594	22.3	23.6
15.005	23.3	24.6
15.427	24.3	25.7
15.861	25.4	26.7
16.307	26.4	27.7
16.766	27.5	28.8
17.238	28.5	29.9
17.723	29.6	30.9
18.222	30.7	32.0
18.735	31.8	33.1
19.262	32.9	34.2
19.804	34.0	35.3
20.361	35.1	36.4
20.934	36.2	37.5
21.523	37.3	38.6
22.128	38.5	39.8
22.75	39.6	40.9
23.39	40.8	42.1
24.048	41.9	43.2
24.724	43.1	44.4
25.419	44.3	45.5
26.134	45.5	46.7
26.869	46.6	47.9
27.625	47.8	49.1
28.402	49.1	50.3
29.201	50.3	51.5
30.022	51.5	52.7
30.866	52.7	53.9
31.734	54.0	55.1
32.627	55.2	56.3
33.545	56.5	57.6
34.489	57.7	58.8
35.459	59.0	60.1
36.456	60.3	61.3
37.481	61.6	62.6
38.535	62.9	63.8
39.619	64.2	65.1
40.733	65.5	66.4
41.879	66.8	67.7

# Opteon™ XL41 (R-454B)

## Temperature Pressure Tables

Units: Temperature = °C, Pressure = kPa

Temperature (°C)	Saturated Pressure (kPa)		Temperature (°C)	Saturated Pressure (kPa)	
	Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)
-60	61	58	-13	491	470
-59	65	62	-12	509	487
-58	68	65	-11	527	505
-57	72	69	-10	546	523
-56	76	72	-9	565	541
-55	80	76	-8	584	560
-54	85	80	-7	604	579
-53	89	85	-6	625	599
-52	94	89	-5	646	620
-51	99	94	-4	668	640
-50	104	99	-3	690	662
-49	109	104	-2	713	684
-48	115	109	-1	736	706
-47	120	115	0	760	729
-46	126	120	1	784	753
-45	133	126	2	809	777
-44	139	132	3	835	802
-43	146	139	4	861	827
-42	152	145	5	888	853
-41	160	152	6	916	880
-40	167	159	7	944	907
-39	175	167	8	973	935
-38	183	174	9	1002	964
-37	191	182	10	1032	993
-36	199	190	11	1063	1023
-35	208	199	12	1095	1053
-34	217	207	13	1127	1084
-33	227	216	14	1160	1116
-32	237	226	15	1193	1149
-31	247	235	16	1228	1182
-30	257	245	17	1263	1216
-29	268	256	18	1299	1251
-28	279	266	19	1335	1287
-27	290	277	20	1372	1323
-26	302	289	21	1411	1360
-25	314	300	22	1449	1398
-24	327	312	23	1489	1436
-23	340	325	24	1530	1476
-22	353	337	25	1571	1516
-21	367	351	26	1613	1557
-20	381	364	27	1656	1599
-19	395	378	28	1700	1642
-18	410	392	29	1744	1685
-17	425	407	30	1790	1730
-16	441	422	31	1836	1775
-15	457	438	32	1884	1821
-14	474	454	33	1932	1868

Temperature (°C)	Saturated Pressure (kPa)		Temperature (°C)	Saturated Pressure (kPa)	
	Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)
34	1981	1917	60	3623	3541
35	2031	1966	61	3702	3620
36	2082	2016	62	3782	3701
37	2134	2066	63	3863	3783
38	2187	2118	64	3947	3866
39	2241	2171	65	4031	3952
40	2296	2225	66	4117	4038
41	2352	2280	67	4204	4127
42	2409	2336	68	4293	4217
43	2467	2393	69	4383	4309
44	2525	2451	70	4475	4403
45	2586	2510	71	-	-
46	2647	2571	72	-	-
47	2709	2632	73	-	-
48	2772	2695	74	-	-
49	2837	2758	75	-	-
50	2902	2823	76	-	-
51	2969	2889	77	-	-
52	3037	2957	78	-	-
53	3106	3025	79	-	-
54	3176	3095	80	-	-
55	3247	3166			
56	3320	3238			
57	3393	3312			
58	3469	3387			
59	3545	3463			

## Pressure Temperature Tables

Units: Pressure = bar kPa, Temperature = °C

Pressure (kPa)	Saturated Temperature (°C)		Pressure (kPa)	Saturated Temperature (°C)	
	Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)
60	-60.4	-59.5	221	-33.6	-32.5
61	-60.1	-59.2	227	-33.0	-31.9
62	-59.8	-58.9	234	-32.3	-31.1
63	-59.5	-58.6	241	-31.6	-30.4
64	-59.2	-58.3	248	-30.9	-29.7
65	-59.0	-58.0	255	-30.2	-29.1
67	-58.4	-57.4	262	-29.5	-28.4
69	-57.9	-56.9	270	-28.8	-27.7
71	-57.3	-56.4	278	-28.1	-26.9
73	-56.8	-55.8	286	-27.4	-26.2
75	-56.3	-55.3	294	-26.7	-25.5
77	-55.8	-54.8	303	-25.9	-24.8
79	-55.3	-54.4	312	-25.2	-24.0
81	-54.9	-53.9	321	-24.5	-23.3
83	-54.4	-53.4	330	-23.7	-22.6
85	-53.9	-52.9	340	-23.0	-21.8
87	-53.5	-52.5	350	-22.2	-21.0
89	-53.0	-52.1	360	-21.5	-20.3
91	-52.6	-51.6	371	-20.7	-19.5
93	-52.2	-51.2	382	-19.9	-18.7
95	-51.8	-50.8	393	-19.1	-18.0
97	-51.4	-50.4	405	-18.3	-17.1
100	-50.8	-49.8	417	-17.5	-16.3
103	-50.2	-49.2	429	-16.8	-15.6
106	-49.6	-48.6	442	-16.0	-14.7
109	-49.0	-48.0	455	-15.2	-13.9
112	-48.5	-47.5	469	-14.3	-13.1
115	-47.9	-46.9	483	-13.5	-12.3
118	-47.4	-46.4	497	-12.7	-11.4
121	-46.9	-45.9	512	-11.8	-10.6
124	-46.4	-45.4	527	-11.0	-9.8
127	-45.9	-44.9	543	-10.1	-8.9
130	-45.4	-44.4	559	-9.3	-8.0
134	-44.8	-43.7	576	-8.4	-7.2
138	-44.1	-43.1	593	-7.6	-6.3
142	-43.5	-42.5	611	-6.7	-5.4
146	-42.9	-41.9	629	-5.8	-4.5
150	-42.4	-41.3	648	-4.9	-3.6
154	-41.8	-40.7	668	-4.0	-2.7
158	-41.2	-40.2	688	-3.1	-1.8
162	-40.7	-39.6	709	-2.2	-0.9
167	-40.0	-38.9	730	-1.3	0.0
172	-39.3	-38.3	752	-0.3	1.0
177	-38.7	-37.6	775	0.6	1.9
182	-38.1	-37.0	799	1.6	2.9
187	-37.5	-36.4	823	2.5	3.8
192	-36.9	-35.8	848	3.5	4.8
197	-36.3	-35.2	874	4.5	5.8
203	-35.6	-34.5	901	5.5	6.8
209	-34.9	-33.8	928	6.4	7.7
215	-34.3	-33.2	956	7.4	8.7

Pressure (kPa)	Saturated Temperature (°C)		Pressure (kPa)	Saturated Temperature (°C)	
	Liquid (Bubble)	Vapor (Dew)		Liquid (Bubble)	Vapor (Dew)
985	8.4	9.7	1015	9.4	10.7
1046	10.4	11.8	1078	11.5	12.8
1111	12.5	13.8	1145	13.6	14.9
1180	14.6	15.9	1216	15.7	17.0
1253	16.7	18.1	1291	17.8	19.1
1331	18.9	20.2	1372	20.0	21.3
1414	21.1	22.4	1457	22.2	23.5
1502	23.3	24.7	1548	24.5	25.8
1595	25.6	26.9	1644	26.7	28.1
1694	27.9	29.2	1746	29.0	30.4
1800	30.2	31.5	1855	31.4	32.7
1912	32.6	33.9	1971	33.8	35.1
2032	35.0	36.3	2094	36.2	37.5
2158	37.5	38.8	2224	38.7	40.0
2292	39.9	41.2	2363	41.2	42.5
2436	42.5	43.7	2511	43.8	45.0
2588	45.0	46.3	2668	46.3	47.6
2750	47.7	48.9	2835	49.0	50.2
2922	50.3	51.5	2922	50.3	51.5
3105	53.0	54.1	3012	51.6	52.8
3201	54.4	55.5	3105	53.0	54.1
3300	55.7	56.8	3201	54.4	55.5
3402	57.1	58.2	3300	55.7	56.8
3507	58.5	59.6	3402	57.1	58.2
3615	59.9	60.9	3507	58.5	59.6
3727	61.3	62.3	3615	59.9	60.9
3842	62.7	63.7	3727	61.3	62.3
3961	64.2	65.1	3842	62.7	63.7
4083	65.6	66.5	3961	64.2	65.1
4209	67.1	67.9	4083	65.6	66.5
4339	68.5	69.3	4209	67.1	67.9
4473	70.0	70.7	4339	68.5	69.3
4611	71.5	72.1	4473	70.0	70.7

For more information on the Opteon™ family of refrigerants or other refrigerants from Chemours, visit

**[www.opteon.com](http://www.opteon.com)**

The information set forth herein is furnished free of charge and based on technical data that Chemours believes to be reliable. It is intended for use by persons having technical skill, at their own risk. Because conditions of use are outside our control, Chemours makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe, any patents or patent applications.

© 2016 The Chemours Company FC, LLC. Opteon™ and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC. Chemours™ and the Chemours Logo are trademarks of The Chemours Company.