

Dynalene HC

Low Temperature Water-Based Heat Transfer Fluid

Dynalene HC[®] is a water-based heat transfer fluid engineered to deliver high performance throughout its temperature range. This user friendly fluid, poses little risk to the environment, equipment or personnel. Five concentrations of Dynalene HC[®] are available to serve a wide range of applications.

Custom formulations are available to satisfy special applications at any temperature between ambient and -55°C (-67°F).



Benefits at a Glance

- ◆ Non-toxic
- ◆ Non-flammable
- ◆ Aqueous-based
- ◆ Superior heat transfer characteristics
- ◆ Attractive alternative to glycols and

Typical Properties of Dynalene HC[®]

Composition: Dissolved ionic solids/ water
Appearance and Color: clear to light blue

Property	SI units	US units
Freezing Point:		
HC-10	< -20°C	< -4°F
HC-20	< -30°C	< -22°F
HC-30	< -40°C	< -40°F
HC-40	< -50°C	< -58°F
HC-50	< -55°C	< -67°F
Boiling Point:		
HC-10	108°C	226°F
HC-20	110°C	230°F
HC-30	112°C	234°F
HC-40	115°C	239°F
HC-50	118°C	244°F
Flash Point:	None	None
Fire Point:	None	None

Recommended Temperature Ranges

Closed System

HC-50: -50°C (-58°F) to 218°C (425°F)
 HC-40: -40°C (-40°F) to 218°C (425°F)
 HC-30: -30°C (-22°F) to 218°C (425°F)
 HC-20: -20°C (-4°F) to 218°C (425°F)
 HC-10: -10°C (14°F) to 218°C (425°F)

Open Systems

HC-50: -51°C (-60°F) to 110°C (230°F)

For more technical, health and safety information or to request a Material Safety Data Sheet (MSDS), contact our Dynalene sales representative at:

Phone: 610-262-9686

Fax: 610-262-7437

E-mail: info@dynalene.com

Dynalene HC-50

Temperature °F	Viscosity cP	Thermal Conductivity Btu/hr•ft ² •F	Specific Heat Btu/lb•F	Density lb/ft ³
-58	38.4	0.2556	0.612	85.9
-50	28.3	0.2582	0.615	85.7
-40	20.4	0.2615	0.617	85.6
-20	11.9	0.2680	0.622	85.2
0	7.7	0.2745	0.628	84.8
20	5.4	0.2811	0.633	84.4
40	4.2	0.2876	0.638	84.0
60	3.4	0.2942	0.643	83.6
80	2.9	0.3007	0.649	83.3
100	2.4	0.3072	0.654	82.9
120	2.1	0.3138	0.659	82.5
140	1.8	0.3203	0.664	82.1
160	1.6	0.3268	0.669	81.7
180	1.4	0.3334	0.675	81.3
200	1.3	0.3399	0.680	80.9
220	1.2	0.3464	0.685	80.6
240	1.1	0.3530	0.690	80.2
260	0.97	0.3595	0.696	79.8
280	0.89	0.3660	0.701	79.4
300	0.82	0.3726	0.706	79.0
320	0.76	0.3791	0.711	78.6
340	0.70	0.3857	0.717	78.3
360	0.65	0.3922	0.722	77.9
380	0.61	0.3987	0.727	77.5
400	0.57	0.4053	0.732	77.1
420	0.53	0.4118	0.737	76.7
425	0.525	0.4134	0.739	76.6

Temperature °C	Viscosity mPa•s	Thermal Conductivity W/m•K	Specific Heat kJ/kg•K	Density kg/m ³
-50	38.4	0.4345	2.563	1378.8
-40	20.4	0.4445	2.583	1373.3
-30	12.5	0.4545	2.602	1367.7
-20	8.4	0.4645	2.622	1362.2
-10	5.99	0.4745	2.642	1356.6
0	4.7	0.4845	2.661	1351.1
10	3.8	0.4945	2.681	1345.6
20	3.2	0.5045	2.701	1340.0
30	2.7	0.5145	2.720	1334.5
40	2.4	0.5245	2.740	1328.9
50	2.1	0.5345	2.760	1323.4
60	1.8	0.5445	2.780	1317.8
70	1.6	0.5545	2.799	1312.3
80	1.5	0.5645	2.819	1306.7
90	1.3	0.5745	2.839	1301.2
100	1.2	0.5845	2.858	1295.7
110	1.1	0.5945	2.878	1290.1
120	1.0	0.6045	2.898	1284.6
130	0.94	0.6145	2.917	1279.0
140	0.87	0.6245	2.937	1273.5
150	0.81	0.6345	2.957	1267.9
160	0.76	0.6445	2.977	1262.4
170	0.71	0.6545	2.996	1256.8
180	0.66	0.6645	3.016	1251.3
190	0.62	0.6745	3.036	1245.7
200	0.58	0.6845	3.055	1240.2
210	0.55	0.6945	3.075	1234.7
218	0.53	0.7025	3.091	1230.2

Dynalene HC-40

Temperature °F	Viscosity cP	Thermal Conductivity Btu/hr•ft ² •F	Specific Heat Btu/lb•F	Density lb/ft ³
-40	14.9	0.2641	0.669	84.0
-20	8.8	0.2707	0.675	83.6
0	6.1	0.2772	0.681	83.2
20	4.5	0.2837	0.687	82.8
40	3.5	0.2903	0.693	82.5
60	2.9	0.2968	0.699	82.1
80	2.4	0.3033	0.705	81.7
90	2.2	0.3066	0.708	81.5
100	2.0	0.3099	0.711	81.3
120	1.7	0.3164	0.717	80.9
140	1.5	0.3229	0.723	80.5
160	1.3	0.3295	0.729	80.1
180	1.2	0.3360	0.735	79.8
200	1.1	0.3425	0.741	79.4
220	0.95	0.3491	0.747	79.0
240	0.86	0.3556	0.753	78.6
260	0.79	0.3622	0.759	78.2
280	0.72	0.3687	0.765	77.8
300	0.66	0.3752	0.771	77.4
320	0.61	0.3818	0.777	77.0
340	0.56	0.3883	0.784	76.7
360	0.52	0.3948	0.790	76.3
380	0.49	0.4014	0.796	75.9
400	0.45	0.4079	0.802	75.5
420	0.42	0.4144	0.808	75.1
425	0.42	0.4161	0.809	75.0

Temperature °C	Viscosity mPa•s	Thermal Conductivity W/m•K	Specific Heat kJ/kg•K	Density kg/m ³
-40	14.9	0.4490	2.798	1348
-30	9.2	0.4590	2.820	1343
-20	6.5	0.4690	2.843	1337
-10	4.9	0.4790	2.866	1332
0	3.9	0.4890	2.889	1326
10	3.2	0.4990	2.912	1321
20	2.7	0.5090	2.934	1315
30	2.3	0.5190	2.957	1309
40	1.96	0.5290	2.980	1304
50	1.7	0.5390	3.003	1298
60	1.5	0.5490	3.026	1293
70	1.4	0.5590	3.048	1287
80	1.2	0.5690	3.071	1281
90	1.1	0.5790	3.094	1276
100	0.99	0.5890	3.117	1270
110	0.91	0.5990	3.140	1265
120	0.83	0.6090	3.162	1259
130	0.77	0.6190	3.185	1253
140	0.71	0.6290	3.208	1248
150	0.66	0.6390	3.231	1242
160	0.61	0.6490	3.254	1237
165	0.59	0.6540	3.265	1234
170	0.57	0.6590	3.276	1231
180	0.53	0.6690	3.299	1225
190	0.50	0.6790	3.322	1220
200	0.47	0.6890	3.345	1214
210	0.44	0.6990	3.368	1209
218	0.42	0.7070	3.386	1204

Dynalene HC-30

Temperature °F	Viscosity cP	Thermal Conductivity Btu/hr•ft•°F	Specific Heat Btu/lb•°F	Density lb/ft ³
-22	6.99	0.2756	0.708	81.0
-20	6.8	0.2762	0.708	81.0
0	5.3	0.2828	0.714	80.6
20	4.2	0.2893	0.721	80.3
40	3.4	0.2958	0.727	79.9
60	2.7	0.3024	0.733	79.6
80	2.3	0.3089	0.739	79.2
100	1.9	0.3155	0.745	78.9
120	1.6	0.3220	0.751	78.5
140	1.4	0.3285	0.757	78.2
160	1.2	0.3351	0.763	77.8
180	1.1	0.3416	0.770	77.5
200	0.95	0.3481	0.776	77.1
220	0.85	0.3547	0.782	76.8
240	0.76	0.3612	0.788	76.4
260	0.69	0.3677	0.794	76.0
280	0.62	0.3743	0.800	75.7
300	0.57	0.3808	0.806	75.3
320	0.52	0.3874	0.812	75.0
340	0.48	0.3939	0.819	74.6
360	0.44	0.4004	0.825	74.3
380	0.41	0.4070	0.831	73.9
400	0.38	0.4135	0.837	73.6
420	0.36	0.4200	0.843	73.2
425	0.35	0.4217	0.845	73.1

Temperature °C	Viscosity mPa•s	Thermal Conductivity W/m•K	Specific Heat kJ/kg•K	Density kg/m ³
-30	7.0	0.4685	2.961	1300
-20	5.5	0.4785	2.984	1295
-10	4.5	0.4885	3.007	1290
0	3.7	0.4985	3.031	1285
10	3.0	0.5085	3.054	1280
20	2.5	0.5185	3.077	1275
30	2.2	0.5285	3.100	1270
40	1.9	0.5385	3.123	1265
50	1.6	0.5485	3.146	1260
60	1.4	0.5585	3.169	1255
70	1.3	0.5685	3.192	1250
80	1.1	0.5785	3.215	1244
90	0.99	0.5885	3.238	1239
100	0.89	0.5985	3.262	1234
110	0.80	0.6085	3.285	1229
120	0.73	0.6185	3.308	1224
130	0.67	0.6285	3.331	1219
140	0.61	0.6385	3.354	1214
150	0.57	0.6485	3.377	1209
160	0.52	0.6585	3.400	1204
170	0.48	0.6685	3.423	1199
180	0.45	0.6785	3.446	1193
190	0.42	0.6885	3.469	1188
200	0.39	0.6985	3.493	1183
210	0.37	0.7085	3.516	1178
218	0.35	0.7165	3.534	1174

Dynalene HC-20

Temperature °F	Viscosity cP	Thermal Conductivity Btu/hr•ft•°F	Specific Heat Btu/lb•°F	Density lb/ft ³
-4	4.5	0.2838	0.745	78.4
0	4.3	0.2851	0.746	78.3
20	3.4	0.2917	0.752	77.9
40	2.8	0.2982	0.759	77.6
60	2.3	0.3047	0.765	77.2
80	1.9	0.3113	0.771	76.9
100	1.6	0.3178	0.777	76.5
120	1.4	0.3243	0.784	76.1
140	1.2	0.3309	0.790	75.8
160	1.0	0.3374	0.796	75.4
180	0.93	0.3440	0.803	75.1
200	0.82	0.3505	0.809	74.7
220	0.73	0.3570	0.815	74.3
240	0.66	0.3636	0.821	74.0
260	0.60	0.3701	0.828	73.6
280	0.54	0.3766	0.834	73.3
300	0.50	0.3832	0.840	72.9
320	0.46	0.3897	0.846	72.6
340	0.42	0.3962	0.853	72.2
360	0.39	0.4028	0.859	71.8
380	0.36	0.4093	0.865	71.5
400	0.34	0.4158	0.871	71.1
420	0.32	0.4224	0.878	70.8
425	0.31	0.4240	0.879	70.7

Temperature °C	Viscosity mPa•s	Thermal Conductivity W/m•K	Specific Heat kJ/kg•K	Density kg/m ³
-20	4.5	0.4825	3.117	1258
-10	3.6	0.4925	3.141	1253
0	3.0	0.5025	3.164	1248
10	2.5	0.5125	3.188	1242
20	2.1	0.5225	3.212	1237
30	1.8	0.5325	3.235	1232
40	1.6	0.5425	3.259	1227
50	1.4	0.5525	3.282	1222
60	1.2	0.5625	3.306	1216
70	1.1	0.5725	3.330	1211
80	0.95	0.5825	3.353	1206
90	0.85	0.5925	3.377	1201
100	0.77	0.6025	3.400	1196
110	0.70	0.6125	3.424	1191
120	0.63	0.6225	3.448	1185
130	0.58	0.6325	3.471	1180
140	0.54	0.6425	3.495	1175
150	0.49	0.6525	3.518	1170
160	0.46	0.6625	3.542	1165
170	0.43	0.6725	3.566	1159
180	0.40	0.6825	3.589	1154
190	0.37	0.6925	3.613	1149
200	0.35	0.7025	3.636	1144
210	0.33	0.7125	3.660	1139
218	0.31	0.7205	3.679	1134

Dynalene HC-10

Temperature °F	Viscosity cP	Thermal Conductivity Btu/hr•ft•°F	Specific Heat Btu/lb•°F	Density lb/ft ³	Temperature °C	Viscosity mPa•s	Thermal Conductivity W/m•K	Specific Heat kJ/kg•K	Density kg/m ³
14	3.0	0.2908	0.776	75.0	-10	3.0	0.4944	3.246	1204
20	2.8	0.2928	0.778	74.9	0	2.5	0.5044	3.271	1199
40	2.3	0.2993	0.784	74.6	10	2.1	0.5144	3.296	1195
60	1.9	0.3059	0.791	74.3	20	1.8	0.5244	3.320	1190
80	1.6	0.3124	0.797	74.0	30	1.5	0.5344	3.345	1186
90	1.5	0.3157	0.801	73.8	40	1.3	0.5444	3.370	1181
100	1.4	0.3189	0.804	73.6	50	1.2	0.5544	3.395	1177
120	1.2	0.3255	0.811	73.3	60	1.0	0.5644	3.420	1172
140	1.0	0.3320	0.817	73.0	70	0.91	0.5744	3.444	1167
160	0.90	0.3385	0.824	72.7	80	0.81	0.5844	3.469	1163
180	0.79	0.3451	0.830	72.4	90	0.73	0.5944	3.494	1158
200	0.71	0.3516	0.837	72.1	100	0.66	0.6044	3.519	1154
220	0.63	0.3581	0.843	71.8	110	0.60	0.6144	3.544	1149
240	0.57	0.3647	0.850	71.5	120	0.55	0.6244	3.568	1145
260	0.52	0.3712	0.857	71.1	130	0.51	0.6344	3.593	1140
280	0.47	0.3778	0.863	70.8	140	0.47	0.6444	3.618	1136
300	0.44	0.3843	0.870	70.5	150	0.43	0.6544	3.643	1131
320	0.40	0.3908	0.876	70.2	160	0.40	0.6644	3.668	1127
340	0.37	0.3974	0.883	69.9	170	0.37	0.6744	3.692	1122
360	0.34	0.4039	0.890	69.6	180	0.35	0.6844	3.717	1118
380	0.32	0.4104	0.896	69.3	190	0.33	0.6944	3.742	1113
400	0.3	0.4170	0.903	68.9	200	0.31	0.7044	3.767	1109
420	0.28	0.4235	0.909	68.6	210	0.29	0.7144	3.792	1104
425	0.28	0.4251	0.911	68.6	218	0.28	0.7224	3.811	1101