

Caldera 12



Food-Grade Low-Temperature Heat Transfer Fluid



Heat Transfer Fluids

Caldera 12 is formulated to meet HT-1 requirements for incidental food contact without comprising performance or fluid life. It utilizes clear base fluids that are free from impurities and aromatic compounds. Caldera 12 is ideal for low-temperature operations and rated for applications up to 450°F (232°C).

Applications

- Closed and open loop systems with a maximum bulk temperature of 450°F (232°C)
- Low-temperature food-grade systems

Performance Advantages



Nonfood Compounds
Category Code HT1
Registration # 154919

- **NSF HT-1 registered**
Meets requirements for incidental food contact
- **Low varnishing tendencies**
Allows for clean operation and greater thermal transfer efficiency
- **Ideal for food-processing applications**
- **Minimal odor**

Temperature Range



Typical Properties	Caldera 12
Minimum Temperature, °F (°C)	-40 (-40)
Maximum Film Temperature, °F (°C)	489 (254)
Maximum Bulk Temperature, °F (°C)	450 (232)
Pour Point, °F (°C)	-49 (-45)
Flash Point, °F (°C)	302 (150)
Fire Point, °F (°C)	327 (164)
Autoignition Point, °F (°C)	624 (329)
Thermal Expansion Coefficient, %/°F	0.0475
Thermal Conductivity @ 100°F, BTU/h-ft-F	0.0815
Heat Capacity @ 100°F, BTU/lb-F	0.508
Distillation Range (ASTM D2887), 10% °F	505
Distillation Range (ASTM D2887), 90% °F	946
Average Molecular Weight	372

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toll-free: 1-800-503-9533
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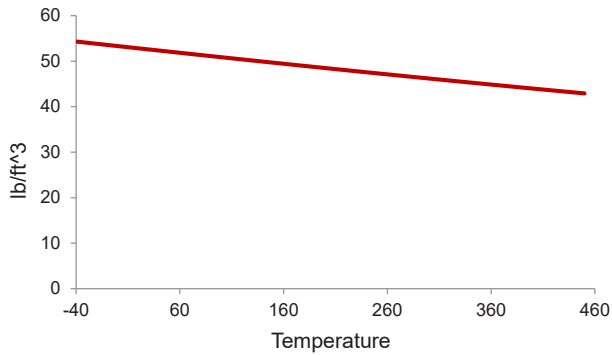
email: sales@iselinc.com
web: www.calderafluids.com

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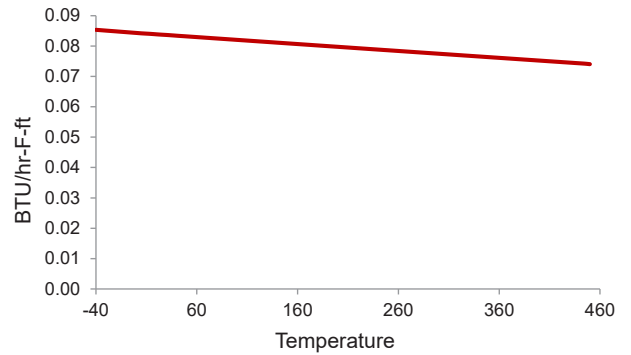


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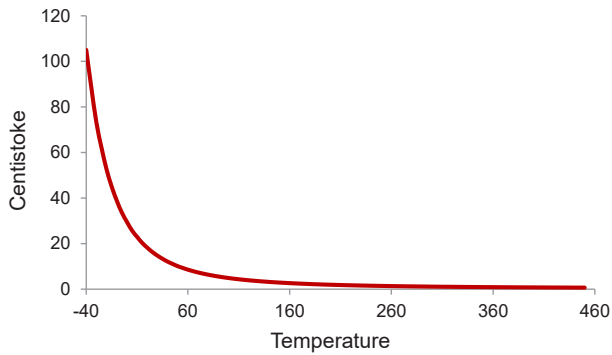
Density



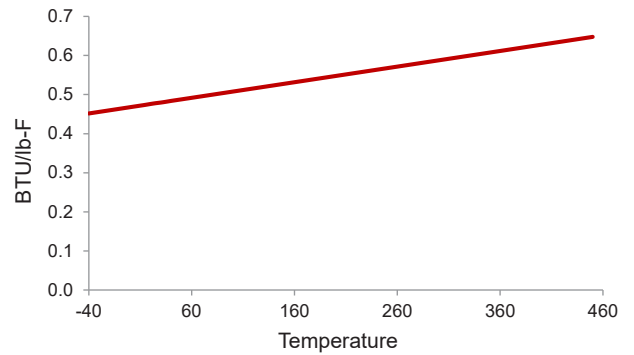
Thermal Conductivity



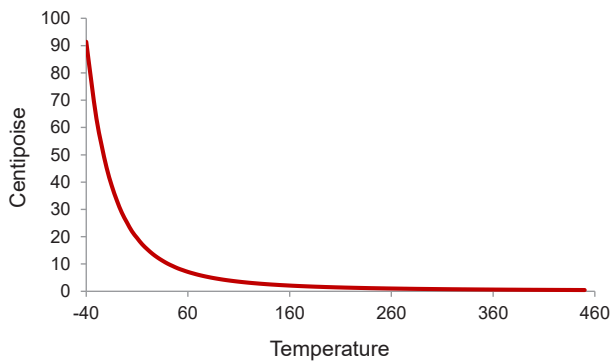
Kinematic Viscosity



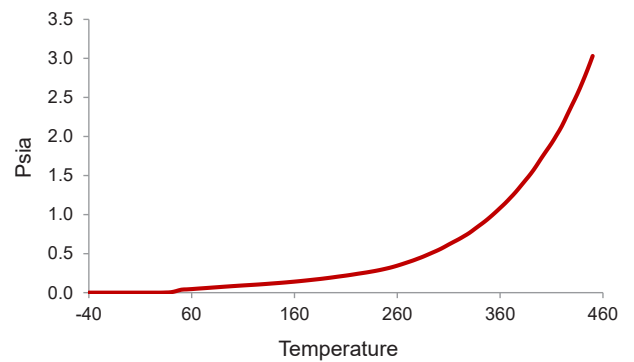
Heat Capacity



Dynamic Viscosity



Vapor Pressure



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Temperature (°F)	Density (lb/ft ³)	Kinematic Viscosity (Centistoke)	Dynamic Viscosity (Centipoise)	Thermal Conductivity (BTU/hr-F-ft)	Heat Capacity (BTU/lb-F)	Vapor Pressure (Psia)
-40	54.31	105.04	91.39	0.085	0.452	0.00
-35	54.19	88.51	76.83	0.085	0.454	0.00
-30	54.06	73.09	63.30	0.085	0.456	0.00
-25	53.94	62.13	53.68	0.085	0.458	0.00
-20	53.81	52.55	45.30	0.085	0.460	0.00
-15	53.69	45.05	38.74	0.085	0.462	0.00
-10	53.57	38.89	33.37	0.085	0.464	0.00
-5	53.44	33.62	28.78	0.084	0.466	0.00
0	53.32	29.53	25.22	0.084	0.468	0.00
5	53.19	25.74	21.93	0.084	0.470	0.00
10	53.07	22.95	19.51	0.084	0.472	0.00
15	52.94	20.30	17.22	0.084	0.474	0.00
20	52.82	18.21	15.41	0.084	0.476	0.00
25	52.70	16.32	13.77	0.084	0.478	0.00
30	52.57	14.72	12.40	0.084	0.480	0.00
35	52.45	13.33	11.20	0.084	0.482	0.00
40	52.33	12.09	10.14	0.083	0.484	0.01
45	52.21	11.06	9.25	0.083	0.486	0.02
50	52.08	10.08	8.41	0.083	0.488	0.04
55	51.96	9.30	7.74	0.083	0.490	0.04
60	51.84	8.55	7.10	0.083	0.492	0.05
65	51.72	7.92	6.56	0.083	0.494	0.05
70	51.59	7.33	6.06	0.083	0.496	0.06
75	51.47	6.81	5.62	0.083	0.498	0.06
80	51.35	6.35	5.22	0.083	0.500	0.06
85	51.23	5.92	4.86	0.082	0.502	0.07
90	51.11	5.55	4.55	0.082	0.504	0.07
95	50.99	5.20	4.24	0.082	0.506	0.08
100	50.87	4.90	3.99	0.082	0.508	0.08
105	50.74	4.61	3.74	0.082	0.510	0.09
110	50.62	4.35	3.53	0.082	0.512	0.09
115	50.50	4.11	3.33	0.082	0.514	0.10
120	50.38	3.89	3.14	0.082	0.516	0.10
125	50.26	3.69	2.97	0.081	0.518	0.10
130	50.14	3.51	2.82	0.081	0.520	0.11
135	50.02	3.34	2.67	0.081	0.522	0.11
140	49.90	3.18	2.54	0.081	0.524	0.12
145	49.79	3.03	2.42	0.081	0.526	0.12

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150	49.67	2.90	2.30	0.081	0.528	0.13
155	49.55	2.77	2.20	0.081	0.530	0.14
160	49.43	2.65	2.10	0.081	0.532	0.14
165	49.31	2.54	2.01	0.081	0.534	0.15
170	49.19	2.44	1.92	0.080	0.536	0.15
175	49.07	2.35	1.84	0.080	0.538	0.16
180	48.96	2.26	1.77	0.080	0.540	0.17
185	48.84	2.17	1.70	0.080	0.542	0.18
190	48.72	2.09	1.63	0.080	0.544	0.18
195	48.60	2.02	1.57	0.080	0.546	0.19
200	48.49	1.95	1.52	0.080	0.548	0.20
205	48.37	1.88	1.46	0.080	0.550	0.21
210	48.25	1.82	1.41	0.080	0.552	0.22
215	48.14	1.76	1.36	0.079	0.554	0.23
220	48.02	1.71	1.31	0.079	0.556	0.24
225	47.90	1.66	1.27	0.079	0.558	0.25
230	47.79	1.61	1.23	0.079	0.560	0.26
235	47.67	1.56	1.19	0.079	0.562	0.27
240	47.56	1.51	1.15	0.079	0.564	0.28
245	47.44	1.47	1.12	0.079	0.566	0.30
250	47.33	1.43	1.09	0.079	0.568	0.31
255	47.21	1.39	1.05	0.079	0.570	0.33
260	47.10	1.36	1.02	0.078	0.572	0.35
265	46.98	1.32	1.00	0.078	0.574	0.37
270	46.87	1.29	0.97	0.078	0.576	0.39
275	46.76	1.26	0.94	0.078	0.578	0.41
280	46.64	1.23	0.92	0.078	0.580	0.44
285	46.53	1.20	0.89	0.078	0.582	0.46
290	46.42	1.17	0.87	0.078	0.584	0.49
295	46.30	1.14	0.85	0.078	0.586	0.52
300	46.19	1.12	0.83	0.077	0.588	0.55
305	46.08	1.10	0.81	0.077	0.590	0.58
310	45.96	1.07	0.79	0.077	0.592	0.62
315	45.85	1.05	0.77	0.077	0.594	0.65
320	45.74	1.03	0.75	0.077	0.596	0.69
325	45.63	1.01	0.74	0.077	0.598	0.72
330	45.52	0.99	0.72	0.077	0.600	0.76
335	45.41	0.97	0.71	0.077	0.602	0.81

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340	45.30	0.95	0.69	0.077	0.604	0.86
345	45.19	0.93	0.68	0.076	0.606	0.91
350	45.07	0.92	0.66	0.076	0.608	0.97
355	44.96	0.90	0.65	0.076	0.610	1.02
360	44.85	0.88	0.64	0.076	0.612	1.08
365	44.74	0.87	0.62	0.076	0.614	1.15
370	44.64	0.86	0.61	0.076	0.616	1.22
375	44.53	0.84	0.60	0.076	0.618	1.29
380	44.42	0.83	0.59	0.076	0.620	1.37
385	44.31	0.81	0.58	0.076	0.622	1.45
390	44.20	0.80	0.57	0.075	0.624	1.53
395	44.09	0.79	0.56	0.075	0.626	1.62
400	43.98	0.78	0.55	0.075	0.628	1.72
405	43.87	0.77	0.54	0.075	0.630	1.82
410	43.77	0.76	0.53	0.075	0.632	1.91
415	43.66	0.75	0.52	0.075	0.634	2.02
420	43.55	0.73	0.51	0.075	0.636	2.13
425	43.45	0.72	0.50	0.075	0.638	2.27
430	43.34	0.72	0.50	0.075	0.640	2.41
435	43.23	0.71	0.49	0.074	0.642	2.54
440	43.13	0.70	0.48	0.074	0.644	2.69
445	43.02	0.69	0.47	0.074	0.646	2.86
450	42.91	0.68	0.47	0.074	0.648	3.03



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All products manufactured in the USA