

Caldera 19

Food-Grade Low-Temperature
Heat Transfer Fluid & Cleaner



CALDERA®
HEAT TRANSFER FLUIDS

Heat Transfer Fluids

Caldera 19 is a long-lasting food-grade heat transfer fluid and cleaner. It is designed to soften, dissolve, and suspend carbon and varnish deposits within low-temperature heat transfer systems that require a food-grade formulation. This unique formulation can help to restore system performance and efficiency by removing insulating fouling. It is fully-formulated to completely replace an existing fluid, and can be used at temperatures up to 450°F (232°C).

Caldera 19 is an ideal solution for preventative maintenance or for cleaning systems that are experiencing minor varnish or carbon deposits.

Applications

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

Performance Advantages

- **Meets HT-1 requirements**
Ideal for food-processing applications
- **Cleans fouled systems**
System can remain in operation during cleaning
- **Continuous cleaner**
Ideal for systems experiencing minor varnishing
- **Odorless**

Temperature Range



Typical Properties	Caldera 19
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)	284 (140)
Fire Point, °F (°C)	311 (155)
Autoignition Point, °F (°C)	599 (315)
Thermal Expansion Coefficient, %/°F	0.0478
Thermal Conductivity @ 100°F, BTU/h-ft-F	0.0803
Heat Capacity @ 100°F, BTU/lb-F	0.498
Distillation Range (ASTM D2887), 10% °F	509
Distillation Range (ASTM D2887), 90% °F	941
Average Molecular Weight	372

Fluid properties are typical results and should not serve as a sole resource for determining the correct fluid for a particular application. Please consult an Isel representative to ensure that the product is the correct choice for the application. Revised 9/2018 - S

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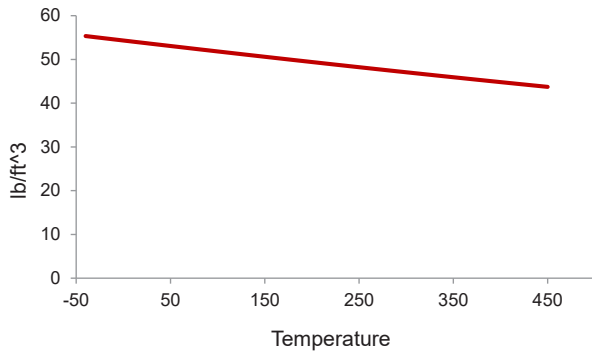
email: sales@iselinc.com
web: www.calderafluids.com

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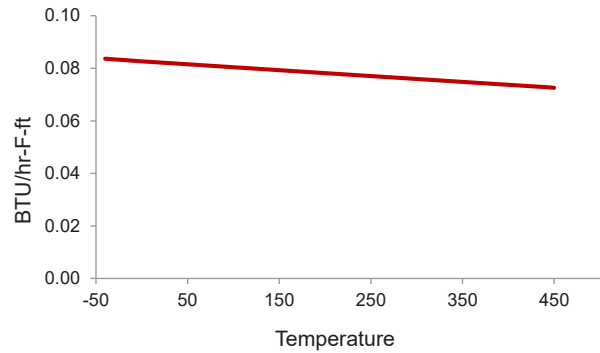


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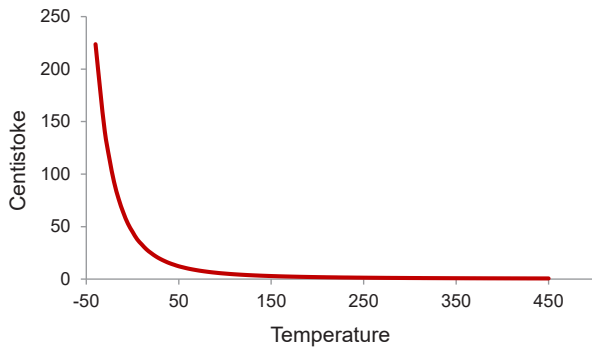
Density



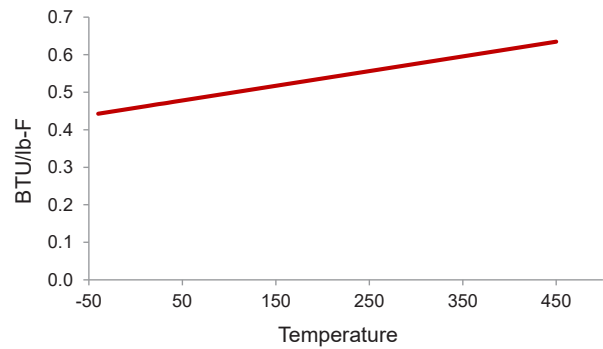
Thermal Conductivity



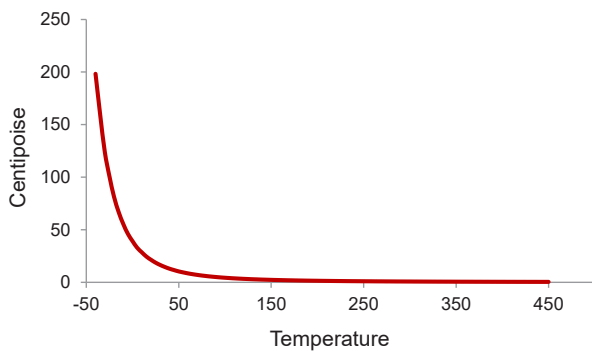
Kinematic Viscosity



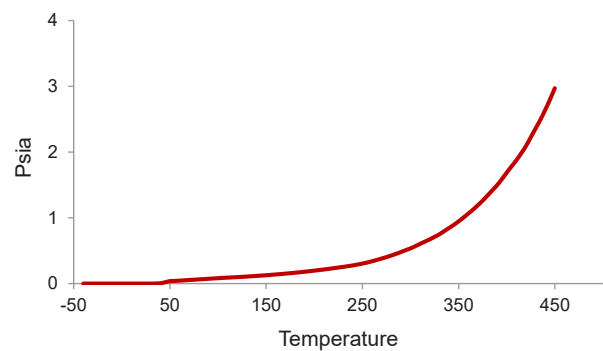
Heat Capacity



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	55.35	223.73	198.35	0.084	0.443	0.00
-35	55.22	180.50	159.66	0.084	0.445	0.00
-30	55.09	140.72	124.18	0.083	0.447	0.00
-25	54.96	114.73	101.01	0.083	0.449	0.00
-20	54.84	92.62	81.36	0.083	0.450	0.00
-15	54.71	76.33	66.89	0.083	0.452	0.00
-10	54.58	63.46	55.48	0.083	0.454	0.00
-5	54.46	52.86	46.11	0.083	0.456	0.00
0	54.33	45.05	39.21	0.083	0.458	0.00
5	54.20	37.93	32.94	0.083	0.460	0.00
10	54.08	33.01	28.59	0.082	0.462	0.00
15	53.95	28.37	24.52	0.082	0.464	0.00
20	53.82	24.87	21.45	0.082	0.466	0.00
25	53.70	21.76	18.71	0.082	0.468	0.00
30	53.57	19.21	16.49	0.082	0.470	0.00
35	53.45	17.06	14.61	0.082	0.472	0.00
40	53.32	15.17	12.96	0.082	0.474	0.01
45	53.20	13.65	11.63	0.082	0.476	0.02
50	53.07	12.22	10.39	0.082	0.478	0.04
55	52.95	11.11	9.43	0.081	0.480	0.04
60	52.82	10.06	8.51	0.081	0.482	0.04
65	52.70	9.19	7.76	0.081	0.484	0.05
70	52.57	8.40	7.08	0.081	0.486	0.05
75	52.45	7.72	6.48	0.081	0.488	0.06
80	52.32	7.11	5.96	0.081	0.490	0.06
85	52.20	6.56	5.48	0.081	0.492	0.07
90	52.08	6.09	5.08	0.081	0.494	0.07
95	51.95	5.64	4.69	0.081	0.496	0.08
100	51.83	5.27	4.37	0.080	0.498	0.08
105	51.71	4.91	4.07	0.080	0.499	0.09
110	51.58	4.60	3.80	0.080	0.501	0.09
115	51.46	4.32	3.56	0.080	0.503	0.09
120	51.34	4.06	3.34	0.080	0.505	0.10
125	51.22	3.82	3.14	0.080	0.507	0.10
130	51.10	3.60	2.95	0.080	0.509	0.11
135	50.97	3.41	2.79	0.080	0.511	0.11
140	50.85	3.23	2.63	0.080	0.513	0.12
145	50.73	3.06	2.49	0.079	0.515	0.12

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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)
150	50.61	2.91	2.36	0.079	0.517	0.13
155	50.49	2.77	2.24	0.079	0.519	0.13
160	50.37	2.64	2.13	0.079	0.521	0.14
165	50.25	2.52	2.03	0.079	0.523	0.14
170	50.13	2.41	1.93	0.079	0.525	0.15
175	50.00	2.30	1.84	0.079	0.527	0.16
180	49.88	2.21	1.76	0.079	0.529	0.17
185	49.76	2.11	1.69	0.078	0.531	0.17
190	49.65	2.03	1.62	0.078	0.533	0.18
195	49.53	1.95	1.55	0.078	0.535	0.19
200	49.41	1.88	1.49	0.078	0.537	0.20
205	49.29	1.81	1.43	0.078	0.539	0.21
210	49.17	1.75	1.38	0.078	0.541	0.21
215	49.05	1.69	1.32	0.078	0.542	0.22
220	48.93	1.63	1.28	0.078	0.544	0.23
225	48.81	1.57	1.23	0.078	0.546	0.24
230	48.70	1.52	1.19	0.077	0.548	0.25
235	48.58	1.47	1.15	0.077	0.550	0.26
240	48.46	1.43	1.11	0.077	0.552	0.28
245	48.34	1.39	1.07	0.077	0.554	0.29
250	48.23	1.35	1.04	0.077	0.556	0.30
255	48.11	1.31	1.01	0.077	0.558	0.32
260	47.99	1.27	0.98	0.077	0.560	0.34
265	47.88	1.23	0.95	0.077	0.562	0.36
270	47.76	1.20	0.92	0.077	0.564	0.38
275	47.64	1.17	0.89	0.076	0.566	0.40
280	47.53	1.14	0.87	0.076	0.568	0.43
285	47.41	1.11	0.84	0.076	0.570	0.45
290	47.30	1.09	0.82	0.076	0.572	0.48
295	47.18	1.06	0.80	0.076	0.574	0.51
300	47.07	1.03	0.78	0.076	0.576	0.54
305	46.95	1.01	0.76	0.076	0.578	0.57
310	46.84	0.99	0.74	0.076	0.580	0.60
315	46.72	0.97	0.72	0.076	0.582	0.64
320	46.61	0.95	0.71	0.075	0.584	0.67
325	46.50	0.93	0.69	0.075	0.586	0.71
330	46.38	0.91	0.67	0.075	0.588	0.75
335	46.27	0.89	0.66	0.075	0.590	0.80

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340	46.16	0.87	0.64	0.075	0.591	0.84
345	46.04	0.86	0.63	0.075	0.593	0.89
350	45.93	0.84	0.62	0.075	0.595	0.95
355	45.82	0.82	0.60	0.075	0.597	1.00
360	45.71	0.81	0.59	0.075	0.599	1.06
365	45.59	0.79	0.58	0.074	0.601	1.12
370	45.48	0.78	0.57	0.074	0.603	1.19
375	45.37	0.77	0.56	0.074	0.605	1.26
380	45.26	0.76	0.55	0.074	0.607	1.34
385	45.15	0.74	0.54	0.074	0.609	1.42
390	45.04	0.73	0.53	0.074	0.611	1.50
395	44.93	0.72	0.52	0.074	0.613	1.59
400	44.82	0.71	0.51	0.074	0.615	1.69
405	44.71	0.70	0.50	0.074	0.617	1.78
410	44.60	0.69	0.49	0.073	0.619	1.87
415	44.49	0.68	0.48	0.073	0.621	1.98
420	44.38	0.67	0.48	0.073	0.623	2.09
425	44.27	0.66	0.47	0.073	0.625	2.22
430	44.16	0.65	0.46	0.073	0.627	2.36
435	44.05	0.64	0.45	0.073	0.629	2.49
440	43.94	0.63	0.45	0.073	0.631	2.64
445	43.84	0.63	0.44	0.073	0.633	2.80
450	43.73	0.62	0.43	0.073	0.635	2.97



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All products manufactured in the USA