

Caldera 5

High-Flash Food-Grade Heat Transfer Fluid



CALDERA®
HEAT TRANSFER FLUIDS



Heat Transfer Fluids

Caldera 5 is a high-flash food-grade heat transfer fluid designed for applications where the operating temperature must be below the flash point of the fluid. Caldera 5 utilizes pure base fluids and a proprietary blend of advanced additives. This unique formulation increases fluid performance and lifespan by preventing fluid degradation, while offering the safety of a food-grade formulation. Caldera 5 has excellent oxidative resistance, making it ideal for both open and closed systems, with and without inert gas blanketing.

Applications

- Systems required to operate below flash point
- Closed and open loop systems with a maximum bulk temperature of 340°C (644°F)

Performance Advantages

- Meets requirements for fluids with incidental food contact and Ideal for food-processing applications
- **High flash point for added safety**
Ideal for systems that need to operate below flash point
- **Resistant against fluid degradation**
Contributes to extended fluid life
- **Low varnishing tendencies**
Allows for clean operation and greater thermal transfer efficiency
- **Easy disposal**
Can be disposed using standard oil recycling services
- **Low volatility**
Improves safety and decreases possibility of pump cavitations
- **Minimal odor**

Temperature Range



Typical Properties	Caldera 5
Minimum Temperature, °C (°F)	15 (59)
Maximum Film Temperature, °C (°F)	360 (680)
Maximum Bulk Temperature, °C (°F)	340 (644)
Pour Point, °C (°F)	-9 (16)
Flash Point, °C (°F)	276 (530)
Fire Point, °C (°F)	305 (581)
Autoignition Point, °C (°F)	392 (738)
Thermal Expansion Coefficient, %/°C	0.1011
Thermal Conductivity @ 38°C, W/m-K	0.149
Thermal Conductivity @ 260°C, W/m-K	0.145
Heat Capacity @ 38°C, kJ/kg-K	1.870
Heat Capacity @ 260°C, kJ/kg-K	2.262
Distillation Range (ASTM D2887), 10% °C	445
Distillation Range (ASTM D2887), 90% °C	553
Average Molecular Weight	398

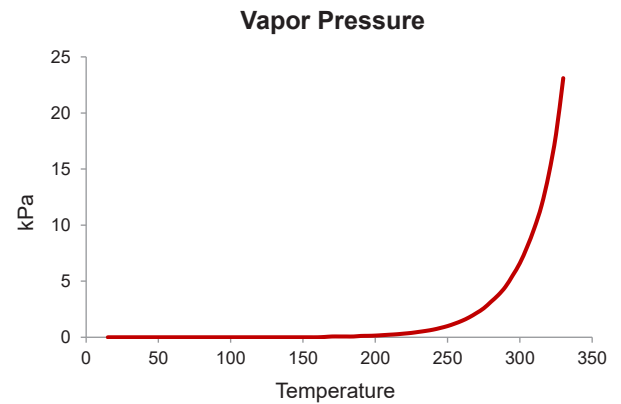
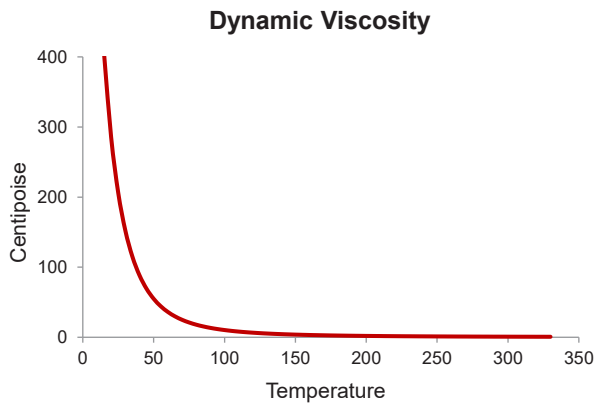
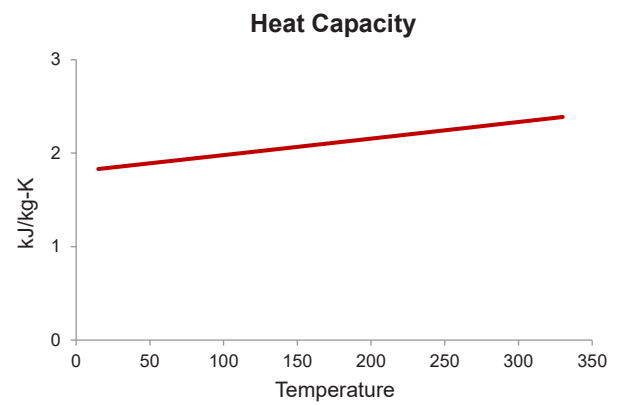
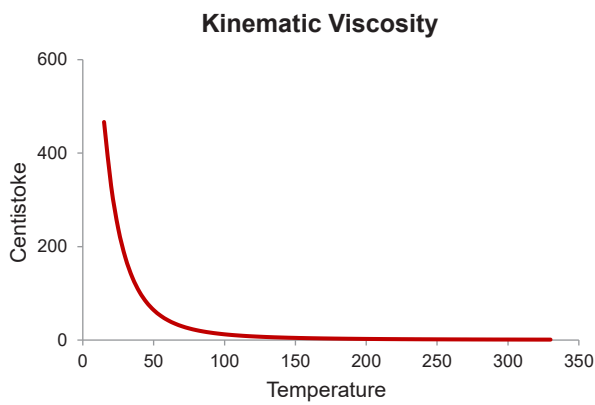
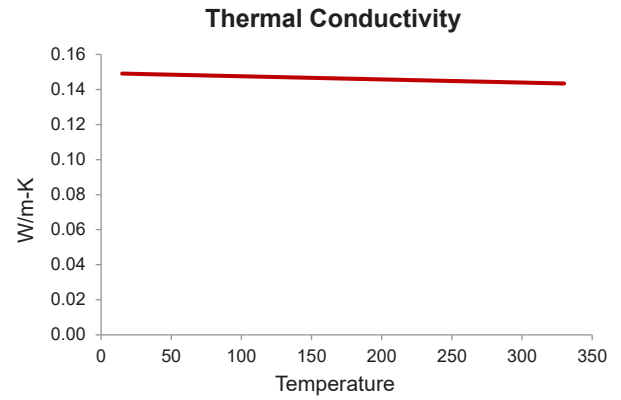
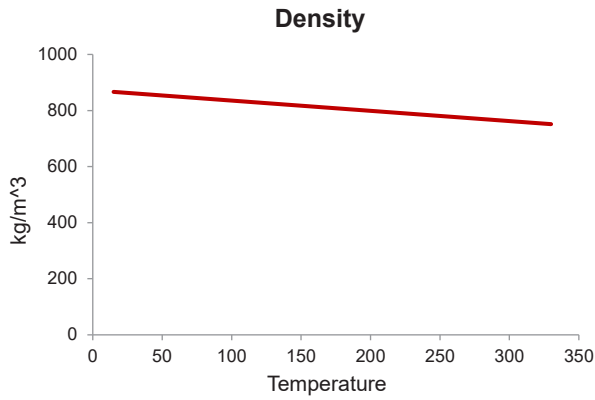
Fluid properties are typical results and should not serve as a sole resource for determining the correct fluid for a particular application. Please consult an Isel representative to ensure that the product is the correct choice for the application. Revised 9/2018 - M

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Temperature (°C)	Density (kg/m ³)	Kinematic Viscosity (Centistoke)	Dynamic Viscosity (Centipoise)	Thermal Conductivity (W/m-K)	Heat Capacity (kJ/kg-K)	Vapor Pressure (kPa)
15	866.53	466.63	404.75	0.149	1.830	0.00
20	864.70	329.67	285.35	0.149	1.839	0.00
25	862.87	238.74	206.21	0.149	1.848	0.00
30	861.04	176.83	152.41	0.149	1.856	0.00
35	859.22	133.70	114.99	0.149	1.865	0.00
40	857.39	103.00	88.40	0.149	1.874	0.00
45	855.56	80.73	69.14	0.149	1.883	0.00
50	853.74	64.27	54.93	0.148	1.891	0.00
55	851.91	51.92	44.27	0.148	1.900	0.00
60	850.08	42.49	36.16	0.148	1.909	0.00
65	848.25	35.20	29.89	0.148	1.918	0.00
70	846.43	29.49	24.99	0.148	1.926	0.00
75	844.60	24.96	21.10	0.148	1.935	0.00
80	842.77	21.33	17.99	0.148	1.944	0.00
85	840.95	18.38	15.47	0.148	1.953	0.00
90	839.12	15.97	13.42	0.148	1.961	0.00
95	837.29	13.98	11.72	0.148	1.970	0.00
100	835.46	12.33	10.31	0.148	1.979	0.00
105	833.64	10.93	9.12	0.147	1.988	0.00
110	831.81	9.76	8.12	0.147	1.996	0.00
115	829.98	8.76	7.27	0.147	2.005	0.00
120	828.16	7.90	6.55	0.147	2.014	0.00
125	826.33	7.16	5.92	0.147	2.023	0.00
130	824.50	6.52	5.38	0.147	2.032	0.00
135	822.67	5.96	4.90	0.147	2.040	0.00
140	820.85	5.47	4.49	0.147	2.049	0.00
145	819.02	5.03	4.13	0.147	2.058	0.00
150	817.19	4.65	3.81	0.147	2.067	0.00
155	815.36	4.31	3.52	0.147	2.076	0.00
160	813.54	4.01	3.27	0.146	2.084	0.00
165	811.71	3.74	3.04	0.146	2.093	0.03
170	809.88	3.50	2.84	0.146	2.102	0.07
175	808.06	3.28	2.65	0.146	2.111	0.07
180	806.23	3.08	2.49	0.146	2.120	0.07
185	804.40	2.90	2.34	0.146	2.129	0.07
190	802.57	2.74	2.20	0.146	2.138	0.12
195	800.75	2.59	2.08	0.146	2.146	0.13
200	798.92	2.46	1.96	0.146	2.155	0.15

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205	797.09	2.33	1.86	0.146	2.164	0.19
210	795.27	2.22	1.77	0.146	2.173	0.23
215	793.44	2.11	1.68	0.145	2.182	0.27
220	791.61	2.02	1.60	0.145	2.191	0.33
225	789.78	1.93	1.52	0.145	2.200	0.39
230	787.96	1.84	1.45	0.145	2.208	0.48
235	786.13	1.77	1.39	0.145	2.217	0.57
240	784.30	1.69	1.33	0.145	2.226	0.68
245	782.48	1.63	1.28	0.145	2.235	0.83
250	780.65	1.57	1.22	0.145	2.244	1.00
255	778.82	1.51	1.18	0.145	2.253	1.22
260	776.99	1.45	1.13	0.145	2.262	1.47
265	775.17	1.40	1.09	0.145	2.271	1.78
270	773.34	1.36	1.05	0.144	2.280	2.16
275	771.51	1.31	1.01	0.144	2.289	2.59
280	769.69	1.27	0.98	0.144	2.297	3.17
285	767.86	1.23	0.94	0.144	2.306	3.76
290	766.03	1.19	0.91	0.144	2.315	4.50
295	764.20	1.16	0.88	0.144	2.324	5.51
300	762.38	1.12	0.86	0.144	2.333	6.61
305	760.55	1.09	0.83	0.144	2.342	8.06
310	758.72	1.06	0.81	0.144	2.351	9.73
315	756.90	1.03	0.78	0.144	2.360	11.75
320	755.07	1.01	0.76	0.144	2.369	14.54
325	753.24	0.98	0.74	0.144	2.378	18.11
330	751.41	0.96	0.72	0.143	2.387	23.11



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All products manufactured in the USA