

# Caldera 3

## Food-Grade Heat Transfer Fluid



CALDERA®  
HEAT TRANSFER FLUIDS



### Heat Transfer Fluids

Caldera 3 is formulated to meet HT-1 food-grade requirements without comprising performance or fluid life. It utilizes clear base fluids that are free from the impurities and aromatic compounds common in many competitive heat transfer formulations. Caldera 3 is rated for applications up to 327°C (621°F).

## Applications

- Closed and open loop systems with a maximum bulk temperature of 327°C (621°F)
- Food-grade systems

## Performance Advantages



Nonfood Compounds  
Category Code HT1  
Registration # 156442

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

## Temperature Range



Typical Properties	Caldera 3
Minimum Temperature, °C (°F)	0 (32)
Maximum Film Temperature, °C (°F)	354 (669)
Maximum Bulk Temperature, °C (°F)	327 (621)
Pour Point, °C (°F)	-17 (1)
Flash Point, °C (°F)	227 (441)
Fire Point, °C (°F)	241 (466)
Autoignition Point, °C (°F)	361 (682)
Thermal Expansion Coefficient, %/°C	0.1016
Thermal Conductivity @ 38°C, W/m-K	0.143
Thermal Conductivity @ 260°C, W/m-K	0.130
Heat Capacity @ 38°C, kJ/kg-K	1.972
Heat Capacity @ 260°C, kJ/kg-K	2.699
Distillation Range (ASTM D2887), 10% °C	383
Distillation Range (ASTM D2887), 90% °C	494
Average Molecular Weight	395

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toll-free: 1-800-503-9533  
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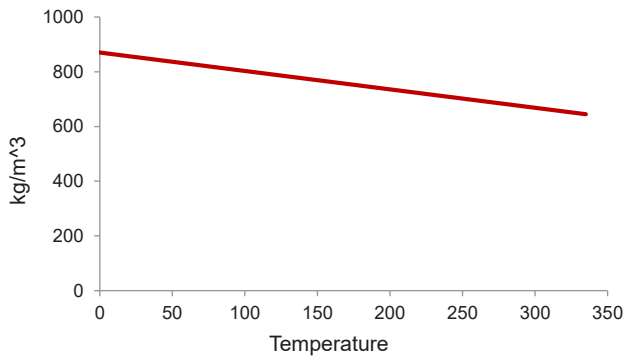
email: [sales@iselinc.com](mailto:sales@iselinc.com)  
web: [www.calderafluids.com](http://www.calderafluids.com)

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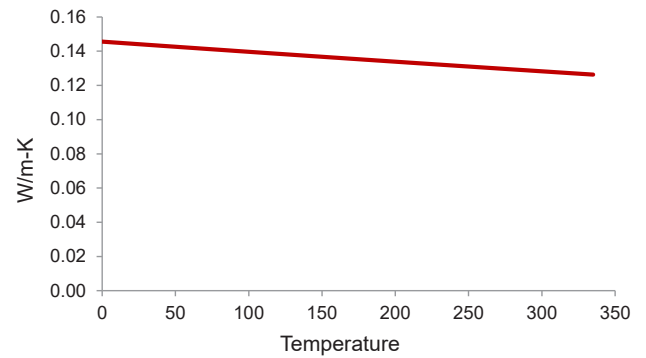
## Food-Grade Heat Transfer Fluid



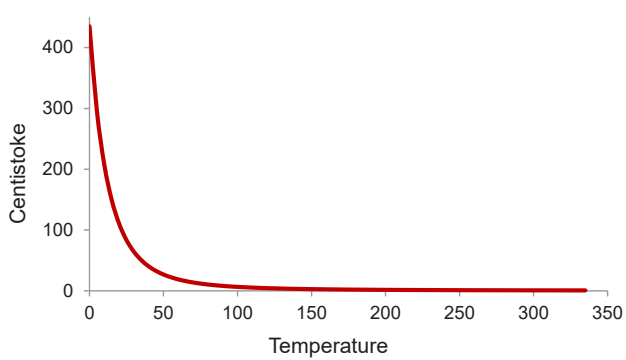
### Density



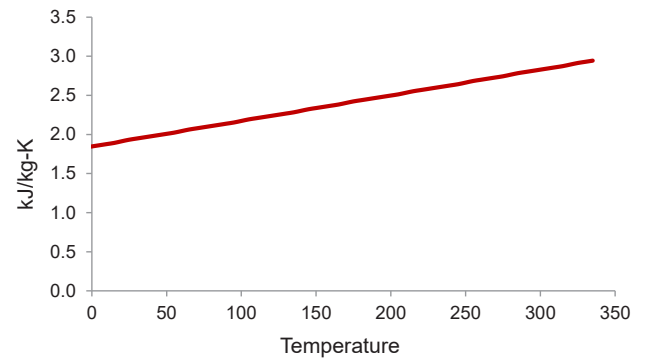
### Thermal Conductivity



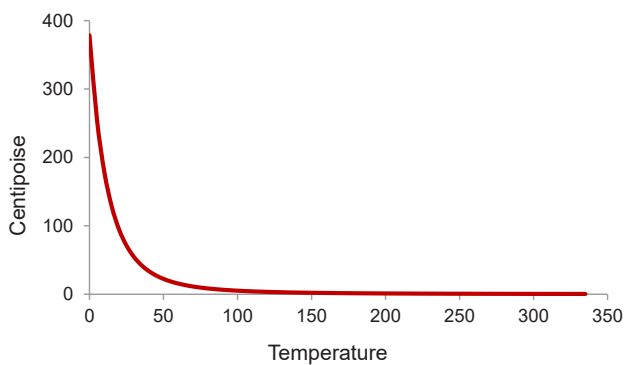
### Kinematic Viscosity



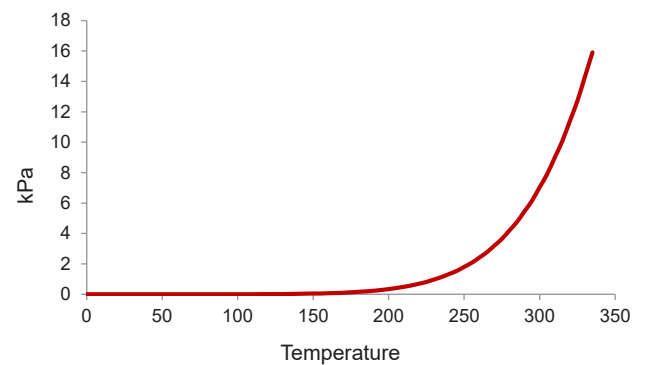
### Heat Capacity



### Dynamic Viscosity



### Vapor Pressure



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Temperature (°C)	Density (kg/m <sup>3</sup> )	Kinematic Viscosity (Centistoke)	Dynamic Viscosity (Centipoise)	Thermal Conductivity (W/m-K)	Heat Capacity (kJ/kg-K)	Vapor Pressure (kPa)
0	870.13	434.98	378.49	0.146	1.847	0.00
5	866.77	295.88	256.46	0.145	1.862	0.00
10	863.40	207.45	179.11	0.145	1.877	0.00
15	860.04	149.49	128.56	0.145	1.892	0.00
20	856.67	110.41	94.59	0.144	1.913	0.00
25	853.31	83.40	71.16	0.144	1.933	0.00
30	849.94	64.28	54.64	0.144	1.948	0.00
35	846.58	50.47	42.73	0.144	1.963	0.00
40	843.22	40.29	33.97	0.143	1.978	0.00
45	839.85	32.66	27.43	0.143	1.993	0.00
50	836.49	26.84	22.45	0.143	2.008	0.00
55	833.12	22.34	18.61	0.142	2.023	0.00
60	829.76	18.80	15.60	0.142	2.043	0.00
65	826.39	16.00	13.22	0.142	2.063	0.00
70	823.03	13.74	11.31	0.141	2.078	0.00
75	819.67	11.91	9.76	0.141	2.093	0.00
80	816.30	10.41	8.50	0.141	2.108	0.00
85	812.94	9.16	7.45	0.141	2.123	0.00
90	809.57	8.12	6.57	0.140	2.138	0.00
95	806.21	7.24	5.84	0.140	2.153	0.00
100	802.84	6.50	5.22	0.140	2.173	0.00
105	799.48	5.86	4.69	0.139	2.193	0.00
110	796.11	5.32	4.23	0.139	2.208	0.00
115	792.75	4.84	3.84	0.139	2.223	0.01
120	789.39	4.43	3.50	0.138	2.238	0.01
125	786.02	4.07	3.20	0.138	2.253	0.01
130	782.66	3.75	2.94	0.138	2.268	0.01
135	779.29	3.47	2.71	0.138	2.283	0.02
140	775.93	3.23	2.50	0.137	2.303	0.03
145	772.56	3.00	2.32	0.137	2.323	0.04
150	769.20	2.81	2.16	0.137	2.338	0.05
155	765.83	2.63	2.01	0.136	2.353	0.05
160	762.47	2.47	1.88	0.136	2.368	0.07
165	759.11	2.32	1.76	0.136	2.383	0.08
170	755.74	2.19	1.66	0.136	2.403	0.10
175	752.38	2.07	1.56	0.135	2.423	0.13
180	749.01	1.96	1.47	0.135	2.438	0.16

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Temperature (°C)	Density (kg/m <sup>3</sup> )	Kinematic Viscosity (Centistoke)	Dynamic Viscosity (Centipoise)	Thermal Conductivity (W/m-K)	Heat Capacity (kJ/kg-K)	Vapor Pressure (kPa)
185	745.65	1.87	1.39	0.135	2.453	0.19
190	742.28	1.77	1.32	0.134	2.468	0.23
195	738.92	1.69	1.25	0.134	2.483	0.28
200	735.56	1.61	1.19	0.134	2.498	0.34
205	732.19	1.54	1.13	0.134	2.513	0.41
210	728.83	1.48	1.08	0.133	2.533	0.49
215	725.46	1.42	1.03	0.133	2.553	0.58
220	722.10	1.36	0.98	0.133	2.568	0.69
225	718.73	1.31	0.94	0.132	2.583	0.81
230	715.37	1.26	0.90	0.132	2.598	0.97
235	712.00	1.21	0.86	0.132	2.613	1.13
240	708.64	1.17	0.83	0.132	2.628	1.33
245	705.28	1.13	0.80	0.131	2.643	1.53
250	701.91	1.09	0.77	0.131	2.663	1.80
255	698.55	1.06	0.74	0.131	2.684	2.07
260	695.18	1.03	0.71	0.130	2.699	2.41
265	691.82	0.99	0.69	0.130	2.714	2.76
270	688.45	0.97	0.66	0.130	2.729	3.20
275	685.09	0.94	0.64	0.130	2.744	3.64
280	681.72	0.91	0.62	0.129	2.764	4.20
285	678.36	0.89	0.60	0.129	2.784	4.76
290	675.00	0.86	0.58	0.129	2.799	5.46
295	671.63	0.84	0.57	0.129	2.814	6.16
300	668.27	0.82	0.55	0.128	2.829	7.04
305	664.90	0.80	0.53	0.128	2.844	7.91
310	661.54	0.78	0.52	0.128	2.859	8.99
315	658.17	0.77	0.50	0.127	2.874	10.07
320	654.81	0.75	0.49	0.127	2.894	11.39
325	651.45	0.73	0.48	0.127	2.914	12.71
330	648.08	0.72	0.47	0.127	2.929	14.31



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All products manufactured in the USA