Overview and applications

APPLICATION

StaticTherm HTO22-FG is engineered for many years of service and it's ideal for a wide range of closed to atmosphere (inertly sealed) applications including food processing, paint, rubber, calendars, board plants, roofing, textiles, laundry, refineries and asphalt storage/production.

StaticTherm HTO22-FG is rated to 315°C (600°F) and engineered with a low pour point for easy starting of systems in colder climates.

StaticTherm HTO22-FG meets USDA requirements for incidental food contact (H1) and meets the requirements of 21CFR1783570 and is NSF registered.

THE DIFFERENCE

StaticTherm HTO22-FG's use of highly refined base stocks ensures excellent thermal stability. Its low volatility also minimizes vapor pressure at elevated temperatures and unlike most other fluids in its class, StaticTherm HTO22-FG contains antioxidants, metal deactivators and corrosion inhibitors to further enhance the fluid's longevity and help protect your system.

ENVIRONMENTAL

StaticTherm HTO22-FG is environmentally friendly, non-toxic, non-hazardous and non-reportable. StaticTherm HTO22-FG poses no ill effect to worker safety.

DISPOSAL

After its long service life StaticTherm HTO22-FGw can easily be disposed of with other waste oils. StaticTherm supports recycling and encourages oil reclamation programs where possible.

SYSTEM CLEANING

If your existing fluid has let you down and left you with a system full of sludge or carbon, we've developed a full line of heat transfer system cleaners to get your system back to like-new condition. Contact us for complete details.

Rated for use up to 315°C (600°F) it's engineered with a low pour point for easy starts and manufactured to comply with the demands of food grade applications ranging from food processing and packaging to pharmaceutical and more.

Ratings and physical properties

TEMPERATURE RATINGS

Maximum Bulk/Use Temp.	315°C	600°F
Maximum Film Temp.	343°C	650°F
Pour Point ASTM D97	-42°C	-43°F

SAFETY DATA

Flash Point ASTM D93	186°C	368°F
Flash Point ASTM D92	213°C	415°F
Fire Point ASTM D92	225°C	437°F
Autoignition ASTM E-659-78	355°C	671°F

- Maximum temperature: 315°C / 600°F

- Flash point 213°C / 415°F

- Budget friendly for closed systems

- Food Grade - NSF registered HT1

- Non-toxic/non-hazardous

- Includes free fluid analysis and tech support

The values quoted are typical of normal production. They do not constitute a specification.

THERMAL PROPERTIES

Thermal Expansion Coefficient	0.1016 %/°C	0.0564 %/°F
Thermal Conductivity	W/m K	BTU/hr F ft
38°C / 100°F	0.128	0.074
260°C / 500°F	0.107	0.062
316°C / 600°F	0.104	0.060
Heat Capacity	kJ/kg K	BTU/lb F
38°C / 100°F	1.938	0.463
260°C / 500°F	2.960	0.707
316°C / 600°F	3.215	0.768

PHYSICAL PROPERTIES

Appearance: clear and bright liquid		
Viscosity ASTM D445		
cSt at 40°C / 104°F	20.06	
cSt at 100°C / 212°F	5.45	
cSt at 316°C / 600°F	0.45	
Density ASTM D1298	kg/m3	lb/ft3
38°C / 100°F	838.41	52.34
260°C / 500°F	698.59	43.62
316°C / 600°F	663.81	41.44
Vapor Pressure ASTM D2879	kPa	psi
38°C / 100°F	0.00	0.00
260°C / 500°F	5.60	0.81
316°C / 600°F	22.26	3.28
Distillation Range ASTM D2887	10%	344°C (651°F)
	90%	527°C (870°F)
Average Molecular Weight	364	

Temperature-dependent properties - metric

TEMPERATURE (Celsius)	DENSITY (kg/m^3)	KINEMATIC VISCOSITY (Centistoke)	DYNAMIC VISCOSITY (Centipoise)	THERMAL CONDUCTIVITY (W/m-K)	HEAT CAPACITY (kJ/kg-K)	VAPOR PRESSURE (kPa)
-30	880.82	2175.15	1915.92	0.133	1.625	0.00
-20	874.54	862.21	754.03	0.133	1.671	0.00
-10	868.25	366.69	318.38	0.132	1.717	0.00
0	861.97	166.03	143.11	0.131	1.763	0.00
10	855.68	79.50	68.03	0.130	1.809	0.00
20	849.40	40.03	34.00	0.129	1.855	0.00
30	843.12	26.20	22.09	0.128	1.901	0.00
40	836.83	20.06	16.78	0.127	1.947	0.00
50	830.55	15.61	12.97	0.126	1.993	0.00
60	824.26	12.33	10.17	0.126	2.039	0.00
70	817.98	9.88	8.08	0.125	2.085	0.00
80	811.70	8.01	6.51	0.124	2.131	0.00
90	805.41	6.58	5.30	0.123	2.177	0.01
100	799.13	5.45	4.36	0.122	2.223	0.01
110	792.84	4.57	3.62	0.121	2.269	0.02
120	786.56	3.86	3.04	0.120	2.315	0.03
130	780.28	3.29	2.57	0.119	2.361	0.05
140	773.99	2.82	2.19	0.119	2.407	0.08
150	767.71	2.44	1.88	0.118	2.453	0.12
160	761.42	2.13	1.62	0.117	2.499	0.18
170	755.14	1.86	1.41	0.116	2.545	0.27
180	748.86	1.64	1.23	0.115	2.591	0.41
190	742.57	1.46	1.08	0.114	2.637	0.59
200	736.29	1.30	0.95	0.113	2.683	0.85
210	730.01	1.16	0.85	0.112	2.729	1.20
220	723.72	1.04	0.76	0.112	2.775	1.73
230	717.44	0.94	0.68	0.111	2.821	2.27
240	711.15	0.85	0.61	0.110	2.867	3.07
250	704.87	0.78	0.55	0.109	2.913	4.13
260	698.59	0.71	0.50	0.108	2.959	5.60
270	692.30	0.65	0.45	0.107	3.005	7.33
280	686.02	0.60	0.41	0.106	3.051	9.47
290	679.73	0.55	0.37	0.105	3.097	12.27
300	673.45	0.51	0.34	0.105	3.143	15.60
310	667.17	0.47	0.31	0.104	3.189	19.86
315	664.02	0.45	0.30	0.103	3.212	22.26

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Temperature-dependent properties - imperial

TEMPERATURE (Fahrenheit)	DENSITY (lb/ft^3)	KINEMATIC VISCOSITY (Centistoke)	DYNAMIC VISCOSITY (Centipoise)	THERMAL CONDUCTIVITY (BTU/hr-F-ft)	HEAT CAPACITY (BTU/lb-F)	VAPOR PRESSURE (Psia)
-20	54.95	1954.13	1719.88	0.077	0.438	0.00
-10	54.74	1163.53	1019.99	0.077	0.443	0.00
0	54.52	708.58	618.69	0.076	0.447	0.00
10	54.30	440.73	383.28	0.076	0.451	0.00
20	54.08	279.60	242.18	0.076	0.456	0.00
30	53.86	180.71	155.89	0.076	0.460	0.00
40	53.65	118.85	102.11	0.076	0.464	0.00
50	53.43	79.46	67.99	0.075	0.469	0.00
60	53.21	53.96	45.98	0.075	0.473	0.00
70	52.99	37.18	31.55	0.075	0.478	0.00
80	52.77	28.76	24.30	0.074	0.482	0.00
90	52.56	24.66	20.75	0.074	0.486	0.00
100	52.34	21.26	17.82	0.074	0.491	0.00
110	52.12	18.42	15.38	0.074	0.495	0.00
120	51.90	16.04	13.34	0.074	0.499	0.00
130	51.68	14.04	11.62	0.073	0.504	0.00
140	51.47	12.34	10.17	0.073	0.508	0.00
150	51.25	10.89	8.94	0.072	0.513	0.00
160	51.03	9.65	7.89	0.072	0.517	0.00
170	50.81	8.59	6.99	0.072	0.521	0.00
180	50.59	7.67	6.21	0.072	0.526	0.00
190	50.38	6.87	5.54	0.071	0.530	0.00
200	50.16	6.17	4.96	0.071	0.534	0.00
210	49.94	5.57	4.45	0.071	0.539	0.00
220	49.72	5.04	4.01	0.071	0.543	0.00
230	49.50	4.57	3.62	0.070	0.548	0.00
240	49.29	4.16	3.28	0.070	0.552	0.00
250	49.07	3.79	2.98	0.069	0.556	0.00
260	48.85	3.47	2.71	0.069	0.561	0.01
270	48.63	3.18	2.48	0.069	0.565	0.01
280	48.41	2.92	2.27	0.069	0.569	0.01
290	48.20	2.69	2.08	0.068	0.574	0.01
300	47.98	2.48	1.91	0.068	0.578	0.02
310	47.76	2.30	1.76	0.067	0.583	0.02
320	47.54	2.13	1.62	0.067	0.587	0.03
330	47.32	1.98	1.50	0.067	0.591	0.03
340	47.11	1.84	1.39	0.067	0.596	0.04
350	46.89	1.71	1.29	0.066	0.600	0.05
360	46.67	1.60	1.20	0.066	0.604	0.07
370	46.45	1.50	1.11	0.066	0.609	0.08
380	46.23	1.40	1.04	0.066	0.613	0.10
390	46.02	1.31	0.97	0.065	0.618	0.12
400	45.80	1.23	0.91	0.065	0.622	0.15
410	45.58	1.16	0.85	0.065	0.626	0.17
420	45.36	1.09	0.79	0.065	0.631	0.21
430	45.14	1.03	0.75	0.065	0.635	0.25
440	44.93	0.97	0.70	0.064	0.639	0.31
450	44.71	0.92	0.66	0.064	0.644	0.36
460	44.49	0.87	0.62	0.064	0.648	0.42
470	44.27	0.83	0.59	0.064	0.653	0.50
480	44.05	0.79	0.55	0.063	0.657	0.59
490	43.84	0.75	0.52	0.063	0.661	0.69
500	43.62	0.71	0.50	0.062	0.666	0.81
510	43.40	0.68	0.47	0.062	0.670	0.94
520	43.18	0.64	0.45	0.062	0.674	1.10
530	42.96	0.61	0.42	0.062	0.679	1.27
540	42.75	0.59	0.40	0.061	0.683	1.47
550	42.53	0.56	0.38	0.061	0.688	1.69
560	42.31	0.54	0.36	0.061	0.692	1.94
570	42.09	0.51	0.35	0.061	0.696	2.22
580	41.87	0.49	0.33	0.060	0.701	2.54
590	41.66	0.47	0.31	0.060	0.705	2.89
600	41.44	0.45	0.30	0.060	0.707	3.28

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