

**TECHNICAL DATA SHEET**

# NEXTHERM HF

## High-Flash Heat Transfer Fluid · 113 Series

NEXTHERM HF is a high-flash-point heat transfer fluid designed for applications where the operating temperature must stay below the flash point of the fluid. It uses synthetic base fluids and a proprietary blend of advanced additives that increase performance and lifespan by preventing degradation and protecting pumps and rotary seals. Its excellent oxidative resistance makes it ideal for both open and closed systems, with or without inert-gas blanketing.

This non-toxic, non-hazardous formulation is safe for workers and the environment and can be disposed of in the same manner as used motor oil.

**APPLICATIONS**

- Open and closed-loop heat transfer systems (inert gas blanketed)

**BENEFITS**

- Very high flash point – allows higher operating temperatures
- Very long fluid life – inhibited formulation prolongs life after air contamination
- Clean-running – resists deposit formation
- Thermally stable formulation
- Low odour
- Low volatility and vapour pressure
- Disposable via standard oil-recycling services

**TECHNICAL SPECIFICATIONS**

# Typical properties

Property	NEXTHERM HF
Maximum Bulk Temperature (°C)	340
Maximum Film Temperature (°C)	360
Flash Point (°C)	275
Fire Point (°C)	306
Pour Point (°C)	-9
Specific Gravity @ 15 °C	0.86
Thermal Conductivity @ 120 °C (W/m·K)	0.147
Thermal Conductivity @ 220 °C (W/m·K)	0.146
Thermal Conductivity @ 260 °C (W/m·K)	0.144
Heat Capacity @ 220 °C (kJ/kg·K)	2.195
Heat Capacity @ 280 °C (kJ/kg·K)	2.302
Distillation Range, 10% (°C)	446
Distillation Range, 90% (°C)	554

**PROPERTIES vs TEMPERATURE**

Temp (°C)	Density (kg/m <sup>3</sup> )	Kinematic Viscosity (cSt)	Dynamic Viscosity (cP)	Thermal Conductivity (W/m·K)	Heat Capacity (kJ/kg·K)	Vapor Pressure (kPa)
5	875.93	1027.33	899.88	0.135	1.824	0.00
10	872.83	685.54	598.36	0.134	1.843	0.00
15	869.73	471.34	409.94	0.134	1.861	0.00
20	866.63	333.00	288.59	0.134	1.879	0.00
25	863.53	241.15	208.24	0.133	1.897	0.00
30	860.43	178.62	153.69	0.133	1.915	0.00
35	857.33	135.05	115.78	0.133	1.933	0.00
40	854.23	104.04	88.88	0.132	1.952	0.00
45	851.13	81.55	69.41	0.132	1.970	0.00
50	848.03	64.92	55.06	0.131	1.988	0.00
55	844.93	52.44	44.31	0.131	2.006	0.00
60	841.83	42.92	36.13	0.131	2.024	0.00
65	838.73	35.56	29.82	0.130	2.042	0.00
70	835.63	29.79	24.89	0.130	2.061	0.00
75	832.53	25.21	20.99	0.130	2.079	0.00
80	829.43	21.54	17.87	0.129	2.097	0.00
85	826.33	18.57	15.34	0.129	2.115	0.00
90	823.23	16.13	13.28	0.129	2.133	0.00
95	820.13	14.12	11.58	0.128	2.152	0.00
100	817.03	12.45	10.17	0.128	2.170	0.00
105	813.93	11.04	8.99	0.127	2.188	0.00
110	810.83	9.86	7.99	0.127	2.206	0.00
115	807.73	8.84	7.14	0.127	2.224	0.00
120	804.63	7.98	6.42	0.126	2.242	0.00

**PROPERTIES vs TEMPERATURE (CONT.)**

Temp (°C)	Density (kg/m <sup>3</sup> )	Kinematic Viscosity (cSt)	Dynamic Viscosity (cP)	Thermal Conductivity (W/m·K)	Heat Capacity (kJ/kg·K)	Vapor Pressure (kPa)
125	801.53	7.23	5.79	0.126	2.261	0.00
130	798.43	6.58	5.25	0.126	2.279	0.00
135	795.33	6.02	4.79	0.125	2.297	0.00
140	792.23	5.52	4.37	0.125	2.315	0.00
145	789.13	5.09	4.01	0.125	2.333	0.00
150	786.03	4.70	3.69	0.124	2.352	0.00
155	782.93	4.36	3.41	0.124	2.370	0.00
160	779.83	4.05	3.16	0.124	2.388	0.00
165	776.73	3.78	2.94	0.123	2.406	0.03
170	773.63	3.53	2.73	0.123	2.424	0.07
175	770.53	3.31	2.55	0.122	2.442	0.07
180	767.43	3.11	2.39	0.122	2.461	0.07
185	764.33	2.93	2.24	0.122	2.479	0.07
190	761.23	2.77	2.11	0.121	2.497	0.12
195	758.13	2.62	1.99	0.121	2.515	0.13
200	755.03	2.48	1.87	0.121	2.533	0.15
205	751.93	2.36	1.77	0.120	2.552	0.19
210	748.83	2.24	1.68	0.120	2.570	0.23
215	745.73	2.13	1.59	0.120	2.588	0.27
220	742.63	2.04	1.51	0.119	2.606	0.33
225	739.53	1.95	1.44	0.119	2.624	0.39
230	736.43	1.86	1.37	0.118	2.642	0.48
235	733.33	1.78	1.31	0.118	2.661	0.57
240	730.23	1.71	1.25	0.118	2.679	0.68
245	727.13	1.64	1.20	0.117	2.697	0.83
250	724.03	1.58	1.15	0.117	2.715	1.00
255	720.93	1.52	1.10	0.117	2.733	1.22
260	717.83	1.47	1.05	0.116	2.752	1.47
265	714.73	1.42	1.01	0.116	2.770	1.78
270	711.63	1.37	0.97	0.116	2.788	2.16
275	708.53	1.32	0.94	0.115	2.806	2.58
280	705.43	1.28	0.90	0.115	2.824	3.16
285	702.33	1.24	0.87	0.114	2.842	3.75
290	699.23	1.20	0.84	0.114	2.861	4.49
295	696.13	1.17	0.81	0.114	2.879	5.50
300	693.03	1.13	0.79	0.113	2.897	6.60
305	689.93	1.10	0.76	0.113	2.915	8.04
310	686.83	1.07	0.74	0.113	2.933	9.71
315	683.73	1.04	0.71	0.112	2.952	11.73
320	680.63	1.02	0.69	0.112	2.970	14.51
325	677.53	0.99	0.67	0.112	2.988	18.07
330	674.43	0.97	0.65	0.111	3.006	23.06

**NOTE**

Values in this Technical Data Sheet are typical and do not constitute a specification. Manufacturing specifications are available on request. Routine fluid analysis is recommended to assess the in-service condition of the fluid. Specifications are subject to change due to formulation or raw-material updates; always verify that this TDS is the most current version.