

# NEVASTANE HTF



Heat transfer fluid  
NSF H1 / NSF HT1



White mineral oil-based heat transfer fluid for incidental food contact.

## APPLICATIONS

### Heat transfer circuits

Temperature range :

0°C → 300°C

Without air contact

- NEVASTANE HTF is recommended for heat transfer installations where incidental contact with food may occur, **in open and closed circuits**.
- NEVASTANE HTF is suitable for double-boilers, autoclaves, reactors, ovens, presses and moulds mainly in following industries:
  - ✓ Food
  - ✓ Pharmaceutical

## SPECIFICATIONS

### International standards

### Food grade standards

- ISO 6743-12 L-QC-300 / DIN 51522 – class Q
- DIN 51502 L
- FDA (chapter 21 CFR, 178.3570)
- ISO 21469
- NSF H1 & HT1, n° 131004
- Halal & Kosher

## ADVANTAGES

### Long service life

### Working safety under severe conditions

- NEVASTANE HTF is recommended for use where incidental contact with food may occur. Using maintenance lubricants which have been registered H1 with NSF minimizes your critical control points as required by HACCP.
- The addition of a high quality antioxidant confers NEVASTANE HTF an outstanding oxidation resistance, even at extremely high temperatures.

TYPICAL CHARACTERISTICS	METHODS	UNITS	NEVASTANE HTF
Appearance	-	Visual	Bright & clear
Density at 15°C	ISO 12185	kg/m <sup>3</sup>	800
Kinematic Viscosity at 40°C	ISO 3104	mm <sup>2</sup> /s	32
Pour point	ISO 3016	°C	- 6
Flash point – Open Cup	ISO 2592	°C	210
Flash point – Closed Cup	ISO 2719	°C	193
Fire point	ISO 2592	°C	240
Initial Boiling Point	ASTM D2887	°C	-
Final Boiling Point	ASTM D2887	°C	375
Auto ignition temperature	ASTM E659	°C	390
Conradson carbon residue	ISO 6615	%w	< 0,1%
Minimal operating temperature	-	°C	0
Maximum <b>bulk</b> temperature	GB/T 23800	°C	300
Maximum <b>film</b> temperature	GB/T 23800	°C	320

Above characteristics are mean values given as an information.

## STORAGE RECOMMENDATIONS

- Store the product at ambient temperature
- Minimize the periods of exposure to temperatures above 35°C
- Shelf life : 5 years from date of manufacture (unopened)

## TOTAL LUBRIFIANTS INDUSTRIE

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### NEVASTANE HTF - THERMODYNAMIC DATA

T (°C)	Density (kg/m <sup>3</sup> )	Thermal Conductivity (W/m.°C)	Specific Heat (kJ/kg.°C)	Vapour pressure (mbar)	Kinematic Viscosity (mm <sup>2</sup> /s or cSt)	Dynamic Viscosity (mPa.s)	Enthalpy of Vaporization (kJ/mol)
0	863	0.142	1.932	0	341.7	294.9	
10	857	0.142	1.967	0	162.8	139.5	
20	851	0.141	2.001	0	86.65	73.7	
30	845	0.140	2.035	0	50.79	42.9	
40	839	0.139	2.069	0	32.02	26.9	
50	833	0.138	2.103	0	21.46	17.9	
60	827	0.137	2.138	1	15.14	12.5	
70	821	0.137	2.172	1	11.14	9.1	
80	815	0.136	2.206	2	8.488	6.9	
90	809	0.135	2.240	2	6.663	5.4	
100	803	0.134	2.274	3	5.364	4.3	
110	797	0.133	2.309	4	4.412	3.5	
120	791	0.132	2.343	6	3.696	2.9	
130	785	0.131	2.377	8	3.146	2.5	
140	779	0.130	2.411	11	2.715	2.1	39.94
150	773	0.129	2.445	15	2.372	1.8	39.90
160	767	0.128	2.480	19	2.095	1.6	39.85
170	761	0.127	2.514	24	1.868	1.4	39.81
180	755	0.126	2.548	31	1.680	1.3	39.77
190	749	0.125	2.582	39	1.523	1.1	39.73
200	743	0.124	2.616	48	1.390	1.0	39.69
210	737	0.123	2.651	59	1.276	0.9	39.66
220	731	0.122	2,685	72	1.179	0.9	39.62
230	725	0.121	2.719	88	1.095	0.8	39.59
240	719	0.120	2.753	106	1.021	0.7	39.56
250	713	0.119	2.787	125	0.957	0.7	39.53
260	707	0.118	2.822	149	0.900	0.6	39.50
270	701	0.117	2.856	178	0.850	0.6	39.47
280	695	0.116	2,890	212	0.806	0.6	39.44
290	689	0.115	2.924	253	0.766	0.5	39.42
300	683	0.114	2.958	301	0.731	0.5	39.39
310	677	0.113	2.993	358	0.699	0.5	39.36

Thermal expansion coefficient :  $7,5 \cdot 10^{-4} / ^\circ\text{C}$

- **Thermal conductivity:** property of a material to conduct heat. *The higher thermal conductivity, the more efficient the heat transfer fluid will be.* Less heat will be required.
- **Specific heat:** fluid's ability to store the heat. It is defined by the required energy to raise 1°C the temperature of 1 gram of a fluid.
- **Vapor pressure:** pressure exerted by a vapor in thermodynamic equilibrium with its condensed phases (solid or liquid) at a given temperature in a closed system. For a heat transfer fluid, a low vapor pressure is recommended to operate safely.
- **Enthalpy of vaporization:** amount of energy (enthalpy) that must be added to the liquid substance, to transform a quantity of that substance into a gas.

**TOTAL LUBRIFIANTS  
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