

Lubricant Product Information

Daphne Alpha Thermo 32B High Performance Heat Transfer Oil

Application

Daphne Alpha Thermo 32B is a full synthetic heat transfer fluid to provide excellent heat transfer performance. Recommended especially for closed heating system with operating temperature up to 320C.

Characteristics

- 1. Excellent Oxidation Stability** - Excellent thermal stability, if it is used in a closed system where the temperature is 320C, sludge and carbon do not occur.
Applicable temperature range (bulk oil temperature) is 10°C ~ 280°C
- 2. Corrosion Resistance** -It does not contain substances that are corrosive to various metal, therefore it does not corrode the equipment in a heat transfer closed system.
- 3. Danger of Ignition** -Because of it high flash point, this synthetic heat transfer oil is difficult ignition..

Packing

20L pail, 200L drum

Daphne Alpha Thermo 32B

Typical Specifications

	ASTM METHOD	
Appearance	—	Pale Yellow
Colour	D-1500	L0.5
Density 15 °C g/cm ³	D-4052	0.889
Flash Point (COC) °C	D-92	214
Viscosity, cSt@ 40 °C	D-445	30.3
@ 100 °C		4.69
Viscosity Index	D-2270	121
TAN (mgKOH/g)	D-664	0.01
Pour Point °C	D-6749	-57.5

Important Notes

Daphne Alpha Thermo 32B is a low toxicity synthetic heat transfer oil medium. However, please note the following points from safety view point.

- 1) When contact with skin, wash with soap and rinse with water.
(As well as ordinary hydrocarbon oil, there is no skin irritation.)
- 2) In case contact with eye, rinse it with running for 15 minutes and seek medical attention.
- 3) If inhaled, move to fresh air immediately, please seek medical attention if needed.
- 4) If swallow, drink plenty of water and vomit it out immediately, please seek medical advice

Thermal Constant Number

Physical Properties of Temp. (°C)	Density kg/m ³	Specific heat kcal/kg°C	Heat Conductivity kJ/m hr °C	Viscosity mPa·s	Steam Pressure mm Hg
0	899	1.79	5.69 x 10 ⁻¹	356	–
20	886	1.86	5.63 x 10 ⁻¹	78.4	–
40	873	1.93	5.57 x 10 ⁻¹	26.5	–
60	860	2.00	5.51 x 10 ⁻¹	11.8	–
80	848	2.07	5.45 x 10 ⁻¹	6.38	–
100	835	2.15	5.38 x 10 ⁻¹	3.92	1.71
120	822	2.22	5.32 x 10 ⁻¹	2.64	9.19
140	809	2.29	5.26 x 10 ⁻¹	1.90	3.84 x 10 ¹
160	796	2.36	5.20 x 10 ⁻¹	1.44	1.31 x 10 ²
180	784	2.43	5.14 x 10 ⁻¹	1.14	3.81 x 10 ²
200	771	2.51	5.08 x 10 ⁻¹	0.93	9.73 x 10 ²
220	758	2.58	5.02 x 10 ⁻¹	0.77	2.23 x 10 ³
240	745	2.65	4.95 x 10 ⁻¹	0.65	4.66 x 10 ³
260	732	2.72	4.89 x 10 ⁻¹	0.57	9.02 x 10 ³
280	720	2.79	4.83 x 10 ⁻¹	0.51	1.64 x 10 ⁴
300	707	2.87	4.77 x 10 ⁻¹	0.46	2.81 x 10 ⁴

Thermal Stability

Shield Test Tube

Put 5ml of oil sample in test tube, Copper, Iron, Aluminum as catalyst, decompress the test tube to about 1mmHg with a vacuum pump, seal the tube by putting the mouth of the test tube over a burner. Keep the test tube in the bath temperature of 280°C and 300°C for 7 days, observe the change of quality.

Temperature	Test Item	Daphne Alpha Thermo 32B	Market Oil	
280°C	Appearance	Transparent Yellow	Transparent Yellow	
	Viscosity @40°C mm ² /s	29.36	31.08	
	Rate of Viscosity change %	-3.10	-5.68	
	Catalyst discoloration	Cu	No Change	Turn Black
		Fe	Slight Darken	Turn Black
Al		No Change	No Change	
300°C	Appearance	Transparent Yellow	Transparent Yellow	
	Viscosity @40°C mm ² /s	27.12	27.63	
	Rate of Viscosity change %	-10.5	-15.9	
	Catalyst discoloration	Cu	No Change	Turn Black
		Fe	Slight Darken	Turn Black
Al		No Change	No Change	