



全球光热发电专业服务商

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ENE L-QD360

Synthetic Heat Transfer Fluid

(Hydrogenated Terphenyls)

Product

Description



**China Academy of Science &
Technology Development**



**Shenzhen Enesoon Science &
Technology Co., Ltd.**



1. Summary

Product content: Hydrogenated Terphenyls

Chemical Formula: $C_{18}H_{22}$

The average molecular weight: 252

Shape and properties: light yellow clear liquid, Scent of geranium oil, water insoluble, dissolved in hot benzene, slightly soluble in ether and Carbon disulfide, highly insoluble in ethanol and acetic acid.

Operating temperature: $-24\sim 350^{\circ}\text{C}$

2. Characteristic

- (1) High thermal stability and renewable.
- (2) Non-toxic, no strong scent, no environment pollution and low permeability at high temperature.
- (3) Good viscosity temperature performance, low viscosity in room temperature and good pumpability.
- (4) Conditions of liquid phase operation in 345°C and no corrosion to equipment.
- (5) This product is compatible with foreign brand-name heat transfer fluid, Dowtherm-RP (United States), Gilotherm-TH (France), Therm-S-900 (Japan), Therminol-66 (United States).



3. Quality Index

ENE L-QD360 Quality Index				
Subject	Unit	Range	Mass	Testing standards
Appearance	-	-	Clear, No suspended matter	Visual observation
Flash point (open)	°C	≥	170.0	GB/T-3536-83
Kinematic viscosity (40°C)	mm ² /s	-	22.0~37.0	GB/T-265-88
Sulfur content	mg/kg	≤	5	GB/T388
Chlorine content	mg/kg	≤	5	GB/T388
Acid value	mg KOH/g	≤	0.03	GB/T-4945
Copper corrosion (100°C)	Grade	-	1	GB/T5096
Moisture	mg/kg	≤	300	GB/T11133
Water-soluble PH value	-	-	No	GB/T0259
Pour point	°C	≤	-24	GB/T255
Distillation range	2% °C		341 (Average)	GB/T255
	5% °C		352 (Average)	GB/T255
Carbon residue	%	≤	0.05	GB/T268
Density	g/cm ³	-	1.001~1.007	GB/T1884
Index of refraction	-	-	1.5679~1.5875	GB/T614



4. Technical Data

Subject	Index
Chemical formula	$C_{18}H_{22}$
Appearance	Clear, no suspended matter
Chroma (Pt-Co), \leq	300
Moisture/ (mg/kg) , \leq	150(first grade) 250(qualified grade)
Kinematic viscosity (37.8°C) / (mm ² /s)	22.0~37.0
Density(25°C) / (g/m ³)	1.001~1.007
Flash point / °C	173.0~177.0
Initial distillation point °C, \geq	330



5. Physical Data

Temperature	Density	Specific heat	Thermal conductivity	Viscosity
°C	kg/m ³	kJ/(kg.K)	W/ (mK)	mm ² /s
20	1005	1.61	0.119	71.80
40	990	1.68	0.118	31.05
60	976	1.75	0.117	11.43
80	961	1.83	0.117	7.51
100	944	1.92	0.116	3.67
120	935	2.01	0.116	2.65
140	917	2.11	0.115	1.80
160	899	2.20	0.114	1.47
180	882	2.30	0.114	1.20
200	868	2.40	0.113	1.00
220	851	2.49	0.112	0.82
240	836	2.59	0.112	0.73
260	823	2.68	0.111	0.64
280	807	2.77	0.110	0.55
300	792	2.85	0.110	0.48
320	775	2.92	0.109	0.45
340	758	2.99	0.108	0.40
360	743	3.05	0.108	0.38



6. Application

This product can be used for operating all high temperature calefaction, it is mainly used as thermal mediums for chemical and plastic production industry. The product is very applicable for producing PTA, POLYESTER, PA, PET, PS for high temperature conduction and the heat supply system in petroleum and chemical industry. Moreover, it is often applied in industries of Petroleum, Synthetic fibre, Synthetic resin, medical, dyeing, chemical polymerization, pesticide, biodiesel and many more applications.

7. Points of Attentions

(1) To inspect the accuracy of the maximum service temperature for the product, using the thermal stability experiment method to determine appearance of the product that is clear, no suspended maters and subsidence at its maximum service temperature, on the other hand, the total variance of the product should be less the 10% of its corresponding temperature. Furthermore, comparing the product with the newest standard, analyzing credibility of the product description, especially understanding the method to determine the maximum service temperature of the product and the existence of product certificates from authorized institution.

(2) To determine evaporability and safety (flash point) of the product achieve standard index, initial distillation point of the product is no less than its maximum service temperature, the boiling range of the product is relatively narrow and its flash point is relatively high.

(3) To determine quality depth of the product, its visual appearance should be clear liquid in light yellow color, the product should have excellent storage stability and no change in color and no subsidence after illumination. Carbon residue $\leq 0.1\%$, sulfur content $\leq 0.2\%$.

(4) To inspect low-temperature fluidity of the product, based on the geography location and environmental condition of the end user resides, select proper low-temperature performance. Pour point $\leq -9^{\circ}\text{C}$, Kinematic viscosity at temperature of 0°C or lower is relatively low.

(5) To inspect thermal conductivity of the product, it should have relatively low viscosity, high density, high heat specification and coefficient of thermal conductivity.



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(6) Select brand products. With a benefit of examine the manufacture product line and detection on the spot if needed.

8. Package Manner

200KG/Steel Drum