EASTMAN

Technical Data Sheet

Therminol® LT Heat Transfer Fluid

Applications

- Environmental test chambers
- Fibers
- Formaldehyde
- Htf - active pharmaceutical ingredients
- Htf - fine chemicals
- Htf - pharmaceutical processing
- Specialty and batch chemical production
- Specialty chemicals

Key Attributes

- Excellent Low Temperature Performance
- Low Viscosity
- Vapor Phase Operation

Product Description

Therminol LT is a synthetic aromatic heat transfer fluid. It can be used in both liquid phase and vapor phase, and has excellent heat transfer and fluid properties for low temperature applications.

Performance Benefits

- **Low Viscosity—**Low viscosity at exceptionally low temperatures makes Therminol LT is excellent for pumping extreme cooling applications.
- **Excellent Low Temperature Performance—**Therminol LT has the best low temperature heat transfer coefficient of all coolant fluids. Therminol LT has excellent heat transfer properties to -75°C (-100°F).
- **Vapor Phase Operation—**Therminol LT can be used in the liquid phase between -75°C (-100°F) and 315°C (600°F). With a boiling point of 181°C (358°F) at ambient pressure, Therminol LT can be used in the vapor-phase above 181°C (358°F).

Typical Properties

Property	Test Method	Typical Value, Units
General		
Appearance		Clear, light yellow liquid
Composition		Alkyl substituted aromatic
Maximum bulk temperature		315 °C (600 °F)
Maximum film temperature		345 °C (650 °F)
Normal Boiling Point		181 °C (358 °F)
Pumpability @300 mm2/s (cSt)		-75 °C (-103 °F)
Crystallization Point		-75 °C (-103 °F)
Autoignition Temperature	ASTM E659 DIN 51794	412 °C (774 °F) 429 °C (804 °F)
Minimum liquid temperatures for fully developed turbulent flow (NRe > 10000) 10 ft/s, 1-in. tube (3.048 m/s, 2.54-cm tube) 20 ft/s, 1-in. tube (6.096 m/s, 2.54-cm tube)		 -66 °C (-87 °F) <-73 °C (-100 °F)
Minimum vapor temperatures for fully developed turbulent flow (NRe > 10000)		

10 ft/s, 1-in. tube (3.048 m/s, 2.54-cm tube)		139 °C (283 °F)
20 ft/s, 1-in. tube (6.096 m/s, 2.54-cm tube)		116 °C (241 °F)
Coefficient of thermal expansion		
@ 100°C		0.001080 /°C (0.000600 /°F)
Heat of Vaporization[a]		223 kJ/kg (95.7 Btu/lb)
Viscosity, Kinematic		
@ 100°C	ASTM D 445	0.48 cSt, mm^2/s
@ 40°C	ASTM D 445	0.81 cSt, mm^2/s
Molecular Weight (Average)		134
Pseudocritical temperature		377 °C (710 °F)
Pseudocritical pressure		34.5 bar (500 psia)
Pseudocritical density		298 kg/m^3 (2.49 lb/ft^3)
Moisture Content, maximum	ASTM E-203	80 ppm
Surface Tension[b]		
@ 25°C		28.0 dynes/cm
Dielectric Constant		
@ 23°C	ASTM D-924	2.3

[a] *at maximum use temperature*
[b] *in air*

Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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