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Therminol 59
Heat Transfer Fluid

Product Bulletin

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Product Description

-45 °C to 315 °C

Therminol 59 is a synthetic heat transfer fluid with excellent low temperature pumping characteristics (to -45° C) and is thermally stable to 315° C. Performance features of Therminol 59 include:

- **Heating or Cooling Operation** - Therminol 59 has surprisingly low viscosity for a high temperature heat transfer fluid. It is ideally suited for combination heating and cooling applications delivering excellent heat transfer rates even at 20° C. Batch processes will benefit from the excellent cooling performance Therminol 59 delivers.
- **Superb Low Temperature Pumpability** - Low viscosity at exceptionally cold temperatures makes this an ideal fluid for northern climates. In fact, Therminol 59 was originally developed for use on the North Slope in Alaska, a supreme test of low temperature pumpability.
- **Long Life Means Low Cost** - Like all the Therminol fluids, long fluid life is a given with Therminol 59. Users can expect many years of reliable, trouble-free operation, even when operating continuously at the recommended upper temperature limit of 315° C. Long life means fewer fluid change-outs and that means low operating costs, which is critical in today's highly competitive business environment.

Applications

Therminol 59 is used in a wide variety of industries, such as:

- Oil and Gas Processing
- Switch Condensers
- Pharmaceuticals Manufacturing
- Specialty and Batch Chemical Production
- Biodiesel

For more information on Therminol 59 systems and applications e-mail us or contact your local sales representative.

Detailed Properties

Click here to download the product bulletin containing detailed physical and transport properties for Therminol 59.

Typical Properties

Therminol® 59
Heat Transfer Fluid

Operating Range -45 °C to 315 °C (-50 °F to 600 °F)

Appearance	Light yellow liquid
Composition	Alkyl substituted aromatic
Moisture Content, Maximum	200 ppm
Flash Point (ASTM D-92)	146 °C (295 °F)
Fire Point (ASTM D-92)	154 °C (310 °F)
Autoignition Temperature (ASTM D-2155)	404 °C (760 °F)
Kinematic Viscosity, at 40 °C	4.0 cSt
Kinematic Viscosity, at 100 °C	1.43 cSt
Density at 25 °C	971 kg/m3 (8.10 lb/gal)
Specific Gravity (60 °F/60 °F)	0.979
Coefficient of Thermal Expansion at 200 °C	0.000946/°C (0.000525/°F)
Average Molecular Weight	207
Pour Point	-68 °C (-90 °F)
Pumpability, at 2000 mm2/s (cSt)	-49 °C (-56 °F)
Pumpability, at 300 mm2/s (cSt)	-37 °C (-35 °F)
Minimum Temperatures for	
Fully Developed Turbulent Flow (Re = 10000)	
10 ft/sec, 1-in tube	17 °C (63 °F)
20 ft/sec, 1-in tube	0 °C (32 °F)
Transition Region Flow (Re = 2000)	
10 ft/sec, 1-in tube	-16 °C (4 °F)
20 ft/sec, 1-in tube	-24 °C (-12 °F)
Normal Boiling Point	289 °C (553 °F)
Heat of Vaporization at Maximum Use Temp 315°C	227 kJ/kg (97.5 Btu/lb)
Optimum Use Range	-45 °C to 315 °C (-50 °F to 600 °F)
Maximum Film Temperature	345 °C (650 °F)
Pseudocritical Temperature	514 °C (957 °F)
Pseudocritical Pressure	22.3 bar (323 psia)
Pseudocritical Density	287 kg/m3 (17.9 lb/ft3

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