



# Paratherm<sup>®</sup>

# MR<sup>™</sup> HEAT TRANSFER FLUID

Single-Fluid Heating/Cooling • Non-Toxic

ENGINEERING BULLETIN MR 504

The Paratherm MR<sup>™</sup> mid-range heat transfer fluid is designed for a broad variety of applications such as batch reactors, laminating lines and plastics mold temperature control. Non-aromatic and non-toxic, the fluid is safe to use and is easy to dispose. Used or contaminated fluid can be safely combined with spent lubricating oils and recycled locally.

## Environmental Safety

The crystal-clear Paratherm MR fluid contains no SARA-reportable substances such as chlorinated hydrocarbons, aromatics, heavy metals, or sulfur or nitrogen compounds.

## Fluid Toxicity

The Paratherm MR fluid is not expected to cause skin irritation on contact. And unlike other heat/cool liquids, the MR fluid emits no pungent or noxious odors. See the Material Safety Data Sheet (MSDS) before using this product.

## Vapor Pressure

Low vapor pressure permits the designer considerable latitude in the choice of lower-cost equipment that does not need to be pressurized to prevent fluid boiling and pump cavitation.

## Fluid Analysis

Overheating, oxidation and contamination of your heat transfer fluid will significantly reduce its ability to perform. Production levels and product quality will suffer, and in severe cases considerable damage to your thermal oil system can result. Periodic analysis of your fluid can assist in the detection of problems in the early stages, providing substantial savings. When you first charge your system with Paratherm heat transfer fluid, we offer the initial analysis at no charge to encourage a regular program of testing.



4 Portland Road  
West Conshohocken PA 19428 USA  
Phone: 610-941-4900

Fax: 610-941-9191

800-222-3611

[info@paratherm.com](mailto:info@paratherm.com)

[www.paratherm.com](http://www.paratherm.com)

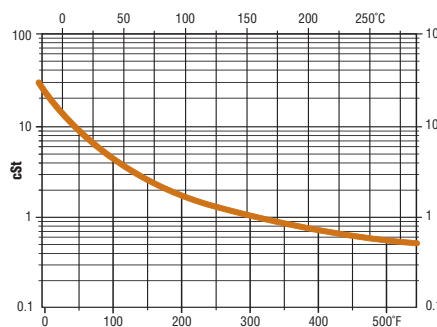
## Typical Properties\*

### Physical Properties

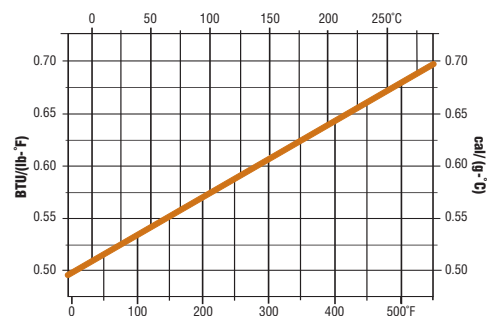
Base	Paraffinic Hydrocarbon
Appearance	Transparent, Bright Water White
Taste & Odor	Slight Odor
Optimum Use Range	30°F to 550°F (-1°C to 288°C)
Maximum Recommended Film Temperature	600°F (316°C)
Flash Point (coc)	ASTM D-92 300°F (149°C)
Atmospheric Boiling Point, 10% Fraction	ASTM D-1160 574°F (301°C)
Vapor Pressure, psia @ 550°F (288°C)	3.19
Autoignition (AIT)	ASTM E659-78 621°F (327°C)
Coefficient of Thermal Expansion	0.04/100°F 0.08/100°C
Average Molecular Weight	230
Density, lb/gal @ 75°F (24°C)	6.7
Pour Point (Crystal Point)	ASTM D-97 -80°F (-63°C)
Heat of Vaporization (Calculated)	126.42 BTU/lb

\* These are typical laboratory values, and are not guaranteed for all samples.

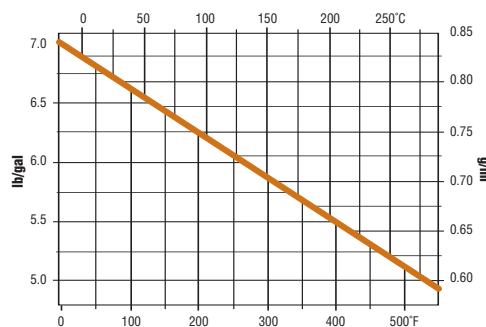
### VISCOSITY



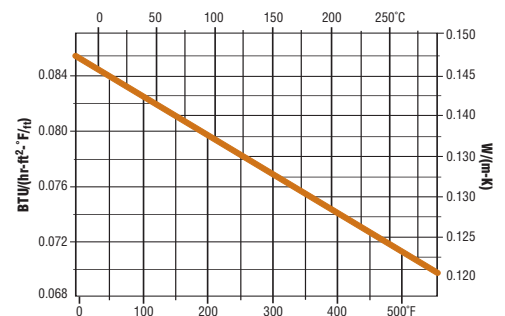
### SPECIFIC HEAT



### DENSITY



### THERMAL CONDUCTIVITY



Note: The information and recommendations in this literature are made in good faith and are believed to be correct as of the below date. You, the user or specifier, should independently determine the suitability and fitness of Paratherm heat transfer fluids for use in your specific application. We warrant that the fluids conform to the specifications in Paratherm literature. Because our assistance is furnished without charge, and because we have no control over the fluid's end use or the conditions under which it will be used, we make no other warranties—expressed or implied, including the warranties of merchantability or fitness for a particular use or purpose (recommendations in this bulletin are not intended nor should be construed as approval to infringe on any existing patent). The user's exclusive remedy, and Paratherm's sole liability is limited to refund of the purchase price or replacement of any product proven to be otherwise than as warranted. Paratherm Corporation will not be liable for incidental or consequential damages of any kind.