

TM-HT-55 Heat Transfer Fluid

TM HT-55 is part of Tyrell Chemical's perfluoropolyether (PFPE) line of inert, dielectric heat transfer fluid. Designed for extreme conditions, these high-performance fluids are part of a product line that features a wide range of boiling points. TM-HT-55 fluids have a low boiling point of 55°C and are generally compatible with plastics, elastomers and metals. TM-HT-55 fluids have no fire, flash or auto-ignition points and are inflammable.

Applications

- Semiconductor manufacturing
- Pharmaceutical manufacturing
- Chemical manufacturing
- Vapor phase heating
- Transformers
- Recirculating chillers
- Compute cooling

Properties and Usage Benefits

- Optimal thermal transfer and performance
- Reduced evaporation losses
- Wide material compatibility with no corrosion, degradation or decomposition residues
- No toxicity, flammability, or explosion hazards

Material Compatibility

Metals

- Copper, brass, iron, nickel, stainless steel, aluminum, bronze, AISI 316

Plastics

- Polycarbonate, polypropylene, ABS copolymer, polyphenyloxide, PE low density, PET, POM, PTFE, PVC, PMMA

Elastomers

- Natural rubber, silicone rubber, butyl rubber, fluorosilicone, NBR, EPDM

**Safe with hydrocarbon-based plasticizers that allow for compatibility with almost all seals and gaskets*

Properties	
Tyrell Part #	TM-HT-55
Fisher Scientific Part # (Air Freight)	502120247
Fisher Scientific Part # (Sea Freight)	502120248
Type	PFPE
Boiling point	55 °C
Pour point	<-125 °C
Density	1.65 g/cm ³
Kinematic viscosity	0.45 cSt
Vapor pressure	225 torr
Specific heat	0.23 cal/g·°C
Heat of vaporization at boiling point	22 cal/g
Refractive index	1.28
Coefficient of thermal expansion	0.0011 cm ³ /cm ³ ·°C
Surface tension	14 dyne/cm
Thermal conductivity	0.65 W/m-K
Dielectric strength	40 kV (2.54 mm gap)
Dielectric constant	1.86
Volume resistance	1·10 ¹² Ohm-cm
Average molecular weight	340 amu
Dissipation factor (1 Khz)	2·10 ⁻⁴
Solubility of water	14 ppm (wt)
Solubility of air	26 cm ³ gas

Safety

HT fluids are safe to handle as they are inert, noncorrosive, nonflammable and nontoxic. HT fluids possess no flash, fire or auto-ignition points.

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