

TC-135 Heat Transfer Fluid

TC-135 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. TC-HT-135 fluids have a low boiling point of 135°C and are generally compatible with plastics, elastomers and metals. TC-HT-135 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, polyphenyloxyde, 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 #	TC-135
Type	PFPE
Boiling point	135 °C
Pour point	-100 °C
Density	1.72 g/cm ³
Kinematic viscosity	1 cSt
Vapor pressure	5.8 torr
Specific heat	0.23 cal/g·°C
Heat of vaporization at boiling point	16 cal/g
Refractive index	1.28
Coefficient of thermal expansion	0.0011 ·°C
Surface tension	17 dyne/cm
Thermal conductivity	0.065 W/m-K
Dielectric strength	40 kV
Dielectric constant	1.92
Volume resistance	1.5·10 ¹⁵ Ohm·cm
Average molecular weight	610 amu
Dissipation factor (1 KHz)	10· 10 ¹⁵
Solubility of water	<10 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.