

TC-43 Heat Transfer Fluid

Inert dielectric perfluorocarbon (PFC) heat transfer fluid with outstanding dielectric strength. Wide boiling and pour point ranges along with low viscosity and a narrow toxicity profile allow for an expansive range of use. Nonflammable, no auto-ignition point, and noncorrosive.

Applications

- Semiconductor manufacturing
- Supercomputing
- Aviation and military electronics
- Pharmaceutical manufacturing
- Chemical manufacturing

Properties and Usage Benefits

- Compatible with metals, plastics and elastomers
- Low toxicity profile
- Nonflammable for safe working conditions
- Wide range of operating temperatures and pour points
- Residue free and colorless

Material Compatibility

Compatible with most metals, plastics and elastomers.

Safety

HTF fluids are not irritating to the skin and eyes and have a low toxicity profile. HTF heat transfer fluids are not flammable or susceptible to thermal breakdown during storage and normal use.

Properties	
Tyrell Part #	TC - 43
Type	PFC
Boiling point	175 °C
Pour point	-50 °C
Density	1.86 g/cm ³
Kinematic viscosity	2.5 cSt
Vapor pressure	0.19 torr
Specific heat	0.26 cal/g·°C
Heat of vaporization at boiling point	70 cal/g
Refractive index	1.281
Coefficient of thermal expansion	0.0012 · °C
Surface tension	16 dyne/cm
Thermal conductivity	0.063 W/m-K
Dielectric strength	40 kV
Dielectric constant	1.9
Volume resistance	1·10 ¹⁵ Ohm·cm
Average molecular weight	670 amu
Dissipation factor (1 KHz)	2·10 ⁻⁴
Solubility of water	7 ppm (wt)
Solubility of air	26 cm ³ gas