AURON HFE-7100

CAS 163702-08-7
Dielectric heat transfer fluid

Efficient Cooling. Safe Operation. Sustainable Performance.

RODUCT OVERVIEW

AURON HFE 7100 is an advanced fluorinated ether designed for high-performance thermal management, precision cleaning, and solvent applications.
It offers excellent dielectric properties, low viscosity, and strong chemical stability, making it suitable for direct contact cooling of energized components and sensitive materials.

KEY FEATURES

- Non-flammable — no flash point
- Excellent dielectric properties
- Very low-viscosity — High flow efficiency
- Low surface tension — superior wetting
- High chemical and hydrolysis stability
- Fast evaporation / drying capability
- Suitable for cooling, cleaning & solvent use

APPLICATIONS

- Immersion cooling (1-phase systems)
- Data center & power electronics cooling
- Semiconductor temperature control
- Medical industry cooling
- Precision cleaning (metal, plastic, resin, dust)
- Drying processes (after solvent cleaning)
- Diluent for lubricants & specialty chemicals

TECHNICAL SPECIFICATIONS

Appearance	Clear, colourless
Chemical Type	Fluorinated ether
Flash Point	None
Boiling Point	59°C
Pour Point	-135°C
Critical Temperature	195°C
Critical Pressure	No information available
Density (25°C)	1.5 g/ml
Molecular Weight	250 g/mol
Kinematic Viscosity (25°C)	0.38 cSt
Dynamic Viscosity	0.57 cP
Surface Tension	13.6 mN/m
Specific Heat Capacity	1.18 kJ/(kg·K)
Thermal Conductivity	0.069 W/(m·K)
Heat of Vaporization	103 kJ/kg
Expansion Coefficient	~0.0017 K^{-1}
Vapour Pressure (25°C)	28 kPa
Water Solubility	~ 12 ppm
***n*-octanol-water partition coefficient (°C)**	Log Pow: ~ 3.9

ENVIRONMENT & SAFETY

- Non-flammable
- No GHS hazard classification
- GWP: ~ 272
- Low acute toxicity (LD50 > 5000 mg/kg)
- No ozone depletion potential
- Avoid thermal decomposition (may form HF, CO, CO_2 at high temperatures)

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ELECTRICAL INSULATION

- Dielectric strength: > 25 kV (2.54 mm gap)
- Dielectric constant: ~7.27
- High resistivity (>10^8 Ω·cm)

THERMAL PERFORMANCE

- Low viscosity → high heat transfer efficiency
- Fast evaporation → efficient cooling & drying
- Stable thermal properties across wide temperature range

Recommended operating range (typical)

- Approx. -100°C to +50°C

MATERIAL COMPATIBILITY

Compatible with a wide range of materials.
Testing recommended for specific applications!

- Metals: aluminium, copper, stainless steel
- Plastics: PE, PP, PTFE
- Elastomers: nitrile rubber (recommended)

SAFETY

- Use only in well-ventilated areas
- Avoid inhalation of decomposition products
- Use appropriate PPE for industrial handling
- Read Safety Data Sheet (SDS) before use

PACKAGING & STORAGE

- Available packaging: 1kg, 5kg, 7kg, 15kg, 25kg
- Store in closed original containers
- Keep in cool, dry, well-ventilated environment
- Avoid contact with strong oxidizers, acids, and bases

ECONOMIC ADVANTAGES & SUSTAINABILITY

- Efficient cooling due to low viscosity
- Multi-functional (cooling + cleaning + solvent)
- Low consumption in drying applications
- Long service life with stable performance

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