

Solvay Specialty Polymers

Galden® EV Performance Fluids

Galden® EV Performance Fluids is a line of dielectric fluids specifically designed for cooling supercharging stations and as an alternative energy manufacturing solution.

Features and Benefits

Galden® EV Performance Fluids are low molecular weight Perfluoropolyethers (PFPEs). Perfluoropolyethers (PFPEs) are clear and colorless fluoropolymers, liquid in a wide range of temperatures and based on a proprietary and unique technology composed entirely of Carbon, Oxygen, and Fluorine. These fluids are Safe, Non flammable, and Non toxic.

Features due to the presence of *Fluorine*

- Excellent thermal and oxidative stability
- Low surface energy
- Excellent chemical stability
- Dielectric properties
- Non flammable

Features due to the presence of *Oxygen*

- Imparts flexibility to the polymer chain
- Liquid in a very large temperature range
- Excellent flow behavior at low temperature
- Higher viscosity index (VI) for linear PFPE (higher O/C ratio)

Applications

- Advanced Carrier and Alternative Energy Manufacturing Solutions
- Electronics, Semiconductor, & Energy Sector Processes
- Automotive EV Battery and Supercharger High Voltage Cooling Solutions

Galden® EV Performance Fluids have Zero Ozone Depletion Potential (Zero ODP): they do not contain Chlorofluorocarbons (CFCs) chlorine, bromine and iodine. They do not require particular safeguard precautions or use-restrictions and they are fully compatible with all metals, a wide variety of rubbers and commercially available elastomers and plastics.



Typical Properties

(not for specification purpose)

Properties	Units	EV110	EV135
Boiling point	°C	110	135
Pour Point	°C	-100	-100
Density	g/cm ³	1.71	1.72
Kinematic viscosity	cSt	0.77	1.00
Vapor pressure	torr	17	5.8
Specific heat	cal/g•°C	0.23	0.23
Heat of vaporization at boiling point	cal/g	17	16
Refractive index	-	1.280	1.280
Coefficient of thermal expansion	cm ³ /cm ³ •°C	0.0011	0.0011
Surface tension	dyne/cm	16	17
Thermal conductivity	W/m•K	0.065	0.065
Dielectric strength	kV (2.54mm gap)	40	40
Dielectric constant	-	1.92	1.92
Volume resistivity	Ohm•cm	1.5•10 ¹⁵	1.5•10 ¹⁵
Average molecular weight	amu	580	610
Dissipation factor (1 KHz)	-	2•10 ⁻⁴	2•10 ⁻⁴
Solubility of water	ppm	<10	<10
Solubility of air	cm ³ /gas 100 cm ³ liquid		
Flash point	°C	None	None
Fire point	°C	None	None
Autoignition temperature	°C	None	None
ODP	-	0	0

All values determined at 25°C unless otherwise specified

