

Galden HT

PFPE Heat Transfer Fluid

Description

Galden HT is a line of dielectric fluids with boiling points ranging from 55 to 270°C. Their excellent dielectric properties, high chemical stability combined with the capacity to operate at very low temperatures as well as elevated temperatures make them the best heat transfer fluids for the aggressive conditions used in semiconductor and electronic industry.



Seal and Gasket Compatibility

More than 99 % of plasticizers used in the polymer industry are hydrocarbon-based compounds. Galden® HT PFPE fluids do not contain hydrogen in their chemical structure, so no affinity with hydrocarbon-based compounds is present.

Materials Compatibility

Metals	Plastics	Elastomers
AISI 316, Copper, Brass, Iron, Nickel, Aluminum, Stainless steel, Bronze	PE low density, Polypropylene, Polycarbonate, ABS copolymer, Polyphenyloxide, PET, POM, PTFE, PVC, PMMA	Butyl rubber, NBR, EPDM, Natural rubber, Silicone rubber, Fluorosilicone

Materials Compatibility

Galden® HT PFPE fluids offer favorable environmental and worker safety properties: no toxicity, non-flammability, Zero Ozone Depletion Potential (ODP).

The chemical inertness and non-corrosivity of Galden® HT PFPE fluids make them safe for workers to handle.

Kurt J. Lesker
Company

VACUUM MART
DIVISION

Applications

- Semiconductor
 - Wafer Etching
 - Ion Implantation
- Chemical
- Recirculating Chillers
- Aviation Heat Transfer Systems
- Space Simulation
- Supercomputer Cooling Systems
- Pharmaceutical
 - Freeze Drying

Features

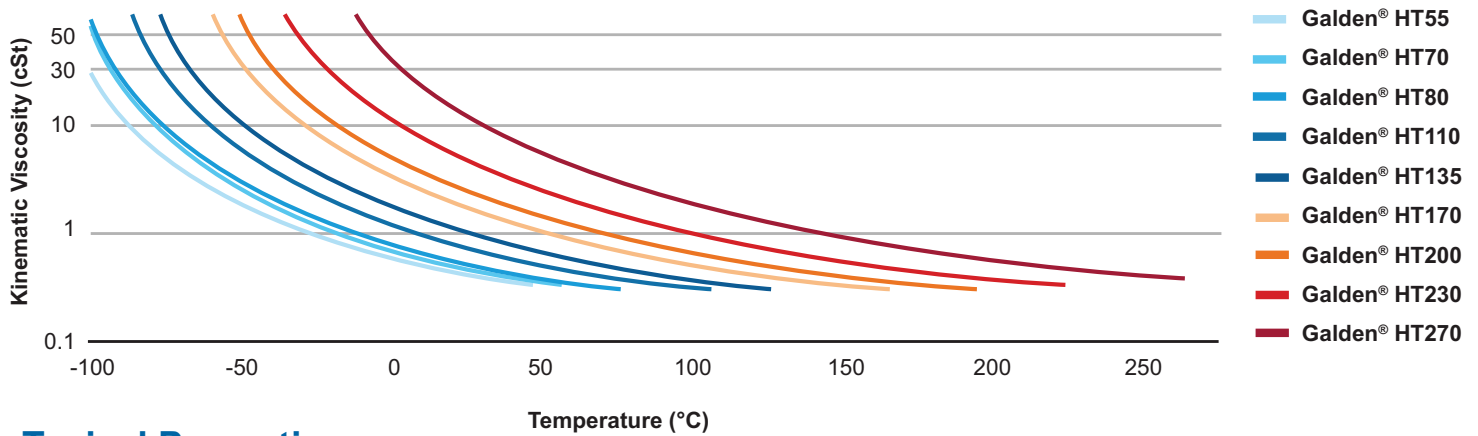
- Compatible with most materials over a wide temperature range
- Thermally stable, Chemically Inert
- Excellent dielectric properties
- Low Viscosity
- High electrical resistivity
- Non-flammable
- FM6930 Approval
- Wide temperature range
- Non toxic

Why buy from KJLC?

- Exclusive North American Distributor
- Exclusive European Distributor
- Stock in Pittsburgh, PA; Livermore, CA; Hastings, UK; Shanghai, China

www.lesker.com

Kinematic Viscosity vs. Temperature

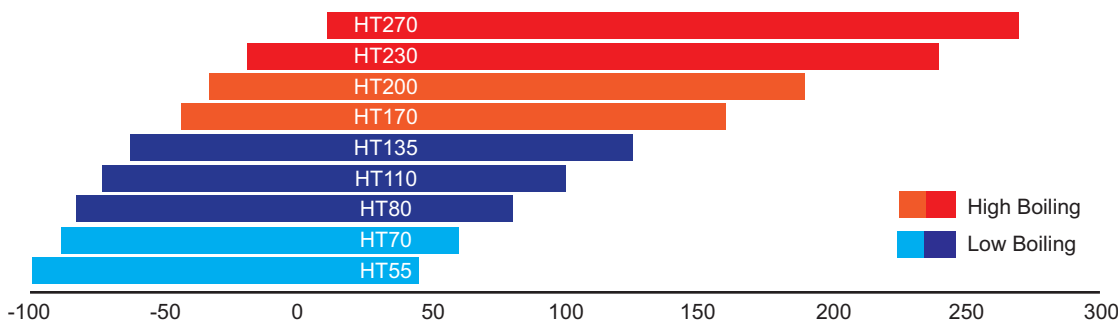


Typical Properties

	HT55	HT70	HT80	HT110	HT135	HT170	HT200	HT230	HT270
Vapor Pressure (Torr)	225	141	105	17	5.8	0.8	0.2	0.025	0.01
Pour Point (°C)	-110	-115	<-110	-110	-110	-97	-85	-77	-66
Boiling Point (°C)	55	70	80	110	135	170	200	230	270
Specific Heat (cal/g°C)	0.232	0.232	0.232	0.232	0.232	0.232	0.232	0.232	0.232
Surface Tension (dynes/cm)	16	14	16	16	17	18	19	19	20
Avg Molecular Wt.	340	410	430	580	610	760	870	1020	1550
Heat of Vap @ BP (cal/g)	22	17	17	17	16	16	15	15	15
Kinematic Viscosity (cSt)	0.45	0.50	0.57	0.77	1.00	1.80	2.40	4.4	11.7
Thermal Conduct (W/m°C)	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065
Relative Density (g/cm³)	1.65	1.68	1.69	1.71	1.72	1.77	1.79	1.82	1.85
Volume Resistivity (ohm-cm)	1 x 10 ¹²	1 x 10 ¹⁵	1.5 x 10 ¹⁵	1.5 x 10 ¹⁵	1.5 x 10 ¹⁵	1.5 x 10 ¹⁵	6 x 10 ¹⁵	6 x 10 ¹⁵	6 x 10 ¹⁵
Solubility of Water (ppm by wt)	14	14	14	14	14	14	14	14	14
Dielectric Strength*	40	40	40	40	40	40	40	40	40
Dielectric Constant (1 kHz)	1.86	1.88	1.89	1.92	1.92	1.94	1.94	1.94	1.94
Solubility of Air**	26	26	26	26	26	26	26	26	26
Operating Range (°C)	-90 to 45	-75 to 60	-80 to 70	-60 to 100	-50 to 125	-30 to 160	-20 to 190	0 to 220	25 to 260

Measurements taken at 25°C. * Units = kV (2.54 mm gap) ** Units = cm³ gas/100 cm³ liquid). See Solvay documentation for example

Suggested Operating Temperature Range



See Solvay documentation for example

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