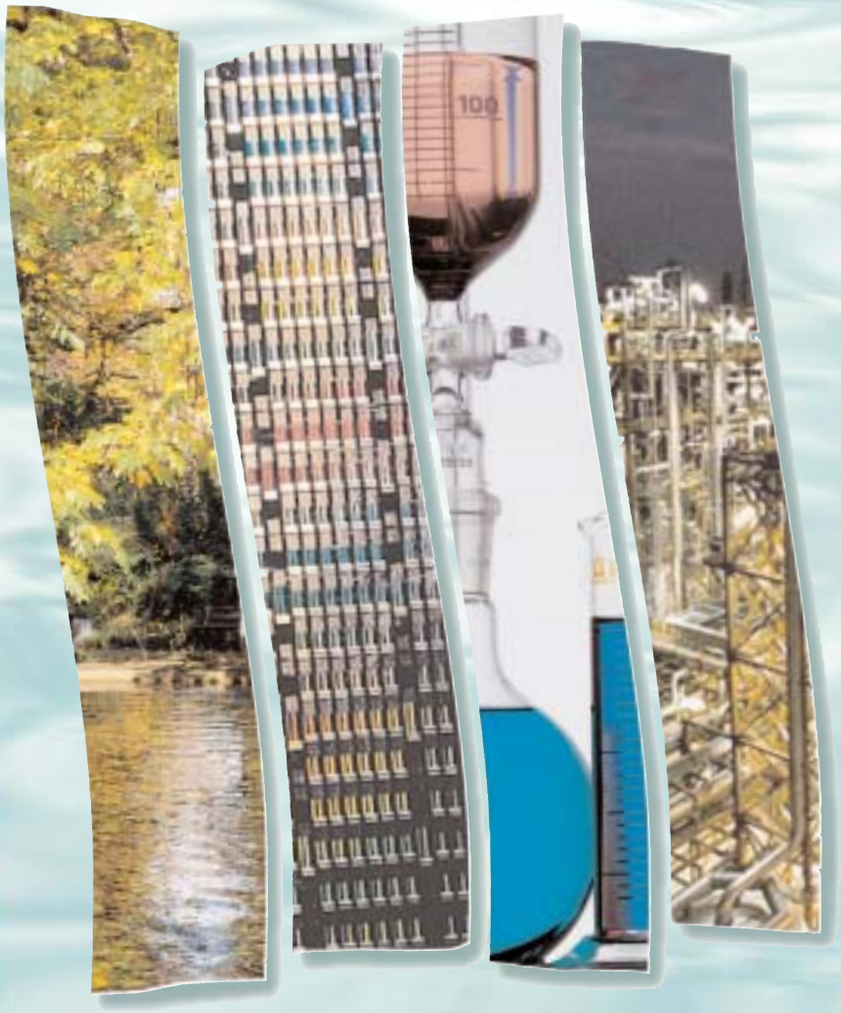
GALDEN® HT



Heat Transfer Fluids

Solvay
Solexis

SOLVAY

GALDEN®

GALDEN® Heat Transfer Fluids

$$CF_3-(OCF(CF_3)CF_2)_n-(OCF_2)_m-OCF_3$$

GALDEN®HT is a line of dielectric fluids with boiling points ranging from 55°C to270°C. Their excellent dielectric properties, high chemical stability combined with their capacity to operate at very low as well as elevated temperatures make them the best Heat Transfer Fluids for the agressive conditions used in Semiconductor and Electronic Industry.

FEATURES	BENEFITS
• High boiling point with low pour point and low viscosity • Low evaporation losses	• Wide choice of grades to optimize performance • Use of high boiling grades to reduce evaporation losses without affecting performance
• Excellent electrical resistivity (a billion times higher than DI-water) • No significant change in resistivity with use • High transparency to Rf and Microwaves Power	• Low environmental load • Low cost of ownership • No resistivity monitoring necessary • No risk of short circuiting even if leak occurs on to electronic components • High MTBF (Mean Time Between Failure) • Better process control
• Excellent thermal and chemical stability • Good compatibility with materials	• No corrosion or reaction with construction materials • No formation of decomposition residues • No circulating pump seizure due to fluid degradation or corrosion
• No flash or fire points • No Auto Ignition Point • No Explosion hazards	• Enhanced safety • Safe to use at high temperature

GALDEN®HT Application Chart

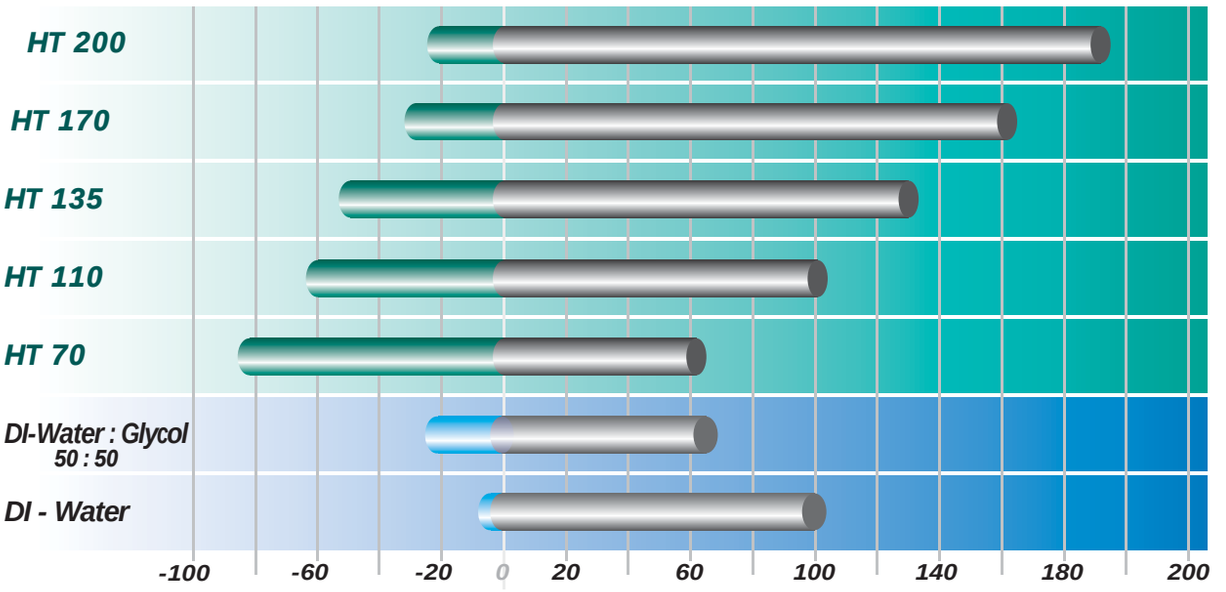
Industry	Applications	Key Features
Semiconductors Front - End	Heat Transfer media for: Steppers, Dry - Etchers, CVD, PVD and Ion Implanters	Excellent Dielectric Properties, Thermal Stability, Safety and Low Cost of Ownership
Semiconductors Back - End	Heat Transfer media for: Probers	Excellent Dielectric Properties, Excellent Heat Transfer Efficiency, Safety
Electronic	Heat Transfer media for: Testing Equipments	Excellent Dielectric Properties, Safety, Environmental Safety

HEAT TRANSFER FLUID

GALDEN®

HEAT TRANSFER FLUID

Working Temperature range



GALDEN® is cheaper than DI-Water!

The operating cost of DI-Water and DI-Water/Glycol systems is estimated to be more than twice that of GALDEN systems.

• ***DI-Water and DI-Water/Glycol*** are characterized by narrow operating temperature ranges: DI-Water: 0°C – 100°C DI-Water/Glycol: -20°C – 65°C.	• ***GALDEN*** fluids are characterized by a wide operating temperature range. • ***GALDEN*** fluids offer different grades to optimize performance.
• ***DI-Water and DI-Water/Glycol*** systems require maintenance control for water resistivity and efficiency of de-ionization resins.	• ***GALDEN*** systems do not require resistivity monitoring and de-ionization resins.
• ***DI-Water and DI-Water/Glycol*** could lead to galvanic corrosion in presence of dissimilar metals, the replacement of corroded parts increases the operation costs.	• ***GALDEN*** systems are practically maintenance free and no corrosion problems are encountered.
• ***DI-Water and DI-Water/Glycol*** tend to dissolve ions and become ionized leading to damage due to short circuiting.	• ***GALDEN*** dielectric properties do not change with use, no short circuiting risk.

GALDEN®

HEAT TRANSFER FLUID

Solvay Solexis

The World Leader in PFPE Technology

About Solvay Solexis

Solvay, founded in 1863, is a multinational enterprise, with over 400 operations in more than 50 countries.

Solvay Solexis is totally dedicated to fluorinated specialties. With over 4,200 patents, it is a leading patent holder in the world.

Its treasure of intellectual property is the foundation for a broad catalog of high performance products including Fluoropolymers (PTFE, ECTFE, PFA, MFA, PVDF), Fluorinated Fluids (PFPE, HFPE), and Fluoroelastomers (FKM, FFKM).

The fluorine atom is the common building block for the whole Solvay Solexis product portfolio.

Solvay Solexis focuses on customer-driven research.

It is dedicated to the philosophy of sustainable development and committed to the Responsible Care® program of the American Chemistry Council.

Fluorine Chemistry is our Commitment

Dedicated, focused, and technology-driven

RESEARCH AND TECHNOLOGY

Activities center on both PFPE's pure research – the design of new molecules, new structures and new additives – and applied research – the development of new applications, product customization, and the testing of optimum PFPE solutions.

TECHNICAL SERVICE

While we have a global presence, we are locally available to support our customers with applied research, troubleshooting, testing, analysis, and field application development.

INDUSTRY PARTNERSHIPS

We forged strategic partnerships with the leading players in the industry to ensure we deliver the best custom solution for our customers' specific applications.

VERTICALLY INTEGRATED ORGANIZATION

PFPE fluids at Solvay Solexis are synthesized through the proprietary process of photo oxidation of TFE and HFP monomers. We develop our own monomers and intermediates, mining the raw material, fluorspar, from our mines, giving us total control over our entire operation and enabling us to deliver uncompromising value to our customers.

PEOPLE

Research, manufacturing, customer support, and business development resources are focused on the continued enhancement of PFPE technology and on the delivery of customized solutions involving fluorinated lubricants.

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February, 2007

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a Passion for Progress®