

Semiconductor Review

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EUROPE SPECIAL



Certificate



Daikin Chemical Europe

The Go-To Supplier for High-Performance Fluorochemical Products

The EU Chip Act prompted a wave of investments in the European semiconductor industry, creating new business opportunities and shifting supplier demands. The legislation is pivotal in strengthening Europe's semiconductor ecosystem by enhancing supply chain resilience and reducing reliance on external sources.

Daikin Chemical Europe (fully owned subsidiary of Daikin Industries, Ltd.), a global leader in fluorochemicals, is poised to meet these evolving demands with its high-quality products specifically designed for the semiconductor industry. Well-established in Asia, it is now channelling its expertise to reinforce the European value chain. As a global company with production facilities worldwide, Daikin has made significant capacity investments to keep pace with growing market demands. It is now strengthening localisation efforts to enhance the resilience of the European supply chain.

"We are making strategic investments to localise production and fortify supply chain resilience across Europe," says Laurent Zielezinski, Executive Vice President of Sales.

A Portfolio Built for Optimized Semiconductor Manufacturing

Daikin's flagship products, including Neoflon PFA, PCTFE, PTFE and DAI-EL elastomer, are valued for their high purity

and durability, making them essential for semiconductor manufacturing. PTFE and PFA, with their resistance to chemicals and high temperatures, are crucial in systems that handle aggressive substances during semiconductor production. To further enhance local supply capabilities, Daikin has invested in clean room manufacturing capabilities for specialised PTFE materials with improved processability that extend their applicability across valves, tubes and gaskets essential for fabrication infrastructure. At the heart of these advancements is its Italian compounding facility, which recently underwent significant expansions.

Another key offering is Daikin's DAI-EL FFKM, a highly fluorinated perfluoroelastomer, which plays an indispensable role. Used in O-rings within semiconductor manufacturing equipment, the material is prized for its exceptional purity, low trace metal content and resistance to harsh conditions of the etching process. Its ability to withstand high temperatures and ultra-low outgassing performance enables customers to extend maintenance cycles, maximise yields and maintain a stable manufacturing process.

Daikin also leverages its vertical integration and access to Fluorspar resources to offer high-purity hydrogen fluoride (HF) below 10 ppt for advanced node size and fluorinated gases for the etching process. For the next step in the production cycle, it provides ETFE coatings for exhaust ducts managing aggressive

media post-etching. These coatings enhance the safety and reliability of exhaust handling while reducing maintenance cycles, further contributing to the efficiency of semiconductor manufacturing.

Building on a Legacy of Innovation and Reliability

With 100 years of history, Daikin is one of the few experts in fluorine chemistry. In collaboration with industry partners, it is now developing next-generation gases within research facilities across Japan and South Korea. In line with its commitment to innovation, Daikin is also continually seeking opportunities to expand its current product portfolio with new solutions geared to address the future needs of its customers.

Through strategic investments, a long history of innovation and a deep connection to the global semiconductor market, Daikin is cementing its role as a critical partner in this evolving industry. With a comprehensive product range that supports the entire value chain, Daikin remains close to its customers, consistently delivering cutting-edge solutions to meet the challenges of tomorrow. ^{SB}

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While some competitors are reducing their regional presence, Daikin remains committed to upholding Europe's high production standards and responding to tighter regulatory requirements. Addressing the European market's focus on sustainability, it has introduced products with low global warming potential (GWP), offering eco-friendly alternatives that help customers meet stringent environmental targets.

A notable one is the DAISAVE fluid product line, which includes inert, dielectric fluorinated liquids that have proven effective in studies run with relevant equipment manufacturers, where they showcased stable temperature control during the etching process. As regulatory demands in Europe evolve, Daikin strengthens its commitment to high production standards by ensuring local operations meet strict environmental and quality requirements.

Laurent Zielezinski,
Executive Vice President of Sales

