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Merck introduces first bio-based solvent portfolio for High-Performance Liquid Chromatography

22 April 2026 | News

Supports progress toward sustainability targets by lowering product-related greenhouse gas emissions



Merck, a leading science and technology company, has announced the launch of the first bio-based solvent portfolio specifically for high-performance liquid chromatography (HPLC). Manufactured using renewable feedstocks, these new patent-pending solvents deliver on average 25.9% lower CO₂ equivalents compared to conventional fossil-fuel-based HPLC-grade solvents, while preserving the performance required for demanding analytical workflows.

“Our new bio-based HPLC solvents represent the next generation of high-performance liquid chromatography,” said Karen Madden, Chief Technology Officer, Life Science business of Merck. “Customers are looking for solutions that help reduce environmental impact without compromising performance quality. This innovative portfolio aims to deliver the precision, quality, and reliability expected in HPLC and is designed to integrate seamlessly into existing methods.”

These bio-based solvents are compatible with established HPLC and liquid chromatography mass spectrometry (LC-MS) methods and instruments, supporting easy adoption in routine and regulated environments. In HPLC, solvents serve as the mobile phase that transports samples through the chromatographic system, enabling separation and quantification of components. This step is critical for generating reliable data in applications such as drug research and development, quality control in manufacturing, environmental monitoring and diagnostics.

Merck developed this innovative portfolio using proprietary manufacturing processes and deep scientific expertise, reinforcing the company's commitment to advancing more sustainable, high-performance chromatography solutions. The new portfolio includes drop-in replacements for acetonitrile, methanol and ethanol. Because these newly launched bio-based solvents are designed to match conventional performance, laboratories can transition to these alternatives without redeveloping analytical methods, often a rigorous and lengthy process.

This launch further expands Merck's range of greener alternatives designed to help customers reduce environmental impact while preserving the precision and reliability laboratories expect. The new bio-based solvents reflect the company's broader strategic focus on innovation that supports more sustainable science.