

## News Release

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April 21, 2026

# MilliporeSigma Launches First Bio-Based Solvent Portfolio for High-Performance Liquid Chromatography

- **Solvents made from renewable feedstocks help reduce reliance on fossil-fuel-based materials**
- **Drop-in replacements preserve established chromatography performance**
- **Supports progress toward sustainability targets by lowering product-related greenhouse gas emissions**

Burlington, Massachusetts, April 21, 2026 — MilliporeSigma, the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany, a leading science and technology company, today 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<sup>1</sup> solvents deliver on average 25.9% lower CO<sub>2</sub> equivalents<sup>2</sup> compared with 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 KGaA, Darmstadt, Germany. “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.”

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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 development, quality control in manufacturing, environmental monitoring and diagnostics.

MilliporeSigma 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 MilliporeSigma'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.

The bio-based HPLC solvents are available on [sigmaaldrich.com/Bio-based-HPLC-Solvents](https://sigmaaldrich.com/Bio-based-HPLC-Solvents).

<sup>1</sup> Patent applications pending on bio-based methanol and acetonitrile.

<sup>2</sup> Individual bio-based HPLC solvent CO<sub>2</sub>e values compared to fossil-fuel-based alternatives are as follows, based on supplier and industry emissions data through EcoInvent: Acetonitrile, BioRenewable, gradient grade for LC (Prod. No. 104771) has a 28% lower CO<sub>2</sub>e impact; Methanol, BioRenewable, gradient grade for LC (Prod. No. 106188) has a 29% lower CO<sub>2</sub>e impact; Methanol, BioRenewable, hypergrade for LC-MS (Prod. No. 106176) has a 29% lower CO<sub>2</sub>e impact; Ethanol, BioRenewable, hypergrade for LC-MS (Prod. No. 117480) has a 17.6% lower CO<sub>2</sub>e impact.

### **About the Life Science business of Merck KGaA, Darmstadt, Germany**

The Life Science business of Merck KGaA, Darmstadt, Germany, which operates as MilliporeSigma in the U.S. and Canada, has more than 27,000 employees and more than 55 total manufacturing and testing sites worldwide, with a portfolio of more than 300,000 products focused on scientific discovery, biomanufacturing and testing services. Merck KGaA, Darmstadt, Germany, a leading science and technology company, operates across healthcare, life science and electronics.



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More than 62,000 employees work to make a positive difference to millions of people's lives every day by creating more joyful and sustainable ways to live. From providing products and services that accelerate drug development and manufacturing as well as discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2025, Merck KGaA, Darmstadt, Germany, generated sales of € 21.1 billion in 65 countries.

The company holds the global rights to the name and trademark "Merck" internationally. The only exceptions are the United States and Canada, where the business sectors of Merck KGaA, Darmstadt, Germany, operate as MilliporeSigma in life science, EMD Serono in healthcare and EMD Electronics in electronics. Since its founding in 1668, scientific exploration and responsible entrepreneurship have been key to the company's technological and scientific advances. To this day, the founding family remains the majority owner of the publicly listed company. For more information about Merck KGaA, Darmstadt, Germany, visit [www.emdgroup.com](http://www.emdgroup.com).

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