

December 19, 2018

## MilliporeSigma Collaborates with Kuraray to Improve Drug Delivery

- **Combined skills multiply pharma-grade polyvinyl alcohol polymer options**
- **Collaboration to ease pharmaceutical formulation challenges and improve drug performance**

Burlington, Massachusetts, December 19, 2018 – [MilliporeSigma](#) today announced it has extended and expanded its collaboration with [Kuraray Europe](#) to exclusively supply pharmaceutical polyvinyl alcohol (PVA) grades and improvements to benefit the pharmaceutical market. PVA polymers are used as matrix/drug delivery compounds to assist in drug formulation and help active pharmaceutical ingredients enter the human body efficiently.

“Demand for controlled release excipients is growing,” said Andrew Bulpin, head of Process Solutions at MilliporeSigma. “This agreement will provide a steady PVA polymer supply so that MilliporeSigma can continue to develop valuable solutions to help pharmaceutical industry customers solve new challenges and deliver increasingly effective therapies to patients.”

MilliporeSigma’s design know-how, in combination with Kuraray’s manufacturing expertise, will make a wide variety of PVA polymer grades for pharmaceutical applications available. These compounds, including ones with various new properties, can help tackle pharmaceutical challenges. For instance, they can improve the controlled release of solid dosage forms and topically applied gels. The developments from this collaboration will include injectable grades with low levels of specific impurities.



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PVA is a versatile polymer platform for use in developing drug formulations. Intrinsic polymer properties — molecular weight and hydrophilicity, for example — may be adjusted to meet the needs of specific formulations.

“With more than 60 years of experience and extensive production and application expertise, we can tailor the properties of our globally produced KURARAY POVAL™ PVA polymers precisely to our customers’ specifications,” said Heiko Mack, head of Poval business at Kuraray Europe GmbH. “Our close and trusting relationships with our customers result in exceptional products and individual applications that meet today’s demanding standards.”

MilliporeSigma and Kuraray began collaborating in 2008, with Kuraray supplying PVA grades to MilliporeSigma. PVA polymers form the backbone of several of MilliporeSigma’s high value, state-of-the-art products for formulation and drug delivery, such as [Parteck® MXP excipient for hot melt extrusion](#). These polymers are also the basis for numerous pharmaceutical-grade developments in MilliporeSigma’s excipient pipeline.

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### **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 20,000 employees and 60 manufacturing sites worldwide, with a portfolio of more than 300,000 products enabling scientific discovery. Udit Batra is the global chief executive officer of MilliporeSigma.

Merck KGaA, Darmstadt, Germany completed its \$17 billion acquisition of [Sigma-Aldrich](#) in November 2015, creating a leader in the \$125 billion global life science industry.

Merck KGaA, Darmstadt, Germany, the vibrant science and technology company, operates across healthcare, life science and performance materials. Around 51,000 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 advancing gene-editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2017, Merck KGaA, Darmstadt, Germany generated sales of €15.3 billion in 66 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 EMD Serono in healthcare, MilliporeSigma in life science, and EMD Performance Materials. Since its founding 1668, scientific exploration and responsible entrepreneurship have been key



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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).