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News Release

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EMD Millipore Introduces Compaction Technology to Improve Solubility and Facilitate Handling of Cell Culture Media Used in Biopharmaceutical Production

- **Dry compression process compacts powder media into granules**
- **Compacted media minimize dust formation and increase flowability, improving handling and cleanliness**
- **Accelerated solubility helps optimize media preparation**

Billerica, Massachusetts, June 2, 2015 – EMD Millipore, the Life Science business of Merck KGaA of Darmstadt, Germany, today introduced a new technology that compacts dry powder cell culture media into granules, accelerating solubility and improving flowability and handling. The compacted media are therefore more convenient to use, allowing biopharmaceutical manufacturers to further optimize their upstream processes.

The technology is water- and additive-free and applies compression force to EMD Millipore's highly homogenous dry powder media, fixing that homogeneity in place and creating granules several millimeters in size. The process does not alter the media's amino acid or vitamin composition, and leaves intact the physico-chemical parameters of dissolved media and feeds, preserving the media's ability to support cell growth and productivity.

The resulting compacted media offers important advantages over traditional dry powder media. First, compaction significantly minimizes dust formation, improving media handling as well as cleanliness within the production area. In addition, the higher density of compacted media allows for faster dissolution, while improved product flowability facilitates the dosing and mixing processes and limits media caking.

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“Biopharmaceutical manufacturers need cell culture media that are highly soluble, homogenous and convenient to handle,” said Andrew Bulpin, Executive Vice President of EMD Millipore, Process Solutions Business Area. “We developed our compaction technology to address the market need for dry powder media that reliably meet those requirements. Our unique process produces compacted media that are easier to handle and deliver the expected performance.”

EMD Millipore will use compaction technology to produce customized cell culture media formulations for customers’ specific process needs. The company also plans to use compaction technology to enhance its established portfolio of cell culture media products.

For more information about compaction technology and EMD Millipore’s cell culture media capabilities, please visit www.emdmillipore.com/ccm.

About EMD Millipore
EMD Millipore is the U.S. Life Science subsidiary of Merck KGaA, Darmstadt, Germany. As part of the global Life Science business of Merck KGaA, Darmstadt, Germany, EMD Millipore offers a broad range of innovative, performance products, services and business relationships that enable our customers' success in research, development and production of biotech and pharmaceutical drug therapies. Through dedicated collaboration on new scientific and engineering insights, and as one of the top three R&D investors in the life science tools industry, the Life Science business of Merck KGaA, Darmstadt, Germany, serves as a strategic partner to customers and helps advance the promise of life science. Headquartered in Billerica, Massachusetts, the global business has around 10,000 employees, operations in 66 countries and 2014 revenues of €2.7 billion.

For more information, please visit www.emdmillipore.com.

About Merck KGaA, Darmstadt, Germany
Merck KGaA, Darmstadt, Germany, is a leading company for innovative and top-quality high-tech products in healthcare, life science and performance materials. The company has six businesses – Biopharmaceuticals, Consumer Health, Allergopharma, Biosimilars, Life Science and Performance Materials – and generated sales of € 11.3 billion in 2014. Around 39,000 employees work in 66 countries to improve the quality of life for patients, to foster the success of customers and to help meet global challenges. Merck KGaA, Darmstadt, Germany, is the world’s oldest pharmaceutical and chemical company – since 1668, the company has stood for innovation, business success and responsible entrepreneurship. Holding an approximately 70% interest, the founding family remains the majority owner of the company to this day. Merck KGaA, Darmstadt, Germany holds the global rights to the Merck name and brand. The only exceptions are Canada and the United States, where the company operates as EMD Serono, EMD Millipore and EMD Performance Materials.

For more information, please visit www.emdgroup.com.