

DSM and Novomer to Develop First CO₂-based Resin for Coatings

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Royal DSM N.V., the global Life Sciences and Materials Sciences company headquartered in the Netherlands, and Novomer Inc., based in Waltham MA have signed an agreement to jointly develop a revolutionary coating resin using carbon dioxide (CO₂) as a raw material.

This development agreement follows a cooperation agreement and an investment by DSM Venturing in Novomer in 2007. The joint development project will benefit from the broad variety of DSM's technologies and market access, in combination with the unique, efficient CO₂ polymerization technology of Novomer.

The chemistry and process technology for producing polymers from CO₂ and propylene oxide (PO) will be developed by Novomer, while DSM will convert the polymers into resins and formulate them for target applications such as coatings, adhesives and graphic arts. Initial results are encouraging and suggest that this project might lead to completely new and improved application properties in coatings.

Given the fact that up to 50% by weight of CO₂ is used as raw material, the production of these resins will result in an improved carbon footprint. The process is also expected to be highly efficient, enabling the replacement of conventional resins in a number of coating applications.

Polycarbonate resins are widely known because of their superior performance and resistances and theoretically could find use in many types of coatings. Commercial use of conventional types has however always been limited due to their cost position and some weaknesses that are inherent in these products. The new CO₂-based aliphatic polycarbonates to be developed by DSM and Novomer could potentially resolve these weaknesses.

Rob van Leen, Chief Innovation Officer of DSM, comments: "DSM and Novomer are looking to develop the first polymer in more than a decade to enter the mainstream of the

coating industry. This exciting development can lead to a breakthrough that could change the coating industry. Besides cost issues, these innovative coating resins also address environmental and performance issues. They therefore fit in perfectly within DSM's People, Planet and Profit approach."

Peter Shepard, Vice President of Business Development of Novomer, adds:"We are very enthusiastic about our relationship with DSM as they bring a wealth of skills and industry knowledge to help drive the commercialization of our technology in the coatings industry. In addition, this product development relationship with DSM leverages our ongoing technical development work that has been supported by the New York State Energy Research and Development Authority."

About Novomer

Novomer (www.novomer.com) is a revolutionary new materials company pioneering a family of low-cost, high-performance, sustainable plastics, polymers and other chemicals. Based on the pioneering catalyst work of Dr. Geoff Coates at Cornell University, Novomer's groundbreaking technology allows carbon dioxide and other renewable feedstocks to be cost-effectively transformed into polymers, plastics and other chemicals for a wide variety of industrial markets. Novomer's products combine environmental benefits with improved performance and can be used in a range of applications, from injection molded parts, specialty binders for electronics, polymeric packaging materials to paper coatings and medical implants.

About DSM Venturing

DSM Venturing is an active investor in start-up companies that create innovative products and services in Life Sciences and Materials Sciences contributing to the quality of life. DSM Venturing's mission is to explore emerging markets and technologies in order to support DSM's innovation and growth strategy. Besides financial support, DSM Venturing supports the start-up companies with DSM's knowledge, resources and networks in order to establish mutual benefit and learning. To DSM, venturing is an integral part of its open innovation approach, focused on teaming up with innovative players all over the world. More information: www.dsm-venturing.com.

DSM - the Life Sciences and Materials Sciences Company

Royal DSM N.V. creates innovative products and services in Life Sciences and Materials Sciences that contribute to the quality of life. DSM's products and services are used globally in a wide range of markets and applications, supporting a healthier, more sustainable and more enjoyable way of life. End markets include human and animal nutrition and health, personal care, pharmaceuticals, automotive, coatings and paint, electrical and electronics, life protection and housing. DSM has annual net sales of EUR 9.3 billion and employs some 23,500 people worldwide. The company is headquartered in the Netherlands, with locations on five continents. DSM is listed on Euronext Amsterdam. More information: www.dsm.com

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