



News Release

Bayer MaterialScience at the European Coatings Show 2015 in Nuremberg

New milestones in polyurethanes

- World premiere of PDI derivative as hardener for coatings and adhesives
- New thermolatent hardener enables energy- and cost-efficient mixed-material automotive coating for first time
- Partnerships along value chains provide for targeted market and customer orientation

Düsseldorf, January 15, 2015 – At the European Coatings Show 2015 from April 21-23 in Nuremberg, the industry’s largest event worldwide, Bayer MaterialScience will be introducing new milestones in polyurethanes, underscoring its global leadership in polyurethane raw materials for high-performance and environmentally compatible coatings and adhesives as well as its alignment on the needs of its customers.

“Our objective is to incorporate our partners along the value chain and their know-how into our development efforts as early as possible to ensure that our customers are successful in the market,” says Daniel Meyer, Head of the Coatings, Adhesives, Specialties Business Unit and member of the Executive Committee of Bayer MaterialScience. “We will increasingly offer material solutions resulting from development partnerships. We need to understand today what the customer needs from us tomorrow, That, in turn, provides him with new opportunities in the market.”

PDI delivers first bio-based crosslinker for polyurethanes

Customers are increasingly demanding products based on renewable raw materials. Environmental compatibility is becoming a market requirement. At the European Coatings Show, Bayer MaterialScience is showcasing a milestone in this field: Pentamethylene diisocyanate (PDI) is a new isocyanate, 70 percent of whose carbon content comes from biomass without generating any direct competition for food production. With this addition to its portfolio, Bayer MaterialScience can for the first time offer its customers an eco-

friendly hardener component, which for them is a key differentiating factor. A comprehensive technology platform currently is being developed to evaluate additional uses for PDI-based raw materials in coatings, adhesives and other applications.

Bayer MaterialScience intends to bring the first PDI-based product to market in April 2015. Commercial manufacturing is to follow in 2016 with an annual capacity of up to 20,000 metric tons. These products will be manufactured in existing plants using energy-efficient gas-phase technology.

The automotive coating of the future: energy-saving coating of a mix of materials

The need to reduce fuel consumption and CO₂ emissions is spurring the development of lightweight motor vehicles made from a mix of different materials. For automakers, the cost- and energy-efficiency of the coating process plays a crucial role. Also very important is the appearance of a coating – from the purchase of a car to resale. Bayer MaterialScience has developed an innovative and sustainable technology for coating plastic add-on parts at low temperature, which is designed specifically to address these issues.

The topcoats cure up to 30 percent faster than with established two-component polyurethane coatings, without compromising the outstanding appearance. In the medium term, the coating system will most likely be suitable for the mixed coating of plastic, composite and metal substrates. The low temperature makes it possible to fire the oven with alternative energy sources, such as district heat.

Clear advantages for automakers and the environment

This offers automakers a significant time and cost advantage, while also harboring substantial ecological savings potential: A study conducted by the project team showed this technology can reduce energy consumption by 15 percent and CO₂ emissions by 10 percent compared with the best current process.

The new technology is based on the use of a thermolatent hardener. After application, a coating formulated with this product initially flows unimpeded over the surface of the plastic, forming a uniform film. Not until the temperature is subsequently raised to approximately 90 °C is the hardener activated. It ensures rapid curing of the coating on the plastic substrate. No significant changes to the coating formulation are required.

Meyer took the presentation of this development as an opportunity to talk with experts in the field, Dr. Michael Hilt (Fraunhofer IPA Institute) and Dr. Karl-Friedrich Dössel (Dössel Consulting), about the “Future of Automotive Coating.”

Capacity expansions in China and Germany

Bayer MaterialScience remains committed to its planned global capital expenditures. The company plans to complete construction next year of a new, 50,000 tpa production facility for hexamethylene diisocyanate (HDI) in Caojing, China. 2016 will also see capacities for polyurethane dispersions (PUD) expanded at the Dormagen site. Over the next few years, plans for Caojing include an expansion of PUD capacities – until 2017 – and a new production facility for isophorone diisocyanate (IPDI).

Market-driven innovations are a key factor contributing to future growth. “Through partnerships with customers along the value chain, we have acquired detailed knowledge about needs and trends in key customer industries,” explained Meyer. “We then develop custom solutions for these markets.” By so doing, the company enhances the competitiveness of its customers. Furthermore, new applications and technologies – also outside the coatings and adhesives industries – are playing an increasingly important role.

Bayer MaterialScience is aware of its global responsibility for people, society and the environment. All the company’s activities are aligned to improving people’s lives, protecting the environment and creating value, and therefore demonstrate Bayer MaterialScience’s commitment to a holistic view of sustainability.

One important area is the development of products and processes that promote greater energy- and cost-efficiency in the production and application of coatings and adhesives. Saving energy contributes to both reducing CO₂ emissions and climate protection. Furthermore, Bayer MaterialScience has long championed reducing the solvent content of coatings and adhesives.

INSQIN®: An integrated solution concept for textile coatings

Another example of the close cooperation between Bayer MaterialScience and partners along the value chain is the new, integrated INSQIN® solution concept. The brand stands for a complete set of solutions from Bayer MaterialScience for textile coatings incorporating exclusively waterborne polyurethane technology. It encompasses all

aspects of the process chain, from materials development to production by certified manufacturers.

As part of INSQIN[®], Bayer MaterialScience supports brand owners and inspires them in creating “magical” polyurethane-coated textiles. With its comprehensive expertise in everything from raw materials to coating technology, the company provides the ideal foundation for achieving an efficient and sustainable production process, which significantly reduces all harmful effects on man and the environment.

Bayer MaterialScience will be exhibiting at Stand No. 528 in Hall 4A at the European Coatings Show 2015 from April 21 to 23.

About Bayer MaterialScience:

With 2013 sales of EUR 11.2 billion, Bayer MaterialScience is among the world’s largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, electrical and electronics, construction and the sports and leisure industries. At the end of 2013, Bayer MaterialScience had 30 production sites and employed approximately 14,300 people around the globe. Bayer MaterialScience is a Bayer Group company.

This news release is available for download from the Bayer MaterialScience press server at www.press.bayerbms.com.

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