

Evonik at K 2016 – proven partner for complex requirements in the plastics industry

- In the area of plastics, Evonik remains on course for growth
- Alignment of activities toward the megatrends of resource efficiency and globalization
- Sustainability remains an undiminished high priority

“Create the Exceptional” – this is the motto of Evonik Industries, one of the world's leading specialty chemical companies, in Hall 6 / Stand B28 of the K 2016 trade fair in Dusseldorf. From October 19 to 26, the chemical company will present extraordinary solution approaches and creative ideas developed in close collaboration with customers.

Continuously growing metropolitan areas continue to offer attractive business prospects, especially for key industries. At the same time, however, the progressive urbanization also requires massive efforts in the area of sustainability. How companies can meet this challenge with the help of specialty chemicals is shown by Evonik Industries at this year's plastics trade fair. In 2015 the company had sales of about 3 billion Euro in the plastics market.

In addition to innovative plastics, Evonik also offers a broad range of specialty monomers and additives, which are developed in close cooperation with customers to meet the demands of the sector.

Examples of innovative solutions at K 2016

Additive production: For years, Evonik has been developing specialty plastic materials that permit industrial production of high-tech components through 3D printing. The processing and properties profile of Polyamide-12-based powders of the brand VESTOSINT® is attuned optimally to the respective 3D printing technology. Evonik provides continuous support for the development of new products for 3D printing and will participate in the "Open Platform Program" of Hewlett Packard, amongst others.

Automobile: Evonik offers specialty plastics for the widest variety of applications for automobiles. For instance, because of its

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specific properties, the new PLEXIGLAS® NTA-5 is especially well suited for sturdy, non-transparent body parts in the lower area of vehicles. In modern LED headlights, the applications of PLEXIGLAS® and PLEXIMID® molding compounds include large headlight lenses, edge-lit lenses, light guides for daytime running lights, and optical lens systems for dynamic blinker function.

VESTAMID® Polyamide 12 and Polyamide 612 are the world's most widely used polyamides for lines in automobiles. Evonik continuously adapts the underlying systems to new requirements of the industry. The most recent is the result of fuels that contain alcohol: low-leaching fuel line systems. The solution is the innovative multi-layer fuel line system MLT 4800. It offers a significant reduction in the content of leachable substances.

Standard materials can often not meet the high demands in the automobile area, which often requires many different and demanding solutions. The innovative TEGOMER® additive solutions are used here to improve necessary properties such as scratch-resistance or flame protection in plastics. With TEGOMER® AntiScratch 100, for example, Evonik offers state-of-the-art additive solutions to permanently protect plastic components that are scratch sensitive – such as door panels – without causing irritating effects on the surface.

Pipes: Dynasylan® SILFIN products are as diverse as the variety of cables and pipes. Dynasylan® SILFIN 50 was developed especially for drinking water applications. Until today Dynasylan® SILFIN 50 is successfully growing in the global market. The Silane based crosslinking of the pipes increases the lifetime of the inhouse water piping systems considerably. The water piping system now operates reliable also at continuously high service temperatures. Silane-crosslinked polyethylene HD pipes are corrosion and stretch resistant. In addition, the Dynasylan® SILFIN 50 modified pipes provide an enhanced protection against crack formation.

Medical technology: Another area of application for high-performance plastics is medical technology. Particularly for implants in the human body, the requirements upon materials used are high. VESTAKEEP® PEEK is biocompatible and can be used,

among other things, for spinal implants, bridges, crowns in the dental area, in orthopaedics, and also pharmacy.

CYROLITE® multipolymers are the world's most highly developed PMMA-based polymers for medical technology. They meet the requirements of USP Class 6 and 26, Tripartite, ISO 10993-1, and FDA and can be sterilized with gamma radiation and ETO gas. They are also resistant to lipids, offer good impact resistance, transparency, and light transmittance. The typical applications include disposable medical articles, such as IV and catheter accessories, blood/plasma collection containers, thoracic drainage sets, accessories for respiratory apparatus, medical filters, and device housings.

High-tech textiles: With novel biobased polyamide fibers based on VESTAMID® Terra, Evonik offers a solution in the textile area with a maximum wearing comfort and unmatched performance. The fibers are extremely light, elastic and breathable. Processed to high-quality materials, they prevent smells thanks to permanent natural bacteriostatic properties. In addition, they dry quickly and need no ironing.

Processing: Free-flowing antistatic powders and granulates can be processed easily. SIPERNAT® Specialty Silica, AEROSIL® Fumed Silica, and AEROXIDE® Fumed Metal Oxides are highly efficient flow and anti-caking agents that keep sticky powders or granulates flowing, even after long periods of storage at high pressure and temperature. For problems with electrostatic charging during the handling of polymer powders, for example, AEROXIDE® Alu C can help.

With TAICROS® and TAICROS®M Evonik offers two crosslinkers for electron beam crosslinking of polyamide (PA). It is these additives that make electron beam crosslinking of PA possible at all, thus providing improved material characteristics. The crosslinking leads to increased structural stability at high temperatures as well as improved aging resistance in PA.

TAICROS® and TAICROS®M crosslinked polyamides make it possible to replace many materials cost-effectively in many applications (such as contact holders, plug-in electrical

connections). Furthermore, TAC and TAICROS® are interesting components for new composite materials for high-performance printed circuit boards.

In addition, with triacetoneamine (TAA) and its derivatives, Evonik offers important components for the production of sterically hindered amine light stabilizers (HALS). These additives are used at low concentrations, in order to protect polymers against degradation due to light, oxygen, and heat. They are typically used in the automotive area and for greenhouse films.

For applications in the area of oil additives, Evonik also has ambitious goals. Under the DYNAVIS® brand, the company offers a technology designed to improve the flow characteristics of hydraulic fluids. DYNAVIS® fluids widen the temperature window and achieve an increase in the efficacy of hydraulic units. In injection molding equipment, the technology demonstrably lowers energy consumption, thus contribute considerably to save resources.

Evonik is a worldwide manufacturer of PMMA products sold under the PLEXIGLAS® trademark on the European, Asian, African and Australian continents and under the ACRYLITE® trademark in the Americas.

Company information

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2015 more than 33,500 employees generated sales of around €13.5 billion and an operating profit (adjusted EBITDA) of about €2.47 billion.

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