

## Evonik establishes new enzymatic process for serine

- Evonik Industries has developed a new process for the enzymatic synthesis of the amino acid D-serine, L-serine und DL-serine
- Production capacities at the Nanning site (China) have been increased
- Full backward integration offers customers the highest level of supply security and product quality

Essen. Evonik Industries has developed a new, more efficient process for the enzymatic synthesis of the amino acid serine—it is, among other things, required for the production of pharmaceutical ingredients.

To implement the new enzymatic synthesis on a large scale, the Group has expanded the existing production plants at its Nanning site in China. This new process allows Evonik to manufacture serine in all enantiomeric forms: L-serine, D-serine, and DL-serine.

“With the expansion of the production capacities in Nanning we can produce serine in all forms while being fully backward integrated,” says Dr. Jean-Luc Herbeaux, Head of the Health Care Business Line of Evonik. “

“By controlling the entire supply chain, we are clearly a highly reliable partner for our customers—both with regard to supply security and product quality.”

Dr. Thomas Hermann, Vice President of the Rexim Product Line adds: “Because of our technological expertise, we are able to offer all serine-derivatives currently on the market. This gives Evonik a unique value proposition in the market.”

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L-serine is one of the non-essential amino acids that are naturally occurring in the human body. It plays an important role in protein synthesis. The main areas of application of L-serine are nutrition and pharmaceuticals, but it is also used in the cosmetics industry. In the area of nutrition, amino acids are, for example, used in hypoallergenic follow-on milk for newborns with lactose intolerance, or sports nutrition. L-serine is used in pharmaceuticals as a building block for pharmaceutical ingredients or in parenteral nutrition. In the cosmetics sector it is mainly used in skin and hair care products. D-serine and DL-serine are used for the synthesis of various pharmaceutical ingredients.

Evonik offers serine in all quality grades: from technical quality for chiral synthesis to GMP-quality for pharmaceutical applications.

#### **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 2012 more than 33,000 employees generated sales of around €13.4 billion and an operating profit (adjusted EBITDA) of about €2.4 billion (excluding Real Estate in both cases).

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