



## **BASF and Genomatica Expand License Agreement for 1,4-butanediol (BDO) from Renewable Feedstock**

- *License agreement adds countries in Southeast Asia*
- *Optional capacity for up to 75,000 metric tons per year*
- *Targeting large-scale commercial production of renewable butanediol using Genomatica technology*

**Ludwigshafen, Germany and San Diego, California, September 24, 2015** – [BASF](#) and [Genomatica](#) have expanded the scope of their license agreement for the production of 1,4-butanediol based on renewable feedstock (renewable BDO) using Genomatica's patented process. The parties added certain countries in Southeast Asia to their initial agreement, which focused on North America.

The license agreement allows BASF to build a world-scale production facility that will use the Genomatica process to manufacture renewable BDO. BASF has secured rights to allow production of up to 75,000 tons per year. Under the terms of the agreement, Genomatica will continue to advance its patented GENO BDO™ process technology for the production of renewable BDO. The process, which includes a single-step fermentation, can be based on dextrose or sucrose as renewable feedstock. It was agreed not to disclose financial details of the license contract.

BASF has produced commercial volumes of renewable BDO, offering it to customers for testing and commercial use. The quality of this BDO is comparable to petrochemical-based BDO. BASF also expanded its portfolio by producing and offering Polytetrahydrofuran (PolyTHF®) made from renewable BDO.

"We are happy to expand our license agreement with Genomatica to the dynamic Asia-Pacific region," said Stefan Blank, President of BASF's Intermediates division, and added: "we appreciate Genomatica's openness to give BASF greater flexibility to add BDO from renewable feedstock to our portfolio and to respond to market requirements."

"We're delighted to provide BASF with these additional license rights for our GENO™ technology," said Christophe Schilling, CEO of Genomatica. "We look forward to seeing our technology deliver sustainability benefits to our business partners, and through them, to end-users of everyday products."

BDO and its derivatives are used for producing plastics, solvents, electronic chemicals and elastic fibers for the packaging, automotive, textile, and sports and leisure industries, among others. BASF currently produces BDO and BDO equivalents at its sites in Ludwigshafen, Germany; Geismar, Louisiana; Chiba, Japan; Kuantan, Malaysia; and Caojing, China. BASF announced it would increase its global capacities for



BDO to 650,000 metric tons and for PolyTHF to 350,000 metric tons by the end of 2015, and beginning of 2016, respectively.

#### **About Genomatica**

[Genomatica](#) is a widely-recognized technology leader for the chemical industry. It develops manufacturing processes that enable its licensee partners to produce widely-used chemicals from renewable feedstocks.

Genomatica has delivered the industry's first commercial biobased process for a high-volume intermediate chemical, BDO. It is using its bioprocess engineering platform and extensive intellectual property to develop processes for additional chemicals, including butadiene and nylon intermediates.

Genomatica has earned tremendous recognition for its innovation and commercialization track record, including the [Kirkpatrick Award](#), for 'the most noteworthy chemical engineering technology commercialized in the world,' and the [2015 World Economic Forum Technology Pioneer](#) award.

For more information, please see [www.genomatica.com](http://www.genomatica.com).

#### **About BASF**

At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of over €74 billion in 2014 and around 113,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at [www.basf.com](http://www.basf.com).

#### **About BASF Intermediates**

The BASF Group's Intermediates division develops, produces and markets a comprehensive portfolio of about 700 intermediates around the world. Its most important product groups include amines, diols, polyalcohols, acids and specialties. Intermediates are for example used as starting materials for coatings, plastics, pharmaceuticals, textiles, detergents and crop protectants. Innovative intermediates from BASF help to improve both the properties of final products and the efficiency of production processes. The ISO 9001 certified Intermediates division operates plants at production sites in Europe, Asia and North



America. Around the globe the division generated sales to third parties of about €2.8 billion in 2014. For more information, go to [www.intermediates.basf.com](http://www.intermediates.basf.com).

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