

## BASF expands its biomass balance portfolio for selected chemical intermediates

21 May 2024 | News

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BASF will expand its biomass balance offering to include BMBCert™ 1,4-butanediol (BDO), tetrahydrofuran (THF), polytetrahydrofuran (PolyTHF®) and 3-(dimethylamino)propylamine (DMAPA). In addition to the production site in Ludwigshafen, Germany, the site in Geismar, Louisiana, has also achieved certifications for all these products. The Ulsan site in South Korea has obtained certification for PolyTHF. With these certifications, BASF can now offer its customers regionally produced ISCC PLUS and REDcert<sup>2</sup>-certified products for which renewable resources replace fossil feedstock and additionally reduce the cradle-to-gate product carbon footprint (PCF).

The new certifications for key products in our portfolio demonstrate our commitment to sustainability and our vision to be the preferred partner for sustainable intermediates. With our biomass balance portfolio, we are helping our customers achieve their sustainability goals by replacing fossil-based raw materials and reducing the cradle-to-gate carbon footprint. We are committed to driving the sustainability transformation of the chemical industry and we are proud to offer more products that contribute to our customers' sustainability goals," said Ketan Joshi, President of BASF's operating division Intermediates.

The BMBCert™ offerings contribute to a reduction in fossil feedstock demand. At the beginning of the value chain, fossil-based raw materials are replaced by certified renewable resources, and a corresponding amount of renewable content is attributed to the product according to a mass balance approach. The resulting BMBCert product will have a lower product carbon footprint compared to the conventional BASF product. For example, according to Asahi Kasei Corporation, using

BASF's THF BMB to produce its mass balance grade premium sustainable stretch fiber under its ROICA® brand could lead to an approximate 25 percent reduction in CO<sub>2</sub> emissions compared to its existing products.

### **Essential raw materials in many value chains**

BDO is for example used for the production of PolyTHF. BASF's customers use PolyTHF for example to produce elastic spandex and elastane fibers that are used for a wide range of textiles such as swimsuits, sportswear and underwear, but also outerwear such as shirts and stretch jeans. The elastic fibers ensure wearing comfort in the long run, and they are resistant to moisture and microbes. PolyTHF also serves as a chemical building block for the production of thermoplastic polyurethanes (TPU), which BASF customers use to make highly abrasion-resistant and elastic hoses, films and cable sheathing, primarily for the automotive industry. Other applications include thermoplastic polyetheresters, polyetheramides and cast elastomers, which can be used in the manufacturing of various products such as wheels for skateboards and industrial rollers. With production plants for PolyTHF in Europe, North America and Asia Pacific, BASF is one of the world's leading suppliers of this versatile intermediate product.

BDO is a starting material for polybutylene terephthalate (PBT), an engineering plastic that is used successfully for instance under the BASF brand Ultradur® in the automotive, electrical and electronics industries. BDO also is used as an intermediate for the production of tetrahydrofuran (THF) and N-methylpyrrolidone (NMP), whose main applications are as essential solvents in the manufacturing of pharmaceuticals and for lithium-ion battery cathodes, such as those used in electrical vehicles. With production plants for BDO in Europe, North America and Asia Pacific, BASF is one of the world's leading suppliers of this versatile intermediate product.

DMAPA is an important building block for betaines, which are used in the production of gentle liquid soaps, shampoos and dishwashing detergents. DMAPA is also used in water treatment as well as in the production of plant protection products, lubricant additives, polyurethane foams and epoxy resin hardeners. BASF is one of the world's leading manufacturers of DMAPA with production sites in Europe, North America and Asia-Pacific.