



Media Release

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Borealis and Trexel develop new reusable and fully recyclable lightweight bottle

- **Monomaterial solution contains renewably-sourced polypropylene from the Bornewables™ portfolio of circular polyolefins**
- **Trexel employs its proprietary MuCell® technology to deliver a range of lightweighting benefits**
- **EverMinds™ in action: reuse and design for recycling are focus of value chain collaboration**

Borealis and Trexel, a leading expert in foaming injection and blow moulded parts, announce that they have co-developed a new plastic bottle based on a grade from the Bornewables™ portfolio of polyolefins made using renewable feedstocks derived 100% from waste and residue streams. The lightweight bottle – which will be showcased at the Borealis stand at the K 2022 in October (Hall 6, Stand A43) – is reusable and fully recyclable. It boasts a significantly lower overall CO2 footprint because it is composed of renewably-sourced feedstock and produced in the foaming process.

The [Bornewables™ portfolio](#) of circular polyolefins helps reduce the carbon footprint while offering material performance equal to virgin polymers. Using Bornewables grades allows for design freedom and colour flexibility, and helps retain a premium look and feel. The grades – which are commercially available in Europe – help conserve natural resources because they are derived solely from waste and residue streams, for example from used cooking oil. Reusing waste already in circulation instead of fossil fuel-based feedstocks enhances the sustainability of applications made using the Bornewables grades.

The reusable new bottle developed by Borealis and Trexel retains its value over many life cycles thanks to the use of Trexel's proprietary technology in tandem with Bornewables grades; as a material solution, the new bottle minimises the use of valuable raw materials. Moreover, converters consume less energy in the production process when using the MuCell® technology. The bottle thus helps close the loop on plastics circularity by way of design for recycling, the use of renewable feedstocks, and excellent material performance across multiple life cycles.

“[Reuse](#) and recycling are core components of the integrated circular cascade model aligned with our [EverMinds™](#) platform, which unites committed players across the entire value chain in accelerating the move to plastics circularity,” says Peter Voortmans, Borealis Global Commercial Director Consumer Products. “This project is an excellent example of how we are working with industry partners to solve the problem of plastic waste while delivering real value to our customers. Combining our polymers and recycling expertise with Trexel's material processing know-how enables us to re-invent essentials for sustainable living.”

Trexel is a global leader in foaming thanks in part to its proprietary MuCell physical (as opposed to chemical) foaming process, which enables greater density reductions, improved mechanical properties, and attractive surface aesthetics.

The larger processing window facilitates its application to a wider range of products. MuCell foamed parts are recyclable and can thus be reintroduced into the polymer stream. The lightweighting benefits of foaming have become particularly compelling as the industry seeks to use less energy in production, minimise the use of materials, and also fulfil growing market demand for more sustainable packaging solutions.

“Having anticipated market demand for more sustainable plastic packaging, we have focused our development resources over the last several years on the circular sphere,” explains David Bernstein, Trexel Chairman of the Board and Interim CEO. “Our foaming solutions for blow moulding and thin-wall packaging enable brand owners and moulders to realise improved sustainability and enhanced product performance while delivering cost savings.”

K 2022 will take place from 19 to 26 October 2022 in Düsseldorf, Germany.

We invite you to “Innovate Collaborate Accelerate” together with us by visiting Borealis and Borouge in Hall 6 at Stand A43, where the new bottle produced in collaboration with Trexel will be on display. Trexel can be found at the show in [Hall 13 Stand B46](#).



Photo | The monomaterial solution contains renewably-sourced polypropylene from the Borneables™ portfolio of circular polyolefins.
Photo: © Borealis

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About Borealis and Borouge

Borealis is one of the world's leading providers of advanced and sustainable polyolefin solutions and a European front-runner in polyolefins recycling. In Europe, we are a market leader in base chemicals and fertilizers. With head offices in Vienna, Austria, Borealis employs 6,900 employees and operates in over 120 countries. In 2021, we generated total sales of EUR 12.342 billion and a net profit of EUR 1,396 million. OMV, the Austria-based international oil and gas company, owns 75% of Borealis, while the remaining 25% is owned by a holding company of the Abu-Dhabi based Mubadala. We supply services and products to customers around the globe through Borealis and two important joint ventures:

Borouge (with the Abu Dhabi National Oil Company, or ADNOC, based in UAE); and Baystar™ (with TotalEnergies, based in the US).

Borealis and Borouge aim to proactively benefit society by taking on real societal challenges and offering real solutions. Both companies are committed to the principles of Responsible Care®, an initiative to improve safety performance within the chemical industry, and work to solve the world's water and sanitation challenges through product innovation and their Water for the World programme.

www.borealisgroup.com | www.borouge.com | www.borealiseverminds.com

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About Trexel, Inc.

Trexel, Inc., headquartered in Wilmington, MA, has led the development of the MuCell® microcellular foaming injection molding technology and has pioneered many plastic processing solutions. The MuCell® technology provides unique design flexibility and cost savings opportunities by allowing plastic part design with material wall thickness optimized for functionality and not for the injection molding process. The combination of density reduction and design for functionality often results in material and weight savings of more than 20%. The numerous cost and processing advantages have led to rapid global deployment of the MuCell® process in automotive, consumer electronics, medical, packaging and consumer goods applications. Process deployment as well as equipment is supported by teams of highly qualified engineers through Trexel subsidiaries in North America, Europe, and Asia.

Trexel extended its product offering with the TecoCell® system. TecoCell is a unique chemical foaming technology that provides uniform microcellular structure to injection-molded parts.

For more information, please visit www.trexel.com.

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