



FOR IMMEDIATE RELEASE

May 7, 2018

MEDIA CONTACTS

Sean Norton
sean.norton@milliken.com
864-503-6582

Amy Godfrey
AH&M Marketing Communications
agodfrey@ahminc.com
413-448-2260, x370

Milliken's New DeltaMax™ Performance Modifiers Deliver Higher Performance for Virgin and Recycled Polypropylene

New Additive Family Maximizes PP Impact & Melt Flow to Expand Application Opportunities; Promotes Sustainability by Raising Recycled Resin Performance to Equal or Exceed Virgin Material

Orlando, Fla. - Milliken & Company is introducing here at NPE 2018, in booth #S26023, DeltaMax™ Performance Modifiers, a radical advancement in additive technology for polypropylene impact copolymers (PP ICPs) and recycled polypropylene. The new masterbatches maximize the impact strength and melt flow of resins without compromising stiffness performance. These improved properties allow PP to be used in a wider range of applications in more cost-effective ways. In addition, the new DeltaMax technology is highly effective in modifying post-consumer and post-industrial recycled resins. It elevates impact and melt flow to the same level as - or better than - those of virgin resin. This unique capability allows compounders and converters to incorporate up to 100 percent recycled PP without sacrificing performance or processing.

DeltaMax Performance Modifiers are the topic of a Milliken presentation at the Plastics Re|Focus Sustainability & Recycling Summit, co-located with NPE. Prem Patel, Milliken's global business development manager, Plastics Additives, will describe how the new technology enables converters to use more recycled resin. Patel's talk is scheduled for Thursday, May 10, from 10:45 am to 12:15 p.m., as part of the Additives for Upcycling session.

"DeltaMax solves a long-standing unmet need in the polypropylene industry, where the market has been seeking higher impact PP plastics at higher melt flow rates," said Patel. "DeltaMax simultaneously improves both impact and melt flow in PP impact copolymers and recycled resins, which now enables converters to make parts stronger, lighter and faster than before. It also improves the sustainability profile of the industry and provides a range of other processing, energy reduction and system cost benefits. The net effect is that converters, brand owners and OEMs can now meet market needs for higher impact driven by e-commerce shipments and increasing automotive safety standards, while keeping a keen eye on improving sustainability and costs."

Increasing Impact, Maximizing Melt Flow

Milliken's new DeltaMax Performance Modifiers offer customers the ability to increase impact performance, maximize melt flow or achieve a precise balance of these properties. The DeltaMax melt flow modifier can raise melt flow by as much as five times while maintaining impact and stiffness. This improvement allows converters to increase operating efficiencies and create more innovative part design with easier flow through molds. The DeltaMax impact modifier increases impact strength by as much as three times by optimizing rubber dispersion and domain size. This higher impact performance allows compounders to decrease rubber content to reduce weight and costs.

Optimizing Recycled PP

Another important benefit of the DeltaMax technology is its ability to optimize recycled PP. Until now, the limited availability of high-performance recycled streams and their variability from month to month have inhibited adoption of recycled PP. DeltaMax Performance Modifiers remove this roadblock by restoring impact and melt flow properties, enabling recycled resin to mirror or even surpass the properties of virgin PP. DeltaMax offers Milliken customers an opportunity to significantly increase recycled PP content to reduce costs and answer demands for more-sustainable materials.

Extending the Benefits of PP to New Applications

Target applications for PP copolymers and compounds enhanced with DeltaMax masterbatches include housewares such as totes and hampers, lawn and garden products such as outdoor furniture and flowerpots, and industrial crates, battery cases and pails. These PP materials can also be used in appliance components such as washer drums, refrigerator trays and motor housings, and in automotive bumpers and interior parts.

At its NPE 2018 booth, Milliken is exhibiting applications that showcase the benefits of DeltaMax Performance Modifiers, including a paint tray made with 100 percent recycled PP, and other products made with virgin PP. This paint tray will also be featured in the Plastic Industry Association's PLASTICS Sustainability display as part of Re|Focus.

The DeltaMax family of masterbatches is currently available in North America, with global distribution planned for the coming year.

About Milliken

Milliken is an innovation company that has been exploring, discovering, and creating ways to enhance people's lives since 1865. Working from our laboratories, application and development centers around the world, our scientists and engineers create coatings, specialty chemicals, and advanced additive and colorant technologies that transform the way we experience products from automotive plastics to children's art supplies. With expertise across a breadth of disciplines that also includes floor covering and performance materials, the people of Milliken work every day to add true value to people's lives, improve health and safety, and make this world more sustainable. For more information, visit chemical.milliken.com or www.milliken.com.

###

DeltaMax is a trademark of Milliken & Company.
The Milliken logo is a trademark of Milliken & Company.

Milliken's New DeltaMax™ Performance Modifiers Deliver Higher Performance for Virgin and Recycled Polypropylene



PHOTO: Target Applications for PP Copolymers and Compounds Enhanced with DeltaMax™ Masterbatches Include Housewares, Garden Products, Appliance Components and Automotive Bumpers and Interior Parts.

Milliken & Company is introducing here at NPE 2018, in booth #S26023, DeltaMax™ Performance Modifiers, a radical advancement in additive technology for polypropylene impact copolymers (PP ICPs) and recycled polypropylene. The new masterbatches maximize the impact strength and melt flow of resins without compromising stiffness performance. These improved properties allow PP to be used in a wider range of applications in more cost-effective ways. In addition, the new DeltaMax technology is highly effective in modifying post-consumer and post-industrial recycled resins. It elevates impact and melt flow to the same level as - or better than - those of virgin resin. This unique capability allows compounders and converters to incorporate up to 100 percent recycled PP without sacrificing performance or processing.

###

DeltaMax is a trademark of Milliken & Company.
The Milliken logo is a trademark of Milliken & Company.

High resolution photography is available by contacting Amy Godfrey at agodfrey@ahminc.com.