Novel mobility aid masterbatch improves PET bottle production efficiency

Sukano launches a novel masterbatch that allows bottle makers and brand owners to run conveyor belts and robots at maximized speed, increasing productivity and yields. Thanks to this state-of-the-art mobility aid additive masterbatch, problems like release, scuffing, and sticking are a thing of the past.

Schindellegi, Switzerland, March 20, 2019 — Sukano, a global leader in the development and production of additive and color masterbatches and compounds for polyester and specialty resins, announces the launch of a new mobility aid additive masterbatch for Injection Stretch Blow Molded (ISBM) PET bottles. This new additive masterbatch allows bottle makers and brand owners to run their conveyor-belt systems and production robots without the need for a spray coating.

Bottles must rotate freely as they pass through the production conveyor, as forced rotation caused by friction can lead to a blockage on the line. The new SUKANO® Mobility Aid solution, believed to be the first commercially available for this application, is provided as a solid PET masterbatch that is blended with virgin PET or RPET material during molding or processing. Even at low concentrations, the masterbatch disperses consistently through the PET material, reducing its coefficient of friction (COF), and modifying the surface texture with a microstructure.

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Benefits of a masterbatch mobility aid over spray coatings

This new masterbatch produces a silicone-like mobility aid effect in PET material, yet has been engineered to preserve material clarity with minimal impact on haze. It is well suited to clear, translucent, and colored bottles produced for personal care, household and cleaning, cosmetics, as well as food and beverage applications. It is also widely applicable, as PET material containing the new masterbatch can be run on existing ISBM bottle production equipment without modification.

Sukano is currently assisting a customer in the U.S. optimize its production process. "Our customer, a key and leading global player in the consumer goods industry, reported that PET bottle mispicks by their production robot decreased sixfold when using our SUKANO® Mobility Aid masterbatch," stated John Price, director of technology and operations in the U.S.

The consistency and even distribution of the masterbatch lead to improved performance. The additive masterbatch preserves secondary processing steps that require adhesion, like labelling and printing. It also helps eliminate the cost and cleaning requirements associated with spray coatings, which leave a waxy residue on bottles and packaging equipment that must be removed through regular cleaning. Additionally, the SUKANO® Mobility Aid masterbatch avoids the potential risk of microbiological contaminations of bottle surfaces by aqueous-based coatings, which may require additional additives or application in a clean-room environment.

Expertise drives innovation

Significant effort was needed to engineer a product that combined the necessary properties with good thermal stability and performance-enhancing benefits to preserve material clarity and transparency. To develop the new PET additive masterbatch, Sukano leveraged its over 30 years of experience with masterbatches for film extrusion in packaging applications into the bottle packaging PET application and broadened its expertise in this field.

"SUKANO® Mobility Aid offers a valuable and safe alternative for bottle makers who, until now, have had to apply spray coatings to PET preforms and bottles to manage the production problems associated with ISBM production," said Michael Kirch, global head of R&D.

"Bottle makers and brand owners can now run their conveyor belts without interruption and minimize the mispicks by production robots, thereby improving productivity and maximizing yields, allowing the highest efficiency rates. Our high-performance masterbatch technology is applicable to any conveyor system," Kirch added.
Circularity as a decisive design criterion to Sukano’s products placed in the market
PET recyclability is essential in an increasingly environmentally conscious world — and
Sukano’s innovative mobility aid makes no compromises in this area, as it is formulated
according to the European PET Bottle Platform (EPBP) guidelines. These enable the
industry to innovate and bring new PET bottle packaging solutions to the market
without disrupting the existing clear PET recycling value chain, with special focus on
bottle-to-bottle recycling.

Sukano is firmly committed to achieving the concept of a “circular economy,” and as
such is an active member of the Association of Plastic Recyclers (APR) and Petcore
Europe, which recently joined forces with Plastics Recyclers Europe (PRE) to create
the Global Plastics Outreach Alliance and publish a globally harmonized definition of
plastics recyclability.

The new mobility aid supports the PET value chain to keep and further enhance its
circularity goals to meet the voluntary pledge of exceeding the Plastics Strategy targets
for recycled PET rates by 2025.

About Sukano
Sukano is a world leader in the development and production of additive and colour
masterbatches and compounds for polyester and specialty resins. The company is
driven by expertise — Sukano focuses its technical knowledge on developing innovative
masterbatches for oil- and bio-based polymers that can be used for applications such
as thin and thick films, bottles and containers, fibers, filaments, and sheets.

Founded in 1988, Sukano developed the state-of-the-art, market reference slip/
antiblock additive masterbatch for PET applications. Headquartered in Switzerland,
Sukano is a family-owned business with a global distribution network and production
facilities in Europe, the Middle-East & Africa, the Americas, and Asia Pacific.

Providing unparalleled service, know-how, and quality to its customers worldwide,
Sukano is the global partner of choice for plastic converters and brand owners to
develop their innovative products and highly specialized solutions.

For more information, visit www.sukano.com.