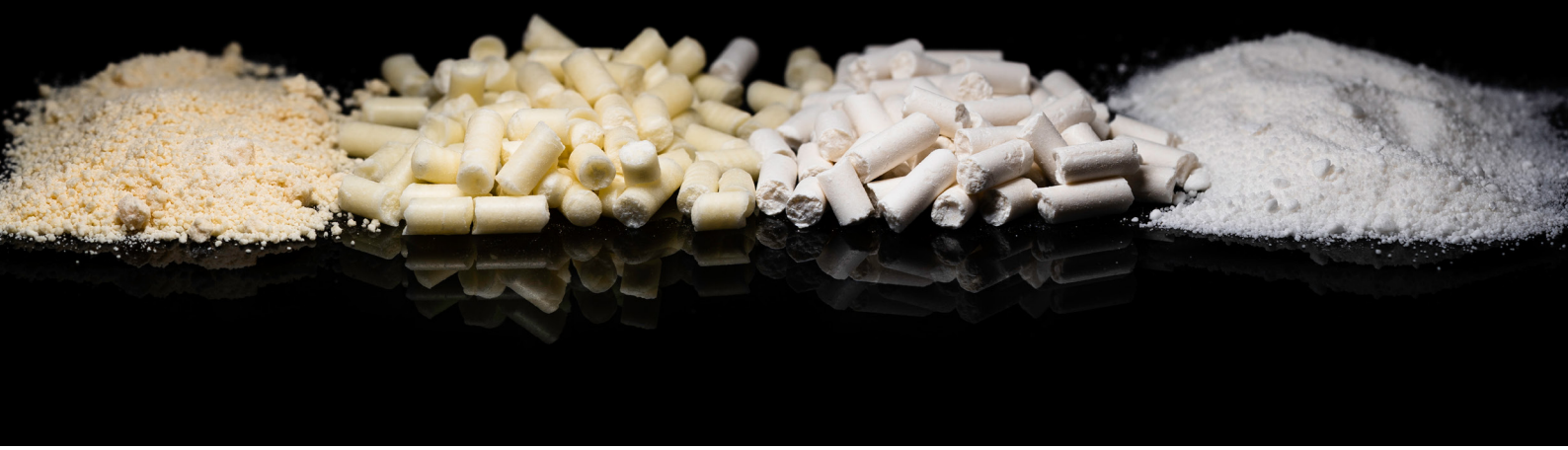
Additives hold the key to better recycling



Lifting the quality – and quantity – of recycled plastics will requirespecialty additives. ***Chris Saunders*** *reviews the latest developments.*

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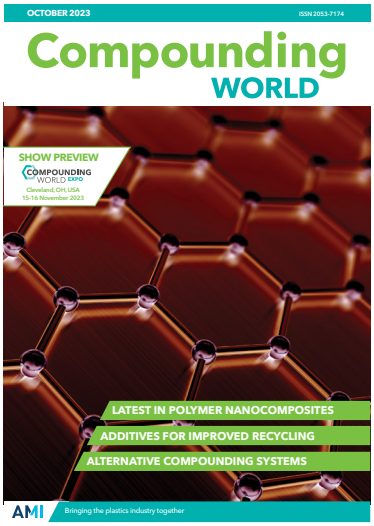

The monthly global magazine for polymer compounders and masterbatch producers. Covering plastics, additives and compounding technology and market trends.

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- Additives for plastics recycling
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IMAGE: MILLIKEN

Right: Milliken's DeltaMax and DeltaFlow recycling additives can be applied in many application areas

"Additive solutions, like Milliken's DeltaMax and DeltaFlow, level the playing field to improve the physical properties and performance of recycled plastic resin," says Allan Randall, Global Product Line Manager for Plastics Additives at Milliken. "With characteristics that meet and exceed that of virgin resin, brands and manufacturers can increase PCR streams to achieve minimum recycled content goals. Addressing the performance elements of PCR resin helps increase its use within the brand space and makes the case for greater utilisation across applications."

Aesthetic gains

Swiss speciality chemical company **Clariant** has also recently introduced a number of new additive solutions aimed at facilitating more sustainable plastics and reducing resource use. It says that surface aesthetics play a crucial role in the perceived quality of many consumer goods, a characteristic said to be improved using its latest renewable-based anti-scratch additive for PP and thermoplastic olefins (TPO). Licowax AS 100 TP can enable moulded plastic items to maintain their original look and feel longer and is said to be particularly beneficial in scuff-prone applications such as interior automotive parts and cosmetics packaging.

"By extending a product's service life and by boosting reuse potential, the plastics industry can contribute positively towards reducing wasteful consumption, and increase circularity in key segments. With these new additives, including renewable-based solutions, we're excited to offer plastic processors and value chains more support to collaborate and further innovate together," says Martin John, Head of Advanced Surface Solutions at Clariant.

The company's latest light stabiliser solution for polyethylene (PE) agricultural films – AddWorks AGC 970 – also aims to enhance sustainability by improving product durability by increasing resistance to UV and agrochemicals. Meanwhile its bio-based Licocare RBW 560 TP Vita wax can help reduce cycle times and aid mould release.

Licocare RBW 560 TP Vita marks the latest extension to Clariant's Licocare range of additives derived from crude rice bran wax, a byproduct of rice bran oil. Compared to conventional products, the company says it can withstand higher processing temperatures, works more effectively at low dosage, and displays good colour stability. It says this combination of performance attributes make Licocare RBW 560 TP Vita particularly attractive to formulators of polyester compounds for use in the E&E or transportation industries.

Montan waxes are widely used as multifunctional additives as they can simultaneously act as viscosity reducers (flow enhancers), mould release agents, and dispersion aids. Under the brand name Cevo, Germany-based **Völpker** develops ready-to-use wax additives for a wide range of specific processing challenges and end-product requirements. Depending on the individual task, the additives can improve dispersion, stabilisation and compatibilisation.

One area of application is in reprocessing of post-consumer HDPE/LDPE waste, which typically contains unwanted polymer particles or other contaminants. Cevo 3680 can disperse these. Meanwhile, Cevo 6000 can reduce compatibility problems arising from contamination of polyolefin waste streams with foreign polymers. It also promotes stabilisation of the resulting product.

Völpker's Cevo 5515 grade can improve the compounding and reprocessing of acetal (POM homo and co-polymers, which can release formaldehyde when exposed to multiple thermal loads. The addition of Cevo 5515 can suppress the formation of the associated unpleasant odours during compounding as well as reducing degradation.

Völpker wax-based additives can improve processing of an extensive range of recycled polymers

IMAGE: VÖLPKER

Tackling odour

US-based **CAI Performance Additives** says one of its most popular products for recycling applications is LDV1035T, which can permanently remove