

# Advanced Solutions Masterbatch for Recyclates





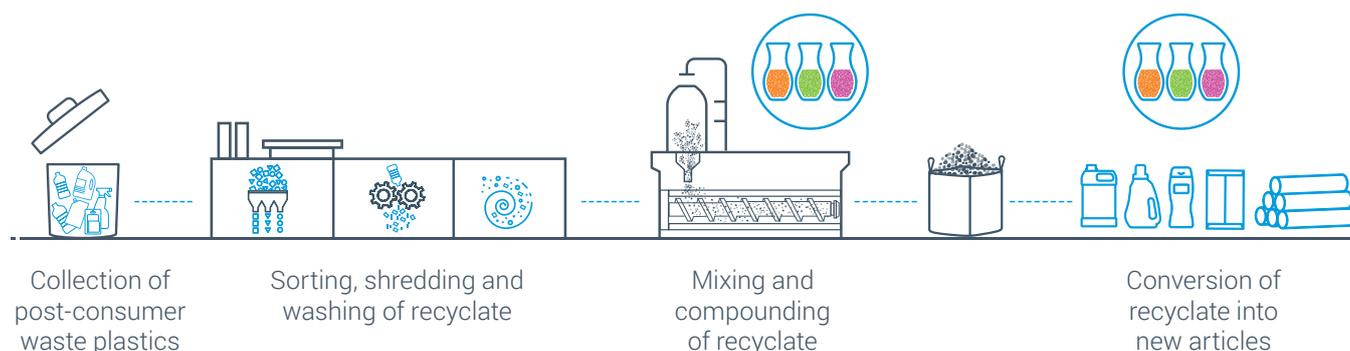
At LyondellBasell, our large integrated asset footprint allows us to serve global customers and markets. As many of our materials go into products that people use every day, at LyondellBasell we take our responsibility seriously. We have the potential – and responsibility – to use this scale and reach to make a positive impact. We are working to make meaningful progress to address some of the world's most pressing challenges.

A circular economy model is important as it is a closed system that promotes reuse, encourages value extraction of recoverable material and avoids sending material to landfill. Product design for recycling technologies encourages the conversion of more material into recyclates and maximizes resource efficiency.

With our masterbatch and additives portfolio and technical expertise we offer solutions to support the challenges of processing post- and pre-consumer recyclate during the mechanical recycling process and enhance the quality and opportunities for re-use by converters of plastic materials in a multitude of applications.

### Enhancing the Quality of Recycled Polyolefins

With growing demand for mechanical recycled polyolefins and the requirement for higher recycled material content in packaging applications, recyclers face several challenges to provide higher quality and easier processability recycled material to plastics converters.



One of the main challenges faced by recyclers and converters is thermal degradation of the polymer from the multiple extrusion and compounding processes which can lead to loss of mechanical performance and rheological issues. Thermal degradation can also reduce the aesthetic quality of the recycled polymer due to gel formation, yellow discoloration and increased odor.

Other challenges include, high moisture and volatiles content coming from the sorted plastics washing process and contamination from mixed polymer recyclate which can also led to processing problems for the converter and reduction in mechanical performance.

LyondellBasell is offering a complete product range of masterbatch additives, which help recyclers and converters to address some of these challenges. Masterbatches can also be produced using a post-consumer recyclate carrier resin to enable recyclates and articles to be produced with the minimum virgin polymer content.

Product Type	Properties & Applications
<b>Antioxidant</b>	Antioxidant to protect the polymer from thermal degradation. Reduction of gels, less yellowing and improved control of melt flow index.
<b>Desiccant</b>	Absorbs moisture and allows for higher recyclate content and improved processing with high moisture content recycled polymer.
<b>Odor Absorber</b>	Absorbs or neutralizes odor coming from volatile organic compounds to reduce the odor of recycled polymer.
<b>Acid Scavenger</b>	Acid scavenger to neutralise acidic degradation products from EVA copolymers which can cause odor and corrosion to equipment.
<b>Blue Toner</b>	Blue toner to improve color when using recycled polymer, reduces yellow appearance associated with recycled polymer.
<b>Compatibiliser</b>	Improved the compatibility and properties of mixed PE-PP recyclate.
<b>Processing Aid</b>	Improves extrusion, optimises productivity, reduces gel formation and improves surface quality during polymer processing with recycled polymer.
<b>Slip Absorber</b>	Regulates coefficient of friction when using recycled polymer with an uncontrolled content of amide slip additive.

## A global network – close to you

By choosing LYB, our customers benefit from short transportation distances and quick deliveries. Currently, we are operating 20 service-orientated masterbatch centers worldwide. Each of them makes an important contribution to our dedication to be a pioneering solution provider.

### ● Masterbatch Sites



# ABOUT US

As a leader in the global chemical industry, LyondellBasell strives every day to be the safest, best operated and most valued company in our industry. The company's products, materials and technologies are advancing sustainable solutions for food safety, access to clean water, healthcare and fuel efficiency in more than 100 international markets. LyondellBasell places high priority on diversity, equity and inclusion and is *Advancing Good* with an emphasis on our planet, the communities where we operate and our future workforce. The company takes great pride in its world-class technology and customer focus. LyondellBasell has stepped up its circularity and climate ambitions and actions to address the global challenges of plastic waste and decarbonization. For more information, please visit [www.lyondellbasell.com](http://www.lyondellbasell.com) or follow [@LyondellBasell](https://www.linkedin.com/company/lyondellbasell) on LinkedIn.

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