

# PETplanet

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09.09.19

No. 9  
2019

MAGAZINE FOR BOTTLERS AND BOTTLE-MAKERS  
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# Reduce, reuse, recycle - refit!

Author: Lucia Buffoni, Marketing Manager Repi

Plastics attract a lot of blame for pollution but the negative image ascribed to them (often erroneous) is the key challenge that players in the plastics industry need to address, to prove the contrary. Repi, a supplier of colours and additives to the plastic packaging industry for years, is among them.



One single shade starting from two different rPET variations

Research and development of plastic packaging has been increasingly driven by the desire to actively contribute in creating packaging that is environmentally friendly and highlights the unique properties of plastics in packaging, including single-use. It is worth retracing once again some of the reasons why plastic is so successful in packaging:

- It preserves food from degradation and makes transglobal transport convenient and safe.
- It is lighter than any other packaging.
- It is convenient for consumers.

Plastic packaging helps reduce CO<sub>2</sub> emissions, especially when recycled. Plastics Europe reported that the recycling rate of 5 million tonnes of plastic packaging would cut CO<sub>2</sub> by 7 million tonnes, corresponding to 2.4 million cars less on streets.

Bottles made of 50% rPET have lower environmental impact than glass (whether single use or reusable) or cans. That includes contribution to climate change and smog as well as water consumption. Single use glass is the least environmental.

Recycling is crucial. Plastic is too valuable to be thrown away; it must be reused and recycled.

The "3-R" statements adopted by many plastics stakeholders clearly summarise where we need to move:

Reduce the quantity of plastic put on the market (by lightweighting, e.g.); reuse when feasible; and recycle.

## Refit: acting responsibly towards sustainability

Repi's 4<sup>th</sup> "R": Refit, represents its approach towards sustainable growth. It involves internal processes, from choice of suppliers, through tuning low energy production cycles, to the use of renewable energy sources for its facilities, and separate waste collection; all before production.

Now coming to products, Repi specialises in additives and colours for recycling and offers broad-spectrum support in aesthetics enhancers and mechanical boosters for rPET, Anti Yellow (AY) additives and IV enhancers.

rPET colour varies between suppliers and even batches. Depending on the ratio of virgin and recycled PET used, results can range from grey or pale yellow to blue or greenish. The higher the recycled content, the darker the resulting colour.

Mechanical issues include a drop in Intrinsic Viscosity (IV). This happens because PET, after several production cycles, due to degradation processes, shows a reduction in the molecular weight: its chains are shorter and mechanically the final product is weaker.

Repi's R&D laboratories mould preforms and bottles and experiment with colours and additives using rPET pellets and flakes mixed in different percentages.

The Anti Yellow liquid additives range balances inconsistent material appearance and enables brightness to be regained, as well as correcting green or grey tones.

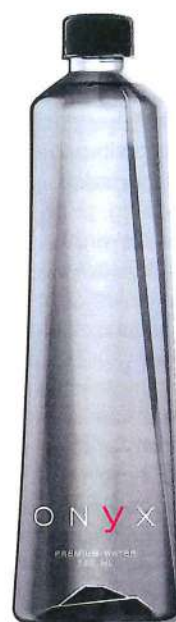
The IV enhancer combines shorter molecular chains to longer ones, thus increasing the IV of the material.

## Colours can help, too!

The use of rPET presents a challenge to brand owners who are not ready to sacrifice packaging aesthetics and brand recognition. When a very dark rPET is used, AY additive may not be enough. Repi's Fumè colour range can give packaging a premium and elegant look, masking the rPET colouring effect. It is used at very low dosages, down to 0.05%, and therefore does not impact the recycling stream because it is read as a transparent light colour. The range goes from light amber to light blues, greys, aquamarine and antique rose.

Moving towards a circular economy is not simple but solutions are already in place to help sustainability from branding, aesthetic and technical perspectives.

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<b>Format</b>	0.75 L
<b>Neckfinish</b>	PCO1881
<b>Weight</b>	43 g
<b>Resin</b>	100% R-PET
<b>Colour</b>	REPI Black TR Remap 95034
<b>Injection of Preform</b>	HUSKY Injection Moulding System
<b>Cap</b>	LuxCap with LABRENTA