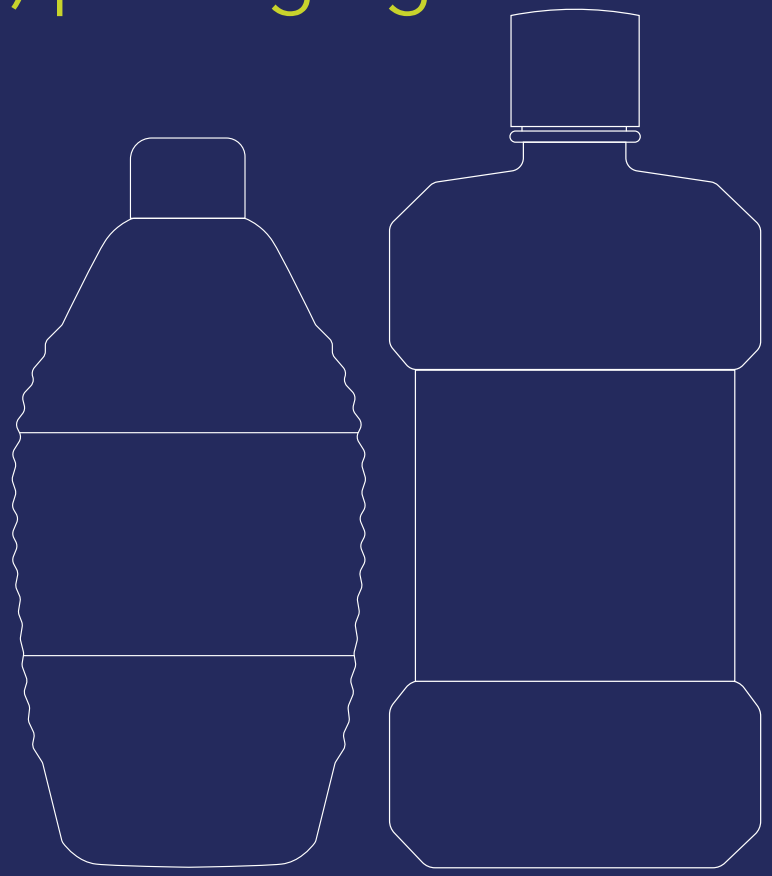
Petco position paper

on polyvinyl chloride (PVC) packaging



petco

Leading Producer Responsibility

Introduction

This paper outlines Petco's position on the impact of PVC packaging on the PET recycling value chain.

Petco is a Producer Responsibility Organisation (PRO), incorporated in 2004, that administers Extended Producer Responsibility (EPR) schemes on behalf of its members for various identified products in the packaging sector. Petco serves as a national organisation responsible for driving recycling activities, unlocking the collection and recycling value chain, guiding product design, stimulating end-use markets for recycled material, carrying out education and awareness initiatives and building the required local recycling infrastructure and capacity.

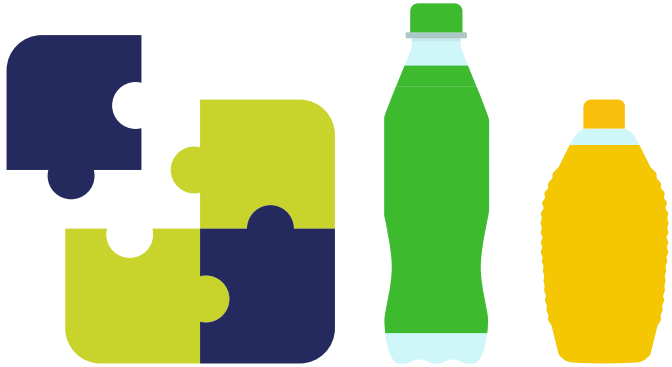
Petco's strategic approach involves empowering its members to assume EPR and take accountability for their products throughout their products' entire life cycle, as mandated by Section 18 of the National Environmental Management: Waste Act (NEMA). Petco is committed to driving change towards a circular economy in South Africa's packaging industry in partnership with its members.

Some of the identified products for which Petco administers EPR schemes fall within PET packaging. In line with the EPR Regulations, Petco not only facilitates the collection of PET packaging, but also facilitates and supports the recycling of the collected material together with its recycling partners. Since Petco's establishment, the organisation has supported the growth of the recycling industry, by means of infrastructure investment in PET recycling. Thousands of entrepreneurs have been trained and hundreds of SMMEs are supported with personal protective equipment, scales, cages, trailers and baling machines. In the South African context, job creation and small business support is a critical deliverable.

Petco's work has significantly contributed to South Africa's well-established PET mechanical recycling industry that provides a livelihood for many people collecting, transporting, and processing PET. South Africa's collection and recycling rates for PET beverage bottles are among the highest in the world. However, the market for recycled PET is dependent on confidence in the technical integrity of the recycled material. In South Africa, material sorting is primarily by hand or density separation; therefore, products made from incompatible materials that are difficult to distinguish from PET risk contaminating the recycling stream and reducing PET recycling rates and the circularity of bottle-to-bottle recycling.

One of these incompatible materials is packaging made from polyvinyl chloride (PVC). PVC packaging possesses properties such as clarity, formability, oxygen and moisture barriers, durability, lightweight, and organoleptic properties which easily make it a polymer of choice for certain packaging types, typically honey bottles and household foam bath packaging. While PVC boasts these properties, and is technically recyclable, it is not widely recycled in South Africa and has the potential to contaminate and hamper existing recycling streams. As a result, PVC bottles have been listed by the South African Plastics Pact as an unnecessary and problematic plastic item to be phased out.

This paper seeks to draw attention to the undesirable impacts of PVC packaging on the PET recycling process.

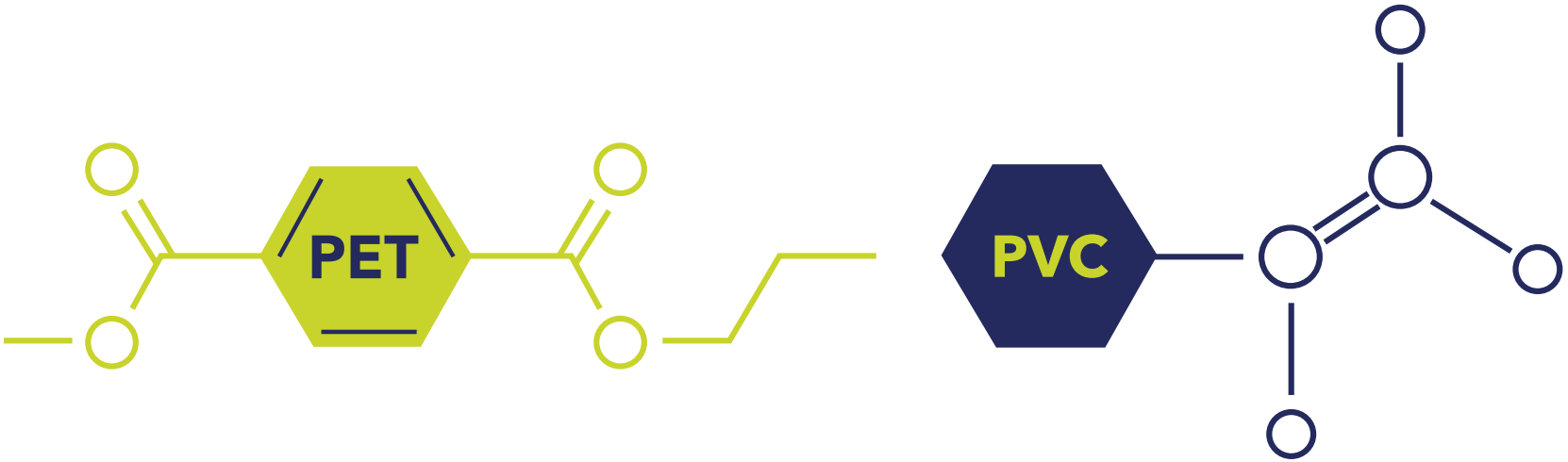


Impacts of PVC packaging on the PET recycling process

As with PET, PVC bottles are transparent, rigid and can package similar/the same products. This makes visual distinction based on appearance between a bottle made from PET and from PVC near impossible. This makes it difficult for consumers and manual sorters to separate PVC from PET and leads to PVC bottles ending up at PET recycling plants, causing contamination. When PVC bottles end up at PET recycling plants, they cause costly technical problems in the PET recycling process.

Even in minute concentrations PVC causes problems in the PET recycling process. PVC contamination at concentrations as low as 50 parts per million (ppm) can cause contamination to PET. 50 ppm is equivalent to only 0.05kg of PVC within 1 000kg of PET (equivalent to 0.005%). The presence of 0.005% of PVC in PET can result in the formation of acids that break down both chemical and physical properties of PET resin. This results in brittle and yellow PET resin, as well as the gassing of chlorine vapours. Compromising the chemical and physical properties of recycled PET negatively impacts the quality of rPET end-use applications such as polyester fibre and food-grade applications.

The presence of PVC bottles in PET bales necessitates that recyclers manually remove these bottles, destroy them, and dispose of them to landfill. This results in PET recyclers incurring additional purchasing, labour, processing, destruction, transport, and disposal costs in addition to the risk of rPET contamination.



Petco position

Petco encourages producers such as retailers and brand-owners to transition their packaging out of PVC and into a widely collected and recycled material that will not contaminate well-established recycling value chains, in order to support the transition to a circular economy.

References

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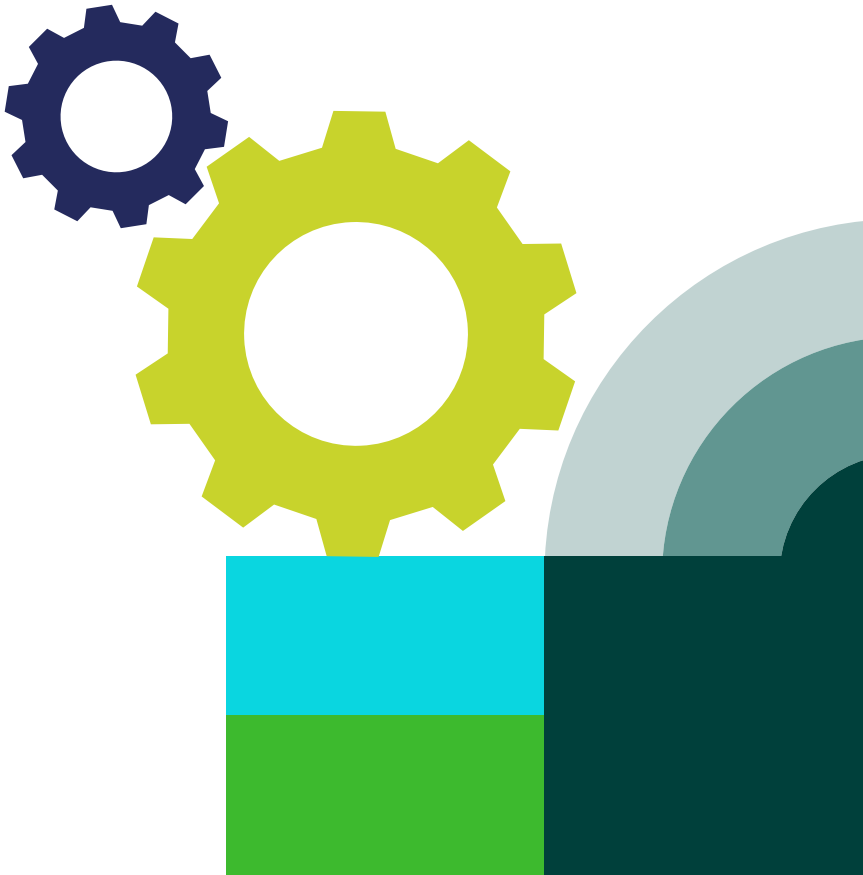

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