



PET Frequently Asked Questions 2018

Introduction

PETCO (the PET Recycling Company NPC) is South Africa's national body accountable for managing the PET plastic industry's Extended Producer Responsibility (EPR). Incorporated in 2004, our mission is to grow the collection and recycling of PET bottles, after consumer use, on behalf of our members. Our efforts are financed by a voluntary levy paid by converters on PET resin purchased and grants from brand owners, resin producers and retailers. We work with the whole PET value chain – from resin producers through to converters, bottlers, brand owners, retailers and consumers.

This document seeks to answer some of the questions we are frequently asked about PET.

What is PET and rPET?

PET forms the basis for synthetic fibres like polyester and is also recognised in the packaging industry as the rigid plastic commonly used as beverage bottles for carbonated soft drinks, bottled water, milk, juice, sports and energy drinks, jars, punnets, tubs and trays for food items, bottles for household, personal care and pharmaceutical products, and sheet and film for general packaging.

What is PET Plastic Recycling?

PET bottles are made of one of the few polymers that can be recycled into the same form – a new beverage bottle – again and again. This closes the recycling loop and enables 'cradle to cradle' packaging solutions.

PET Plastic Recycling in South Africa.

PET plastic bottle recycling in South Africa, which PETCO is responsible for, is doing extremely well; in 2016, we reached a 55% recycling rate, which means we are collecting more PET bottles than those going to landfill. A total of 2 billion bottles were collected for recycling in 2016, equating to 5.7 million bottles collected every day, which created 62 000 income opportunities for wastepreneurs in South Africa. Through the recycling of PET bottles, almost 800 000 tonnes of carbon and over 3 million m³ of landfill space saved to date. We are on-track to achieve our target recycling rate of 70% by 2022, which is a significant impact over a relatively short space of time.



GROWTH OF PET BOTTLE RECYCLING IN SOUTH AFRICA

In South Africa, recycled PET (rPET) can be used to make many new products, such as polyester staple fibre used for apparel (clothing), home textiles (duvets, pillows, carpeting), automotive parts (carpets, sound insulation, boot linings, seat covers), industrial end-use items (geotextiles and roof insulation), strapping, fruit carton corner pieces, and new PET packaging and bottles for both food and non-food products. It is generally blended in a ratio of virgin to recycled PET, depending on the application required.

In 2016, approximately 48 000 tonnes of PET, or close to 53% of the total PET volume collected, was applied in the Bottle-2-Fibre (B2F) end-use market.

Also in 2016, for the first time, some exports of food grade rPET resin took place from South Africa. In total, more than 34 000 tonnes, or 37% of the PET bottles collected were applied in the manufacture of recycled PET resin in 2016. From PETCO's perspective, the production and use of both food grade and non-food grade rPET resin remains the major growth opportunity for PET recycling in South Africa.

The use of rPET in food-grade PET packaging entails compliance with extremely stringent standards for health, safety and product quality. It represents the most sustainable use of the raw material by 'closing the loop' where the recycled resin can be used repeatedly in new bottles, using less resources, saving forex, and maximising the use of resources already extracted.

What is Bottle-2-Bottle Recycling, and why is it so important?

Bottle-2-Bottle capacity for carbonated soft drink (CSD) grade resin represents the most sustainable use of the raw material by "closing the loop" where the recycled resin can be used repeatedly in new bottles. Two Bottle-2-Bottle PET recycling plants – Krones and Starlinger, both Coca-Cola-approved – have now opened. PETCO's contracted financial assistance, based on the volume of bottles recycled, contributed to making these projects possible, and PETCO's on-going support will ensure that this project does not fail, where other such initiatives have in the past.

We are closing an important PET recycling loop and are proud to be the first African country to do so.

Why choose PET?

Manufacturers use PET to package products because of its strength, thermo-stability, and transparency. PET is light (up to 3.5 x lighter than alternatives, which reduces costs and carbon emissions relating to transportation), hygienic, shatterproof, resealable and 100% recyclable when basic design guidelines are followed (see [PETCO design for recycling guidelines](#) for more detail). Retailers use PET because it promotes high product visibility: its lightweight facilitates shelf stacking, and its shatterproof quality ensures safety, product integrity and a reduction in breakages.

Consumers choose PET because it is portable, lightweight, re-sealable for efficient on-the-go hydration, 100% safe and 100% recyclable.

From an environmental perspective, two points are key:

- PET is the most recycled packaging polymer on the shelves;
- The weight of PET packaging has reduced by more than 30% over the past 10 years.

PET is a widely used and its use is growing.

Is PET safe?

There has been much confusion about the safety of PET after concerns were raised about the safety of a different kind of plastic, namely the polycarbonate products containing bisphenol A (BPA) which are most often used to make reusable rigid containers and electronic devices. There is no connection between PET plastic and BPA.

BPA is not used in the production of PET material, nor is it used as a chemical building block for any of the materials used in the manufacture of PET.

Phthalates (pronounced Tha-lates) are a class of chemicals that include three subsets, each with different properties. Polyethylene terephthalate (PET) belongs to one of these phthalate subsets, but not the one most commonly associated with the term. Orthophthalate is the phthalate subset most commonly referenced and discussed in popular literature and on internet sites, and which has been the subject of some negative press. Often used to make various plastics more flexible, this type of phthalate is also called a plasticiser. PET does not contain plasticisers or orthophthalates. Plasticisers are never substituted for terephthalates used in the manufacturer of PET, nor are the two ever mixed. Current research shows that PET does not contain or leach oestrogen-like chemicals such as BPA or other endocrine disrupters.

Why Plastic Bottles are not Trash.

- 1. Because they can be recycled and used again and again**

PET packaging can be made from up to 100% recycled PET, recapturing both the material and the inherent energy of the original package. PET can also be recycled multiple times. In 2016, 2 billion bottles of PET are collected and recycled in South Africa through hundreds of community recycling programmes.

2. *Because they can be made into new useful products*

Collected PET is processed and re-manufactured into a variety of new materials including fibre and new PET packaging. We've helped to generate R900 million worth of investment in PET recycling infrastructure and R2.9 billion worth of new products containing recycled PET (rPET).

3. *Because collecting them creates jobs*

Plastic bottles are valuable and create income opportunities for informal collectors. If one person collects 200 bottles for 240 days of the year, it amounts to 1 450 kilograms per year. The 90 749 tonnes of post-consumer PET collected during the course of 2016 translates into the creation of an estimated 62 000 income opportunities for small and micro-collectors, changing the lives of these collectors and those of their families in immeasurable ways.

4. *Because collecting them is good for the environment*

Recycling PET bottles has saved almost 800 000 tons of carbon and avoided using over 3 million m³ of landfill space to date. Recycling plastic bottles decreases the need for raw materials and saves energy.

What about Deposit Return Schemes?

In some cases, Deposit Return Schemes (DRS), or Deposit Refunds Schemes, whereby consumers pay a deposit on packaging and return packaging to receive a deposit back for them, can lead to high recycling rates.

Where such schemes exist, they are applied to a very narrow range of packaging, usually beverage containers. We believe it is critical that all packaging waste be dealt with. Even within the PET sector, beverages are just one product sector of many.

The administration costs of DRSs are quite high, and likely unaffordable for the population at large outside of developed economies.

A DRS may even harm the overall packaging recycling rate. This appears to have happened in Germany, when a RS on single trip packaging was introduced (www.europa.eu).

For the time being, we believe that we can continue to make good progress on improving recycling rates for PET bottles in a way that is at the lowest cost to and convenient for consumers, better and cheaper than a DRS could.

Rather than implementing an expensive DRS system to deal with a few products, it would be a better use of scarce resources to focus on further improving the current collection systems for all products, increase kerb-side recycling and improve the working conditions and incomes of the informal sector, on which much of the recycling industry relies.

What is the industry doing about plastics in the environment?

The plastics industry has taken many initiatives to combat plastics in the environment.

PETCO (www.petco.co.za) was incorporated in 2004 to minimize the environmental impact of plastic bottles in the environment, and has been steadily increasing recycling rates from just 16% in 2005, to 55% in 2016. We are currently on track to meet our target of 70% by 2022.

Plastics SA (www.plasticsinfo.co.za) run many programmes over many years, including numerous beach and river clean-ups. The latest industry-focused programme is called Operation Clean Sweep which deals with the off-runs of plastic production factories to eliminate small plastic pellets entering waste water systems.

The African Marine Waste Network (africanwastenetwork.org.za) was established as a pan-African platform to co-ordinate efforts and drive action regarding marine waste specifically. Although broader than just plastic waste, Plastics SA is a key champion of this network.

Organisations such as POLYCO (www.polyco.co.za), the Polystyrene Association of South Africa (<http://www.polystyrenerecyclingnetwork.com/>) and the SA Vinyl Association (www.savinyls.co.za) were established by their represented plastic manufacturers to fulfil functions such as product stewardship and reducing environmental impacts of their sectors.

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www.petco.co.za

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