



AN UPDATE ON RECYCLED POLYETHYLENE TEREPHTHALATE (rPET) STANDARDISATION IN NIGERIA

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INTRODUCTION



- Nigeria - second-largest country in the African PET resin market.
- The country's demand for PET resin is increasing significantly due to rising plastic packaging production.
- PET is the most popular plastic being recycled in the country. Nigerians consume a good volume of water and carbonated drinks, often packaged in PET bottles.

PET WASTES

End up in:
Landfills, Drainages,
Water Bodies



PICKING/SORTING OF WASTE PET BOTTLES



PET BOTTLES IN BALES-
WITH THE USE OF BALING
MACHINES



WASTE PET BOTTLES PACKED IN BALES

Recycling of Pre/Post Consumer PET bottles and converting them into Polyester flakes, Chips, Staple fibre and non-woven products (e.g. rug underlay, gum-stay).



DEVELOPED STANDARDS



- NIS 607:2017- Standard for Polyethylene Terephthalate (PET) Bottles for food contact application (**For NCB, CSD**).
- NIS 611:2018- Standard for Polyethylene Terephthalate (PET) Preforms for food contact Application (**For NCB, CSD**).
- **Nigerian industrial standard for Recycled polyethylene terephthalate for packaging of edible products (NIS 1125: 2019).**

SCOPE OF NIS 1125:2019



- This Nigerian Industrial Standard specifies requirements, methods of sampling and testing for Recycled PET flakes and pellets for making Recycled PET bottles used for packaging of edible products.

NORMATIVE REFERENCES



- NIS 608: 2010 - General Guideline for manufacture of plastic materials for food contact applications.
- NIS 611:2018- Standard for Polyethylene Terephthalate (PET) Preforms for food contact Application.
- NIS 607:2017- Standard for Polyethylene Terephthalate (PET) Bottles for food contact application.
- ISO 12418-2:2012 – Plastics- Post-Consumers Poly (ethylene terephthalate) (PET) bottle recyclates- Part 2: Preparation of Test specimen and Determination of Properties.
- NIS ISO 472 - Plastic vocabulary
- ISO 15270, Plastics — Guidelines for the recovery and recycling of plastics waste

QUALITY REQUIREMENTS OF rPET



- **Composition:** The rPET resins shall be made from flakes, chips and pellets of carefully selected food grade PET bottles containers that are either coloured, clear or transparent.
- Appearance
- Colour
- Particle size
- Dust fraction
- Contamination due to labels
- Contamination due to Polyvinyl Chloride (PVC)
- Contamination due to Polyolefins (including adhesives)
- Water content

QUALITY REQUIREMENTS (CONTINUED)



- **Packaging**

- The rPET bottle immediately after manufacture shall be packed under hygienic conditions in a suitable protective covering that will preclude the ingress of dust, moisture and other foreign matters.

- **Marking**

- Each rPET bottle shall be embossed with the name of the manufacturer or registered trade mark.
- The outer protective cover shall give the following information:
 - (i) Manufacturer's logo
 - (ii) Nominal capacity in metric units
 - (iii) Lot number
 - (iv) Material Code used in the production of the bottle
 - (v) Symbol to indicate it is rPET.
 - (vi) Symbol of Spoon, Cup and Fork

BENEFITS OF rPET STANDARDISATION IN NIGERIA



- **Guide:** to improve production processes of rPET, ensure safety & quality of products.
- **Environmental impact/Pollution control** – encourages the utilisation of recycled PET bottles in the environment, which is a key waste prevention measure, as it reduces the number of new bottles that are produced.
- **Economic growth:** encourages new economic opportunities for the MSMEs and enhances foreign direct investment (FDI).
- **Improved consumers confidence**

EXTENDED PRODUCER RESPONSIBILITY (EPR) POLICY IN NIGERIA



- Facilitated by: National Environmental Standards and Regulations Enforcement Agency (NESREA).
- Mandates of the EPR policy: Producers of all kinds of items, especially packaging, to take full responsibility for buying back the packaging items they inject into the environment.
- Framework of the policy: every packaging and production company comes under a Producer Responsibility Organisation (PRO).
- Currently, the only PR companies that are existing in the country are the ones that handle plastics.

MAIN CHALLENGE OF EPR IN NIGERIA



- **Poor consumer disposal behaviour:** Consumer's poor disposal behaviour has resulted in the contamination of PET bottles, which has necessitated the need for a very efficient washing system that is cost- and labour-intensive.
- **Low awareness of EPR**

CONCLUSION



- **SON is planning to incorporate EPR policy into all plastic standards.**
- SON collaborates with the National Environmental Standards and Regulations Enforcement Agency (NESREA), an agency under the Federal Ministry of Environment, responsible for regulating environmental standards.
- SON collaborates with Food and Beverage Recycling Alliance (FBRA), an Organisation that promotes and execute organised waste collection and recycling of used food and beverage plastics in Nigeria.
- **To solve/reduce environmental pollution caused by plastic wastes.**



Thank you very much
Merci beaucoup
Shukran jazeelan