

Essity

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 22 February 2022

Reviewed: Brussels, 28 December 2023

DISCLAIMER

RecyClass recognition applies only to Essity 'Tork Refill Bottle' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this technology. Any specific packaging using this bottle would need to be tested individually to demonstrate that the system of resin, adjuvants, label, closure, and printing conforms to the RecyClass Recyclability Evaluation Protocol for HDPE containers, and that it is sorted in the HDPE rigid stream at the state-of-art sorting plants in Europe.

Publication of results of testing of this technology MUST clearly include all the conditions listed in the approval letter. Partial reporting of the conditions is forbidden.

Additionally, any change in the formulation of the technology must be communicated to the Technical Committee which will reassess the approval of the technology.

The RecyClass HDPE Technical Committee was requested to carry out an assessment of the technology 'Tork Refill Bottle' by Essity to verify its impact on the quality of recycled HDPE containers.

The technology is a natural HDPE bottle with an HDPE-based pump as closure system. Valve and housing of the pump are made of ethylene-based plastomers and represents approximately 11 % of the total weight of the packaging. The packaging has been tested undecorated.

According to the results that were obtained from the laboratory test by the Institut für Kunststofftechnologie und -recycling (IKTR), carried out as per the Recyclability Evaluation Protocol for HDPE containers, the 'Tork Refill Bottle' technology is **fully compatible with HDPE recycling.**

Based on these results, RecyClass acknowledges that Essity 'Tork Refill Bottle' will have no negative impact on the current European HDPE containers recycling and provided that the packaging is designed under the following conditions:

- a) The bottle is made of clear HDPE;
- b) Apart the valve and housing, the closure system is made of clear or white PE;
- c) The maximum ethylene-based plastomer concentration is below 11 wt% respect to the total weight of the packaging;
- d) The density of the finished packaging is lower than 1 g/cm³;

- e) Any additional component or features (e.g. inks, adhesives, etc) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines¹.

RecyClass concludes that Essity 'Tork Refill Bottle' as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for HDPE containers. Indeed, the recycled plastic generated after the recycling process was successfully tested in high-value application such as HDPE bottles up to 25 % concentration².

In regard to RecyClass Recyclability Certification, the present full compatibility with HDPE containers recycling approval delivered to Essity 'Tork Refill Bottle' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will not be penalised with any Recyclability Class downgrade. Moreover, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification and should be kept above 95 % or 90 % in the final packaging to maximise chances to get a Recyclability Certificate with a Class A or B, respectively³. Also, it is noteworthy that the presence of additional packaging features could impact the certification process.

It should be noteworthy that application of non-separable decorations such as direct printing, or permanent printed labels will reduce the quality of recycled plastic generated by the container, and limit its compatibility with HDPE natural stream.

About RecyClass

RecyClass is a non-profit, cross-industry initiative advancing recyclability, bringing transparency to the origin of plastic waste and establishing a harmonized approach toward recycled plastic calculation & traceability in Europe. RecyClass develops Recyclability Evaluation Protocols and scientific testing methods for innovative plastic packaging materials which serve as the base for the Design for Recycling Guidelines and the RecyClass Online Tool. RecyClass established Recyclability Certifications for plastic packaging, Recycling Process Certification and Recycled Plastics Traceability Certification for plastic products.

[RecyClass – Plastic Future is Circular](#)

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¹ [Design for Recycling Guidelines - RecyClass](#)

² [Recyclability Evaluation Protocol for HDPE containers](#)

³ [RecyClass Recyclability Certification](#)

Annex I



Figure 1: Tork Refill Bottle with cap by Essity.