

Yupo Europe GmbH

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 17 December 2025

DISCLAIMER

RecyClass recognition applies only to Yupo Europe GmbH 'CleanSort IML' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this label technology. Any specific packaging using this technology would need to be tested individually to demonstrate that the system of resin, adjuvants, label, closure, and printing conforms to the RecyClass Design for Recycling Guidelines or 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 'CleanSort IML' by Yupo Europe GmbH to verify its impact on the quality of recycled HDPE containers.

The technology is a white voided BOPP film used as in-mould label (IML), applied printed on a natural HDPE bottle, without cap. The thickness of the tested IML is 105 µm and represents 2.3 wt% of the total weight of the tested bottle.

According to the results that were obtained from the laboratory tests done by the Institut für Kunststofftechnologie und -recycling (IKTR), carried out as per the Recyclability Evaluation Protocol for Labels & Adhesives applied on HDPE containers (version 1.1), 'CleanSort IML' technology is fully compatible with HDPE recycling. The label removability rate is 92 %, exceeding the required 90 %.

Based on these results, RecyClass acknowledges that Yupo Europe GmbH 'CleanSort IML' technology will have no impact on the current European HDPE containers recycling and provided that the full packaging using this IML is designed under the following conditions¹:

- a) The packaging is made of PE, with a prevalence of HDPE;
- b) The IML applied on the packaging is made of clear or white voided BOPP and represents 2.3 wt% of the total weight of the packaging, or less;
- c) The final density of the packaging is lower than 1 g/cm³;

¹ HDPE containers designed under conditions other than those indicated need to be tested to assess their compliance with RecyClass Recyclability Evaluation Protocol for HDPE containers.

- d) Inks applied on the IML and any additional component or features of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines².

RecyClass concludes that Yupo Europe GmbH 'CleanSort IML' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for HDPE containers.

In regard to RecyClass Recyclability Certification, the present full compatibility with HDPE containers recycling approval delivered to Yupo Europe GmbH 'CleanSort IML' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will not be penalised with a recyclability class deduction. Moreover, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification and should be kept above 95 % or 80 % 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.

This approval letter is valid for 2 years from the date mentioned in this document. After this time, RecyClass HDPE TC will evaluate the reassessment of this technology or the potential extension of the validity period.

About RecyClass

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

[RecyClass – Plastic Future is Circular](#)

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Contact : Carolane.Gerbehaye@plasticsrecyclers.eu, www.recyclclass.eu

² [Design for Recycling Guidelines - RecyClass](#)

³ [RecyClass Recyclability Certification](#)

Annex I



Figure 1. 'CleanSort IML' by Yupo Europe GmbH.