

*UPM Raflatac*

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 07 October 2021

## DISCLAIMER

*RecyClass recognition applies only to UPM Raflatac 'SmartCircle™ PE Label with hotmelt adhesive' technology reported in Annex I. It, therefore, does not concern to a recyclability assessment of specific packaging using this Pressure-Sensitive Label.*

*Any specific packaging using this Pressure-Sensitive Label 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 'SmartCircle™ PE Label with hotmelt adhesive' by UPM Raflatac to verify its impact on the quality of recycled HDPE containers.

The technology is clear PE Pressure-Sensitive Labels applied unprinted on a LDPE bottle, without cap. The Pressure-Sensitive Labels is composed by a PE facestock and a pressure-sensitive hotmelt adhesive, covering less than 50% of the total surface of the bottle. Adhesive represents about 0,5% 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 HDPE containers, the unprinted 'SmartCircle™ PE Label with hotmelt adhesive' technology is considered to be **limited compatible with coloured HDPE recycling**. This level of compatibility is taking into consideration the non-separable and printed nature of this Pressure-Sensitive-Label.

Based on these results, RecyClass certifies that UPM Raflatac SmartCircle™ PE Label with hotmelt adhesive' technology will have a limited impact on the current European coloured HDPE containers recycling and provided that the full packaging using this Pressure-Sensitive Label is designed under the following conditions:

- a) The packaging is made of PE, with a prevalence of HDPE;

- b) The facestock of the Pressure-Sensitive Label applied on the packaging is made of clear PE;
- c) The coverage of the Pressure-Sensitive Labels represents about 50% of the packaging surface, or less;
- d) The amount of pressure-sensitive hotmelt adhesive represents 0,5% of the total weight of the packaging, or less;
- e) The final density of the packaging is lower than 1 g/cm<sup>3</sup>;
- f) Any additional components, such as closure system, are made of PE preferably clear or white;
- g) Applied printing technology is compatible with recycling; since several printing options are possible, it is the responsibility of the end-user to choose an appropriate combination of inks and printing process to ensure that:
  - i. the inks are non-bleeding;
  - ii. the inks comply with the European Legislation (e.g. Packaging and Packaging Waste Directive on the heavy metal concentration levels) and are EUPIA compliant;
  - iii. printing is limited as much as possible, using preferably light colours.

RecyClass concludes that UPM Raflatac 'SmartCircle™ PE Label with hotmelt adhesive' technology as per current market conditions and knowledge, is limited compatible with the existing European industrial recycling processes for coloured 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% concentration<sup>1</sup>.

**It should be noteworthy that application of extensive printing on the non-separable Pressure-Sensitive Label reduces the quality of recycled plastic generated by the container, by limiting its compatibility with HDPE recycling. This approval is granted for a period of 2 years, during which the applicant will endeavor to improve the Pressure-Sensitive Label construction to allow its removal during the recycling process, based on RecyClass HDPE Technical Committee recommendation.**

*About*

**RecyClass** is a comprehensive cross-industry initiative that works to advance plastic packaging recyclability and to establish a harmonized approach towards recycled content calculation and traceability in Europe. Activities within RecyClass include the development of Recyclability Evaluation Protocols and scientific testing of innovative materials which serve as the base for the Design for Recycling guidelines and the free online tool. RecyClass offers Recyclability Certifications and Recycled Content Traceability Certification for plastic packaging.  
Contact: [Alice.Wallon@plasticsrecyclers.eu](mailto:Alice.Wallon@plasticsrecyclers.eu), [www.recyclclass.eu](http://www.recyclclass.eu)

---

<sup>1</sup> [Recyclability Evaluation Protocol for HDPE containers](#)

## Annex I



*'SmartCircle™ PE Label with hotmelt adhesive' by UPM Raflatac without cap and unprinted*