RecyClass

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UPM Raflatac

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 08 March 2024

DISCLAIMER

RecyClass recognition applies only to UPM Raflatac 'Multipurpose UV acrylic PE label' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this adhesive. Any specific packaging using this adhesive 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 PE films, and that it is sorted in the PE flexible 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 PO films Technical Committee was requested to carry out an assessment of the technology 'Multipurpose UV Acrylic PE label' by UPM Raflatac to verify its impact on the quality of recycled PE flexible packaging.

The technology is an unprinted pressure sensitive label (PSL) made of clear or white PE facestock representing 21 % of the film surface and a multipurpose acrylic UV pressure sensitive adhesive. The adhesive represents 5.3 % of the total weight of the packaging while the PE facestock of the label represents 36 % of the total weight of the packaging.

According to the results that were obtained from the laboratory test by Plastics Forming Enterprises (PFE), carried out as per the Recyclability Evaluation Protocol for PE films, the 'Multipurpose UV Acrylic PE label' technology is considered to be limited compatible with coloured PE flexibles recycling.

Based on these results, RecyClass acknowledges that UPM Raflatac 'Multipurpose UV Acrylic PE label' technology will have a limited impact on the current European coloured PE flexibles recycling provided that PE flexible films using this technology are designed only under the following conditions[1]:

a) The density of the PE label is below 0.97 g/cm^3;
b) The facestock of the pressure sensitive label applied on the packaging is made of clear or white PE;

[1] **PE films designed under conditions other than those indicated need to be tested to assess their compliance with Recyclass Recyclability Evaluation Protocol for PE films.**

c) The amount of multipurpose UV acrylic adhesive represents 5.3 % of the total weight of the packaging, or less;
d) Any additional components, such as closure system are made of PE, preferably clear or white;
e) Any additional component or features (inks, coating, etc.) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines.

RecyClass concludes that UPM Raflatac 'Multipurpose UV Acrylic PE label' technology as per current market conditions and knowledge, is limited compatible with the existing European industrial recycling processes for coloured PE flexibles. The plastic generated by the recycling process may be used in high quality applications such as PE blown films up to 25%[2].

In regard to RecyClass Recyclability Certification, the present limited compatibility with coloured PE flexibles recycling delivered to 'Multipurpose UV Acrylic PE label' technology, means that a coloured package based on PE film containing the 'Multipurpose UV Acrylic PE label' technology, as mentioned in the aforementioned conditions, will be penalised with one Recyclability Class downgrade. Nevertheless, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification[3]. Also, it should be noteworthy that the presence of additional packaging features, such as inks could impact the certification process.

Under the condition that the label is transparent and non-printed, the 'Multipurpose UV Acrylic PE label' technology is also considered to be limited compatible with natural PE flexibles recycling. The technology must only be designed according to the conditions previously mentioned, and be transparent. A small amount of inks can be accepted if it is compliant with the corresponding RecyClass Design for Recycling Guidelines[4].

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.

[2] Technology tested according to the RecyClass Recyclability Evaluation Protocol for PE films

[3] RecyClass Recyclability Certification

[4] Design for Recycling Guidelines - RecyClass

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Annex I

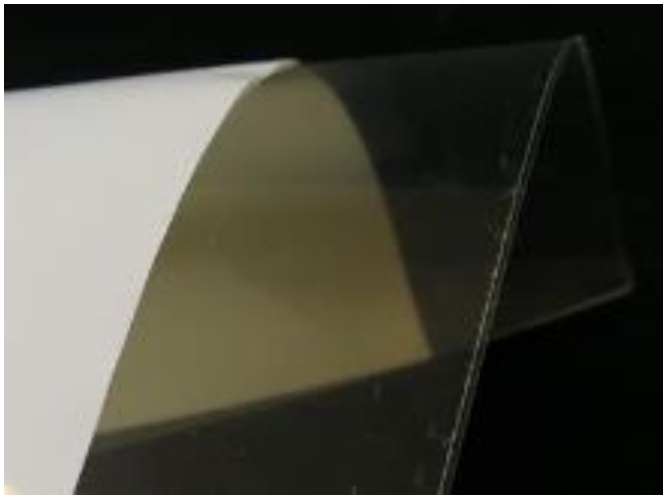

Figure 1. 'Multipurpose UV Acrylic PE label' technology by UPM Raflatac