RecyClass

c/o Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone: +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu

Fedrigoni

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 19 July 2024

DISCLAIMER

RecyClass recognition applies only to Fedrigoni 'White PE PSL with acrylic emulsion adhesive' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this self-adhesive label. Any specific packaging using this self-adhesive 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 PP containers, and that it is sorted in the PP 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 PP Technical Committee was requested to carry out an assessment of the technology 'White PE PSL with acrylic emulsion adhesive' by Fedrigoni to verify its impact on the quality of recycled PP containers.

The technology is a white PE-based pressure sensitive (PSL) label applied on a natural PP bottle, without cap. The PSL is composed by a PE facestock and an acrylic emulsion adhesive. The adhesive represents about 1 % of the total weight of the tested bottle whilst the PE facestock accounts for 4.7 wt%. The label was tested unprinted.

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 PP containers (version 5.0), 'White PE PSL with acrylic emulsion adhesive' technology is limited compatible with coloured PP recycling.

Based on these results, RecyClass acknowledges that Fedrigoni 'White PE PSL with acrylic emulsion adhesive' technology will have a limited impact on the current European coloured PP containers recycling and provided that the full packaging using this self-adhesive label is designed under the following conditions[1]:

a) The packaging is made of PP:

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

b) The facestock of the self-adhesive label(s) applied on the packaging is made of clear or white PE, and represents less than 4.7 wt%;
c) If the PE label covers more than 70 % of the packaging (volume ≤ 500 ml) or 50 % (volume > 500 ml), a sorting test must be conducted;
d) The amount of acrylic emulsion adhesive represents 1 % of the total weight of the packaging, or less;
e) The final density of the packaging is lower than 1 g/cm^3;
f) Any additional components, such as closure system are made of PP, preferably clear or white;
g) Any additional component or features (e.g. inks) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[2].

RecyClass concludes that Fedrigoni 'White PE PSL with acrylic emulsion adhesive' technology as per current market conditions and knowledge, is limited compatible with the existing European industrial recycling processes for coloured PP containers. Indeed, the recycled plastic generated after the recycling process was successfully tested in high-value application such as PP bottles up to 50 % concentration[3].

In regard to RecyClass Recyclability Certification, the present limited compatibility with coloured PP containers recycling delivered to Fedrigoni 'White PE PSL with acrylic emulsion adhesive' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will be penalised with one Recyclability Class deduction. Moreover, the amount of recyclable PP 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 B or C, respectively[4]. Also, it is noteworthy that the presence of additional packaging features could impact the certification process.

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 PP recycling. Therefore, the applicant is encouraged to improve the Pressure-Sensitive Label construction to allow its removal during the recycling process, based on RecyClass PP Technical Committee recommendation.

[2] Design for Recycling Guidelines - RecyClass

[3] Recyclability Evaluation Protocol for PP containers

[4] RecyClass Recyclability Certification

c/o Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone : +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu

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

Follow the latest news on RecyClass channels: LinkedIn | Twitter | YouTube

Contact : Jean-Emile.Potaufeux@plasticsrecyclers.eu, www.recyclass.eu

Annex I

Figure 1. 'White PE PSL with acrylic emulsion adhesive' *by Fedrigoni.*

c/o Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone : +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu