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Milliken

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 13 October 2020
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DISCLAIMER

RecyClass recognition applies only to Miliken 'Millad® NX™ 8000' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific commercial packaging using this technology. Any specific packaging using this label technology 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 Polypropylene (PP) Technical Committee was requested to carry out an assessment of the technology 'Millad® NX™ 8000' by Miliken to verify its impact on the quality of recycled PP containers.

The ' Millad® NX™ 8000' technology is a clarifying agent used in PP containers to make PP transparent. The technology was tested in a random grade injection copolymer polypropylene resin and accounted for 0.4 % of the total weight of the packaging (4000 ppm).

According to the results that were obtained from the laboratory tests done by Plastics Forming Enterprise (PFE) and carried out as per the APR PP Critical and Application Guidance testing protocols, the 'Millad® NX™ 8000' technology is fully compatible with PP recycling.

Based on these results, RecyClass acknowledges that Milliken 'Millad® NX™ 8000' technology will not have a negative impact on the current European PP containers recycling under the following conditions[1]:

a) The container is made of clear PP;
b) Any additional packaging component is made of PP;
c) The density of the finished packaging is lower than 1 g/cm^3;
d) 'Millad® NX™ 8000' clarifying agent accounts for 0.4 % of the total weight of the packaging, or less;

[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.**

e) Any additional component or features (e.g., inks, adhesives, etc.) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[2].

RecyClass concludes that Milliken 'Millad® NXTM 8000' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for PP containers. Indeed, the recycled plastic generated after the recycling process was successfully tested in injection moulding applications up to a concentration of 50 % innovation[3].

In regard to RecyClass Recyclability Certification, the present full compatibility with PP containers recycling approval delivered to Milliken 'Millad® NXTM 8000' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will not be penalised with any Recyclability Class deduction. Nevertheless, 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 A or B, respectively[4]. Also, it is noteworthy that the presence of additional packaging features, like inks or barrier material, could impact the certification process.

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[2] Design for Recycling Guidelines - RecyClass

[3] Recyclability Evaluation Protocol for PP containers

[4] RecyClass Recyclability Certification

Annex I

Figure 1: Tested resin containing the 'Millad® NX™ 8000' technology by Milliken.