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

TOPAS Advanced Polymers

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 2 May 2024

DISCLAIMER

RecyClass recognition applies only to TOPAS Advanced Polymers 'TOPAS 8007' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this 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 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 'TOPAS 8007' by TOPAS Advanced Polymers to verify its impact on the quality of recycled HDPE containers.

The technology is a Cyclic Olefin Copolymer (COC) which is an ethylene-norbornene copolymer. A two-layer bottle made of 80 wt% of HDPE and 20 wt% of TOPAS 8007 grade as outer layer was tested. The amount of norbornene monomers represented around 12.5 % of the total weight of the blend. No other element or decoration were present for the testing.

According to the results that were obtained from the laboratory test performed by Norner, carried out as per the Recyclability Evaluation Protocol for HDPE containers, the 'TOPAS 8007' technology is considered to be fully compatible with HDPE recycling.

Based on these results, RecyClass acknowledges that TOPAS Advanced Polymers 'TOPAS 8007' technology will have no impact on the current European HDPE containers recycling and provided that the full packaging is designed under the following conditions:

a) The packaging is made of HDPE;
b) The final density of the packaging is lower than 1 g/cm^3;
c) The TOPAS 8007 COC represents 20 wt% of the total weight of the packaging, or less;
d) The amount of norbornene monomer represents 12.5% of the total weight of the packaging, or less;

e) If TOPAS 8007 COC is on the external layer of the packaging and covers more than 70 % of the packaging (volume ≤ 500 ml) or 50 % (volume ≥ 500 ml), a sorting test must be conducted;

f) Any additional component or features (inks, adhesives, …) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[1].

RecyClass concludes that TOPAS Advanced Polymers 'TOPAS 8007' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for HDPE containers. The plastic generated by the recycling process may be used in high quality applications such as HDPE bottles up to 25 % concentration[2].

In regard to RecyClass Recyclability Certification, the present full compatibility with HDPE containers recycling delivered to 'TOPAS 8007' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions, will not be penalised with a recyclability class downgrade. Nevertheless, the amount of recyclable HDPE will impact the final Recyclability Class obtained during Recyclability Certification and should be kept above 90 % to maximise chances to get a Recyclability Certificate with a Class A to C[3]. Also, it should be noteworthy that the presence of additional packaging features could impact the certification process.

Note that, in addition to the 'TOPAS 8007' TOPAS Advanced Polymers developed other grades containing a lower norbornene content, such as 'TOPAS 9506'. Such grades will also be considered as fully compatible with the HDPE recycling stream under the similar conditions aforementioned for 'TOPAS 8007'.

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

[1] Design for Recycling Guidelines - RecyClass

[2] Technology tested according to the RecyClass Recyclability Evaluation Protocol for HDPE containers

[3] RecyClass Recyclability Certification

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

Annex I

Figure 1. 'TOPAS 8007' *technology applications by TOPAS Advanced Polymers*