

PRESS RELEASE

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Enkase™ - Fluorination barrier technology by Inhance Technologies approved by RecyClass

The [findings](#) of an independent laboratory testing of Inhance Technologies' Enkase fluorination barrier technology show that it is fully compatible with the recycling stream of HDPE containers as it does not pose any recyclability issues. This innovative technology is a chemical transformation of the surface of the plastic container, consisting of a fluorination treatment using elemental fluorine to enhance the properties of HDPE for hydrocarbon barrier packaging.

The technology is used for rigid packaging that is mainly destined for consumer-packaged goods, pharmaceutical, health and beauty, industrial and agricultural chemicals. Enkase™ allows for preventing permeation of various ingredients through the container walls. It ensures the shelf life of the content as well as its efficacy.

According to the results of the laboratory which were carried out as per the APR HDPE Critical Guidance and Application Guidance¹, this new technology conforms to the current European HDPE bottles recycling stream provided it is used under specific conditions. These conditions relate to the whole system of such a container which needs to conform to the RecyClass Design for Recycling Guidelines for HDPE containers. These include, among others, the requirements² on the absence of functional barriers, printing technology but also different components of the package like: labels and sleeves, adhesives, closures, liners or seals and valves, to give an example.

Current barrier technologies may disrupt recycling of HDPE bottles. However, Inhance Technologies' Enkase barrier technology, as per the RecyClass grading system (using classes from A to F, resembling the EU energy efficiency scale) is graded as A³, as it does not pose any recyclability issues and proves to advance quality recycling. As a result, it is relevant for high-value applications.

¹ PRE and APR are part of the Global Plastics Outreach Alliance, a partnership aimed at harmonizing design guidelines and testing protocols, to create a Global Plastics Protocol. Therefore, where possible and applicable for Europe, RecyClass can equally approve the different technologies based on the results of the laboratory tests performed in the US.

² For more information go to the Technology approval document: 'Fluorinated HDPE bottles: new technology approval by RecyClass' <https://recyclass.eu/technologies-approved/>

³ Under the condition that other components of a package are in accordance with the RecyClass guidelines for HDPE containers: <https://recyclass.eu/recyclass/design-for-recycling-guidelines/>

Consequently, this technology will be used as an input for updating the RecyClass ‘Design for Recycling Guidelines’ as well as the RecyClass online tool which are the components of the guidance for the recyclability evaluation.

These findings contribute positively to the developments which advance design for recycling for HDPE bottles by setting standards for their recyclability.

About

RecyClass is a comprehensive cross-industry initiative that works to advance plastic packaging recyclability within Europe. RecyClass assesses recyclability and provides specific recommendations on how to improve packaging design to fit current recycling technologies. Activities within RecyClass include the development of Recyclability Evaluation Protocols and testing of innovative materials. Findings are used to update the RecyClass Design for Recycling guidelines and the online free tool.

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About

Inhance Technologies

Founded in 1983, Inhance Technologies is a leader in the transformation of plastics and other polymeric substrates for higher performance through its portfolio of proprietary materials science technologies. Inhance Technologies’ solutions serve a wide range of end markets, including crop protection, healthcare, consumer products, fuel systems, automotive, and industrial, through 17 facilities throughout North America, South America, Europe and Australia. As a Responsible Care® company, Inhance Technologies is committed to environmentally sustainable solutions and proud that its barrier packaging technology is fully recyclable. More information can be found at www.inhanceproducts.com

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