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

Silgan Dispensing

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 12 September 2022
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DISCLAIMER

RecyClass recognition applies only to Silgan Dispensing ' Trigger Sprayer SP09R' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this pump. Any specific packaging using this pump 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 ' Trigger Sprayer SP09R' by Silgan Dispensing to verify its impact on the quality of recycled PP containers.

The technology is a PP pump made of ten individual components, provided without associated container. All the pump components were supplied clear, except for a blue valve. The pump is made of about 86.8 % of PP and 12.5 % of PE and 0.7 % of EBA (Ethylene Butyl Acrylate). The gasket is made of expanded polyethylene (EPE).

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, 'Trigger Sprayer SP09R' technology is limited compatible with PP recycling.

Based on these results, RecyClass acknowledges that Silgan Dispensing 'Trigger Sprayer SP09R' technology will have a limited impact on the current European PP containers recycling and provided that the full packaging using this trigger sprayer as closure system is designed under the following conditions[1]:

a) The trigger sprayer is made of colourless PP components *(for natural PP packaging only)*;

[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 coloured valve must be replaced with a transparent or white one *(for natural PP packaging only)*;
c) The trigger sprayer is used on PP containers;
d) The PE components represent 12.5 % of the total weight of the trigger sprayer or less;
e) The EPE gasket is representing 0.7 % of the total weight of the trigger sprayer or less;
f) The EBA-based valve represents 1 % of the total weight of the pump or less;
g) All components of the pump are lower than 1 g/cm^3;
h) The pump is designed to allow consumers to access as much as possible the product, i.e. the amount of product left should be lower than 5 % of the total packaging weight.
i) 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 Silgan Dispensing 'Trigger Sprayer SP09R' technology as per current market conditions and knowledge, is limited 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 Silgan Dispensing 'Trigger Sprayer SP09R' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will be penalised with one 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 B or C, respectively [4]. Also, it is noteworthy that the presence of additional packaging features, like inks or barrier material, could impact the certification process.

The present PP-based trigger sprayer should be used on PP container in order to optimize recyclability. It should be noteworthy that the use of this PP-based trigger sprayer on HDPE containers will reduce the quality of HDPE recycled plastic, as the PP compatibility with PE recycling is limited.

[2] Design for Recycling Guidelines - RecyClass

[3] Recyclability Evaluation Protocol for PP containers

[4] RecyClass Recyclability Certification

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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

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

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Annex I

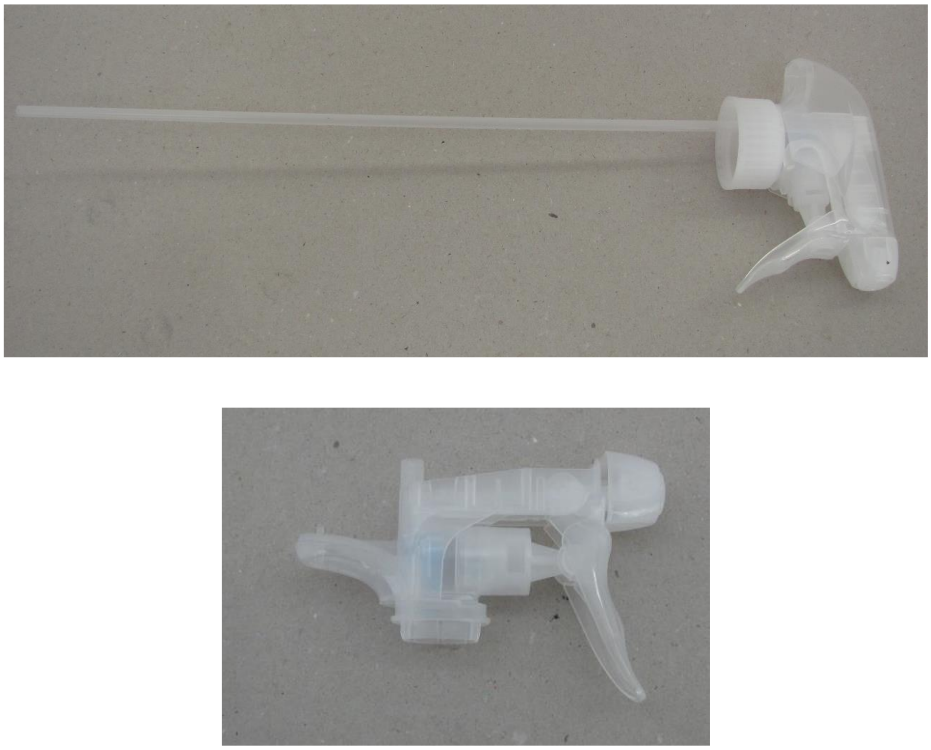

Figure 1: Trigger SprayerSP09R *by Silgan Dispensing.*