

Comments to review of the POPs Regulation Annex I

Recommendation

In the context of the POPs Regulation, the threshold for the sum of the PBDEs should remain at 500 mg/kg until a standardised method for sampling is established.

Background and results

To test compliance of recyclates with the product legislation, recyclers are performing the following steps: sampling of recycled plastics during production, followed by XRF and chemical analysis if needed. The EU funded Horizon Europe project PRIMUS is investigating the different sampling methodologies used in the industry. Sampling has been identified as one of the pillars defining the accuracy of results. If the sample is not representative or homogeneous, even if the chemical analysis has very high resolution, the results will not be reliable.

Based on first results of PRIMUS, conclusion on compliance with the POPs Regulation could not be established with a commonly used sampling method (see figure below). More efforts must be deployed to harmonise and standardise sampling methods.

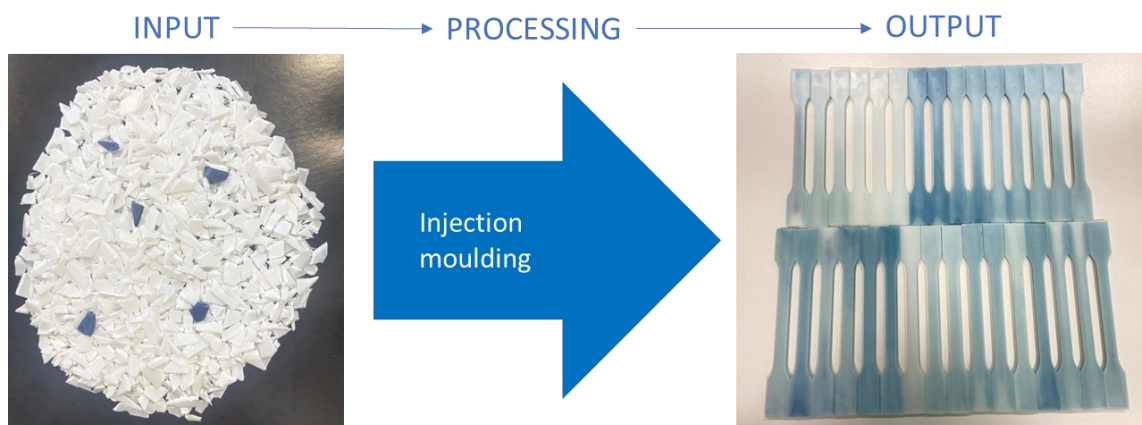


Figure 1: Visual illustration of the sample preparation process. The white flakes represent the material free from PBDEs and the blue flakes represent the material that would have a significant concentration of PBDEs. The picture on the right shows the uneven repartition of PBDEs in the different dog bone specimens. If a white specimen would be chosen for analysis, then compliance would be established. However, if a blue specimen would be selected, compliance would not be established. As a conclusion, none of these results would be accurate as the samples are not representing the batch of material. It is imperative to define a robust sampling method to draw the right conclusions on compliance with the product legislation.

The industry is challenged by the lowered limit values as standardised sampling methods are missing to prove compliance to today's Regulation. Based on the results gained by the project, the current sampling methods applied can result in variation, leading to inconsistent results. Instead of lowering limit values, addressing and standardizing sampling techniques will enhance accuracy and reliability.

The PRIMUS project recommends maintaining the current limit values due to issues with current sampling practices. The limit values should not be further lowered at this stage to focus on refining sampling techniques to ensure accurate and consistent measurements in compliance with the legislation. The project will produce results in 2024 to support policy development.

ABOUT PRIMUS

PRIMUS EU funded Horizon Europe project (1010570670; 5/2022-04/2025) aims to reform recyclates to become the primary material choice for high-value products. PRIMUS is working on a comprehensive review and study of different sampling scenarios to identify limitations of each of the sampling methods and propose targeted improvements. PRIMUS is collaborating with academia and industry experts and stakeholders to establish best practices for sampling to produce a robust method for sampling for further analysis of the plastic waste streams potentially decontaminated with hazardous substances. The project will actively encourage mechanical recyclers in the EU to participate in the implementation of the validated best practices for sampling.

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