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Interreg



Cofinancé par
l'Union Européenne
Medegefinancierd door
de Europese Unie

France – Wallonie – Vlaanderen



CIRCOPLAST

CIRCOPLAST aims to play a vital role in advancing the circular economy by enhancing the recyclability of plastics that include flame retardants, thereby helping to minimise environmental impacts.

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de Europese Unie

France – Wallonie – Vlaanderen



Wallonie

This project is funded by the InterregVI France-Wallonie-Vlaanderen program and co-financed by the Walloon Region



CIRCOPLAST is an INTERREG FWVL project that aims to develop an innovative and sustainable process for removing brominated flame retardants (BFRs) from plastic waste. This will enable the recycling and reuse of plastics that are currently difficult to process.

KEY OBJECTIVES:

Innovate Green Extraction Technologies

Develop eco-friendly methods to remove brominated flame retardants (BFRs) using advanced techniques like UV-Vis radiation and supercritical fluids (scCO₂) with co-solvents.

Scale Up for Industrial Application

Transform the batch process from the VALBREE project into a high-efficiency continuous extrusion process. Utilize a twin-screw extruder equipped with UV lamps, scCO₂ extraction zones, and co-solvents for superior decontamination.

Expand Recycling to Complex Polymers

Pioneer biological and enzymatic recycling techniques for polyurethane materials containing banned flame retardants. Identify and repurpose degradation products into new, valuable materials.

Develop Next-Generation Sustainable Polymers

Create cutting-edge plastics by integrating recycled materials and bio-based lignin, leading to sustainable flame retardants and eco-friendly polymer formulations.

Advance the Circular Economy in Plastics

Equip plastic recyclers and manufacturers with cost-effective, sustainable recycling solutions. Foster international collaboration to seamlessly integrate high-quality recyclates into new products, accelerating the shift toward a circular plastics economy.

