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- **Martin Schlummer, Fraunhofer Institute for Process Engineering and Packaging IVV (DE): Dissolution Recycling of PVC Waste Streams**

Abstract

PVC waste streams are often complex and require sophisticated waste management and advanced recycling technologies to recover purified recycled PVC (rPVC). This holds true for rPVC from End-of-Life (EoL) building and construction (B&C) materials (e.g. flooring) or EoL pharmaceutical packaging. From a technological perspective, dissolution recycling offers significant opportunities to separate rPVC from other waste items, other polymer types as well as fillers or legacy additives (e.g. lead stabilizers, phthalates) or non-PVC composite materials (e.g. aluminium). Without attacking the polymer chain, dissolution enables the recovery of purified PVC with well-defined morphology and chemical purity, and paves the way for use in demanding applications such as vinyl flooring or packaging. This will be supported by data from recent research projects on rPVC from B&C and packaging, and an outline for upscaling the technology will be given.

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Dr. Martin Schlummer studied Geo-Ecology at the University of Bayreuth (1991–1997) and completed his PhD in Chemistry at the University of Erlangen in 2006. He began his career as a Junior Scientist at Ökometric GmbH before joining Fraunhofer IVV in 1999, where he worked successively in the departments of Product Safety & Analysis and Polymer Recycling. Since 2015, he acts as Deputy Head of the Department of Process Engineering Polymer Recycling at Fraunhofer IVV and additionally serves as Business Field Manager for Recycling & Environment.