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WATER-BASED PSA FOR COMPOSTABLE LABEL APPLICATIONS – ORGAL RW 30400

ABSTRACT

Sustainable packaging is entering a new regulatory phase in Europe. With the Packaging and Packaging Waste Regulation — PPWR — packaging materials, labels and associated adhesive systems will increasingly need to be designed with their end-of-life scenario in mind. Beyond performance during use, adhesives must support packaging circularity, reduce persistent residues and enable credible sustainability claims, including compostability where this route is relevant for the final packaging structure.

Organik Kimya's patented approach addresses this challenge through the development of biodegradable waterborne acrylic pressure-sensitive adhesive compositions based on hemalactide macromonomer, namely oligomer lactide 2-hydroxyethyl methacrylate terminated macromonomer, incorporated into an acrylic emulsion polymer. This technology aims to overcome one of the key limitations of conventional acrylic PSAs: their excellent adhesive performance but limited biodegradability due to the persistent acrylic backbone.

The innovation combines biodegradable ester-containing segments with a waterborne acrylic PSA platform designed to maintain the critical balance between tack, peel adhesion and cohesion. In addition, the use of a polymodal, preferably bimodal, particle-size distribution enables high-solids, low-viscosity latexes, supporting efficient coating, faster drying and reduced transport of water throughout the value chain.

This presentation will discuss how such polymer design can contribute to compostable label applications while remaining aligned with industrial PSA requirements, customer qualification processes and evolving regulatory expectations. Particular attention will be given to EN 13432-type compostability principles, raw-material compliance and the need to substantiate environmental claims with robust technical and regulatory evidence.