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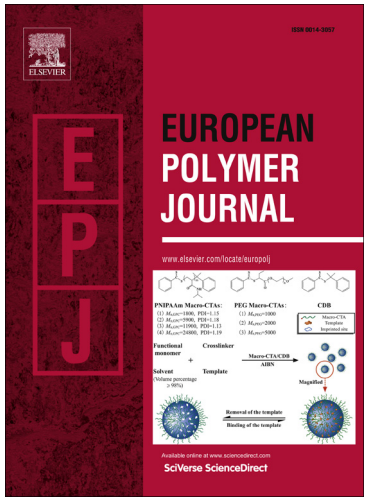

Review article

Recycling of bioplastics, their blends and biocomposites: A review

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Recycling of bioplastics, their blends and biocomposites: A review

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ABSTRACT

This review presents scientific findings concerning the recycling of bioplastics, their blends and thermoplastic biocomposites, with special focus on mechanical recycling of bio-based materials. The paper does not include bio-based commodity plastics such as bio-derived polyolefins that are identical to their petroleum-based counterparts and that can be recycled in the same way. During the past few years, recycling of biopolymers and their blends has been studied using both mechanical and chemical methods, whereas in biocomposites, the focus has been on mechanical recycling. This review goes through the findings on the recyclability of various materials, the strengths and weaknesses of applied methods, as well as the potential strategies and opportunities for future improvements. There are still many blends that have not been investigated for their recyclability. Information about commercially available blends containing bioplastics is summarized in the Appendix because of the importance of their possible effects on the conventional plastic recycling streams.

Keywords: Biocomposites, Bioplastics, Blends, Degradation, Processing, Recycling

Contents

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