



Special Issue Reprint

## Development and Application of Bio-Based Polymers

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Edited by Masoud Ghaani Stefano Farris

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This reprint highlights pioneering research on bio-based polymers, introducing novel strategies for creating eco-friendly materials derived from renewable sources. The articles cover the complete lifecycle of bio-based polymers, from their production and processing to their wide-ranging applications in sectors like packaging, agriculture, healthcare devices, and textiles. The collection highlights the advantages of biodegradable polymers, bio-based nanomaterials, and biocomposites as replacements for conventional plastics, contributing to a more sustainable future. It also addresses critical issues, such as scaling up manufacturing, enhancing material properties, and integrating bio-based alternatives into existing industrial frameworks. By bringing together research from multiple disciplines, this reprint offers readers a comprehensive understanding of the advancements in bio-based polymers and their role in reducing ecological footprints. Contributions from prominent researchers make this reprint an invaluable reference for those engaged in driving innovation in sustainable materials and tackling global environmental challenges.



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