1. Record Nr. UNINA9911019622103321 Autore Patel Alok Kumar Titolo Sustainable Production Innovations: Bioremediation and Other **Biotechnologies** Pubbl/distr/stampa Newark:,: John Wiley & Sons, Incorporated,, 2023 ©2023 **ISBN** 9781119792888 1119792886 9781119792871 1119792878 Descrizione fisica 1 online resource (455 pages) Altri autori (Persone) SharmaAmit Kumar Sustainability Soggetti Green technology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Cover -- Title Page -- Copyright Page -- Contents -- Chapter 1 Nota di contenuto Biolubricant -- 1.1 Introduction -- 1.2 Biolubricant Base Oil -- 1.2.1 Edible and Non-Edible Oils -- 1.2.2 Waste Cooking Oils -- 1.2.3 Microbial Oils -- 1.2.4 Lignocellulose Base Oil -- 1.3 Upgrading Process for Biolubricant Base Oil -- 1.3.1 Esterification/Transesterification -- 1.3.2 Epoxidation, Ring Opening, and Acetylation -- 1.3.3 Selective Hydrogenation -- 1.4 Biolubricant Additive -- 1.4.1 Types of Lubricant Additives -- 1.4.1.1 Viscosity Index Improver -- 1.4.1.2 Antioxidant Agent -- 1.4.1.3 Extreme Pressure Anti-Wear Agent -- 1.4.1.4 Pour Point Depressant -- 1.4.1.5 Others Lubricant Additives -- 1.4.2 Green Lubricating Additive --1.4.2.1 Vegetable Oil Based Lubricant Additives -- 1.4.2.2 Lignin Additives for Lubricant Formulation -- 1.4.2.3 Cellulose Additives for Lubricant Formulation -- 1.4.2.4 Amino Acids for Green Lubricating Additive -- 1.5 Perspective -- References -- Chapter 2 Microbial Degradation of Plastics -- 2.1 Introduction -- 2.2 Plastic Polymers and

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Sommario/riassunto

This book provides comprehensive insights into sustainable production innovations with a focus on biolubricants, microbial degradation of plastics, advances in the cosmetic industry, and large-scale applications of nanomaterials for water treatment. It delves into green technologies for pesticide-contaminated soil and water, the use of microalgae as sources of high-value compounds, and the medicinal applications of chitinases. The text discusses microbial applications in the food industry, the role of cellulases in biofuel conversion, and biofuel extraction methods. The book is intended for researchers, industry professionals, and students in environmental science, biotechnology, and sustainable development, aiming to address environmental challenges through innovative technological approaches.