1. Record Nr. UNINA9910717423203321

Titolo	Properties and Applications of Superabsorbent Polymers : Smart Applications with Smart Polymers / / edited by Sand Arpit, Tuteja Jaya
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	981-9911-02-8
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (XIII, 242 p. 52 illus., 31 illus. in color.)
Disciplina	605
Soggetti	Polymerization Biopolymers Biomaterials Polymers Colloids Self-assembly (Chemistry) Polymer Synthesis Gels and Hydrogels Self-assembly
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. Overview-what are Superabsorbent Polymers? -- Chapter 2. Methods for the preparation of SAPs -- Chapter 3. Factors affecting the preparation of SAPs -- Chapter 4. Superabsorbent Polymers composites for heat resistance and absorption capacity -- Chapter 5. Biotechnology and its application in various fields -- Chapter 6. SAPs application in agriculture biotechnology -- Chapter 7. Recent advancement in SAPs for drug delivery -- Chapter 8. SAPs for the development of Nanofiltration -- Chapter 9. Progressive approach of SAPs in disposable hygiene industry -- Chapter 10. Utility of SAPs in biomedical applications -- Chapter 11. Future challenges and opportunities in the field of SAPs for application in biotechnology.
Sommario/riassunto	This book discusses fundamental aspects of super absorbent polymers (SAPs), insight into the synthesis and modification of SAPs as well as their potential applications in different domains. SAPs are bio-based

material that has attracted much interest due to their unique structural properties, biodegradability, biocompatibility, etc. The book exhibits a unique combination of SAP designing, synthetic strategies, properties and chemistry along with SAP’s application in the field of drug delivery, firefighting and biosensors, agriculture, etc. Various approaches to make these products a cost-effective and sustainable are discussed precisely in this book. Additionally, the approaches from the perspective of academic organization and research laboratories, many readers are able to learn the insights of the connection between super absorbent polymers in the agriculture field by reducing seedling mortality owing to their water storage capacity in soil. This book written byeminent researchers can be a useful reference for graduate, post-graduate students and researchers working in the file of super absorbent polymers, polymer technology, hygiene industry, etc.