Record Nr. UNINA9910337927803321 Polymeric Materials for Clean Water / / edited by Rasel Das **Titolo** Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2019 **ISBN** 3-030-00743-X Edizione [1st ed. 2019.] 1 online resource (194 pages) Descrizione fisica Collana Springer Series on Polymer and Composite Materials, , 2364-1878 Disciplina 628.162 Soggetti **Polymers** Nanotechnology Water quality Water pollution Chemical engineering Polymer Sciences Water Quality/Water Pollution Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution Industrial Chemistry/Chemical Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- Mechanisms of Polymer Polymerization -- Polymers' Nota di contenuto Characterization and Properties -- Polymers for Coagulation and Flocculation in Water Treatment -- Polymers and Polymer-based Nanocomposite Adsorbents for Water Treatment -- Polymer based Catalysts for Water Purification: Fundamentals and Applications --Polymers as Water Disinfectants -- Polymers for Membrane Filtration in Water Purification. Sommario/riassunto This book gives an overview of recent developments in the synthesis of macromolecules for water purification applications. The preparation of these polymers from organic and inorganic starting materials is described. Important post-polymerization modifications, introduction of functional groups and production of supramolecular assemblies and nanomaterials are shown. The synthesized materials are presented with

their interesting properties and broad areas of applications. A

comprehensive discussion about the engineering aspect and the usage in water treatment as well as environmental issues is given. The wide variety of materials and their synthesis techniques will encourage scientists in developing new synthesis routes and materials, whereby engineers will be encouraged to find new possible applications.