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| Descrizione fisica | 1 online resource (594 p.) |
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| Disciplina | 628.028/4 |
| Soggetti | Sanitary engineering - Equipment and supplies Environmental protection - Equipment and supplies Water - Purification - Materials Nanostructured materials Nanofiltration |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and indexes. |
| Nota di contenuto | Appendix 1.B Ions (Oxides, Hydrides, Peroxides, and Hydroxides) Removed by Precipitation Due to the Alteration of Eh and pH in Groundwater by ZVM Appendix 1.C Half Reactions and Redox Potentials Associated with ZVM; References; Chapter 2 Nanostructured Metal Oxides for Wastewater Disinfection; 2.1 Introduction; 2.2 Photoactive Metal Oxides; 2.3 Kinetics and Reaction Mechanisms; 2.4 Visible Light Absorbing Semiconductors; 2.5 Slurries or Immobilized Photocatalyst; 2.6 TiO ₂ Particles and Nanotubes; 2.7 Photocatalysis on TiO ₂ Nanotubes; 2.8 Photoelectrocatalysis on TDN 2.9 Other Nanostructured Metal Oxides 2.10 Conclusions; References; Chapter 3 Cu ₂ O-Based Nanocomposites for Environmental Protection: Relationship between Structure and Photocatalytic Activity, Application, and Mechanism; 3.1 Introduction; 3.2 Structural Feature and Cu ₂ O Modification; 3.3 Cu ₂ O-Based Nanocomposites for Environmental Protection; 3.4 Conclusions and Outlook; Acknowledgments; References; Chapter 4 Multifunctional Nanocomposites for |

Environmental Remediation; 4.1 Introduction; 4.2 Multifunctional Nanocomposites Development: From Fabrication to Processing 4.3 Characterization and Property Analysis of Multifunctional Nanocomposites 4.4 Environmental Remediation through Multifunctional Nanocomposites; 4.5 Summary; References; Chapter 5 Nanomaterials for the Removal of Volatile Organic Compounds from Aqueous Solutions; 5.1 Introduction; 5.2 NMs for BTEX Removal; 5.3 Nanomaterials for Chlorobenzene Removal; 5.4 NMs for Chlorinated Alkenes Removal; 5.5 NMs for Phenol Removal; 5.6 The Impact of NMs on VOC Removal by Other Processes; 5.7 Challenges in the Use of NMs for VOC Remediation; References
Chapter 6 Hybrid Metal Nanoparticle-Containing Polymer Nanofibers for Environmental Applications 6.1 Introduction; 6.2 Challenges of Environmental Nanotechnology; 6.3 Electrospinning Technology; 6.4 Fabrication of Hybrid Metal NP-Containing Polymer Nanofibers; 6.5 Environmental Applications of Hybrid Metal NP-Containing Polymer Nanofibers; 6.6 Conclusions and Outlook; References; Chapter 7 Nanomaterials on the Basis of Chelating Agents, Metal Complexes, and Organometallics for Environmental Purposes; 7.1 Introduction; 7.2 Elemental Metals Functionalized with Chelating Ligands 7.3 N-Containing Ligands

Sommario/riassunto

"Provides an interdisciplinary approach to applying nanomaterials to disinfect water, air and soil while addressing possible environmental risks associated with nanoparticles. Remediation, toxicity, and nanoparticle structures are discussed"--