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| Altri autori (Persone)  | LensP. N. L  |
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| Nota di contenuto       | ""Cover""; ""Copyright""; ""Contents""; ""Preface""; ""List of Contributors""; ""Chapter 1: Nanotechnology for water and wastewater treatment: potentials and limitations""; ""1.1 Introduction to Nanoscience and Nanotechnology""; ""1.2 Nanotechnology for Water and Wastewater Treatment""; ""1.3 Overview of Existing Applications and Current Trends""; ""1.3.1 New materials for membrane filtration""; ""1.3.2 Nanomaterials for catalysis and photocatalysis""; ""1.3.3 Nanomaterials for water disinfection""; ""1.3.4 Nanomaterials for pollutant adsorption""; ""1.3.4.1 Carbon based nanomaterials"" ""1.3.4.2 Metal based nanomaterials"" ""1.3.5 Nanoscale zero-valent iron""; ""1.4 Practical Aspects""; ""1.4.1 Technical developments for direct applications of nanoparticles in water treatment""; ""1.4.2 Costs and performance""; ""1.4.3 Toxicity, fate and transport of nanomaterials""; ""1.5 Concluding Remarks""; ""References""; ""Chapter 2: Environmental and human health effects of nanomaterials used in water and waste water treatment""; ""2.1 Introduction""; ""2.2 Effects of Manufactured Nanomaterials on Human Health and the Environment""; ""2.2.1 Human health"" |

""2.2.1.1 Carbon based nanomaterials""""2.2.1.2 Metal based nanomaterials""; ""2.2.2 Ecotoxicological effects""; ""2.2.2.1 Aquatic ecotoxicology""; ""2.2.2.1.1 Carbon based nanomaterials""; ""2.2.2.1.2 Metal based nanomaterials""; ""2.2.2.2 Terrestrial ecotoxicology""; ""2.2.2.2.1 Soil microorganisms""; ""2.2.2.2.2 Soil invertebrates""; ""2.2.2.2.3 Plants""; ""2.3 Conclusion""; ""References""; ""Chapter 3: Life cycle assessment of nanomaterials: towards green nanotechnology""; ""3.1 Introduction""; ""3.2 Life Cycle Assessment (LCA)""; ""3.2.1 What is LCA?""; ""3.2.2 Benefit of LCA"" ""3.2.3 ISO14040 series""""3.2.4 General limitation of LCA""; ""3.3 LCA for Nanotechnology""; ""3.3.1 Nanotechnology and LCA""; ""3.3.2 Challenges, limitations and obstacles specific to nanotechnology (Kloepffer et al., 2007)""; ""3.4 Water Research & LCA of Nanomaterials""; ""3.5 Overview of Case Studies""; ""3.6 New Approaches to the LCA of Nanomaterials""; ""3.7 Suggested Improvement""; ""3.8 International Efforts""; ""3.9 Conclusions""; ""Glossary""; ""References""; ""Chapter 4: Physical and chemical analysis of nanoparticles""; ""4.1 Introduction"" ""4.2 Sample Preparation - Prefractionation""""4.2.1 Filtration""; ""4.2.2 Centrifugal-sedimentation techniques""; ""4.3 Methods for Determining Bulk Particle Concentration""; ""4.4 Physical Characterization""; ""4.4.1 Separation techniques""; ""4.4.1.1 Size exclusion chromatography""; ""4.4.1.2 Capillary electrophoresis""; ""4.4.1.3 Hydrodynamic chromatography""; ""4.4.1.4 Field flow fractionation""; ""4.4.2 Methods for assessing the shape, size distribution and surface structure of nanoparticles""; ""4.4.2.1 Scanning electron microscopy""; ""4.4.2.2 Transmission electron microscopy"" ""4.4.2.3 Atomic force microscopy""

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