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Collana	Molecular and integrative toxicology
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Soggetti	Environmental toxicology Ecotoxicology Nanostructures - toxicity Nanotoxicologia Llibres electrònics
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Contents -- Overview of Nanotoxicology in Humans and the Environment -- Developments, Challenges and Impacts -- Introduction -- Nanohazard to Human Health -- Introduction -- Human Exposure -- Inhalation -- Ingestion -- Dermal Penetration -- Ocular Exposure -- Translocation from Portal of Entry -- Biological Impact -- The Oxidative Stress Paradigm and Its Role in Genotoxicity -- Pro-inflammatory Response -- Summary -- Impacts of NMs on Environmental Health -- Exposure to NMs via Discharges and Transformation Processes -- Sources of NM Discharges -- Environmental Transformations of NMs -- Hazard of NMs to Organisms -- Environmental risks of NMs and Mitigation Strategies -- Conclusions -- Chapter Summary -- References -- The Potential Adverse Effects of Engineered Nanomaterial Exposure to Human Health Following Pulmonary, Oral and Dermal Exposure -- Introduction -- Respiratory Response to Pulmonary Exposure -- Cardiovascular Effects of Pulmonary Exposure -- Oral Exposure -- Dermal Exposure -- Conclusions -- References -- Nanotoxicology in the Environment -- Introduction -- Characteristics of NMs Modulating their Toxicity -- Size

-- Surface Charge -- Shape -- Crystal Structure -- Dissolution -- Environmental Factors Affecting the Toxicity of Nanomaterials -- Ionic Strength and pH -- Ultraviolet Light -- Natural Organic Matter -- Review of Recent Research on Ecotoxicity of Nanomaterials -- Summary and Conclusions -- References -- Nano-enabled Consumer Products: Inventories, Release, and Exposures -- Nano-enabled Consumer Products: Challenges, Inventories, and the Potential for Nanomaterial Release -- The CPI and the Nanodatabase -- The Consumer Products Inventory (CPI) -- The Missing Data Conundrum -- Silver ENMs Dominate the CPI -- Major Product Categories -- Exposures -- Similar Findings Across Inventories.

The Nanodatabase and Use of Nanomaterials in Consumer Products in the EU -- Development of Nanoproduct Commercialization -- Distribution of Nanoproducts in Product Categories and Subcategories -- Nanomaterials Reported to Be Used -- Biocidal Products and Treated Articles -- The Release of Nanomaterials from Consumer Products -- Nanomaterial Analysis in Consumer Products -- Analytical Methods and Sample Preparation -- Human Exposure to Nano-enabled Consumer Products -- Environmental Release -- Solid Waste Flows from Nano-enabled Consumer Products -- Conclusion and Outlook: Toxicological Implications of Exposure to Nano-enabled Consumer Products -- References -- Factors Affecting Nanoparticle Dose-Exposure and Cell Response -- Introduction -- Physicochemical Properties of Nanoparticle Dispersions and Suspensions -- Administered, Delivered and Cellular Dose -- Outlook -- References -- Mapping Exposure onto Nanoscale Toxicity Measures -- Introduction -- Assessment Methodologies -- Prioritizing and Screening Potentially Toxic Agents -- Emerging Focus on Near-Field Exposure Assessments -- Exposure Probability Assessments -- Mapping Exposure Metrics onto Toxicity Values -- Routes and Pathways of Exposure -- The Inhalation Route -- Respiratory Fluid Dynamics -- Toxicokinetics -- Exposure Models -- Exposure Estimation -- Conclusions -- References -- Nanotoxicology and Risk Perception among Public and Elite Groups -- Introduction -- Approach and Methods -- Methods -- Main Findings -- The "Problem" of Public Acceptability -- Benefit Matters -- Application Matters -- Risk Signal Matters -- Equity and Politics Matter -- Counter-Intuitive Toxicology -- Nano Poses a Major Regulatory Challenge -- Regulatory Anxiety -- Expert Diversity -- Industry at Sea -- Expert Engagement -- Governance and Public Participation: The Art and Science of Public Engagement.

The Public Is Readily Engaged -- Engaging Organized Groups of the Public -- Public Participation -- Summary -- References -- EU Regulations and Nanotechnology Innovation -- EU Regulations: An Introduction -- Introduction to the EU REACH Legislation -- EU Regulatory History for Nanomaterials -- A Recommended EU Definition of Nanomaterial -- The REACH Regulation and Nanomaterials -- Amendment of REACH Annexes to Include Nanomaterials and Nanoforms -- Vertical Regulations Within the European Union -- Nanomaterials Within Cosmetics -- Nanomaterials Within Food Production -- Food Information and Labelling -- Novel Foods -- Food Additives -- Food Contact Materials -- Active and Intelligent Food Contact Materials -- Nanomaterials and Biocides -- Organic Production and Labelling of Organic Products -- Nanomaterials Within Medicinal Products (Pharmaceuticals) -- Nanomaterials and Medical Devices -- Nanomaterials and Electrical Equipment -- Country Specific Registers for Nanomaterials -- Innovation to Bring Safe Nanomaterials to the Market: Responsible Research and Innovation (RRI) and Safe(r) by Design (SbD) -- References -- Index.
