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Nota di contenuto	Front Cover; Contents; Perspectives; A Guide to the Reader; Acknowledgments; Contributors; Chapter 1: As-Produced : Intrinsic Physico-Chemical Properties and Appropriate Characterization Tools; Chapter 2: Characterization Methods for the Determination of Inhalation Exposure to Airborne Nanomaterials; Chapter 3: Classification Strategies for Regulatory Nanodefinitions; Chapter 4: Analyzing the Biological Entity of Nanomaterials : Characterization of Nanomaterial Properties in Biological Matrices; Chapter 5: Lessons Learned from Unintentional Aerosols Chapter 6: Lessons Learned from Pharmaceutical Nanomaterials Chapter 7: Measurement of Nanoparticle Uptake by Alveolar Macrophages : A New Approach Based on Quantitative Image Analysis; Chapter 8: Toxicological Effects of Metal Oxide Nanomaterials; Chapter 9: Toxicological Effects of Metal Nanomaterials; Chapter 10: Uptake and Effects of Carbon Nanotubes; Chapter 11: Measurement and Monitoring Strategy for Assessing Workplace Exposure to Airborne Nanomaterials; Chapter 12: Release from Composites by Mechanical and Thermal

Treatment : Test Methods

Chapter 13: Field and Laboratory Measurements Related to Occupational and Consumer Exposures
Chapter 14: Mechanisms of Aging and Release from Weathered Nanocomposites;
Chapter 15: Emissions from Consumer Products Containing Engineered Nanomaterials over Their Lifecycle;
Chapter 16: Concern-Driven Safety Assessment of Nanomaterials : An Integrated Approach Using Material Properties, Hazard, Biokinetic, and Exposure Data and Considerations on Grouping and Read-Across;
Chapter 17: Case Study : Paints and Lacquers with Silica Nanoparticles
Chapter 18: Case Study : The Lifecycle of Conductive Plastics Based on Carbon Nanotubes
Chapter 19: Case Study : Challenges in Human Health Hazard and Risk Assessment of Nanoscale Silver; Back Cover

Sommario/riassunto

Billions of dollars in public funding have been spent on novel nanomaterials, and the resulting products are entering the consumer world now: new paints and coatings; electric cars powered by nanomaterials in the battery, chassis, and tires; new renewable energy sources, to name a few. But contrary to other disrupting technologies such as nuclear energy or genetics, the scientific community has started to investigate the risks associated with novel nanomaterials early in the development phase. Although there are still gaps in our knowledge of the risks presented by nanomaterials, we now know enough to describe scenarios that are too high-risk to implement as well as scenarios for the safe use of nanomaterials. The goal of this book is to help the reader in making such safely decisions--
