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Nota di contenuto	Introduction to micro and nanocontainers -- Polymer based microcapsules for encapsulation -- An overview on different encapsulation technologies -- Electrospinning techniques for encapsulation -- Aerogels encapsulation -- Hybrid dual containers and core-shell containers for encapsulation -- Fibers as containers for encapsulation -- Bio-based/ biodegradable containers for encapsulation -- Block copolymer micelles and vesicles for drug and protein encapsulation -- Containers for food packaging applications -- Containers for drug delivery -- Containers for encapsulation of fragrances/aroma/odour for textile applications -- Containers based on polymers in biomedical devices/ medical applications -- Containers for self-healing/ self-repairing polymers -- Containers with anti-corrosion agents for metal protection paints -- Containers with

lubricating agents for friction and wear -- Containers for active component encapsulation -- Carbon dioxide encapsulation and storage- environmental impact -- Hydrogen encapsulation and storage as an alternative energy source -- Containers for thermal energy storage -- Containers for electronic applications -- Containers based drug delivery for Neuroscience -- Modeling and simulation of drug delivery using polymer nanoparticles -- Molecular dynamic studies on drug molecules encapsulated in carbon nanotubes -- Future prospects in encapsulation.

Sommario/riassunto

This book comprehensively summarizes the recent achievements and trends in encapsulation of micro- and nanocontainers for applications in smart materials. It covers the fundamentals of processing and techniques for encapsulation with emphasis on preparation, properties, application, and future prospects of encapsulation process for smart applications in pharmaceuticals, textiles, biomedical, food packaging, composites, friction/wear, phase change materials, and coatings. Academics, researchers, scientists, engineers, and students in the field of smart materials will benefit from this book.