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Nota di contenuto	1 Fundamentals of Amorphous Systems: Thermodynamic Aspects -- 2 Theoretical Considerations in Developing Amorphous Solid Dispersions -- 3 Overview of Amorphous Solid Dispersion Technologies -- 4 Excipients for Amorphous Solid Dispersions -- 5 Miniaturized Screening Tools for Polymer and Process Evaluation -- 6 HME for Solid Dispersions: Composition and Design Considerations -- 7 HME for Solid Dispersions: Scale up and Late Stage Development -- 8 Spray Drying: Scale UP and Manufacturing -- 9 Design and Development of HPMCAS based spray dried dispersions -- 10 MBP Technology: Composition and Design Considerations -- 11 MBP Technology: Process Development and Scale up -- 12 Pharmaceutical Development of MBP Solid Dispersions: Case Studies -- 13 Downstream Processing Considerations -- 14 Structural Characterization of Amorphous Solid Dispersions -- 15 Dissolution of Amorphous Solid Dispersions: Theory and Practice -- 16 Stability of Amorphous Solid Dispersion -- 17 Regulatory Considerations in Development of Amorphous Solid Dispersions -- 18 KinetiSol® based Amorphous Solid Dispersions -- 19 Amorphous Solid Dispersion Using Supercritical Fluid Technology -- 20 Supersolubilization by Using Non-Salt Forming Acid-Base Interaction -- 21 Stabilized Amorphous Solid Dispersions with Small Molecule Excipients -- 22 Mesoporous ASD – Fundamentals -- 23 Mesoporous

Silica Drug Delivery Systems.

Sommario/riassunto

This volume offers a comprehensive guide on the theory and practice of amorphous solid dispersions (ASD) for handling challenges associated with poorly soluble drugs. In twenty-three inclusive chapters, the book examines thermodynamics and kinetics of the amorphous state and amorphous solid dispersions, ASD technologies, excipients for stabilizing amorphous solid dispersions such as polymers, and ASD manufacturing technologies, including spray drying, hot melt extrusion, fluid bed layering and solvent-controlled micro-precipitation technology (MBP). Each technology is illustrated by specific case studies. In addition, dedicated sections cover analytical tools and technologies for characterization of amorphous solid dispersions, the prediction of long-term stability, and the development of suitable dissolution methods and regulatory aspects. The book also highlights future technologies on the horizon, such as supercritical fluid processing, mesoporous silica, KinetiSol®, and the use of non-salt-forming organic acids and amino acids for the stabilization of amorphous systems. Amorphous Solid Dispersions: Theory and Practice is a valuable reference to pharmaceutical scientists interested in developing bioavailable and therapeutically effective formulations of poorly soluble molecules in order to advance these technologies and develop better medicines for the future. .