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	Nota di contenuto	Crystallization of Organic Compounds; Contents; Preface; 1. Introduction to Crystallization Issues; 1.1 Crystal Properties and Polymorphism (Chapters 2 and 3); 1.2 Nucleation and Growth Kinetics (Chapter 4); 1.3 Critical Issues (Chapter 5); 1.4 Mixing and

Crystallization (Chapter 6); 1.5 Crystallization Process Options (Chapters 7-10); 1.6 Special Applications (Chapter 11); 1.7 Regulatory Issues; 2. Properties; 2.1 Solubility; 2.2 Supersaturation, Metastable Zone, and Induction Time; 2.3 Oil, Amorphous, and Crystalline States; 2.4 Polymorphism; 2.5 Solvate; 2.6 Solid Compound, Solid Solution, and Solid Mixture; 2.7 Inclusion and Occlusion; 2.8 Adsorption, Hygroscopicity, and Deliquescence; 2.9 Crystal Morphology; 2.10 Particle Size Distribution and Surface Area; 3. Polymorphism; 3.1 Phase Rule; 3.2 Phase Transition; 3.3 Examples; Example 3-1 Indomethacin; Example 3-2 Sulindac; Example 3-3 Losartan; Example 3-4 Finasteride; Example 3-5 Ibuprofen Lysinate; Example 3-6 HCl Salt of a Drug Candidate; Example 3-7 Second HCl Salt of a Drug Candidate; Example 3-8 Prednisolone t-Butylacetate; Example 3-9 Phthalylsulfathiazole; 3.4 Future Direction

4. Kinetics; 4.1 Supersaturation and Rate Processes; 4.2 Nucleation; 4.3 Crystal Growth; 4.4 Nucleate/Seed Aging and Ostwald Ripening; 4.5 Delivered Product: Size Distribution and Morphology; 5. Critical Issues in Crystallization Practice; 5.1 Introduction; 5.2 Nucleation; 5.3 Growth; 5.4 Oiling Out, Agglomeration/Aggregation; 5.5 Seeding; 5.6 Rate of Generation of Supersaturation; 5.7 Summary of Critical Issues; 6. Mixing and Crystallization; 6.1 Introduction; 6.2 Mixing Considerations; 6.3 Mixing Effects on Nucleation; 6.4 Mixing Effects on Crystal Growth; 6.5 Mixing Scale-up; 6.6 Crystallization Equipment; Example 6-1; 7. Cooling Crystallization; 7.1 Batch Operation; 7.2 Continuous Operations; 7.3 Process Design-Examples; Example 7-1 Intermediate in a Multistep Synthesis; Example 7-2 Pure Crystallization of an API; Example 7-3 Crystallization Using the Heel from the Previous Batch as Seed; Example 7-4 Resolution of Ibuprofen Via Stereospecific Crystallization; Example 7-5 Crystallization of Pure Bulk with Polymorphism; Example 7-6 Continuous Separation of Stereoisomers; 8. Evaporative Crystallization; 8.1 Introduction; 8.2 Solubility Diagrams; 8.3 Factors Affecting Nucleation and Growth; 8.4 Scale-up; 8.5 Equipment; Example 8-1 Crystallization of a Pharmaceutical Intermediate Salt; Example 8-2 Crystallization of the Sodium Salt of a Drug Candidate; 9. Antisolvent Crystallization; 9.1 Semibatch Operation; Example 9-1 Crystallization of an Intermediate; Example 9-2 Rejection of Isomeric Impurities of Final Bulk Active Product; Example 9-3 Crystallization of a Pharmaceutical Product with Poor Nucleation and Growth Characteristics; Example 9-4 Impact of Solvent and Supersaturation on Particle Size and Crystal Form; 9.2 In-Line Mixing Crystallization

Sommario/riassunto

Filled with industrial examples emphasizing the practical applications of crystallization methodologies Based on the authors' hands-on experiences as process engineers at Merck, Crystallization of Organic Compounds guides readers through the practical aspects of crystallization. It uses plenty of case studies and examples of crystallization processes, ranging from development through manufacturing scale-up. The book not only emphasizes strategies that have been proven successful, it also helps readers avoid common pitfalls that can render standard procedures unsuccessful. The goal o