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| Nota di bibliografia | Includes bibliographical references at the end of each chapters and index. |
| Nota di contenuto | Plastic Packaging; Contents; Preface; List of Contributors; 1 Preservation of Quality Through Packaging; 1.1 Quality and Shelf-Life; 1.2 Physical and Chemical Interactions Between Plastics and Food or Pharmaceuticals; 1.3 The Organization of this Book; Further Reading; 2 Characteristics of Plastic Materials; 2.1 Classification, Manufacture, and Processing Aids; 2.1.1 Classification and Manufacture of Plastics; 2.1.1.1 Raw Materials and Polymerization Processes; 2.1.1.2 Addition Polymerization; 2.1.1.3 Condensation Polymerization; 2.1.1.4 Synthesis of Copolymers, Block, and Graft Copolymers 2.1.1.5 Polymer Reactions 2.1.1.6 Plastic Processing; 2.1.2 Processing Aids; 2.1.2.1 Initiators and Crosslinkers; 2.1.2.2 Catalysts; 2.2 Structure and States of Aggregation in Polymers; 2.2.1 Structure; 2.2.2 States of Aggregation; 2.3 The Most Important Plastics; 2.3.1 Thermoplastics; 2.3.1.1 Polyethylene; 2.3.1.2 Polypropylene; 2.3.1.3 Polybutene-1; 2.3.1.4 Polyisobutylene; 2.3.1.5 Poly-4-methylpentene-1 (P4MP1); 2.3.1.6 Ionomers; 2.3.1.7 Cyclic Olefin Copolymers (COC); |

2.3.1.8 Polystyrene; 2.3.1.9 Polyvinyl Chloride; 2.3.1.10 Polyvinylidene Chloride; 2.3.1.11 Thermoplastic Polyesters
2.3.1.12 Polycarbonate; 2.3.1.13 Polyamide; 2.3.1.14 Polymethylmethacrylate; 2.3.1.15 Polyoxymethylene or Acetal Resin;
2.3.1.16 Polyphenylene Ether (PPE); 2.3.1.17 Polysulfone; 2.3.1.18 Fluoride Containing Polymers; 2.3.1.19 Polyvinylether; 2.3.2 Thermosets; 2.3.2.1 Amino Resins (UF, MF); 2.3.2.2 Unsaturated Polyester (UP); 2.3.3 Polyurethanes; 2.3.4 Natural and Synthetic Rubber; 2.3.5 Silicones; 2.3.6 Plastics Based on Natural Polymers Regenerated Cellulose; 2.3.6.1 Biodegradable Polymers; 2.3.7 Coatings and Adhesives; 2.3.7.1 Lacquers; 2.3.7.2 Plastic Dispersions
2.3.7.3 Microcrystalline Waxes; 2.3.7.4 Temperature-Resistant Coatings; 2.3.7.5 Printing Inks and Varnishes; References; 3 Polymer Additives; 3.1 Introduction; 3.2 Antifogging Agents; 3.3 Antistatic Agents; 3.4 Blowing Agents; 3.5 Colorants; 3.6 Fillers and Reinforcing Agents; 3.7 Lubricants; 3.8 Nucleating Agents; 3.9 Optical Brighteners; 3.10 Plasticizers; 3.11 Stabilizers; 3.11.1 Antiacids; 3.11.2 Antimicrobials; 3.11.3 Antioxidants; 3.11.3.1 Chain-Breaking Antioxidants; 3.11.3.2 Hydroperoxide Deactivating Antioxidants; 3.11.4 Dehydrating Agent; 3.11.5 Heat Stabilizers
3.11.6 Light Stabilizers; 3.11.6.1 Light Screening Pigments and UV Absorbers; 3.11.6.2 Photoantioxidants; 3.12 Transformation Products of Plastic Stabilizers; 3.12.1 Transformation Products from Phenolic Antioxidants and UV Absorbers; 3.12.2 Transformation Products from Hydroperoxide Deactivating Antioxidants; 3.12.3 Transformation Products from Hindered Amine Stabilizers; 3.12.4 Transformation Products from Heat Stabilizers for PVC; 3.13 Conclusions; References; 4 Partition Coefficients; 4.1 Experimental Determination of Polymer/Liquid Partition Coefficients
4.2 Thermodynamics of Partition Coefficients

Sommario/riassunto

Plastics are the most important class of packaging materials. This successful handbook, now in its second edition, covers all important aspects of plastic packaging and the interdisciplinary knowledge needed by food chemists, pharmaceutical chemists, food technologists, materials scientists, process engineers, and product developers alike. This is an indispensable resource in the search for the optimal plastic packaging. Materials characteristics, additives and their effects, mass transport phenomena, quality assurance, and recent regulatory requirements from FDA and European Commissio
