Título: Fundamentals Of Polymer Science. An Introductory Text

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Now in its second edition, this widely used text provides a unique presentation of today's polymer science. It is both comprehensive and readable. The authors are leading educators in this field with extensive background in industrial and academic polymer research.The text starts with a description of the types of microstructures found in polymer materials. This forms the basis of understanding some of the key features of the various mechanisms of homopolymerization and copolymerization that are discussed in following chapters. Also discussed in these chapters are the kinetics and statistics of polymerization with a separate chapter on the characterization of chain structure by spectroscopic methods.The next part of the text deals with chain conformation, structure and morphology, leading to a discussion of crystallization, melting and glass transition. The discussion then moves from solid state to solution properties where solution thermodynamics is introduced. This provides the basis for discussion of the measurement of molecular weight by various solution methods.The final chapter deals with mechanical and rheological properties, which are discussed from a phenomenological continuum approach and then in terms of a fundamental molecular perspective.Altogether, the text provides a comprehensive, lucid introduction to today's polymer science as a foundation to the R&D of polymeric materials. More than 200 schematics and other figures illustrate key concepts and important aspects of polymeric materials. The text will be useful as an update for polymer and other materials scientists in industry, and as an introduction to engineers working with polymeric materials who would benefit from a better understanding of polymer science basics.