Atoms and molecules in all states of matter are subject to continuous irregular movement. This process, referred to as diffusion, is among the most general and basic phenomena in nature and determines the performance of many technological processes. This book provides an introduction to the fascinating world of diffusion in microporous solids. Jointly written by three well-known researchers in this field, it presents a coherent treatise, rather than a compilation of separate review articles, covering the theoretical fundamentals, molecular modeling, experimental observation and technical applications.

Based on the book Diffusion in Zeolites and other Microporous Solids, originally published in 1992, it illustrates the remarkable speed with which this field has developed since that time.

Specific topics include: new families of nanoporous materials, micro-imaging and single-particle tracking, direct monitoring of transient profiles by interference microscopy, single-file diffusion and new approaches to molecular modeling.

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