Interest in nanoporous crystals as host-guest systems has risen dramatically over the past few years, such that this fascinating class of substances now plays an important role not only in material sciences, but also in numerous other disciplines, such as organic or supramolecular chemistry. With their unique characteristics, nanoporous crystals offer a wide range of possible applications: They are used as molecular sieves or membranes as well as catalytic converters. This work presents the very first overview of this exciting field.

Readers will find everything they need to know about these unusual materials, with all their many attributes:

- Synthesis of host-guest systems
- Description of the structural and dynamic aspects
- Electronic and optical characteristics of the materials
- Possible applications.

An indispensable reference for materials scientists as well as for catalytic and inorganic chemists, and all those working in the field.

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Ferdi Schüth studied chemistry and law in Münster, Germany. After he received his PhD Schüth went to Minneapolis, USA for a Post-Doc and then to Mainz university as habilitand. In 1995 he became professor in Frankfurt, Germany. Since 1998 Schüth is Director at the Max-Planck-Institute für Kohlenforschung. His research interests are in the area of materials science and catalysis, especially in the synthesis of catalyst materials. Even though Schüth is a relatively young scientist he is already well decorated with awards, e.g. the Leibniz-Award of the German Science Foundation (DFG). He was recently appointed vice president of the DFG.

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Michael Wark is the editor of Host-Guest-Systems Based on Nanoporous Crystals, published by Wiley.

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