Recoverable and Recyclable Catalysts

Maurizio Benaglia (Editor)

**DESCRIPTION**

Recoverable and Recyclable Catalysts

There is continued pressure on chemical and pharmaceutical industries to reduce chemical waste and improve the selectivity and efficiency of synthetic processes. The need to implement green chemistry principles is a driving force towards the development of recoverable and recyclable catalysts.

The design and synthesis of recoverable catalysts is a highly challenging interdisciplinary field combining chemistry, materials science engineering with economic and environmental objectives. Drawing on international research and highlighting recent developments, this book serves as a practical guide for both experts and newcomers to the field.

Topics covered include:

- An introduction to the principles of catalyst recovery and recycling
- Catalysts on insoluble and soluble support materials
- Thermomorphic catalysts, self-supported catalysts and perfluorous catalytic systems
- The development of reusable organic catalysts
- Continuous flow and membrane reactors
Each chapter combines principles with practical information on the synthesis of catalysts and strategies for catalyst recovery. The book concludes with a comparison of different catalytic systems, using case studies to illustrate the key features of each approach.

*Recoverable and Recyclable Catalysts* is a valuable reference source for academic researchers and professionals from a range of pharmaceutical and chemical industries, particularly those working in catalysis, organic synthesis and sustainable chemistry.

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**ABOUT THE AUTHOR**

**Maurizio Benaglia** is Associate Professor at the Department of Organic and Industrial Chemistry, University of Milan, Italy. He is author of over ninety publications in international scientific journals, including five review articles. His current research focuses on stereoselective reactions, synthesis of chiral supramolecular systems, synthesis of supported organometallic and metal-free catalysts, and design and synthesis of new chiral catalysts, and environmentally pure catalysts.

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