

NEW FROM WILEY
**Fundamentals of Industrial Catalytic Processes,
2nd Edition**

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THE DEFINITIVE ACCOUNT OF INDUSTRIAL CATALYTIC PROCESSES

Fundamentals of Industrial Catalytic Processes, Second Edition is a comprehensive, combination handbook and textbook that presents the definitive account of important catalyst, reactor, and process technologies for catalytic processes practiced in a wide range of industries, including chemical, petroleum, electric utility, food, transportation, and emission-control industries. Integrating science fundamentals necessary to the design and practice of these processes, the book addresses important basic principles of heterogeneous, homogenous, enzymatic and polymer catalysis.

This book consists of two sections treating fundamentals and practice. The first section addresses basic principles underlying the science of catalytic reactions; catalyst materials, properties, preparation and, characterization; reaction engineering; and catalyst deactivation. The second section provides substantial data on process chemistries, reaction kinetics & mechanisms, catalyst chemistry/design, reactor/process design, and catalyst deactivation for important catalytic processes practiced commercially.

Other features include:

- Over 150 tables and 350 figures (including a color inset) providing detailed activity/rate data; descriptions of catalysts, materials, reactors, and experimental/instrumental methods; reaction networks and mechanistic sequences; comparisons of catalyst and process technologies; summaries of catalyst and chemical production; reactor schematics and process flow diagrams, and photos of process catalysts, equipment, and plants
- Stoichiometric equations, enthalpies, rate & equilibrium constants, and operating conditions for important catalytic reactions. Important equations for catalyst and reactor design.
- End-of-chapter exercises including thought-provoking questions and practical design problems; example calculations in most chapters
- Case studies with detailed descriptions of reaction chemistry and of catalyst, reactor and process technologies for more than 30 of the most important commercial processes.
- Descriptions of the chemistry, composition, and structure of commercial catalysts and enzymes; lists of catalyst suppliers, and a chapter on catalysts used in fuel cells
- Authors' perspectives and projections (based on 65+ years of combined experience) regarding anticipated future developments of catalyst, reactor, and process technologies.
- A glossary of terms and a table of nomenclature to facilitate reader comprehension.

Containing accessible, every-day-useful information on the fundamentals and practice of catalysis, *Fundamentals of Industrial Catalytic Processes, Second Edition* is an essential resource for students, faculty, researchers, scientists, engineers, and managers working with catalysts or catalytic processes.

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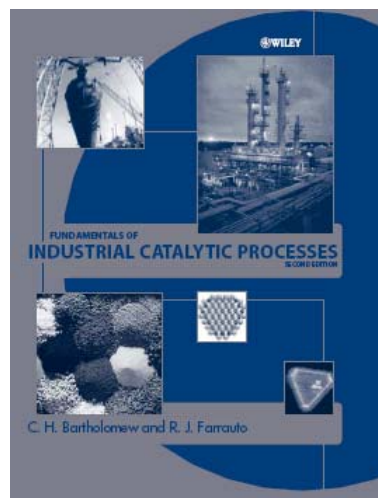
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