

# BOOKS

**An Investigation on Promoted Iron Catalysts for the Synthesis of Ammonia**, Third Edition, Anders Nielsen, Jul. Gjellerups Forlag (1968). 264 pages.

The primary aim of this new edition is to provide practicing chemists and chemical engineers with a rather extensive and up to date array of general information about ammonia synthesis, mostly with the triply promoted iron catalysts.

This edition includes the following topics: the physical, chemical, and thermodynamic data of reactants, the experimental aspects of ammonia synthesis, kinetics and rate equations and their applications to reactor design, the physical and chemical properties of industrially usable ammonia catalysts, the examination of ammonia catalysts by x-ray.

A new subject is covered in detail: the examination of ammonia catalysts by optical and electron microscope. This section of the book is comprehensive and is quite valuable to the scientists who are concerned with the microscopic structure of ammonia catalysts. In addition, there are two chapters which are totally revised. Chapter V discusses mass and heat transfer phenomena associated with ammonia reactors and, Chapter IX treats the pore and surface structure of ammonia catalysts and their related topics such as physical adsorption and chemisorption. These subjects are essential fundamentals for adequate design and operation of ammonia reactors.

An excellent bibliography presented is a very valuable feature and, together with the important chapters discussed, makes this volume a valuable source of information about ammonia synthesis in general and the synthesis with promoted iron catalysis in particular.

The new edition is a welcome issue containing substantial improvements in coverage and is strongly recommended to those who are concerned with the commercial and bench scale production of ammonia.

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