DESCRIPTION

Despite the fact that more than 90% of production processes in industry are catalyzed, most chemists and engineers are restricted to trial and error when searching for the proper catalyst. This book is the first emphasizing industrial aspects of catalysis and also particularly well suited to studying on one's own. It is dedicated to both, homogeneous and heterogeneous catalysis and in this second, edition biocatalysis, electrocatalysis, photocatalysis and asymmetric catalysis are also included; topics like zeolites, metals and olefin catalysis are now discussed in more detail. The book aids practically oriented readers in becoming familiar with the processes of catalyst development and testing and therefore deals with aspects of test planning, optimization and reactor modeling and simulation with the easy-to-learn PC program POLYMATH. Well over 100 exercises help to test and consolidate the gained knowledge.

ABOUT THE AUTHOR

Jens Hagen completed his first degree in chemical engineering in Essen, before studying chemistry at the RWTH Aachen. He gained his doctorate in 1975 in the field of catalysis and high-pressure synthesis. Following a period in industry at Henkel KGaA, Düsseldorf, he was appointed Professor of Technical Chemistry at Mannheim University of Applied Sciences in 1979. In addition, he has been head of the Steinbeis Transfer Center for Process Engineering, Biotechnology and Environmental Techniques since
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