Preface

Biotechnology can be regarded as one of the key technologies of the 21st century. It is the commercial application of living organisms such as bacteria, fungi, yeasts, plant cells, viruses, and mammalian cells or their products, which involves the deliberate manipulation of their DNA molecules.

Biochemical engineering uses the methods of biotechnology for the industrial production and processing of chemical substances, materials, food and feed, pharmaceuticals, cosmetics, etc., and covers the design of vessels and apparatus suitable for performing biochemical reactions.

Based on the latest online edition of Ullmann's Encyclopedia of Industrial Chemistry, and containing articles yet unpublished in print (e. g. a cutting-edge survey of biorefinery systems), this 2-volume set meets the need for a comprehensive survey of the biochemical fundamentals and techniques as well as their applications in biochemical engineering and biobased production.

Each of the detailed and carefully edited articles is written by renowned international experts from industry and academia. Readers benefit from the rigorous and cross-indexed nature of the parent reference, and will find both broad introductory information as well as in-depth details of significance to industrial and academic environments.

We are convinced that everybody involved in biotechnology and biochemical engineering will appreciate this handbook at his fingertips.

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