Books

Guidelines for Managing Process Safety Risks During Organizational Change

Center for Chemical Process Safety, John Wiley & Sons, Hoboken, NJ, $100, 264 pages, Apr. 2013, ISBN: 978-1-118379-09-7

When not properly evaluated and controlled, changes in a facility's physical equipment can lead to incidents with severe consequences. To mitigate such problems, many organizations have developed management-of-change (MOC) systems. However, due to their traditional focus on managing physical changes, most MOC systems overlook or only superficially address other types of organizational change — such as changes in job responsibility, loss of key personnel, or even changes in shift hours — that can impact the organization and affect process safety. Thus, an understanding of organizational change management (OCM) — an often overlooked component of an organization's MOC policy — is essential for successful corporate decision-making and effective protection of personnel, property, and the surrounding community.

These guidelines, prepared by the Center for Chemical Process Safety (CCPS) Technical Steering Committee, provide approaches for designing, developing, implementing, and continually improving an OCM program, and can help companies to bring their OCM systems to the same degree of maturity as other process safety management systems. Topics include corporate standards for organizational change management, modification of working conditions, personnel turnover, task allocation changes, organizational hierarchy changes, and organizational policy changes.

Separation and Purification Technologies in Biorefineries

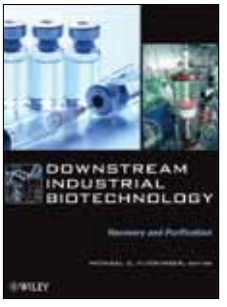
Shri Ramaswamy, Hua-Jiang Huang, Bandaru V. Ramarao, Eds., John Wiley & Sons, West Sussex, U.K., $200, 608 pages, Apr. 2013, ISBN: 978-0-470977-96-5

Biorefineries will be an integral part of the future sustainable bioeconomy. In addition to sustainable biomass resources and conversion technologies, separation and purification will play an important role in the successful development and commercial implementation of biorefineries. With separation and purification processes accounting for up to half of the total capital and operating costs of biorefineries, improvements to these technologies can significantly reduce production costs and improve economic viability and environmental sustainability.

This comprehensive book details the present state and future challenges and opportunities for separation and purification methods and technologies in biorefineries. Fundamental principles and design standards for key processes are examined, with emphasis on equilibrium separations, affinity-based separations, membrane-based separations, solid-liquid separations, and hybrid/integrated reaction-separation systems. Each chapter considers the market needs, industrial challenges, and economic importance of the methods discussed. Case studies devoted to cellulosic bioethanol production, extraction of algae oil from microalgae, and the production of biopolymers illustrate the concepts.

This book should be a valuable resource for scientists, engineers, and researchers working in both conventional and emerging bio-based products industries, including biomaterials, biochemicals, biofuels, and bioenergy.

Downstream Industrial Biotechnology: Recovery and Purification



Michael C. Flickinger, Ed., John Wiley & Sons, Hoboken, NJ, $250, 872 pages, Mar. 2013, ISBN: 978-1-118131-24-4

Industrial-scale biotechnology and new manufacturing methods are revolutionizing medicine, environmental monitoring and remediation, consumer products, food production, agriculture, forestry, and more. Because downstream process design has the greatest impact on overall biomanufacturing cost, engineers are continually seeking to optimize unit operations in order to minimize the number of process steps involved and maximize product recovery at a specified concentration and purity.

This volume, based on Wiley's *Encyclopedia of Industrial Biotechnology: Bioprocess, Bioseparation, and Cell Technology*, compiles information on downstream recovery of cells and protein capture, process development and facility design, equipment, process analytical technologies (PAT) in downstream processes, downstream current good manufacturing practice (cGMP) operations, and regulatory compliance, among many topics.

The reference should be valuable to industry professionals as well as to advanced students of biomanufacturing, biochemical engineering, biopharmaceutical facility design, biochemistry, industrial microbiology, gene expression technology, and cell culture technology.