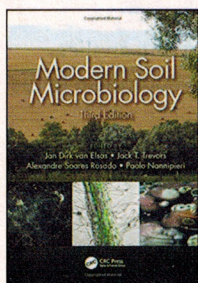


Chemical Engineering in the Pharmaceutical Industry: Active Pharmaceutical Ingredients, 2nd Edition
David J. am Ende and Mary T. am Ende (Eds.), Wiley-AIChE, Hoboken, NJ, \$350, 1,168 pages, Apr. 2019, ISBN: 978-1-119-28586-1

This book focuses on the chemistry, chemical engineering, and unit operations specific to the development and manufacturing of active pharmaceutical ingredients (APIs). The drug substance operations section includes information on chemical reactions, mixing, distillations, extractions, crystallizations, filtration, drying, and wet and dry milling. The book also covers modeling and software tools for batch- and continuous-production operations.

The revised and updated second edition includes many new case studies and additional example calculations. Thirty new chapters cover manufacturing, quality by design (QBD), computational approaches, crystallization, process safety, and more. The update expands content on scale-up, continuous processing, applications of thermodynamics and thermodynamic modeling, filtration, and drying.

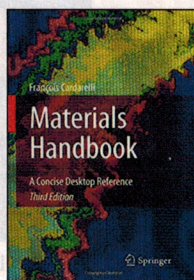


Modern Soil Microbiology, 3rd Edition
Jan Dirk van Elsas, et al., (eds.), CRC Press, New York, NY, \$99.95, 488 pages, Apr. 2019, ISBN: 978-1-498-76353-0

The living soil is crucial to photosynthesis, biogeochemical cycles, global food production, climate change, biodiversity, and health. Research over the past decade has helped illuminate the basic principles of soil microbiology. However, more information is needed to understand soil microorganisms — their diversity, interactions, biochemistry, survival, and gene expression. This additional understanding could help us develop a picture of these microorganisms' role in global climate change, plant disease suppression and growth stimulation, and biogeochemical cycles that can be applied to better predict the transformation of pollutants in soil and the activities of microbes in the rhizosphere. Moreover, it will help us to produce more crops in an era of increasing human population and intensification of agriculture.

This compilation of chapters on various aspect of soil microbiology includes tables, figures, and photographs, supported by thousands of references, to illustrate the depth of knowledge in soil microbiology. The third edition includes chapters on historical developments, future applications, and

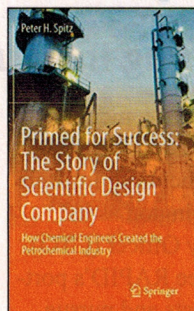
soil viruses and proteins. It describes molecular methods applied to soil microbiology, diverse soil microorganisms, and climate changes.



Materials Handbook: A Concise Desktop Reference, 3rd Edition
François Cardarelli, Springer, New York, NY, \$499.99, 2,254 pages, July 2018, ISBN: 978-3-319-38923-3

This two-volume work houses the physical and chemical properties of many different classes of chemicals. The third edition expands coverage to include whole new families of materials, such as minor metals, ferroalloys, nuclear materials, foods, natural oils, fats, resins, and waxes. The update expands and refines content on metals, gases, liquids, minerals, rocks, soils, polymers, and fuels with up-to-date information. The book places particular emphasis on the properties of common industrial materials in each class, including the safety issues associated with their use and handling.

An introductory chapter presents general properties, followed by 20 chapters that are each dedicated to a class of materials. Detailed appendices provide additional information on crystallography, spectroscopy, thermochemical data, analytical chemistry, corrosion resistance, and economic data for industrial and hazardous materials. The index and tabular format help readers to navigate this desk reference.



Primed for Success: The Story of Scientific Design Company — How Chemical Engineers Created the Petrochemical Industry
Peter H. Spitz, Springer, New York, NY, \$119.99, 197 pages, Feb. 2019, ISBN: 978-3-030-12313-0

The author of this book took a position as a chemical engineer with a small entrepreneurial firm called Scientific Design Co. (SD) after seeing the advertisement in *The New York Times* in 1956. The small entrepreneurial firm helped to create the petrochemical industry of today, and outperformed established companies at the time, such as DuPont, BASF, and Monsanto.

The author reflects on the historical developments he witnessed and took part in as the petrochemical industry was in its infancy. Interviews with colleagues establish a record of the developments. While the book acknowledges the shift from petrochemicals to new areas, readers may glean lessons from the past as they move toward the future.

