

Book reviews

Waste Management Practices: Municipal, Hazardous, and Industrial, J. Pichtel. CRC Press/Taylor & Francis Group, Boca Raton, FL (2005). 687 pp., Price: US\$ 119.95, ISBN: 0-8493-3525-6

The publisher describes this book as: “A practical guide for the identification and management of a range of hazardous wastes.” But, it is far more than that—much, much more. In my opinion, this is the best book on the topic I have seen and is one of the most comprehensive pollution control books I have reviewed recently as it clearly, objectively, and comprehensively discusses the generation and management of all types of wastes. In this book, the author describes the sources of solid wastes, their composition, management, disposal, and US laws applicable to all the foregoing topics.

The book has 22 chapters divided into 4 major sections.

“Part 1 provides the reader with a framework within which to establish a context for the management of many types of wastes. Following the Introduction is a history of waste management and then a discussion of regulatory development in waste management.”

The author entitles this section “Historical Regulatory Development.” Following the initial “overview” chapter is a chapter entitled “A Brief History of Waste Management” that includes, much to my delight, some interesting archival photographs of early waste management practices. The next chapter in this section is less interesting; it is entitled “Regulatory Development.” Significant US laws are very briefly discussed.

The longest section of the handbook is Part 2 which deals with “Municipal Solid Wastes” including their chemical, physical, and biological characterization. This section deals with recycling, composting, incineration, and landfilling. Both conventional and innovative technologies are discussed in chapters entitled: “Characterization of Solid Waste,” “Municipal Solid Waste Collection,” “Recycling Solid Wastes,” “Municipal Solid Waste Processing; Materials Recovery Facilities,” “Composting MSW,” “Incineration of MSW,” and “The Sanitary Landfill.”

I was tempted to delve into the extensive detailed information provided by Pichtel. I resisted somewhat. Suffice it to say, I was impressed by his excellent discussion of recycling solid wastes as well as their disposal by incineration. In the latter chapter, the author provides a comprehensive review of “the dioxin problem” which is so often cited by opponents to this technology. He discusses the benefits and problems with recycling among other topics.

As a chemical engineer who has consulted for hazardous waste facilities (both generators and disposal), I was particularly interested in Part 3 entitled “Hazardous Waste Management.” Initially, Pichtel reviews the law governing hazardous waste in the United States (Resource Conservation and Recovery Act). He then follows this topic with well-written chapters entitled: “Identification of Hazardous Waste,” “Hazardous Waste Generator Requirements,” “Hazardous Waste Transportation,” “Treatment, Storage and Disposal Facility Requirements,” “Incineration of Hazardous Wastes,” “Hazardous waste Treatment,” and “Land Disposal of Hazardous Waste.”

The final section of the book discusses the management of those wastes that do not fall conveniently under the prior two categories. These wastes include used motor oil, medical waste, construction and demolition debris, and electronic wastes.

Each chapter ends with a list of references as well as a section on suggested reading. Given also are relevant review questions. Included in this category are mathematical problems, some of which are based on computer models. Certain problems are based on field data and compiled on Microsoft Excel files (available on the Web).

I have nothing but admiration and praise for this book. It is comprehensive and well written. I recommend it enthusiastically to faculty for adoption as a text or to engineers needing a background in solid waste management.

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Hazardous Industrial Waste Treatment, K. Lawrence Wang, Y.-T. Hung, H. Howard Lo, C. Yapijakis (Eds.). CRC/Taylor & Francis, Boca Raton, FL (2006). 525 pp., USD 129.95, ISBN: 0-8493-7574-6

This book is one of a series being produced by one or more editors of this volume and their colleagues. The group’s website (<http://HandbookofEnvironmentalEngineering.com>) lists their books published and those planned. To date, six books have been