

follow the same format as the sixth, consisting of an introduction, nomenclature, physical properties, uses, toxicity (generally referring one to the appropriate MSDS), environmental concerns (solvent emission regulations — referring generally to the Clean Air Act) and ecological effect and storage and handling (storage tanks — material construction, handling considerations, and disposal).

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PII: S0304-3894(99)00110-7

Quantitative Microbial Risk Assessment. Charles N. Haas, Joan B. Rose and Charles P. Gerba, John Wiley & Sons, Inc., New York, NY, 1999, \$90.00, 449 pp., ISBN: 0-471-18397-0

Quantitative microbiological risk assessment is the application of principles of risk assessment to the estimate of consequences from a planned or actual exposure to infectious microorganisms. This assessment can assist in public health planning to evaluate or prevent the occurrence of public impact via drinking water (*Giardia*, Hepatitis, *Escherichia coli*, *Cryptosporidium*, *Campylobacter* and *Vibrio*) or food (*Salmonella*, *Escherichia coli*, *Shigella*, *Staphylococcus aureus*, etc.).

To highlight the significance of this problem, I gathered some statistical data from the introduction:

- There were 403,237 reported cases of *Cryptosporidium* infection from community drinking water in the U.S. in 1993-1994
- The annual average *Salmonella* foodborne infection in the US averaged 4235 in the 1988-1992 period

In the Introduction, the authors wrote: “The prevention of infectious disease transmission from human exposure to contaminated food, water, soil, and air remains a major task of environmental and public health professionals. Indeed, some have argued that the property of virulence of human pathogens is one that is favored by evolutionary interactions between pathogens and host populations and therefore will always be of important concern. The objective of this book is to set forth comprehensively the methods for assessment of risk from infectious agents transmitted via these routes in a framework that is compatible with the framework for other risk assessments (e.g. for chemical agents) as set forth in standard protocols.”

The relevance (indeed the importance) of the topic was emphasized by an article in a most unlikely journal — *Forbes*, V 163, p 156 (May 17, 1999). This magazine is a U.S. financial publication. The article dealt with the financial impact of an outbreak of *Escherichia coli* strain 0157:H7 in the Pacific U.S northwest and its impact on the food chain that resulted from the contamination and the death of four children. That topic is discussed on p. 53 of the text in the chapter discussing Microbial Agents and Their Transmission.

This book has the following nine (9) chapters:

- Scope of Coverage
- Microbial Agents and Their Transmission

- Risk Assessment Paradigms
- Conducting the Hazard Identification
- Analytical Methods for Developing Occurrence and Exposure Databases
- Exposure Assessment
- Conducting the Dose–Response Assessment
- Conducting the Risk Characterization
- Compendium of Data

One of the longest (100 pages) and most mathematical chapters is the one on exposure assessment. The authors, in great detail, mathematically (and statistically) discuss exposure assessment and, at the end, include problems to be worked [as an aside, if exercises, both mathematical- and discussion-type had been included in prior chapters also, the book's use as a text would be enhanced].

Chapter seven, entitled “Considering the Dose Response Assessment,” follows the same path as its preceding chapter — mathematically based and followed by problems for the reader (student). I suspect both chapters were written by the same author. The objective of dose-response, according to the writer, is to develop a relationship between the level of microbial exposure the likelihood of occurrences of an adverse response. To this end, dose-report models are discussed (in detail).

Building on the preceding chapter, the book goes on in Chapter 8 to the topic of “Conducting the Risk Characterization” which “integrates the results of (dose response and exposure assessment) into a risk statement that indicates one or more quantitative estimates of risk.”

The book, by topic, may appear to be outside the sphere of interest of the *Journal of Hazardous Materials*, but that's not so. There are no more hazardous materials than microbes and waste treatment (a key area covered by *JHM*) is a primary source (and utilization) of microbes. Hence the relevance.

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PII: S0304-3894(99)00111-9

Basics of Industrial Hygiene. Debra K. Nims, Wiley, New York, NY, 1999. 355 pp., ISBN: 0-471-29983-9

The author is adjunct Professor at the University of Idaho and runs her own environmental health consultancy. This book is set out in a format of objectives, text, summaries and critical thinking questions. It is intended for environmental technology students. It covers a very wide range, from physiology through chemical and physical agents to ergonomics, and nearly all are clear, friendly and easy to understand. The text is a little uneven in style, and there may be more contributors than the ones acknowledged in the preface. The chapters deal with Introduction to Industrial Hygiene, Toxicology, Occupational Health Standards, Airborne Hazards, Sampling for Airborne Contaminants, Indoor Air Quality, Controlling Airborne Hazards, Occupational Skin Disorders, Occupational Noise Exposure, Ionizing and Non-ionizing Radiation, Ergonomics and Temperature Extremes, and Selection and Use of PPE. The legal and professional content is entirely American.