

This volume is intended as a basic guide to TSCA (Toxic Substances Control Act) passed by the US Congress in 1976. Given that TSCA spawned hundreds of pages of regulations (much beyond the scope of a single volume), the author notes this book is only a starting point for reading by members of the regulatory community.

The main text portion of the book provides an overview of the TSCA provisions that are of most direct importance to the regulated community, such as the rules and requirements relating to premanufacture notification (PMN), chemical testing, and recordkeeping and reporting. The following chapters are found:

- 1 Introduction to TSCA
- 2 New Chemical Substances and Significant New Ones
- 3 Managing and Testing Existing Chemicals
- 4 Recordkeeping, Reporting and Confidentiality
- 5 Regulation of Hazardous Chemical Substances
- 6 Inspection and Enforcement

The major portion of this book is comprised of the following seven appendices:

- 1 Summary of Regulations Published Under the Toxic Substances Control Act
- 2 Premanufacture Notice Form and Instructions
- 3 TSCA Section 8(e) Reporting Guide and Draft Policy Revisions
- 4 Final Action Plan: TSCA CBI Reform
- 5 TSCA Penalty Policy
- 6 TSCA Industry Seminar Questions and Answers (1992 and 1898)
- 7 Pollution Prevention Strategy for Toxic Chemicals

G.F. Bennett

Biohazardous Waste: Risk Assessment, Policy and Management, W.L. Turnberg, Wiley, New York, 1996, \$74.95, 448 pp., ISBN: 0-471-59421-0

This very important topic is covered by the author in three major text sections (9):

- (1) Risk Assessment – address risks associated with this type of waste
- (2) Policy – discusses regulation guidelines and industry standards
- (3) Waste Management

The first part of this text describes the human infection risks associated with biohazardous waste streams and the health implications of pathogenic microorganisms. Information is provided on:

- elements of human infection
- communicable disease, isolation precautions and blood-borne pathogens
- tracking source of medical wastes and calculating theoretical transmission rates
- Infectious agents in solid waste, and
- infectious agents in wastewater, including HIV survival in waste and wastewater.

The second major section of the book (Policy) has three chapters:

- Biohazardous Waste Regulations: The regulations of OSHA, the Public Health Service, Department of Transportation, the US Postal Service and various states are discussed.
- Guidelines and Industry Standards: USEPA guidelines, Centers for Disease Control Precautions, National Institutes of Health Biohazardous Waste Management, Joint Commission Accreditation of Health Care Organizations and the American Society for Testing and Materials are discussed.
- EPA Demonstration Medical Waste Tracking Program

For this reviewer, the most interesting part of the book was the long section on management (treatment/disposal/destruction) of biohazardous waste.

The first two chapters thoroughly discuss the management of infectious waste: segregation, containment and record keeping, safety training and waste minimization. The second chapter deals with home health care and waste management.

Management, by destruction via incineration is the topic of Chapter 8. Historically, incineration has been recognized as the preferred method for disposing of medical waste because it kills pathogens, reduces volume and destroys organics, but public concerns for emissions have placed pressure on incineration and increased pollution control have resulted.

Steam sterilization remains a widely used technology for treating biohazardous waste. Steam sterilizers are used to treat biohazardous waste by both small generators such as dental clinics and physicians' offices and commercial biohazardous waste treatment companies treating biohazardous waste regionwide. This chapter addresses the process of steam sterilization and the advantages and disadvantages of this treatment technology.

Chapter 10 is a forward looking chapter in which the author discusses alternative Treatment Technology such as: chemical disinfection, alternative steam sterilization, steam reforming technology, microwave disinfection, dry-heat technology, electrothermal deactivation, plasma technology, electron beam sterilization and cobalt-60 irradiation.

Each of the 20 treatment technologies discussed in the foregoing chapter begins with a summary of the principles on which the technology is based, followed by reviews of one or more commercially available systems that utilize the given technology for treating biohazardous waste. The information presented in each review, if it could be obtained, includes:

- 1 Distributor information
- 2 Product overview
- 3 Models available
- 4 System specifications
- 5 Capital costs
- 6 Waste stream compatibility
- 7 Installation requirements
- 8 Operation requirements
- 9 System monitoring

- 10 Training
- 11 Service information
- 12 Treated waste characteristics
- 13 Environmental discharges
- 14 Efficacy testing
- 15 Approvals and installations
- 16 Corporate profile

The final two chapters deal with:

- Alternative Technology Evaluation Guidelines
- Hazardous Drug Waste Management

The writer cites many of his own papers. Clearly, he has published often in the field. His literature citations are not limited to his own works; many other sources are cited. Indeed, this is one of the best referenced works I have reviewed recently.

In summary, I believe this book is a complete, authoritative, useful review of the problem of handling and disposal of biohazardous waste.

G.F. Bennett

International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources, International Atomic Energy Agency, Vienna, Safety Series No. 115, 1996, 353 pp. ISBN: 92-0-104295-7

“These International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation sources mark the culmination of efforts that have continued over the past several decades towards the harmonization of radiation protection and safety standards internationally.”

“The purpose of the Standards is to establish basic requirements for protection against the risks associated with exposure to ionizing radiation and for the safety of radiation sources that may deliver such exposure. The Standards have been developed from widely accepted radiation protection and safety principles, such as those published in the Annals of the ICRP and the IAEA Safety Series. They are intended to ensure the safety of all types of radiation sources and, in doing so, to complement standards already developed for large and complex radiation sources, such as nuclear reactors and radioactive waste management facilities.”

Standards are comprised of a Preamble, the Principal Requirements, Appendices and Schedules. The Preamble states the aims and the bases of the Standards, explains the underlying principles and philosophy, and describes appropriate governmental arrangements for applying the Standards. The Principal Requirements specify what is imperative in order to fulfil the aims of the Standards. Consequential detailed Requirements, subsidiary to the Principal Requirements, are specified in the Appendices. Quantitative standards and guidance are provided in the Schedules.