

Book reviews

Incinerating Hazardous Wastes, edited by H.M. Freeman, Technomic Publishing AG, Basel, Switzerland, 1987, ISBN No. 0-87762-535-2, 380 pp., SFr 98 (soft cover).

Thermal processing technology offers the potential of destroying organic hazardous wastes, and their toxic components. However, the technology is not without concern, a major one of which is the production of toxic by-products (dioxin) as a result of incomplete combustion. This topic, along with many others is discussed in the 45 papers contained in the volume. The book was edited by Harry M. Freeman who serves on the *Journal of Hazardous Materials*'s editorial board and who is the research program manager of the U.S. Environmental Protection Agency's Thermal Destruction Branch. This book is clear, concise but yet is definitely an in-depth discussion of the topic. All aspects of currently available thermal process technology, processes, procedures, equipment, applications, regulations, research and development and recent developments in the field are covered.

The book is divided into five major sections. I have tried to indicate the scope of coverage in each section.

1. Overview – one paper
 - a profile of hazardous waste thermal destruction facilities and process performance
2. Incineration Processes – 15 papers
 - incinerator evaluation
 - air quality (air emissions)
 - solid waste characterization
 - destruction efficiency
 - shipboard incineration
 - products of incomplete combustion
3. Boilers and Industrial Processes – 15 papers
 - air emissions
 - field tests
 - destruction efficiency
 - kiln incineration
 - asphalt plants
 - oil burning in commercial boilers
4. New Thermal Processes – 5 papers
 - innovative process
 - wet oxidation
 - plasma

- circulating bed combustion
 - on site
5. Laboratory Scale Results – 9 papers
- VOST sampling
 - Energy emission balance
 - products of incomplete combustion
 - US EPA research facilities

GARY F. BENNETT

Red Book on Transportation of Hazardous Materials, by L.W. Bierlein, Van Nostrand Reinhold, New York, NY, 1987, 2nd ed., ISBN No. 0-442-21044-2, 1203 pp., US\$96.95.

The author, an attorney, is a recognized Washington, D.C. expert in environmental matters; among his broad expertise, is a deep understanding of chemical transportation regulations. In the first chapter, Bierlein writes:

“The Red Book on Transportation of Hazardous Materials is written as a guide for a wide range of people concerned with the transportation of hazardous materials including hazardous substances and hazardous wastes designated by the (U.S.) Environmental Protection Agency. It is designed to enable people to better understand the nature and scope of the federal transportation regulations issued and enforced by the Department of Transportation (DOT), EPA and related state and internal agencies“.

Because of the complexity and sleep-inducing capacity of government regulations, the author advises reading and rereading the text, but in small doses. The book is heavy going, but well worth the effort if one is involved in hazardous material transportation.

Successive chapters deal with classification (of hazardous materials, packaging, labelling, shipping papers, placarding, motor carrier requirements, shipping by water, shipping by air, reporting of incidents, DOT inspection and enforcement, shipper’s liabilities, international regulating bodies, rule-making exemptions, CHEMTREC, the Hazardous Materials Transportation Act and the National Transportation Safety Board.

About 2/3 of the book is devoted to appendices:

- vapor pressure cuves for flammable liquids
- chapter 9 of the United Nations Orange Book on Dangerous Goods Transportation
- selected preambles to DOT Rule-Making Notices and Amendments
- pertinent hazardous material statutes.

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