

Information supplied in the book includes:

- Stability data
- Data on possible interactions between two or more compounds
- General data on a class or group of compounds and information on the identity of individual compounds in a known hazardous group
- Structures associated with explosive instability
- Fire-related data
- Information on compounds identified by their CAS Reporting Number

The author notes that while the book is similar in content and layout to the previous edition, there are changes, most notably the addition of much quantitative information, and data for the energy of decomposition of approximately 200 further compounds. Section 1, he notes, has approximately 4600 entries under the main field and a similar number for secondary entries for hazardous reactions involving two or more of the former chemicals.

GARY F. BENNETT

*Emerging Technologies in Hazardous Waste Management*, by D.W. Tedder and F.G. Pohland (Eds.), American Chemical Society, Washington, DC, 1990, ISBN 0-8412-2747-5, 402 pp., \$ 89.95.

The editors developed this book from the papers presented at a symposium sponsored by the Division of Industrial and Engineering Chemistry of the American Chemical Society at Atlanta, Georgia in May 1989. Its publication within a year of the symposium is very timely. The editors have selected and had peer-reviewed 21 of the 70 papers presented during the 4-day symposium. The published papers span a wide variety of topics and I agree with the preface that says 'the symposium organizers gave the definition of hazardous wastes the broadest possible interpretation'. And that definition is both the book's strength and its weakness.

The scope of the book is wide ranging from papers on photocatalysis of phenol in solution to the extraction of plutonium from residues. The papers I read were excellent - good research, well written and generally interesting. But few of these really fell under the title of '*Emerging Technologies in Hazardous Waste Management*'. First, I take a generally more narrow view of hazardous waste than the authors do, to exclude normal (if there are any) industrial wastewaters such as those containing phenols or heavy metals in solution. Next I do not include studies of sorptive behavior of organic pollutants in the category of an 'emerging technology'. The word 'emerging' (to me at least) means imminent or on the verge of application. My reading of most of the papers is that the work described is still in the laboratory or inventive phase stage, a long way from application.

The published papers are ever-placed by the editors in one of two groups:

- Wastewater management technology – 12 papers
- Solids, residues and recycle techniques – 9 papers

My negative comments aside, there are many interesting technologies for handling the hazardous components discussed. Among the technologies are:

- Photocatalytic oxidation
- UV oxidation using ozone or hydrogen peroxide
- Solar photocatalysis
- Solid catalysis using hydrogen peroxide
- Removal of fluoride by hydrous cerium oxide
- Cell-biopolymer uptake of strontium
- Affinity dialysis metal removal
- Acid recovery by amine extraction
- Dechlorination of organic compounds by potassium hydroxide
- Bioremediation of creosote and polychlorinated biphenyl (PCB)-contaminated sites.

All in all the papers present a varied menu of technologies. As I said, they are well done, but I'd re-title the book: *Innovative Solutions to Wastes Containing Hazardous Substances*'.

GARY F. BENNETT

*Solvent Waste Reduction*, by U.S. Environmental Protection Agency and ICF Consulting Associates, Inc., published by Noyes Data Corp., Park Ridge, NJ, 1990, ISBN 0-8155-1254-6, 158 pp., \$ 45.00.

The main text of this book is based on papers presented at U.S. EPA seminars covering various aspects of solvent waste reduction, with topics ranging from regulation and disposal bans to on-site and off-site treatment methods. Included in the book are solvent waste reduction alternatives are defined as: (a) any in-plant practice or process that avoids, eliminates or reduces waste so as to reduce environmental risk to any media; and/or (b) the treatment, reuse, or recycling of any material that reduces the volume and/or toxicity of waste prior to final disposition.

Chapter titles include:

- (1) Land and liquid disposal bans
- (2) Title III SARA (Superfund Amendments Reauthorization Act) – The community's right to know
- (3) Solvent waste burning regulation
- (4) Waste minimization liability issues
- (5) Minimization of process equipment/cleaning waste
- (6) Source reduction – parts cleaning