

organizations worldwide are presented. For each system, the following data are given:

- Information on the system
- Process application
- Pollution reduction capability
- System diagrams (if available)
- Supplier/manufacturer

The book is, as many of the Noyes Data books are, a combination of several reports prepared for government agencies (in this case: U.S. EPA, DOE, and IEA Coal Research):

- Systems for Controlling NO_x from Coal Combustion
- Sourcebook: NO_x Control Technology
- Recent Developments in Combined Control of SO₂ and NO₂
- Combined NO₂/SO₂ Removal in Spray-Dryer FGD System
- Opportunities for Integrated Pollution Control Retrofits
- Retrofit Costs for SO₂ and NO_x Control Options at 200 Coal-Fired Plants

GARY F. BENNETT

Hazardous and Industrial Wastes: Proceedings of the 24th Mid-Atlantic Industrial Waste Conference, edited by B.E. Reed and W.A. Sack, Technomic Publishing, Lancaster, PA, 1992, ISBN 0-87762-974-9, 759 pp. \$85.00.

Sponsored by 14 universities, this annual conference was held at West Virginia University in Morgantown, West Virginia in July 1992. These proceedings contain 66 of the 80 papers presented at this conference.

Major topics (session theme) and the number of papers published in each were:

- Pollution prevention/waste minimization - 6
- Groundwater flow - 3
- Sludge treatment - 3
- Issues - 3
- Treatment technology - 20
- Site remediation - 21
- Waste management - 3
- Energy from wastes - 4
- Solids disposal - 3

Given the list above it is obvious the papers span a wide range of topics, from laboratory studies to proven technology; from theory to established practice; from a student design contest problem to expert systems for waste treatment.

The papers were photoreproduced yielding variable type fonts. An index is provided for the current volume as well as for the proceedings from the preceding five conferences.

Many (14) of the papers presented at the conference were not published in the proceedings, the editors noting they were unavailable at press time. Although the title and authors of each nonappearing paper was given, sufficient data were not given to allow an interested reader to request a copy from the author. Perhaps the editors could give these data next time.

GARY F. BENNETT

Ethel Browning's Toxicity and Metabolism of Industrial Solvents, 2nd edn., Vol. 3. Alcohols and Esters, edited by R.G. Thurman and F.C. Kaufmann, Elsevier, Amsterdam, 1992, ISBN 0-444-81317-9, xxxviii + 394 pp., \$228.50/Dfl. 400.00.

The initial edition of Ethel Browning's *Handbook of Toxicity and Metabolism of Industrial Solvents* was published in 1965. In that pioneering work, Browning discussed both the properties, toxicology, and metabolism mechanisms of toxicity of solvents. This new edition extends that work by emphasizing mechanism of toxicity in an attempt to understand the toxic effects produced by chemicals — but this time the data are published in four volumes (not just one), each volume being devoted to a different group of compounds.

In this (the third volume of the series), the authors have integrated the data, interpreted the results of numerous studies and have provided detailed lists of references to assist use of the original literature.

As noted above, both alcohol and esters are discussed in Volume 3. In the former category, 24 different alcohols (e.g. methanol, ethanol, butanol, etc.) are discussed; in the latter category, 22 different esters (e.g. ethyl acetate, butyl acetate, propyl acetate) are discussed.

Separate chapters (46 in all) are devoted to each chemical or chemical groups. And each chapter follows a standard format with information grouped under the following headings:

- Physical properties
- Economy, sources and use: production, and industrial uses.
- Biochemistry: estimation, and metabolism.
- Toxicology: animal, human, and carcinogenicity and mutagenicity.
- References

As with any multi-authored text, the emphasis given to any one of the above categories is quite varied. As a chemical engineer, I was more interested in the production and industrial use sub-chapters — although I realize they are not the prime focus of the text. The various chemicals, the amount of space devoted to this topic ranged from a few lines to more than a page.

GARY F. BENNETT