

for treating or destroying hazardous wastes. Several of these processes are described in detail in a special issue of the *Journal of Hazardous Materials* (12(2) (1985) 127–206).

The processes were chosen through two national solicitations for innovative processes and through extensive literature surveys. While the processes differ widely in many respects (i.e. waste streams for which they are designed and/or state of development of the art of treatment), they all have one similarity as they all offer an innovative approach to solving hazardous waste problems.

Technology reviews include:

1. Wet oxidation: wet air oxidation, catalyzed wet oxidation, supercritical fluid oxidation, high temperature wet oxidation.
2. Chemical transformation: aqueous phase alkaline destruction of halogenated organic wastes; catalytic destruction of hazardous waste.
3. Molten glass: Joule heated glass melter, electromelt pyro-converter.
4. Pyrolytic: pyrolytic decomposition, high temperature pyrolysis with oxygen.
5. Molten salt: molten salt destruction.
6. Advanced incinerators: consetherm rotary kiln oxidizer, fast rotary reactor, "Cyclin" cyclone incinerator.
7. Electric reactor: high temperature fluid wall reactor, advanced electric reactor.
8. Plasma systems: pyroplasma, plasma temperature incinerator.

Clearly, Freeman has produced a state-of-the-art report on an area of technology in which the technology is rapidly changing. Most of the processes offer intriguing possibilities for the management of hazardous waste.

G.F. BENNETT

*Toxic and Hazardous Wastes*, Proceedings of the 17th Mid-Atlantic Industrial Waste Conference, by I.J. Kugelman (Ed.), Technomic Publishing, Lancaster, PA, 1985, 577 pages, \$49.00.

The Mid-Atlantic Industrial Waste Conference has developed into one of the primary industrial waste conferences in the United States covering both wastewater and hazardous wastes. The fact that the conference sponsors produce timely proceedings (the conference was held in June 1985) has helped them attain that status of quality and efficiency. These proceedings contain 47 papers which were presented in the following 11 sessions.

1. General
2. Biological Treatment
3. Pretreatment
4. Physical Chemical Treatment
5. Ground Water

6. Land Application and Liners
7. Resource Recovery
8. Hazardous Wastes
9. Metals and Industrial Wastes
10. Sludge Management
11. Safety and Right-to-know

This book, which is an outgrowth of the conference, provides a state-of-the-art synopsis of contemporary practice in the control of industrial, toxic and hazardous wastes.

G.F. BENNETT

*Polycyclic Hydrocarbons and Carcinogenesis*, by R.G. Harvey (Ed.), ACS Symposium Series 283, American Chemical Society, Washington, DC 20036, 1985, 406 pages, US and Canada, \$74.95, export \$89.95.

This volume of 15 chapters was developed from a symposium sponsored by the Division of Organic Chemistry of the American Chemical Society, Philadelphia, August 1984. It reviews what is known or suspected about the relationship between chemical structure, reactions, and metabolisms of polycyclic aromatic hydrocarbons (PAHs) and carcinogenic action in animals and humans. The ubiquitous distribution of these compounds in polluted air, automobile exhausts, tobacco smoke, and many common foods have created much attention to these compounds, but since only certain PAHs exhibit tumorigenic activity, and the level of activity is highly dependent upon molecular structure, much has yet to be learned.

This collected work assembles the reports from leading experts to review these advances and report their latest findings. While major emphasis is placed on PAH activation via diol epoxide metabolites, evidence for other potential mechanisms is also reviewed.

The volume should be of interest and value to anyone interested in the causes and prevention of cancer, including graduate students and environmental control technical personnel.

H.H. FAWCETT

*Handbook of Reactive Chemical Hazards: An indexed guide to published data*, 3rd edn., L. Bretherick (Ed.), Butterworths, Borough Green, Sevenoaks, Kent TN15 8PH U.K. and 80 Montvale Avenue, Stoneham, MA 02180 U.S.A., 1985, 1852 pages, \$99.95, £85.00.

Leslie Bretherick, a chemist recently retired from the BP Research Center, has compiled a monumental volume, first published in 1972 and later in