

ery Act (RCRA), Toxic Substances, and Pesticides have been revised and expanded (among others).

Being quite interested in the problem of uncontrolled hazardous waste sites, I examined the "Superfund" chapter in great detail, and while I commend its inclusion, it was just not long enough for me (20 pages). The author does cover the basics of the law well: funding, spills, cleanup and response, National Contingency Plan, National Priority List of Sites, liability for sites, use of the response fund, post-closure plans and liability. There is, however, little of the legal actions brought about by the passage of Superfund, and the significant ramifications that hold industry responsible for actions prior to passage of the law. Although I am not a lawyer, I do know there is much activity (most of it unfinished) on legal issues brought up by the Superfund. I had hoped the author of the chapter would have discussed some of the more pertinent controversies now, or yet to be litigated in the courts.

All the other chapters in the book have been revised (since the previous edition) and each provides a concise analysis of the history of the law, its provisions and details or its requirements for those affected by the law. The analyses, according to the writers, are designed to help industry understand the laws and comply with them in the most cost-effective manner possible — i.e., to stay out of trouble.

This is a book by lawyers but intended for environmental engineers who should have it, read it, use it and try to understand it. Not fun, but necessary.

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Emerging Technologies for the Control of Hazardous Wastes, by B.H.

Edwards, J.N. Paulin and K. Coghlan-Jordan, Noyes Data Corporation, Park Ridge, NJ, 1983, 146 pages, \$24.

In this book, the authors review and assess emerging technologies and novel variations of established technologies for the treatment and control of hazardous wastes. The three major technologies covered in detail in the book are: molten salt combustion, fluidized bed incineration and ultraviolet (UV/ozone) destruction. Theory, unit operations and economics are discussed for each of the three destruction methods. The wastes treated (destroyed) by these operations include: dioxins, PCBs, pesticides, herbicides, chemical warfare agents, explosives, propellants, nitrobenzene and hydrazine and its derivatives.

Pressure is building in the U.S. against landfill disposal of hazardous waste. There are current restrictions on what may now go into landfills, with especially toxic chemicals being banned in an increasing number of states, and the probable future banning of disposal of hazardous wastes in landfills for numerous chemicals (following the State of California lead). Hence, the

destruction of hazardous wastes, especially the very toxic ones, is of major importance. It appears that the very current technologies presented in this report have some promise and problems; both aspects are discussed by the authors.

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Alcohols Toxicology, by W.W. Winer, J.A. Russell and H.L. Kaplan, Noyes Data Corporation, Park Ridge, NJ, 1983, 277 pages.

The energy crisis of the 1970s created renewed interest in the U.S. in alternative fuel sources, with alcohols being of primary importance. Three researchers at Southwest Research Institute of San Antonio, Texas have written this book to respond to the need for historical and background information on the topic. One of the book's most impressive aspects is a 35-page bibliography containing approximately 800 entries — which the authors note covers two centuries of alcohol literature. The book also has a well developed 23-page index. There are 14 chapters and 3 appendices.

A short initial discussion of the nomenclature and history of alcohol is followed by more extensive discussions on the toxicology of ethanol, n-propanol, isopropanol and butanol. Because of their wider use, more data on methanol and ethanol are available, and extensive information on ingestion by humans, inhalation, cutaneous absorption, and animal studies is reported. Exposure limits (TLVs) — (1) time weighted averages, (2) short-term exposure limits and (3) IDLH levels — are given in chapter 11 for eight alcohols.

In chapter 12, the authors discuss chemical production methods for five alcohols. The major types of information given include chemical reactions and flow sheets. However, no process information (mass and energy balances, temperature and pressure) is included; these data would be of real interest to the design chemical engineer — but perhaps would be inappropriate for this text because of the detail needed. However, for purpose of information flow, I would have placed the chapter earlier in the book, after the historical discussion.

The final chapter of the book treats exhaust emissions from internal combustion engines fueled with the various alcohols. Although a good introduction to the topic, as was the production chapter, the information here is very brief; again, I would have preferred expansion. As stated above, there are three major appendices: (1) abstracts and synopses of papers reviewed, (2) physical properties of the alcohols, and (3) standard free energies for methanol synthesis.

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