

minimization, problems of small quantity generators and marketing waste reduction. The assessment chapter is especially good, it has well detailed procedures and a plethora of forms to be used in developing an effective waste minimization programs, policies, organization and processes.

From generalities, the book proceeds to specifics in the last two sections – although a minor error crept in as a ‘gremlin’ inserted a two where a three should have been in the title paragraph of the section. In this section, the author focuses on the public sector and how it can help others as well as itself in its waste reduction activities. Local, county and state activities are discussed in three separate chapters. The last chapter in the section focuses on minimizing household hazardous wastes.

The last section of the book has five chapters dealing with industrial case studies. Having reviewed several Government Institute Conference Reports in the area (and had their reviews published in the Journal), I looked forward to this section. Unfortunately it was not up to my expectations. Some of the chapters (the first–on the General Dynamics program) were too general and I think focused on the impact of releases (i.e. CFCs on ozone depletion) rather than on the chemicals themselves. Almost all the chapters lacked references. But there was some excellent information especially in the chapters on the Department of Defense Activities and another chapter on solvent recycling. Chapter titles are:

- The General Dynamics zero discharge program
- Waste minimization within the Department of Defense
- Waste minimization in the petroleum refining industry
- Ozone depletion and waste minimization
- Case studies of successful solvent waste reduction

My overall assessment is that this is a very good book, which will be of significant assistance as governments and industries address the difficult task of hazardous waste generation.

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*Methods for Determination of Toxic Organic Compounds in Air: EPA Methods*, by W.T. Winberry Jr., N.T. Murphy and R.M. Riggan, Noyes Data Corp., Park Ridge, NJ, 1990, ISBN 0-8155-1247-3, 583 pp., \$ 64.00.

This book contains details of 14 different analysis procedures covering different compounds or groups of compounds in air. Specific guidance is given on the determination of selected toxic compounds in ambient air.

Each method is self-contained (including pertinent literature citations). Where possible the American Society for Testing Materials Standardized format was used.

Chemicals for which analytical methods are given include:

- Volatile organic compounds (four methods)
- Organocholine, pesticides and PCBs (two methods)
- Aldehyde and ketones
- Phosgene
- *N*-nitrosodimethylamine
- Phenol and cresols
- Dioxin
- Formaldehyde
- Non-methane organics
- Benzo [a] pyrene

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*Alternative Formulations and Packaging to Reduce Use of Chlorofluorocarbons (CFCs)*, by T.P. Nelson and S.L. Wevill, Noyes Data Corp., Park Ridge, NJ, 1990, ISBN 0-8155-1257-0, 361 pp., \$ 62.00.

Like many Noyes Data Corporation books, this one is the combination of two reports written for the U.S. Environmental Protection Agency (EPA). Both reports were prepared for the U.S. EPA by the above-noted authors who are members to the Radian Corporation.

In this book, the authors describe alternative formulations and packaging techniques for the reduction or elimination of chlorofluorocarbons' (CFCs) use as an aerosol propellant. Part I of the book gives background information on the issue of stratospheric ozone degradation and an overview of technically feasible methods for reducing CFCs in aerosol products without adverse effect on human life and health, military preparation and the economy. Part II (actually the second of the two reports) discusses industry experience in converting to alternative formulations. Detailed non-CFC formulations are provided for 28 categories of aerosol products. Special equipment may be needed to include these formulations in aerosol containers and the need is discussed along with a variety of alternative dispensing devices. Advantages to, and drawbacks of, these devices are discussed in detail and examples of consumer products which have successfully utilized these alternative products are given.

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