

Until now, the standard reference of environmental property data was Lyman, Rheel and Rosenblatt's treatise: *Handbook of Chemical Property Estimation Methods*.

The new book will be a welcome and useful companion to it.

A unique aspect of the work is the prediction of likely chemical fate, which was performed by using a series of multimedia fugacity models. By entering physical–chemical data into a model, one can predict a chemical's behavior and fate in the environment. The results of these calculations are presented both numerically and pictorially.

GARY F. BENNETT

Major Accident Reporting System: Lessons Learned From Accidents Notified, by G. Drogaris, Elsevier Science, Amsterdam, 1993, 248 pages, price Dfl 290.00/US\$ 165.75, ISBN 0-444-81665-8

This book contains descriptions of 121 accidents reported through the major accident reporting system (MARS) which has been established by the European Commission and operated by the Joint Research Centre of the Institute for Systems Engineering and Information — CDIR.

The goal of compiling these reports is to guide industry towards safer operation through elucidation of the immediate and underlying cause of the reported accidents. A review of the causes of these accidents shows that the vast majority could have been easily prevented by proper application of existing experience and dissemination of knowledge.

Lessons learned from these accidents are grouped in five categories:

1. Design/construction — related lessons learned;
2. Operation/maintenance — lessons learned;
3. Lessons learned from handling emergencies;
4. Lessons learned from mobilization after an emergency;
5. Specific lessons learned by specific chemical: acetic acid, NH_3 , Cl_2 , HF, H_2O_2 , phosgene, P, H_2SO_4 , etc.

A review of the reported accidents led to the following conclusions:

1. Almost 2/3 of the accidents resulted in the release of dangerous substances.
2. Main process units are more often involved in accidents but the number of accidents in isolated storage accidents is also significant.
3. Almost 1/3 of the accidents occurred during maintenance, loading/unloading, transfer, startup, shutdown and other non-standard operations.
4. Very commonly used substances (i.e., flammable gases and liquids, Cl_2 , NH_3 , H_2) are most often involved in accidents.
5. The vast majority of the accidents reported could have been easily prevented by proper application of existing experience and dissemination of knowledge.
6. Management/organizational omissions could be identified among the causative factors in approximately 90% of the accidents of which the causes were known.
7. Post-accident design modifications and improvements were suggested.

The book is built around, as noted, the reports of 12 accidents which, upon analyses, yielded the foregoing conclusions. Data given for each accident include: year of occurrence; type of accident; type of activity; system involved; mode of operation; substances involved; consequences; description; cause; in almost 70% of the accidents in which the causes are known.

The book is a very welcome addition to the chemical accident/emergency response literature, for as more is learned about the root cause of accidents, better prevention/response systems will evolve. *Major Accident Reporting Systems* should be required reading for industrial safety managers as well as operating managers.

My only criticism of the book is that there is no index. That is not a major problem, but one would have been useful. There are, however, internal (in the texts) summary and classifying data by accident type, and chemical involved.

GARY F. BENNETT

Storm Water Management Technology, US Environmental Protection Agency, Noyes Data Corp., Park Ridge, NJ, 1993, 375 pages, price US\$ 48.00, ISBN 0-8155-1327-5

Issued first by the US Environmental Protection Agency in September, 1992, under the title *Storm Water Management for Industrial Activities — Developing Pollution Prevention Plans and Best Management Practices*, the book provides industries with comprehensive guidance on the development of storm water pollution prevention plans and of identification of 'best management practices' (BMPs) (as advertised in the EPA report title). It also provides technical assistance and support to all facilities subject to pollution prevention requirements established under National Pollutant Discharge System (NPDES) permits for storm water point source discharge.

Written as a user's guide, step-by-step directions and worksheets guide the user through the process of developing and implementing a storm water pollution prevention plan.

The book has four chapters and eight appendices. By title, the chapters are:

1. Introduction
2. Storm water pollution prevention plan
3. Activity-specific source control BMPs
4. Site-specific industrial storm water BMPs

GARY F. BENNETT

Toluene Toxicity — Case Studies on Environmental Medicine, No. 21, Agency for Toxic Substances and Disease Registry, US Department of Health and Human Services, Division of Health Education, E33, 1600 Clifton Rd. NE, Atlanta, GA 30333, 1993, 18 pages, no charge.

Although toluene (also known as toluol or methyl benzene) is one of the most common chemicals, its use is increasing partially because of its popularity as a solvent replacement for benzene. Gasoline contains 5–7% toluene by weight, making toluene a common airborne contaminant in industrialized countries. Although many organic