

explored in a cohesive and comprehensive manner, and we are only beginning to understand the multivarious ways in which humic substances influence the fate of chemicals in the aquatic environment. At present, the literature on the environmental influence of humic substances is scattered. It is frequently hidden as the secondary issue in numerous publications. Therefore, we saw the need to consolidate the theoretical and experimental impacts of humic substances in order to develop a consistent body of knowledge in this important area.”

To that end, the editors have gathered together 45 papers, some of them solicited for the symposium to fill voids. The papers are grouped under the following topic headings:

- Characterization
 - Environmental impact
 - Interaction in natural waters with organic contaminants
 - Interaction in natural waters with inorganic contaminants
 - Environmental reactions in natural waters
 - Influences of coagulation processes on water treatment
 - Sorption onto activated carbon; influences of water treatment
 - Influences of ozonation and chlorination processes on water treatment
 - Influences of ion exchange and membrane processes on water treatment
- Taken together, these papers indeed fill a very important void in the literature.

GARY F. BENNETT

Workbook of Test Cases for Vapor Cloud Source Dispersion Models, by S. Hanna and D. Strimaitis, Center for Chemical Process Safety of the American Institute of Chemical Engineers, New York, NY, 1989, ISBN 0-8169-0455-3, 122 pp, \$60.00

Modeling of toxic or hazardous releases is an important activity at industrial plants for emergency planning. New models are available to users and old models are being updated almost every day. This book provides a cookbook type of approach for engineers and scientists for carrying out calculations for five specific release cases. The method is not endorsed by the authors. However, the book provides a reasonable approach to solving these problems using publicly available hazardous release models. In the absence of approved regulatory procedures for modeling, one may like to call in the help of this book.

The book is divided into three chapters (and an appendix): (1) Introduction and description of release scenarios, (2) Overview of equations and models, and (3) Applications of models to five scenarios. The appendix consists of computer outputs and covers about one third of the size of the book.

Chapter 1 describes the five hazardous release problems which are solved in the book. The problems involve an elevated dense gas jet, anhydrous ammonia

release from pressurized tank, carbon monoxide jet, chlorine spill and acetone spill into diked area.

A summary of equations and models used for solving the above problems is given in Chapter 2. Some of the equations are updated based on recent papers. The source for each model is also given. Complete addresses would help readers to obtain the models.

A helpful step-by-step discussion on solving the chosen problem is given in Chapter 3. This will help the practicing scientist to understand and appreciate the logic behind the adopted procedure by the authors. Overall, it is a nice book for air quality modelers. I recommend its use, as a reference tool, for managers and scientists.

ASHOK KUMAR

Incineration of Municipal and Hazardous Solid Wastes, by D.A. Tillman, A.J. Rossi and K.M. Vick, Academic Press, New York, NY, 1989, ISBN 0-12-691245-9, 343 pp., \$ 42.95.

In the preface of the book, the authors state their purpose:

“The book is designed to address many of the developments in applying the combustion process to the incineration of solid municipal and hazardous wastes. The book establishes the waste management context. It examines the fundamental scientific basis for combustion of municipal and hazardous wastes. It considers the processes now available for such incineration. It concludes by discussing the air quality control systems available.”

And I believe the authors have fulfilled their purpose. The book is well written, full of excellent data and discussion. It is divided into eight chapters, logically progressing from the “problem” to its “solution”. Each chapter is divided into three to five subsections. The organization of the text is nicely chronicled in the table of contents, where each chapter and subsection heading is listed, thus giving the reader a quick overview of the whole book.

The chapters are:

1. Waste generation in the United States
2. Fundamentals of solid waste combustion
3. Mass burn systems for combustion of municipal solid waste
4. The production and combustion of refuse derived fuels
5. Fundamentals of solid hazardous waste combustion
6. Permanent solid hazardous waste incineration systems
7. Mobile, transportation, and developing incineration systems
8. Controlling products of combustion

I did note some minor problems in the early part of the text, for example: Table 1 reports that food comprises 84.0% of the municipal solid waste stream in 1984; 8.4% was the correct number; on page 6 the author says Europe has