

environment. After the unique problems of these media have been addressed, my concern about modeling was put to rest by a thorough discussion by Lee (of SRI) on modeling for the prediction of chemical fate; the following chapter on ecosystem modeling had a good deal of information on laboratory procedures and experiments.

The final chapter in the principal section of the book (which occupies more than 2/3 of the pages) is one on diseases caused by chemicals. Nasr of Eastman Kodak, though a medical doctor, has written well for laymen on the modes of chemical exposure, occupational diseases and causes, and chemical carcinogens. As an aside, Nasr points out that most all-man-made chemicals are more toxic than natural ones, citing the potency of *Chlostridium botulinum* toxin (he said 200 ml was enough to destroy the entire population of the earth).

The second segment of the book (about 181 pages) deals with six case studies:

(1) Syracuse Research Corporation's approach to chemical hazardous assessment; in my opinion, this section could have been incorporated with or placed just after the third chapter.

(2) Environmental risk analysis of wastewaters produced by synthetic fuels technology — an excellent topic and one receiving much attention now as the U.S. searches for alternative energy sources, but the chapter could have been made more complete by the addition of the impact of synthetic fuel production on the atmosphere and soil also.

(3) Sequential testing for chemical risk assessment — this too, I believe, was more of a fundamental chapter rather than a case study.

(4) An environmental fate model leading to preliminary pollutant limit values for health effects.

(5) The next (fifth) chapter deals, fittingly, with the U.S. Toxic Substance Control Act (TSCA) of 1976. Tiered testing is discussed and the authors suggest rules for making decisions on those chemicals tested.

(6) Ultimately, the book ends with a chapter on disposal, or the evaluation of chemical contaminants in a solid waste.

It is a long book — it's a different book — but it's a needed book and very well written, well documented and containing scientific data on the means of assessing environmental risk. Conway and his co-contributors are to be congratulated.

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Explosion Hazards and Evaluation, by W.E. Baker, P.A. Cox, P.S. Westine, J.J. Kulesz and R.A. Strehlow, Elsevier Scientific Publishing Co., Amsterdam, The Netherlands, 1982, ISBN 0-444-42094-0, 807 pages, \$159.50 (Dfl. 375.00).

Industrial concern for accidental explosions and efforts to mitigate their effects have increased in recent years, resulting in the accumulation of a large body of new data relative to the accidental explosion process.

The book is organized into nine chapters, an extensive bibliography (part of it annotated) and several appendices. In the first two chapters, the authors discuss the energy release processes which generate accidental explosions and the resulting development of pressure and shock waves in the surrounding atmosphere. The manner in which the free-field waves are modified in interacting with structures or other objects in their paths is discussed in Chapter 3. Structural response to blast loading and non-penetrating impact is covered in Chapters 4 and 5, the former dealing with simplified analysis methods and the latter treating numerical methods. In Chapter 6, the authors have included a rather comprehensive treatment of the generation of fragments and missiles in explosions and the flight and effects of impact of these objects. Chapter 7 deals with larger chemical explosions and the thermal radiation resulting from large chemical explosions. Damage criteria for structure, buildings and people have been developed and presented in Chapter 8. In the last chapter, the authors present general procedures to be utilized in the post mortem evaluation of accidental explosion and for the design of blast and input resistance.

There is no doubt that the book, which evolved from a set of course notes, is an authoritative, comprehensive and well-coordinated treatise on explosion hazards. The authors have combined both theory and practice to provide a very readable, useful and definitive text that should find application both in universities and industry.

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