

It is these latter groups of property estimation methods (found in Chapters 8, 10, 15 and 16) that have found great utility in fate and transport calculations, most of them precede calculations of risk that an uncontrolled chemical in the environment poses. Indeed the authors note that the prediction of risk was the reason the book was written – originally appearing as a report written by the firm of Arthur D. Little for the US Army Medical Bioengineering Research and Development Laboratory, Fort Detrick, Maryland.

To bring a degree of uniformity to the text, the authors have structured each chapter thus:

- Introduction – describing the property, its important range of values and factors affecting those values
- Overview – of available estimation methods
- Method description
- Examples – generally to or more examples for each estimation method
- available data
- Symbols used
- References

The book is well written and beautifully reproduced: clear, easy to read type and diagrams. As I said, the text has become a classic reference and will become even more so as the new edition is more useful with its revisions.

GARY F. BENNETT

*Cleanup of Petroleum Contaminated Sites Underground Storage Tanks*, by W.J. Lyman, D.C. Noonan and P.J. Reidy, Noyes Data Corp., Park Ridge, NJ, 1990, ISBN 0-8155-1258-9, 216 pp., \$ 48.00.

As the US Environmental Protection Agency (EPA) contracts with consultants to produce reports that will assist industries with pressing environmental problems, Noyes Data makes these reports available through commercial literature (as opposed to leaving the sole notice of their existence through lists of government documents). And as the United States grapples with the removal and cleanup of its untold number of leaking underground storage tank sites, this book is extremely timely—and necessary.

This book focuses on strategies for the cleanup of petroleum-contaminated soils in the unsaturated and saturated zones of underground storage tank sites. A methodology is presented for evaluating the effectiveness of corrective action technologies at sites where petroleum products have contaminated either the unsaturated or saturated zone. The evaluation consists of a site assessment; selection of one or a series of treatment technologies, performance monitoring, and followup measurements.

The book identifies basic information about the subsurface environment

and the released product that is needed for site assessment. The reader is shown what information is needed and where it can be obtained. The book also provides default values for some parameters of field data that are not available or have not been collected.

Treatment technologies discussed include: soil venting, bioremediation, soil flushing, hydraulic methods, excavation, incineration, soil washing, enhanced volatilization, pump-and-treat, air stripping and carbon absorption.

An unique, and I think an extremely useful, aspect of the book is the series of tables (really check lists) designed to aid the reader/user in evaluating his potential remedial actions.

GARY F. BENNETT

*Where Did That Chemical Go? A Practical Guide to Chemical Fate and Transport in the Environment*, by R.E. Ney Jr, Van Nostrand Reinhold, New York, NY, 1990, ISBN 8-442-00457-5, 188 pp., \$ 36.95.

Having just reviewed Lyman, Reehl and Rosenblatt's book entitled *Handbook of Chemical Property Estimation*, which in great detail outlines formulae and methods for predicting fate and transport of chemicals in the environment, I was ready and eager for this book. It too contains techniques, albeit of a much simpler format, to allow the user to determine what happens to a chemical when it is released (accidentally or purposely) to the environment. The book (according to its cover jacket) explains a variety of prediction techniques involving such physical and chemical processes as water solubility, octanol-water (coefficient), hydrolysis, photolysis, volatilization, soil sorption, leaching in soil and runoff.

Chapter 1 (entitled Fundamentals) overviews the text's purpose in the use of techniques to predict fate and transport of chemicals in the environment. Topics discussed are: (a) fate and transport; and (b) environmental compartments (air, water, soil, plants, animals). Chapters 2 and 3 discuss prediction techniques and ways of using them. Discussed are (a) water solubility; (b) octanol water partition coefficient; (c) photolysis; (d) volatilization; (e) soil sorption; and (f) leaching in soils and soil runoff. In Chapter 3, biological processes, topics covered are (a) biodegradation and (b) bioaccumulation.

According to the preface Chapter 4 (entitled 'Exposure assessment') ties together the material of the previous chapters, showing how data and predictive techniques can be combined to assess the route of exposure.

Chapter 5 (entitled 'Examples') presents data for approximately 200 common chemicals along with characteristic data followed by discussion of what may happen to each chemical in the environment, as well as exposure considerations.