

tem, "Chemical Response Information System (CHRIS)" contains rapidly available information on over 1000 chemicals (arranged alphabetically).

Data given for each chemical includes:

- Synonyms
- Chemical Reactivity
- Physical and Chemical Properties
- Labeling
- Shipping Information
- First Aid for Human Exposure; Water Pollution Effects; Methods of Handling
- Health Hazards and Toxicity
- Protective Equipment to be Used
- Response Action to be Taken

Compared to the first edition, the second appears to have 100 more chemicals listed. Dropped to make space were 400 (plus) material safety data sheets for a wide variety of other chemicals lesser used in Commerce.

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*Sludge Management and Disposal for the Practicing Engineer*, by P.A. Vesilind, G.C. Hartmen and E.T. Skene, Lewis Publishers, Inc., Chelsea, MI, U.S.A., 1986, ISBN 0-87371-060-6, 341 pages, \$49.50.

This book has two distinct parts: (1) a short 87 pp. introductory survey of the field of sludge management and (2) a much longer section (approximately 250 pp.) which is a consultant's study. The second section, which was a report by a consulting firm on its study of sludge disposal options for the City of St. Petersburg, Florida, is the main part of the book; the first part (the overview of sludge management) appears to have been appended to the consultant's report to make a publishable book.

Although both sections of the book are well written, contain useful data and present an interesting perspective on the problem of sludge management, such combinations really contribute to make an outstanding text.

I spent most of my time reading the initial part of the report and concluded that it would form a good basis for a college course lecture series on sludge management. It is an excellent survey (very well written) of the field, but I must emphasize the word survey — and in that lies its major fault; it is just too compact and too concise. Clearly, Vesilind, author of several other texts on sludge management, could have written much more and provided much more data on topics such as metal content of various sewage sludge and limits on land application generally in the United States — as an aside, I might note the consulting report did treat the subject well however for the State of Florida only.

Both parts of the book, and especially the consultant's report, recognize the importance of beneficially reusing sewage sludge, treating with lime and in-vessel composting being two of the three recommended sludge management schemes. Clearly lime can be used for stabilization/pathogen reduction, but even newer is the use of cement kiln dust with its concomitant benefit of a dry useful agricultural product; unfortunately the consultant did not discuss this topic.

Both parts of the book, especially the consultant's report, recognize the problem of hazardous waste disposal under RCRA and the potential for sewage sludge to enter that arena — but the consultant's report does that much better than the preamble which dismisses deep-well injection (probably inappropriate for sewage sludge, but not for other dilute solutions which can and are being safely disposed of underground) and further makes the statement that hazardous waste disposal sites may have to have groundwater monitoring systems — the law clearly says they must; indeed hazardous waste regulations promulgated, under the Resource Conservation and Recovery Act of 1976 demand that. Again another author's error is in chapter 6 on regulatory air quality constraints, where the Clean Air Act is discussed; they point out the offsets could be required for air emissions from a process — but do not (in the initial section, but do so in the report) differentiate between attainment and non-attainment areas.

My personal opinion is, if you want to review a good model consulting report on sludge management, buy the book. Do not get it with the idea of a comprehensive text on the topic.

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