

questions to stimulate the thinking of his/her students and, of course, to evaluate the student's understanding of the material.

The final point to be made is that the book is very well-referenced, although Sellers leans a little too heavily (in my opinion) on US Government (mainly ES EPA) reports.

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*How to Find Chemical Information: A Guide for Practicing Chemists, Educators, and Students*, Robert E. Maizell, John Wiley & Sons, New York, 3rd Ed., 1998, \$64.95, 515 pp., ISBN: 0-471-12579-2

The universe of technical information available through print and electronic sources is almost overwhelming. One could spend one's complete career reading available materials—reading at least but not accomplishing one's research or engineering task, i.e. to learn what's new. The alternative, complete disregard of published material, is unacceptable. What then to do?

This book, *How to Find Chemical Information: A Guide for Practicing Chemists, Educators and Students*, offers a solution. My dilemma was how to review it? There is so much good information that Maizell furnishes, a review of moderate length hardly does his book justice.

In the preface, Maizell writes:

“Chemical information tools are more crucial than ever to help the chemist and chemical engineer save valuable time, control costs, and achieve the most effective work. For many activities in chemistry and chemical engineering, optimum use of chemical information sources is key to success or failure.

More chemical information tools are available today than ever before, and many are more powerful than ever imagined before.”

As the reader would expect, the new edition discusses online (computer) sources of information in much detail.

A measure of the growth of the printed literature is found in the number of abstract publication such as Chemical Abstracts. That publication has grown about 6%/year since it began in 1907. The first index, covering 10 years and published in 1916, contains 192 000 references; the 5-year index published in 1991, contains 3 052 700 references. The price of Chemical Abstracts was \$6/year in 1934 and rose to \$18 900 in 1997.

But why spend the time searching the literature? The author answers that question in the following way:

“Effective use of chemical information helps avoid duplicating previous work. This achieves savings in time and funds and avoids infringing on the proprietary rights of others. In addition, even if there is no directly related previous work, the chemist who makes effective use of information can plan and act on a solid foundation of background data. Further, as a source of ideas, or for idea development, chemical information sources are invaluable fountains of inspiration and serendipity.”

The author was certainly comprehensive in his discussion of the literature. I am very familiar with the print literature and found no sources wanting; journals, encyclopedias, reference books, abstracts, patents, environmental publications, financial (chemical publications), and virtually all the books and periodicals I have used were mentioned.

I am less familiar with the computer-based information sources and search strategies to use them. Maizell provided much information to correct that deficiency. Indeed, Chapter 3 is entitled 'Search Strategy.'

The utility of the internet, though still 'in its infancy' is discussed in Chapter 10, but the author notes that it has much to offer. "It includes a vast number of files and databases, many of which cannot be readily found in any other way. Thus, it can be a rich source for browsing through previously unknown or unexpected resources." In addition, many publishers (including Elsevier) offer their journals for on-line subscribers.

In addition to descriptions and evaluations of key tools and methods, this book contains useful facts and figures including statistical data, names of key people, addresses, phone numbers, Internet addresses, and prices.

My overall assessment: a superb book and one that should be required reading (or at least browsing) not only for researchers, but also for practicing chemists and chemical engineers.

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