*Handbook of Reactive Chemical Hazards* (2nd Edition) by L. Bretherick, Butterworths, London, 1979, 1312 pages, £ 45.00.

It is pleasing to see this updated edition of what has now become a source of reference to the safety conscious laboratory worker. The greatest advance is a comprehensive alphabetical index which overcomes the main weakness of the first edition.

Over 7,000 chemical materials are now listed with extensive references to original source material. Abstracts are sufficient to provide an overview of the reactivity of a material sought and to indicate when experience has shown precautions should be taken. The book cannot, of course, be fully comprehensive since many hazards remain to be recognised and new materials are continually being developed, so the expected disclaimer that omission does not infer safety is welcome.

This edition should find a place on every experimentalists' shelf. If properly used the first edition should be sufficiently worn to need replacing anyway.

F.S. FEATES

*Hazards from Toxic Chemicals*, Proceedings of the Second Annual Conference on the Status of Predictive Tools in Application to Safety Evaluation, edited by M.A. Mehlman, R.E. Shapiro, M.F. Cranmer and M.J. Norvell, Pathotox Publishers Inc., Park Forest South, Illinois 60466, 1978, 223 pages, price $ 25 (hard cover), $ 22 (soft cover).

Sponsored by the U.S. National Center for Toxicological Research of the Food and Drug Administration and the U.S. National Institutes of Health, these proceedings contain 17 full papers and seven abstracts of papers presented at the Conference cited above. The major papers are divided into four groups:

1. Those dealing with the scientific basis for the correlation between human and laboratory responses to carcinogens.
2. Subcellular approach to toxicological evaluation.
3. The role of information technology in predicting hazards from potentially toxic chemicals.
4. Teratologic testing.

With the pervading concern of the common citizen for cancer and the potential of its being caused by any one of numerous chemicals, and the beginning in the United States of implementation of the Toxic Substances Control Act, this is a very timely book.

Since animal tests form the basis of determination of carcinogenicity, it is comforting to find the first paper by David Clayson of the Eppley Cancer Institute of Omaha, Nebr., critically analyzing the extensive data on cancer causa-

tion in animals and the correspondence to human carcinogenicity in a presentation entitled: "Overview, Fact, Myth and Speculation".

Indeed the Toxic Substance Control Act was discussed extensively in one of the papers in the information systems section on the data needed to predict chemical hazards. The author, M.C. Bracken of the Mitre Corporation in McLean, Va., stated: "The opportunity now exists for the first time, to establish an effective system for retrieval of toxicological and other scientific data which is responsive to the needs of those involved in the study and regulations of chemical substances. As defined in this paper, an effective system is one which provides a comprehensive data base and the capability to perform data correlations to assist in the assessment of health and environmental effects." The author then goes on to discuss a chemical substance information network, as the best method for providing large volumes of information. This network would have the following elements: (A) Core Components: (1) laboratory animal data base, (2) TSCA information, (3) chronic testing support system, (4) bibliography search, (5) toxicology data, (6) clinical structure/nomenclature system; (B) External Components: (1) PARCS, (2) NOHS, (3) STORET, (4) AEROS, (5) BLS, (6) other federal agencies, (7) product composition system.

One other paper in the information session entitled: "A Toxicity Estimation Media", by K. Enslein and P.N. Craig of Genesee Computer Inc., Rochester, N.Y., and Franklin Institute, Philadelphia, Pa., respectively, developed a statistical model to allow for estimation of acute toxicity for rat oral $LD_{50}$ based only on the chemical structure, partition coefficient and molecular weight of the compound. A final paper in this section by M.I. Spann et al. of the National Library of Medicine, Bethesda, Md., was on the use of computerized methods to predict metabolic pathway and metabolities.

As stated above with the implementation of TSCA and its requirements for tests of present and future chemicals to determine that human and environmental risk, this book respects a timely and useful contribution to the literature, especially to toxicologists who must design and interpret the tests. However, engineers and environmental scientists, who will have to interpret the significance of the data from tests, would be well advised to read several of these papers, in order to be able to converse with and understand their medically-oriented colleagues.

GARY F. BENNETT

*Toxic Chemical and Explosives Facilities*, by Ralph A. Scott, Jr., American Chemical Society, 1979, 352 pp., $32.00.

This book is Serial 96 in the ACS Symposium Series, "founded in 1974 to provide a medium for publishing symposia quickly in book form". The organisers clearly tried hard to find a common theme for a disparate collection of subjects and one wonders about the wording of the call for papers. More than half the book is given over to munitions problems, the rest ranges to de-