

- Appendices

- derivation of capital costs
- derivation of annual costs
- cost effectiveness calculation table

It is obvious that cost data comprises a significant fraction of the book and those data are very useful for preliminary process design analysis. And those cost data are the book's strength.

GARY F. BENNETT

*The Merck Index: An Encyclopedia of Chemicals, Drugs and Biologicals*, by S. Budavari (Ed.), Merck and Co. Inc., Rahway, NJ, 1989, 11th edn., ISBN 911910-28-X, 2274 pp., \$ 35.00.

If there is only one book referenced in other hazardous materials books or articles, it is inevitably *The Merck Index*. This new edition is the 11th in the 100 year period since this definitive work was first published. *The Merck Index* clearly is, as the preface notes 'a handy, one volume compendium of information on the most important, chemical, drug and biological substances'.

This book contains more than 10,000 concise descriptions of chemicals, drugs and biological substances. Given for each chemical are:

- Name (generic or simple)
- Chemical Abstracts name
- Literature reference – concise reference history
- Structural depiction
- Physical data
- Derivatives
- Therapeutic category

There are two appendices:

- Chemical abstracts registry number
- Cross-index of names

I must confess that this review was my first serious reading of this most-cited reference. It should not have been and in the future, I am sure this *Index* will be a much-used part of my personal hazardous literature library.

GARY F. BENNETT

*Chemical Safety Data Sheets: Volume 3–Corrosives and Irritants*, by The Royal Society of Chemistry, Cambridge, UK, 1990, ISBN 0-85186-923-8, approx. 300 pp., £ 49.95.

This is the third book (that should be obvious from the Volume 3 designation) in this most excellent series. I look forward with anticipation to each new volume, and when the series is completed, I will have a superb library with physical property and safety and health information on a wide variety of chemicals.

This volume contains data on 77 chemicals that, as the title suggests, are corrosive or irritant. Not unexpectedly one finds data on inorganic acids such as nitric and sulphuric acids, and bases on such a sodium and potassium hydroxide. I was surprised however, to see included acetaldehyde, ethyl acrylate and glutaraldehyde which are clearly not acids, but of course are irritants. Yet still a strange grouping.

The data given for each chemical are as follows:

- Risk and safety precautions
- Identifiers: CAS number, NIOSH number
- Threshold limit value
- Physical properties
- Packaging and transportation
- Manufacturer/Use
- First aid
- Handling, storage and disposal
- Fire precautions
- Further reading/references

As I have said before, in responding to chemical incidents/accidents, it is rarely possible to have too much chemical information. Too often, good chemical data are lacking. This series of books fills a vital function and supplies those much-needed data.

GARY F. BENNETT

*International Chemical Safety Cards*, by Commission of the European Communities and International Programme on Chemical Safety, World Health Organization, Geneva, Switzerland, 1990, ISBN 92-826-1331-3, approx. 160 pp., no price given.

This 'first series' of Safety Cards contains excellent information on 78 differently widely divergent chemicals, among them, acetaldehyde, arsenic, benzene, ethanol, mercury, phenol and xylenes. Each 11<sup>3/4</sup>X8<sup>1/4</sup> in. card, printed on both sides, contains a plethora of data; these cards contain data as good as one of the best chemical information books I have on my shelf: *Handling Chemicals Safety* which was published by the Dutch Association of Chemical Experts in 1980.

Data given for each chemical are: