

engineer to inspect an oil storage or handling facility, make a determination on how oil can be spilled, where it will go if spilled, and to design a system to prevent that spill or impede the oil reaching a watercourse. Implementation of these rules in the United States over the last ten years has markedly reduced the number and severity of oil spills into the waters of the nation.

The foreword written by the authors gives an excellent overview of the book: "An attempt has been made to cover every facet of spill prevention. Special emphasis is given to fail-safe engineering as an approach as to preventing spills from the predominant cause — human failure (the authors note, later in the book, that 88% of all spills are a result of human error). The book addresses state-of-the-art spill prevention practices and automation techniques that can reduce spills caused by human error. Whenever practical implementation costs are provided to aid equipment acquisition and installation budgeting. To emphasize the need for spill prevention, historic spills are briefly described, after which remedial action is defined to an appropriate section of this manual. The section on plant security goes into considerable depth, since few security guidelines have been provided for industrial facilities that transfer, store, and process petroleum and related products."

The book was originally published by the authors as a US Department of Energy Report (DOE-TIC-11470) in 1981 under the title "Fuel Conservation by the Application of Spill Prevention and Fail Safe Engineering (A Guideline Manual)."

It is indeed a comprehensive book. Covered are spill prevention in tank storage areas (dikes, high level alarms, drainage are discussed), transfer during storage, wastewater treatment processes and personnel training (although this section is probably much too short for the 88% of the spills caused by human errors; in my opinion, this is one section that received too little attention of the authors). Thoroughly up-to-date concepts such as the Pollulert oil detector and Imbiber beads are included in the prevention discussion (although not noted in the book, Dow Chemical has sold off the Imbiber beads business to another firm).

The pollution control loss prevention engineer will find this a very practical, useful manual.

GARY F. BENNETT

Effects of Exposure to Toxic Gases — First Aid and Medical Treatment, by W. Braker, A.L. Mossman and D. Siegel, Matheson Co., Lyndhurst, NJ, 1983, 172 pages, \$ 15.00.

If one is working with and is accidentally exposed to dangerous gases, one's safety depends on the quickness and appropriateness of the first aid response. This book is designed as a ready, practical, first aid reference guide for persons concerned with administering first aid to others engaged in working with dangerous gases.

The table of contents lists 134 different gases, although many are grouped in categories (i.e., information on both acetylene and ethylene is found in the "aliphatic hydrocarbon" section). Information typically given for each gas includes the following:

- Description — color, odour, shipping mode, solubility
- Major hazard — explosive, flammability
- Effects on man
- Toxicity
- Threshold limited values (TLV)
- Preventive health measurements and safety precautions
- First aid treatment
- Suggestions for medical treatment
- References

The book will well serve a wide audience — chemists, engineers, industrial hygienists and medical doctors — in diverse activities, ranging from the laboratory to uncontrolled hazardous waste sites.

GARY F. BENNETT

Heavy Gas and Risk Assessment — II, by S. Hartwig (Ed.), D. Reidel Publishing Co., Dordrecht, The Netherlands, 1983, ISBN 90-277-1594-7, 322 pages incl. index, \$46.50.

This book is a collection of papers presented at a symposium held in May 1982 in Frankfurt, and is the second such collection under the same editor. The 19 papers deal with four main topics, namely

- (1) Dispersion Modelling,
- (2) Experimental Work,
- (3) Fires and Explosions,
- (4) Risk Assessment Aspects.

Most of the papers are of high quality, and will be of interest to anyone involved in the technical aspects of dense gas dispersion problems in major hazards. A few of the contributions present material that has already been published elsewhere, but in view of the conference nature of the meeting this is quite understandable, in that the authors will perhaps have wished to present their work directly before the large number of participants. A particularly useful feature of this book (and its predecessor) is the inclusion of the names and addresses of the participants, enabling interested workers to identify the now international community in this subject. The new work that is presented more than compensates in quality and relevance for the small amount repeated from elsewhere, and the very reasonable price makes this book very good value for anyone working in this field.

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