

- Sacramento (California) protocol for response to hazardous material incidents
- Beginning of the hazardous analysis process
- Canadian Association of Fire Chiefs decontamination guide
- Chemical compatibility for protective clothing
- National Response Team's hazardous material emergency planning guide

In summary, I found this to be one of the most useful, from a practical point of view, books on hazardous materials planning and response that I have read in a long time. It will be of great value to me as I assist in writing our local county plan for response to hazardous material incidents.

GARY F. BENNETT

*Handbook of Compressed Gases*, by Compressed Gas Association, Chapman and Hall, London, 1990, 3rd edn., ISBN 0-442-21381-8, 657 pp.

This book focuses on the properties and accepted means of transportation, strategies and handling of compressed gases. Its goal (which I think has been realized) is to provide engineers and scientists (including those without detailed technical training) a basic understanding of the properties, safety considerations and regulatory requirements concerning compressed gas and compressed gas equipment. To accomplish the goal, the book has been divided into four parts. Each is described below.

Part One presents basic information on compressed gas and cryogenic liquids. The introductory presentation gives an overview of the uses to which these materials are put, the regulatory framework involved in their shipping and handling, and the scientific bases for understanding the behavior of gas. The type of containers used in containing these materials and basic guidelines for their safe handling are also discussed.

Of interest to me was their definition of compressed gas:

“Any material or mixture having in the container an absolute pressure exceeding 40 psi at 70°F (275.8 kPa at 21.1°C) or regardless of pressure at 70°F having an absolute pressure exceeding 104 psi at 130°F (717 kPa at 54.4°C) or any liquid material having a vapor pressure exceeding 40 psi absolute at 100°F (37.8°C) as determined by ASTM test D-323.”

Part Two addresses several specific areas of significant concern for equipment used in conjunction with compressed gases. The main topic is the bulk shipment of liquified compressed gas by car or cargo tank, which is an important means of distributing gases produced in a relatively large amounts.

The five chapters of the section are titled:

- Handling bulk shipments of liquified compressed gases
- Pressure relief and safety devices
- Cylinder valve, cylinder ancillary equipment, and bulk transfer connections

- Compressed gas cylinders: marking, labeling, inspecting, testing, disposition
- Cleaning components, equipment and system for oxygen service

Part Three provides information on the properties, uses and handling of 44 different gases (or gas groups) that are of current commercial importance. Complete information is given in individual monographs devoted to each of these gases; the data given include:

- Identifying information
- Physical constants
- Description
- Grades available
- Uses
- Physiological effects
- Materials and construction
- Safe storage, handling and uses
- Disposal
- Handling leaks and emergencies
- Methods of shipment
- Containers
- Methods of manufacture
- References

The fourth part of the book, the appendix, is the shortest of all sections; it contains the following four chapters:

- Glossary of terms
- List of abbreviations
- State regulatory agencies and codes
- Publications of the Compressed Gas Association

My overall assessment is that there is no more definitive treatise available (and there should not be considering the source) on the topic of compressed gases.

GARY F. BENNETT

*Countermeasures to Airborne Chemicals*, by J.M. Holmes and C.H. Byers, Noyes Data Corp., Park Ridge, NJ, 1990, ISBN 0-8155-1232-5, 330 pp., \$ 45.00.

The Bhopal tragedy has spawned numerous studies and reports in the United States on the potential for release of toxic substances, response thereto and potential control thereof. This report was issued by two members of the Oak Ridge National Laboratory as a result of a study commissioned by the (US) Federal Emergency Management Agency (FEMA).

The report covers three major topics:

1. The nature of the threat from incidents involving airborne hazardous chemicals described. Based on available data bases, a new methodology for ranking chemical hazards is proposed and tested.
2. Existing responsibilities of federal, state and local agencies, as well as the part played by the private sector, have been surveyed. Legislation at all levels of government has been reviewed and, in the light of this analysis, the role of FEMA was examined. Institutional approaches to new and existing methods