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Book Reviews

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Prevention and Control of Accidental Releases of Hazardous Gases, by Vasilis M. Fthenakis (Ed), Van Nostrand Reinhold, New York, 1993, xii + 640 pp., US$ 79.95

Prevention and Control of Accidental Releases of Hazardous Gases explains the latest engineering and administrative options available for minimizing and controlling accidents involving hazardous gases. As Fthenakis points out, industrial plants can pose many risks such as fire, explosion, and other hazardous incidents if proper safety mechanisms are not in place. Accidental gaseous emissions that are harmful to both worker health and the facility itself are of particular concern. Throughout this book, safety technologies that have been tested and applied successfully are emphasized.

Fthenakis and other contributing authors illustrate reliable systems for preventing and mitigating accidental hazardous toxic gases and evaluate the performance of these systems. This book provides practical and theoretical guidance on how to apply five key levels of protection: (1) inherently safer plant processes and materials, (2) methods of preventing events that initiate accidents, (3) safety systems, (4) passive (e.g., vapor barriers) and active (e.g., scrubbers and water curtains) systems for control and mitigation, and (5) emergency preparedness and response plans.

A special emphasis is placed on mitigation techniques for unconfined or partially confined releases. Such techniques include entraining by vapor barriers, secondary confinement or foam spraying, dispersing by water spraying, and entraining and inactivating by chemically reactive foams or liquid sprays. The theory describing the operation of these systems and clear guidelines on the preliminary design of specific mitigation systems are discussed. The book also discusses important new areas of mitigation technology such as HF mitigation, NH_3 mitigation, and hazardous gas detection.

Although the intended audience of the book is engineers who design, operate, and maintain plants, those who teach and advise them can also benefit from the book. *Prevention and Control of Accidental Releases of Hazardous Gases* contains information that is also useful to risk analysts, industrial safety professionals, and plant managers. The useful and up-to-date information presented in this book serves as an important tool for preventing hazardous gas releases.

VALARIE BREEDING