

Arsenic in the Environment – Part II: Human Health and Ecosystem Effects, J.O. Nraigu, ed., Wiley, New York, NY, 1994, \$95.00, 243 pp., ISBN: 0-471-57929-7

The first volume in this series (Part I) focussed on the sources, distribution, biotransformation, speciation, and fate of arsenic in soils and the aquatic environment. Part II (this volume) covers the human health and ecosystem effects of arsenic. The first chapter discusses Arsenic in Human Medicine (source of exposure, history of arsenic poisoning, clinical manifestation, and diagnosis and treatment). The second chapter discusses Health Effects of Environmental Arsenic (respiratory, gastrointestinal, dermatological, etc.).

Other chapters are:

3. Toxicity and Metabolism of Inorganic and Methylated Arsenicals
4. Toxicity and Metabolism of Arsenic in Vertebrates
5. Chronic Arsenic Poisoning in Humans: the Case of Mexico
6. Human Carcinogenicity and Atherogenicity Induced by Chronic Exposure to Inorganic Arsenic
7. Effects of Arsenic on DNA Synthesis in Human Lymphocytes
8. Induction of Lung-Specific DNA Damage by Methylarsenics via the Production of Free Radicals
9. Chronic Arsenism from Drinking Water in Some Areas of Xinjiang, China
10. Estimation of Human Exposure to and Uptake of Arsenic Found in Drinking Water
11. A Review of Arsenic Hazards to Plants and Animals with Emphasis on Fishery and Wildlife Resources
12. Arsenic in Marine Organisms: Chemical Forms and Toxicological Aspects.

I was interested in the chapter on chronic arsenic poisoning in China. The report was somewhat disturbing because of the large number of claims of poisoning found as a result of drinking naturally contaminated water. By plotting the incidence of diagnosed cases of poisoning versus concentration, the investigators developed an equation:

$$\log(y + 2) = 2/2464x + 0.00953$$

which (I assume, because they do not tell you what x and y are) relates the incidence of poisoning to the water concentration. But the plot of the data nicely shows that approximately 0.2 mg/l is the safe arsenic level.

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Biohazards Management Handbook, 2nd Edition, D.F. Liberman, ed., Marcel Dekker, New York, NY, \$175.00, 1995, 461 pp., ISBN: 0-8247-8995-4

This book is the 26th in Dekker's series of books dealing with Occupational Safety and Health. It is a revised and expanded version of the 17th book (of the same title) in the series.

Although I started my career as a bio(chemical) engineer and worked in a laboratory with *Chlostridium botulinum* (and learned to be very careful), I am not a biohazard expert. Given that background, I leafed through the text reading parts of interest and critically evaluating the sections I could. My overall assessment is that the *Biohazards Management Handbook* is excellent.

The first chapter begins at the beginning. Written by an architect, it describes the design of a biohazard facility beginning with the owner's determination (with the help of the architect or planner); the architect calls this process the development of the program. Then he discusses all aspects of the facility design from zoning to safety. Other chapters in the Facility Considerations section of the book deal with:

- ventilation
- biosafety cabinet certification
- pest management
- hazardous chemical management
- animal resource safety.

I found both a chapter in the first section on Hazardous Chemical Management and one in the section on Chemical Health Risks in Biohazardous Management to be excellent. This is one area I feel truly competent to evaluate. The authors discuss topics ranging from how much of a hazardous chemical to purchase (it is very expensive to dispose of excess chemicals) to design of storage facilities and cleanup of spills. In Chemical Health Risks in Biohazards Management, chemical health risks, toxicity, exposure, risk control and ventilation are discussed.

The above chapter is in the second (of three) major section of the book. Chapters in this section deal with:

- research/diagnostic laboratory biosafety
- medical surveillance program
- new frontiers in biosafety
- personal hygiene
- microorganism destruction
- infectious/medical waste management
- chemotherapy agent use and disposal
- infection control.

In the last section, three chapters deal with OSHA regulations and procedures required by law as well as providing specific outlines that will allow the reader to develop effective compliance programs.

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Emerging Technologies in Hazardous Waste Management IV, D.W. Tedder and F.G. Pohland, Eds., American Chemical Society Symposium Series 554, American Chemical Society, Washington, DC, 1994, \$89.95, 317 pp., ISBN: 0-8412-2857-4

This book is a continuation of the publication of selected papers from the American Chemical Society (ACS) Symposium Series of the same name (as the book title).