Book reviews

Occupational Health Aspects of Cadmium Inhalation Poisoning with Special Reference to Welding and Silver Brazing. Edited by H. P. Blejer and P. E. Caplan. (Pp. 25). These reports are available free as long as supplies last from: The State of California Department of Public Health, Bureau of Occupational Health and Environmental Epidemiology, 2151 Berkeley Way, Berkeley, California, 94704, U.S.A. 1969.

This technical bulletin is one of a series of publications produced free of charge by the Bureau of Occupational Health and Environmental Epidemiology, Department of Public Health, State of California. Since cadmium poisoning following ingestion is rarely if ever occupational in origin it is not discussed. The toxicity of inhaled cadmium fume and dust is described. (It is refreshing to see chronic cadmium poisoning described in an American publication.)

It is written with special reference to welding and silver brazing. Acute exposure of welders both in the United States and in the United Kingdom has resulted in a number of tragic accidents. The hazard is generally unrecognized because inhalation of zinc fume frequently produces metal fume fever, a mild illness initially similar to acute cadmium poisoning.

The hazardous processes are listed, namely, burning or welding cadmium-plate metals, silver brazing with cadmium-containing alloys, and the heating or burning of other cadmium-containing substances, all processes involving temperatures above 320°C, the melting point, and frequently above 670°C, the boiling point of cadmium. Two cases of acute cadmium poisoning in two welders are described in detail in an appendix.

Industrial hygiene practices and recommendations for the prevention of cadmium poisoning are detailed including the requirement in California that all cadmium-containing alloys or cadmium-coated metals are labelled, indicating the fact that cadmium is a toxic material.

A clinical picture of acute cadmium poisoning with the differential diagnosis, particularly with metal fume fever, is discussed in full. A paragraph on the diagnosis of chronic cadmium poisoning is also included although the significance of various cadmium concentrations in blood and urine would not be generally accepted in the U.K.

In general, this is a useful booklet and can be thoroughly recommended as it would certainly be of considerable value to medical officers and industrial hygienists concerned with the health and protection of welders and metal foundry workers. A useful list of references is also included.

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Permissible Levels of Toxic Substances in the Environment. (Pp. 405; obtainable free of charge from: ILO Occupational Safety and Health Branch, CH 1211, Geneva, 22.) Geneva: ILO. 1969.

This volume, the latest in the ILO Occupational Safety and Health Series, gives the report of the sixth joint ILO/WHO Committee on Occupational Health, which met in June 1968 to discuss permissible limits of occupational exposure to airborne toxic substances. It includes working papers on various aspects of the problem prepared by individual participants, as well as a report from the Working Group, which met six months later, on establishing standard forms of presentation of toxicological data derived from animal experiments, from experiments on human volunteers, from epidemiological studies, and from industrial surveys. Also included is a comprehensive review of legislation and practice in a number of countries (not including the United Kingdom) concerning maximum permissible concentrations in the working environment.

The Committee's report discusses briefly the merits of a four-category classification of biological responses to occupational exposure to airborne substances. Many members of the Committee found the following classification acceptable:

Category A (safe exposure zones):

Exposures that do not, as far as is known, induce any detectable change in the health and fitness of exposed persons during their lifetime.

Category B:

Exposures that may induce rapidly reversible effects on health or fitness, but that do not cause a definite state of disease.

Category C:

Exposures that may induce a reversible disease.