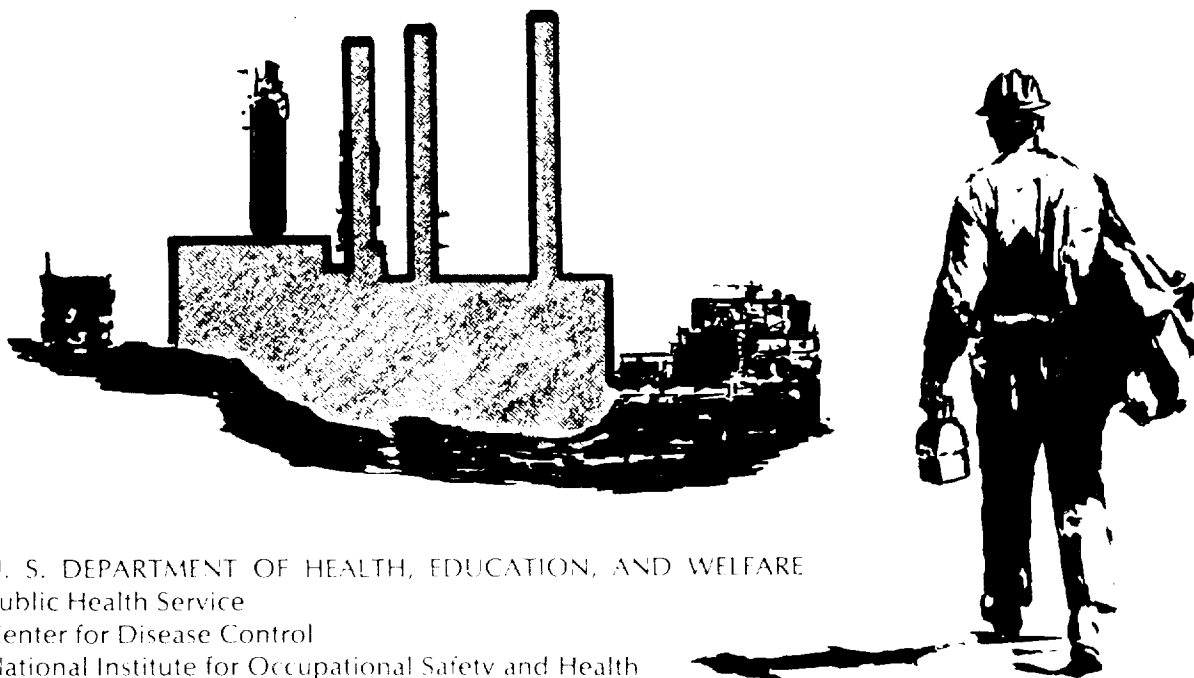


NIOSH

CRITERIA FOR A
RECOMMENDED STANDARD.....

OCCUPATIONAL EXPOSURE DURING THE MANUFACTURE AND FORMULATION OF PESTICIDES



U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health

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National Institute for Occupational Safety and Health

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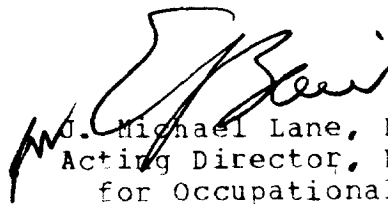
PREFACE

The Occupational Safety and Health Act of 1970 emphasizes the need for standards to protect the health and provide for the safety of workers occupationally exposed to an ever-increasing number of potential hazards. The National Institute for Occupational Safety and Health (NIOSH) has implemented a formal system of research, with priorities determined on the basis of specified indices, to provide relevant data from which valid criteria for effective standards can be derived. Recommended standards for occupational exposure, which are the result of this work, are based on the effects of exposure on health. The Secretary of Labor will weigh these recommendations along with other considerations, such as feasibility and means of implementation, in developing regulatory standards.

Successive reports will be presented as research and epidemiologic studies are completed and as sampling and analytical methods are developed. Criteria and standards will be reviewed periodically to ensure continuing protection of workers.

The contributions to this document on pesticide manufacturing and formulating industries by NIOSH staff members, the review consultants, the reviewer selected by the American Conference of Governmental Industrial Hygienists (ACGIH), other Federal agencies, and by Robert B. O'Connor, M.D., NIOSH consultant in occupational medicine, are gratefully acknowledged.

The views expressed and conclusions reached in this document, together with the recommendations for a standard, are those of NIOSH. They are not necessarily those of the consultants, the reviewer selected by the ACGIH, or other Federal agencies that evaluated the document. The comments from the review consultants and other reviewers have been considered carefully and, together with the criteria document, have been sent to the Occupational Safety and Health Administration for consideration in setting occupational safety and health standards. The review consultants, Federal agencies, and professional society to which this document was submitted are listed on pages vi, vii, and viii.



J. Michael Lane, M.D.
Acting Director, National Institute
for Occupational Safety and Health

The Division of Criteria Documentation and Standards Development, National Institute for Occupational Safety and Health, had primary responsibility for the development of the criteria and recommended standard for pesticides. Jimmy L. Perkins of this Division served as criteria manager. JRB Associates, Inc., developed the basic information for consideration by NIOSH staff and consultants under contract No. 210-77-0006.

The Division review of this document was provided by Jon R. May, Ph.D. (Chairman), J. Henry Wills, Ph.D., Charles C. Hassett, Ph.D., Clara H. Williams, Ph.D., David Brown and A. Blair Smith, M.D. (Division of Surveillance, Hazard Evaluations, and Field Studies), and James Gideon (Division of Physical Sciences and Engineering).

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FEDERAL AGENCIES

Department of Agriculture
Agricultural Research Service

Department of Defense
Department of the Army
Army Environmental Hygiene Agency
Department of the Navy
Bureau of Medicine and Surgery
Navy Environmental Health Center
Department of the Air Force
Office of the Surgeon General

Department of Health, Education, and Welfare
Food and Drug Administration
National Institutes of Health
National Cancer Institute
National Institute of Environmental Health
Sciences

Environmental Protection Agency
Health Effects Research Laboratory
Office of Research and Development
Office of Pesticide Programs

PROFESSIONAL SOCIETY

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