



NIOSH

Recommendations for Control of Occupational Safety and Health Hazards . . .

Manufacture of Paint and Allied Coating Products

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
CENTERS FOR DISEASE CONTROL
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

Cover photograph: This mural representing the paint and allied coating products industry, one of of fourteen murals depicting industrial scenes, is now on permanent display at the Greater Cincinnati International Airport. The murals, designed by Winold Reiss in the early 1930's, originally adorned the walls of Cincinnati's Union Terminal Railway Station.

RECOMMENDATIONS FOR CONTROL OF OCCUPATIONAL SAFETY

AND HEALTH HAZARDS.....

MANUFACTURE OF PAINT AND ALLIED COATING PRODUCTS

U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Institute for Occupational Safety and Health
Division of Standards Development and Technology Transfer

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DISCLAIMER

Mention of the name of any company or product does not constitute endorsement by the National Institute for Occupational Safety and Health.

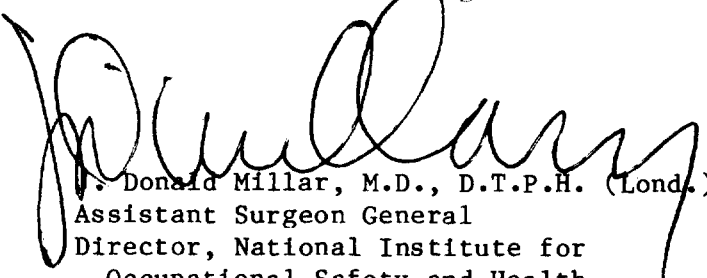
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PREFACE

The Occupational Safety and Health Act of 1970 (Public Law 91-596) states that the purpose of Congress expressed in the Act is "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources...by," among other things, "providing for research in the field of occupational safety and health...and by developing innovative methods, techniques, and approaches for dealing with occupational safety and health problems." Later in the Act, the National Institute for Occupational Safety and Health (NIOSH) is charged with carrying out this policy. One method by which NIOSH responds to this charge is to publish recommendations for control of occupational safety and health hazards.

These publications critically review the scientific and technical information available on the prevalence of hazards, the existence of safety and health risks, and the adequacy of hazard control methods in an industry. The information and recommendations presented should facilitate development of specific procedures for hazard control in individual workplaces. In addition, these publications list the Federal standards applicable to the industry and the specific hazardous substances that are present in its work environment. In the interest of wide dissemination of this information, NIOSH distributes these publications to other appropriate governmental agencies, organized labor, industry, and public interest groups. We welcome suggestions concerning the content, style, and distribution of these documents.

This document provides guidance for protecting workers involved in the manufacture of paint and allied coating products. It was prepared by the staff of the Division of Standards Development and Technology Transfer, NIOSH. I am pleased to acknowledge the many contributions made throughout the development of this document by reviewers and consultants, representatives of other Federal agencies, and the staff of the Institute. However, responsibility for the conclusions and recommendations belongs solely to the Institute. All comments by reviewers, whether or not incorporated into the final version, are being sent with this document to the Occupational Safety and Health Administration (OSHA) for consideration in standard setting.



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I. INTRODUCTION

This publication contains an assessment of occupational safety and health hazards during the manufacture of paint and allied coating products and recommends safe work practices and engineering controls. The term "Paint and Allied Coating Products" includes a variety of products having the broad functions of surface protection or decoration. Examples are paints, varnishes, lacquers, and stains as well as related products such as putties and paint and varnish removers. The scope of the document does not encompass the manufacture of raw materials used in coatings or the physical application of coatings (i.e., painting, staining, varnishing, etc.). Varnish production is included, although the manufacture of the resins used as raw materials is not. Paint and allied coating products facilities are included in the Standard Industrial Classification (SIC) code 2851, Paint, Varnishes, Lacquers, Enamels, and Allied Products.

Workers may be exposed to hazards as a result of lack of knowledge of potential problems, inadequate training, or lack of implementation of hazard controls. Workers are exposed to general safety hazards associated with the daily handling and storage of raw materials and the production of paint and allied coating products. These workers may also be exposed to chemical hazards such as pigment dusts, solvent vapors, and gases (during varnish manufacture) and to physical agents such as noise. In addition, many substances used are highly volatile and flammable, thus creating potential fire or explosion hazards.

The handling of raw materials and finished products; dispersion of pigment or resin particles; thinning, tinting, and shading; filling; and laboratory functions are some of the operations in the paint and allied coatings industry that will be discussed in this publication. The recommendations are broad-based to accommodate variations between facilities and the wide range of operations and processes encountered. Many of the recommendations, such as those addressing the use of personal protective equipment, machine guarding, container labeling, and worker training, are consistent with the Occupational Safety and Health Administration (OSHA) General Industry Standards contained in 29 CFR 1910. Other recommendations, such as those concerning substitution of raw materials, engineering controls, or safe lifting techniques are addressed only generally in OSHA standards or not at all. The recommendations are intended to enable management and labor to develop better work practices and training programs that will result in safer working environments.

Chapter II provides a discussion of basic characteristics for those persons who are not familiar with this industry. The document in its entirety provides safety and health information for organized labor; managers, technical consultants, and occupational safety and health personnel of companies involved in this industry; and the field staffs of various governmental agencies (i.e., NIOSH, OSHA, and EPA) responsible for the safety and health of workers.