

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH  
CINCINNATI, OHIO 45202

HEALTH HAZARD EVALUATION DETERMINATION  
REPORT NO. 73-80-99

CAREER DEVELOPMENT CENTER  
EVALUATION CENTER  
FAIRFIELD, ILLINOIS  
NOVEMBER, 1973

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I. TOXICITY DETERMINATION

It has been determined that the use of the blanket wash and roller cleaner in the offset press room at the Career Development Center, Evaluation Center is not toxic as used or found. This determination is based on the frequency of use, observation of the working area, interviews with employees, and chemical data supplied by the manufacture of the blanket wash and roller cleaner.

II. DISTRIBUTION AND AVAILABILITY OF DETERMINATION REPORT

Copies of this Determination Report are available upon request from the Hazard Evaluation Services Branch, NIOSH, U.S. Post Offices Building, Room 508, 5th and Walnut Streets, Cincinnati, Ohio 45202. Copies have been sent to:

- a) Career Development Center, Evaluation Center  
Fairfield, Illinois
- b) U.S. Department of Labor - Region V
- c) NIOSH Regional Program Director, Region V, Chicago,  
Illinois

For the purpose of informing the three "affected employees", the employer will promptly "post" the Determination Report in a prominent place(s) near where affected employees work for a period of 30 calendar days.

III. INTRODUCTION

Section 20(a)(6) of the Occupational Safety and Health Act of 1970, 29 U.S.C. 669(a)(6), authorizes the Secretary of Health, Education and Welfare, following a written request by any employer or authorized representative of employees, to determine whether any substance normally found in the place of employment has potentially toxic effects in such concentrations as used or found.

The National Institute for Occupational Safety and Health (NIOSH) received such a request from an employer regarding exposure to chemicals used in the offset press operation at the Career Development Center, Evaluation Center, Fairfield, Illinois; specifically, a blanket wash and roller cleaner used in the offset press operation.

#### IV. HEALTH HAZARD EVALUATION

##### A. Plant Process, Conditions of Use

The Career Development Center is operated by the Wayne County Association for Retarded Children. The Center, under contract from various charitable organizations and a small manufacturer, assembles various products in one of its facilities as a portion of the rehabilitation program for physically and mentally handicapped individuals. In addition, at the Evaluation Center, the individuals are instructed in various arts and crafts, one of which is the operation of an office style offset press.

The offset press is operated on the average of two days per week, for approximately two hours per day. A blanket wash and roller cleaner is used in small quantities by one full-time employee during the press operation to periodically clean the rollers. The same employee also uses the solvent approximately one hour per week to thoroughly clean the entire press. Two additional full-time employees and 10 - 12 program individuals would have occasion to be exposed to vapors emanating from the solvent during its use, although they would not be directly involved in the cleaning process.

The blanket wash and roller cleaner is purchased and stored in five gallon containers. To facilitate use, the solvent is dispensed via a pump into a solvent, bench safety container. The solvent is applied to the blanket and rollers with paper towels. Less than one gallon of solvent is used per month.

##### B. Evaluation Design

An observational survey of the printing area was conducted on November 2, 1973. The employee primarily responsible for the operation and cleaning of the press was interviewed.

The offset press is located in a room approximately 8 feet wide by 16 feet long by 12 feet high. The room has no local or general ventilation. Windows are blocked by the wall of an adjacent building, and only two doorways are available to provide air circulation, with one door normally closed.

At the time of the investigation, the offset press was not in operation, and considering the conditions of use, environmental samples were not deemed necessary.

### C. Evaluation Criteria

The blanket wash and roller cleaner is basically composed of an aliphatic hydrocarbon solvent.

The aliphatic hydrocarbons act primarily as depressants to the central nervous system, but otherwise they are generally as inert biochemically as they are chemically. Even as air pollutants, they are among the least reactive and do not pose a significant problem. The primary problem with this class of solvent is dermatitis.<sup>1</sup>

### D. Evaluation Results and Discussion

The principal offset press operator did not express any symptoms from the use of the blanket wash and roller cleaner. Some of the handicapped workers occasionally objected to odors emanating from the press room during and after the offset press is cleaned; however, no other symptoms were elicited.

Considering the period of time the press is in operation, the amount of solvent used, the chemical make-up of the solvent, and the absence of symptoms; it has been determined that the blanket wash and roller cleaner is not toxic in the concentrations as used or found. However, to minimize the effect of the solvent odors to sensitive workers, the following recommendations are presented:

1. Conduct cleaning operations late in the day when few employees are present, also allowing for overnight dissipation of solvent vapors;
2. Allow for as much ventilation as possible during cleaning (i.e., open all doors and/or use a portable fan).
3. Discard used paper towels in a closed container, or dispose of used towels immediately after cleanup.

### V. REFERENCES

1. Fundamentals of Industrial Hygiene, National Safety Council, 1971.

VI. AUTHORSHIP AND ACKNOWLEDGMENTS

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