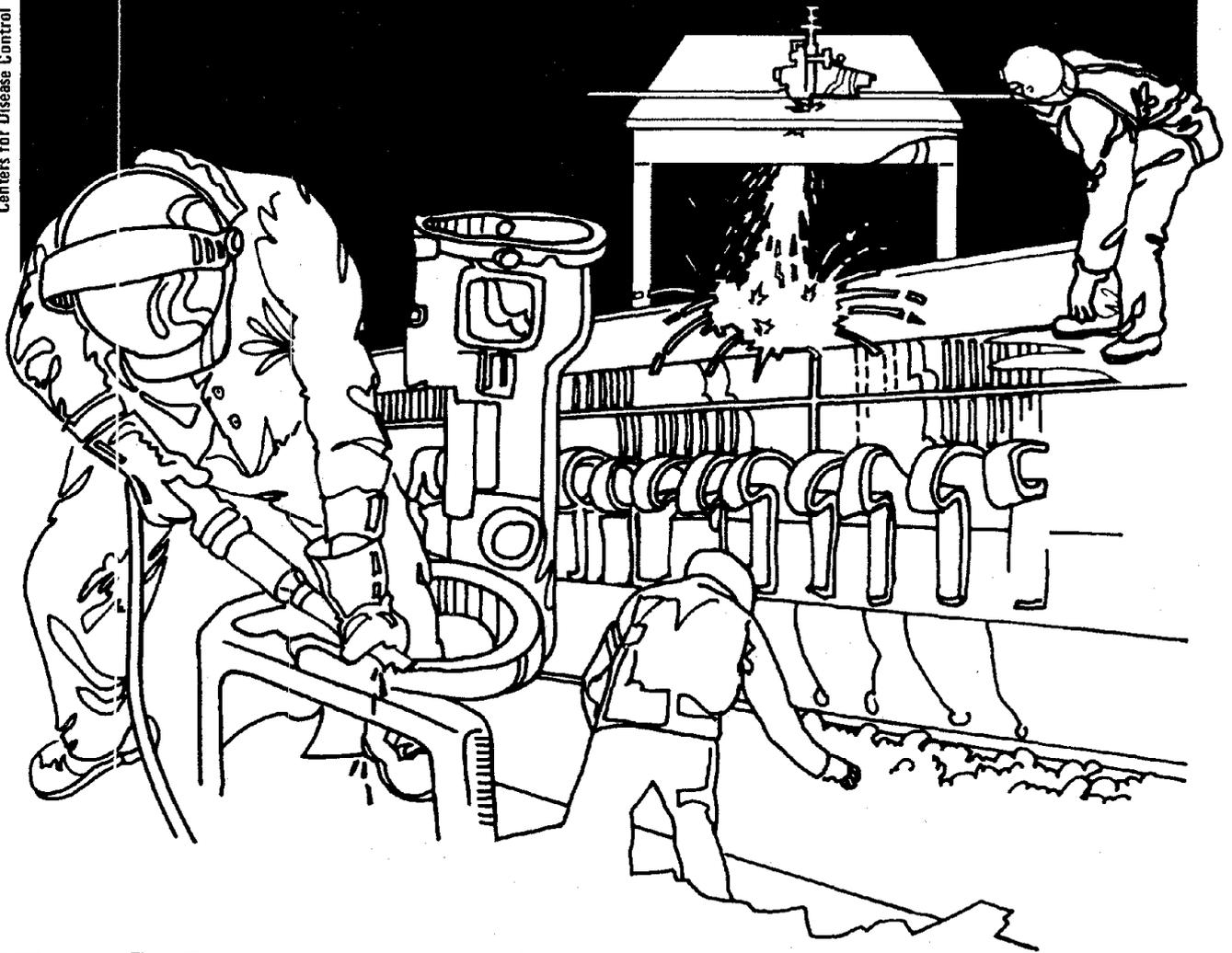


U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES ■ Public Health Service
Centers for Disease Control ■ National Institute for Occupational Safety and Health

NIOSH



Health Hazard Evaluation Report

TA 80-51-803
UNITED STATES INTERNATIONAL
COMMUNICATION AGENCY
WASHINGTON, D.C.

PREFACE

The Hazard Evaluations and Technical Assistance Branch of NIOSH provides, upon request, medical, nursing, and industrial hygiene technical and consultative assistance (TA) to Federal, state, and local agencies; labor; industry; and other groups or individuals to control occupational health hazards and to prevent related trauma and disease.

· Mention of company names or products does not constitute endorsement by the National Institute for Occupational Safety and Health.

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<p style="text-align: center;">Area samples were analyzed and work practices were observed at the United States International Communication Agency (SIC-9199) in Washington, D.C. on August 25, 1980. An unidentified individual made the request to determine if the 40 employees of the agency were exposed to off gases from recording tapes. Thirteen charcoal tube samples from areas of tape salvage, high speed duplication, the recording studio and from the radio broadcast engineering area were analyzed by gas chromatography, and five filter samples were analyzed for hydroquinone (123319) by high performance liquid chromatography. Some area samples contained trace amounts of methyl-isobutyl-ketone (108101), xylene (1330207) 1,1,1-trichloroethane (71556) and styrene (100425). All five samples for hydroquinone were below the detectable limit of 0.02 milligrams per cubic meter of air. Symptoms reported by workers included dizziness, headaches, sneezing and dry eyes. The author concludes that no hazard exists for workers at the company. The cause of the reported symptoms could not be determined.</p>		14. NA	
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NIOSH INVESTIGATOR:
John Love, IH

I. SUMMARY

On April 1, 1980, the National Institute for Occupational Safety and Health (NIOSH) received a request to conduct a health hazard evaluation at the U.S. International Communication Agency (Voice of America, VOA), in Washington, D.C. The request stated that the employees were exposed to off-gases from recording tapes. V.O.A. is responsible for the taping, recording and duplicating of messages in various languages to be played around the world. Symptoms reported by the workers included dizziness, headaches, sneezing, and dry eyes.

On August 25, 1980, a NIOSH industrial hygienist conducted an environmental survey at Voice Of America. Work practices were observed and thirteen charcoal tube samples for solvent analysis by gas chromatography and five filter samples for hydroquinone analysis by high performance liquid chromatography were taken. Samples were obtained in the tape salvage, high speed duplication, recording studio and radio broadcast engineering areas. About 40 people work in these areas on three shifts.

Hydroquinone, which is used as a reducing agent in the manufacturing of polymerizing materials, was thought to possibly be off-gasing from the recording tapes along with various other organic compounds. Results of the charcoal tube samples indicated that trace amounts (less than 1 part per million parts of air, ppm) were present on 1 of 13 samples for methyl isobutyl ketone (MIBK) and xylene, 9 of 13 for 1,1,1-trichloroethane, and 4 of 13 for styrene. All of the samples for hydroquinone were below the limit of detection which is 0.02 milligrams per cubic meter of air (mg/M³). Occupational health criteria for the various substances are all approximately 100 times greater than the amounts found on the samples.

Based on the results of this investigation, NIOSH concluded that a health hazard did not exist for the employees at V.O.A. at the time of the survey and that no cause for the symptoms among the workers could be determined. Trace amounts of several organic compounds were found; however, these levels were not believed sufficient to produce such symptoms in non-sensitized individuals.

KEYWORDS: SIC 9199, Recording tapes, off-gases, 1,1,1-trichloroethane, xylene, styrene, methyl isobutyl ketone (MIBK), hydroquinone.

II. AUTHORSHIP AND ACKNOWLEDGEMENTS

Report Prepared By: John R. Love
Industrial Hygienist
Industrial Hygiene Section

Field Assistance: Steve Lee
Industrial Hygienist
Industrial Hygiene Section

Originating Office: Hazard Evaluations and Technical
Assistance Branch
Division of Surveillance, Hazard
Evaluations, and Field Studies

Report Typed By: Cheryl Maskulka
Clerk-Typist
Industrial Hygiene Section

III. DISTRIBUTION AND AVAILABILITY OF REPORT

Copies of this report are currently available, upon request, from NIOSH, Division of Technical Services, Information Resources and Dissemination Section, 4676 Columbia Parkway, Cincinnati, Ohio 45226. After 90 days, the report will be available through the National Technical Information Service (NTIS) Springfield, Virginia 22161.

Copies of this report have been sent to:

1. Voice of America, Washington, D.C.
2. American Federation of Government Employees (AFGE)
3. NIOSH, Region III
4. U.S. Department of Labor (OSHA), Region III

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