# HEALTH HAZARD EVALUATION REPORT 72-20-11
## HAZARD EVALUATION SERVICES BRANCH
## DIVISION OF TECHNICAL SERVICES

Establishment: Gaylord Finishing, Inc.

Rutherford, New Jersey 07070

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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## SUMMARY DETERMINATION

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 regarding solvent exposure in furniture stripping at the Gaylord Finishing, Inc., 176 Vanderburgh Avenue, Rutherford, New Jersey.

was observed during a typical half-days work on April 28, 1972 during which he used various solvents and at which time air samples were taken. The solvents of concern were methylene chloride, toluene, butyl alcohol, butyl acetate, isopropyl alcohol plus resin, gums, among others. These solvents, when used in small rooms, with poor ventilation, can cause workers to become symptomatic, with symptoms of central nervous system depression. It can cause workers to have an unsteady gait and incoordination, and give the person exposed the appearance of drunkenness.

After observing in a typical half-days work, it is our opinion that he could be exposed to concentrations of solvents which could cause him to be symptomatic. A medical history and physical examination was performed on before and after the half days work and did not indicate that he presently suffers from any condition as a result of his occupational exposure to solvents.

ENVIRONMENTAL SURVEY

On April 28, 1972, NIOSH representatives Albert A. Maier, Region III Industrial Hygienist and Steven K. Shama, M.D., Medical Officer, visited the residence of for the purpose of determining whether he could have received enough exposure to solvents with which he works to cause him to become symptomatic. We spoke to at length about the kind of work that he does and has done, where he performs this work, and the kinds of solvents he uses. We also watched perform a typical half days work in his garage, using substances and solvents which he normally uses. In addition, Dr. Shama performed a complete medical history and physical examination on before and after the half days work.

explained that he was engaged in furniture refinishing as an individual and he operated from his home - that is, he picks up furniture in homes, offices or stores - wherever the customer is located. He estimated that less than half of his work is done in his garage, therefore, conditions vary with the job. proceeded with his regular work to demonstrate his methods. The garage (size approximately 18'x21'x8') had one large 18 foot door, a small three foot door and a window--all were rightly closed. A small gas heater was lighted to take the chill off. NOTE: It was soon shut off at the visitors request.

A mahogany table was stripped, hand rubbed with steel wood and lacquer thinner, then stained and coated with shellac. Between operations, chairs were being sprayed (pressure cans by hand) with clear lacquer. These operations were monitored by placing a portable battery operated vacuum pump on the waist of the worker and drawing air through a charcoal tube clipped to the collar (sample breathing zone). Sampling, using two tubes, started at 10:20 a.m. and ended at 11:24 a.m., as work was nearly completed.

The two charcoal tubes were submitted to the NIOSH Division of Laboratories and Criteria Development in Cincinnati, Ohio for the analytical work, but this was not completed as of this date.

The paint stripper contained 85% methylene chloride; the lacquer thinner contained toluene, butyl alcohol and butyl acetate; the stain contained volatiles of unknown composition; shellac contained methanol; and the lacquer contained butyl cellosolve, isopropyl alcohol plus resin, gums, etc.

Each product was clearly labelled with a warning to use adequate ventilation, avoid breathing vapors and avoid skin contact. The ventilation was not adequate and consequently, vapors quickly filled the entire area.

MEDICAL SURVEY

used in the past a number of solvents and lacquers, some of which contain methylene chloride and ethyl and methyl alcohol. These solvents, when used in small rooms with poor ventilation, can cause workers to become symptomatic. Typical symptoms are those of a general central nervous system depressant. In addition, they can cause an unsteady gait and incoordination, and give the person exposed the appearance of drunkenness.

After observing in a typical half days work, it is the medical impression that he could be exposed to concentrations of solvents which could cause him to be symptomatic. The medical history and physical examination of before and after a half days work did not indicate that he presently suffers from any condition as a result of his occupational exposure to solvents.

In summary, the nature of work, the manner in which he carries out this work, and the solvents he uses could expose him to levels of solvents which could make him symptomatic.

RECOMMENDATIONS

The most important recommendation to be made would be to improve the ventilation at the workplace.