DOW CHEMICAL U.S.A.

REV 8(E)

OCCUPATIONAL HEALTH
TEXAS OPERATIONS
FREEPORT, TEXAS 77541

Accredited by
Accreditation Association
for Ambulatory
Health Care, Inc.

R&S 140285

Building B-101

January 13, 1989

G. Phillips
Unit I
Oyster Creek

xc: D. Cragar
R. Fike, M.D.
Summary File

OCCUPATIONAL HEALTH SUMMARY REPORT

This is a voluntary participation program. The group population is 80. One individual is in the management examination program. Five individuals had current information and were not examined at this time. Seventy-one individuals were examined between November 1, 1988 and December 27, 1988 for a 96% participation rate.

The Chemical and Physical Agent Inventory (CPAI) for Unit I, the vinyl chloride monomer production plant, shows that the chemicals of greatest concern are vinyl chloride, hydrogen chloride, ethylene dichloride, asbestos, and sodium hydroxide. All job classifications are followed on the Vinyl Chloride Medical Surveillance Requirement (MSR). This MSR conforms with the OSHA Vinyl Chloride Standard. The individuals whose job classifications (Coverer/contractor and Electrician/contractor) have a priority rating of 3 for asbestos were not tested with this group.

The 1987-1988 Industrial Hygiene monitoring data will be summarized in I. H. Report No. OC-3138CN. Eight-hour time-weighted average (TWA) and short-term monitoring for vinyl chloride, ethyl chloride, vinylidene chloride, 1,1,1-trichloroethane, ethylene dichloride, and 1,1,2-trichloroethane was conducted. All eight-hour TWA potential exposures to vinyl chloride were below the action level of 0.5 ppm except for the loading technician which was 1.0 ppm. The OSHA Permissible Exposure Limit is 1.0 ppm. Short-term monitoring for the loading technician showed potential exposures ranging form <0.01 to 52

ST0612931

ppm. The higher concentrations occurred during the meter test. Engineering and administrative controls have reduced the potential for exposure during this job; however, employees are required to wear breathing air during the operation. Exposures to the other five chemicals were well below their respective Industrial Hygiene Guides.

Noise monitoring was done for eight different job tasks. Exposures for technicians in oxychlorination and vinyl distillation as well as contractor pipefitters and utility men exceeded 85 decibels on the A-scale as an eight-hour TWA. These job classifications must be included in the Hearing Conservation Program.

Monitoring was conducted during welding operations. The highest exposure was 0.9 mg/m3, which is well below the Industrial Hygiene Guide of 5 mg/m3 for welding fumes.

There are thirteen TSCA 8(d) chemicals present. They are: ethylene dichloride, asbestos, 1,1,1-trichloroethane, ethyl chloride, perchloroethylene, chloroform, pyridine, methylene chloride, hexachlorobutadiene, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, chloroprene, and 1,1-dichloroethane. There is monitoring data as described above for ethylene dichloride, ethyl chloride, 1,1,1-trichloroethane, and 1,1,2-trichloroethane. Hexachlorobutadiene, 1,1,2,2-tetrachloroethane, chloroprene, and 1,1-dichloroethane are by-products. Perchloroethylene, chloroform, methylene chloride, and pyridine are used as laboratory chemicals. Asbestos is used as a miscellaneous chemical.

There were 43 audiograms done. There was one standard threshold shift as defined by the OSHA Noise Standard. This individual's eight-hour TWA exposure is less than 85 decibels on the A-scale.

Ten individuals have medical limitation of respirator usage based on initial screening of the medical examination data. Please see the attached list for medical limitation of respirator usage. If these medical restrictions interfere with an employee's job requirements, further evaluation at the Occupational Health Department should be arranged to fully assess the need for medical limitation of respirator usage.

The liver is considered the main target organ for vinyl chloride. Nine individuals of the 69 tested had minimal elevations of their liver enzymes. None of these nine individuals are in the job

classification of greatest potential exposure. This is considered an expected pattern in a group of this size and does not suggest any special toxic effect influencing the results of this group.

There are no health effects attributable to occupational exposure.

Individuals with life-style factors amenable to medical or dietary intervention include the following: sixteen smokers, 28 individuals who are overweight, twelve individuals with hypertension, and 33 individuals with elevated cholesterol levels. The Occupational Health Department will be happy to assist these individuals in modifying their life-style.

C. K. Browdy M.D.

C. K. Browdy, M.D.
Occupational Health
238-5018

Approved:

18 Jan 89
Date

M. R. Gondek, M.D.
Associate Medical Director
Occupational Health

Attachment

ATTACHMENT January 13, 1989

MEDICAL LIMITATION OF RESPIRATOR USAGE

The following four individuals may wear respirators for escape only:

Two individuals may wear positive-pressure supplied air respirators. They may not use negative-pressure respirators or self-contained breathing apparatus (SCBA) for other than escape. They are:

Four individuals may wear positive-pressure supplied air respirators or negative-pressure respirators. They may not use self-contained breathing apparatus (SCBA) for other than escape. They are:

The following seventy individuals have no medical limitation of respirator usage: