



Dow U.S.A.

REV
8/91

Building B-101

The Dow Chemical Company
2301 N. Brazosport Blvd.
Freeport, Texas 77541-3257

OCCUPATIONAL HEALTH SUMMARY REPORT

LOCATION: CHLORINATED ETHANE PRODUCTS

PERIOD COVERED: July 6 - July 29, 1993

MEDICAL:

C. K. Browdy MD 8-26-93
C. K. Browdy, M.D. Date
Occupational Health Associate

INDUSTRIAL HYGIENE:

M. A. Kesselring
M. A. Kesselring Date
Industrial Hygienist

APPROVED:

Tom Lipps 9-2-93
T. E. Lipps, M.D. Date
Director, Occupational Health

REVIEWED:

M. B. Moran 9/8/93
M. B. Moran Date
Superintendent

cc: L. J. Burmeier
J. H. Saunders, M.D.
J. H. Lippman
Summary File

R&S150983

OCCUPATIONAL HEALTH SUMMARY REPORT

This is a voluntary participation program. The group population is forty-eight.. Twenty-two individuals have current information and were not examined at this time. One individual is in the Management Examination Program. Twenty-five individuals were examined between July 6, 1993, and July 29, 1993, for a 100% participation rate.

The Chemical and Physical Agent Inventories (CPAI) for Chlorinated Ethanes products (CEP), Beta Tri/Vinylidene, CEP Process Development Lab, CEP Technical Center, CEP Unit Services, and CHLOROETHENE* Solvents show that the chemical and physical agents of greatest concern are vinylidene chloride, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,1,2-tetrachloroethane, chlorine, ethylene dichloride, 1,1-dichloroethane, methyl chloroform (technical), Prelete, AEROTHENE* TT Inhibitor, CHLOROTHENE* Industrial Solvent, CHLOROTHENE* SM, DOWCLEN* LS Solvent, AEROTHENE* TT, ethyl chloride, and 1,4-dioxane. The Control B Operators and the PRG Control B Operators will be followed by liver profiles because of potential exposure to vinylidene chloride above the Threshold Limit Value for two years. The remaining job classifications will be followed on the periodic core examination.

The 1990 Industrial Hygiene monitoring data is summarized in I. H. Report No. A24-3447-90C. Eight-hour time-weighted average exposures for vinyl chloride, vinylidene chloride, 1,1-dichloroethane, 1,1,1-trichloroethane, ethylene dichloride, 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, and 1,1,2,2-tetrachloroethane were well below the recommended exposure guidelines. Short-term personal exposures were monitored during specific job activities including vinylidene chloride drumming and tank car loading procedures, line openings, and methyl ether hydroquinone (MEHQ) addition. Exposures were within acceptable guidelines for all chemicals except vinylidene chloride. The acceptable guideline for vinylidene chloride was exceeded during vinylidene chloride drumming and tank car loading, filter changing, and during MEHQ addition. Full face air

CONFIDENTIAL

R&S 150984

purifying respirators with organic vapor/acid gas cartridges (OVAG) were used during the opening of the MEHQ additive pot and half face air purifying respirators with OVAG cartridges were used during vinylidene chloride drumming. After the monitoring data was received, the use of full face airline respirators was implemented for vinylidene chloride drumming.

The 1991 Noise Survey is summarized in I. H. Report No. A24-3758-91N. Personal eight-hour time-weighted average exposures were less than 85 decibels on the A-scale for all monitored job classifications. These job classifications are not in the Texas Operations Hearing Conservation Program.

There were seventeen audiograms done as part of the periodic core examination. There was one standard threshold shift as defined by the OSHA Noise Standard. This individual is not in the Texas Operations Hearing Conservation Program.

Three individuals have limitation of respirator usage based on initial screening of the medical examination data. Please see Attachment A for medical limitation of respirator usage. If these medical restrictions interfere with an individual'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 vinylidene chloride and the other chlorinated hydrocarbons present. Three individuals of the 25 tested had minimal elevation of one or two of the five liver enzyme tests done. This is much lower than expected in a group of this size.

Three individuals reported to the Occupational Health Department.. Two were musculoskeletal complaints and one was a slip/fall with resultant injury.

Individuals with life-style factors that are amenable to medical or dietary intervention include the following: five smokers, thirteen individuals who are overweight, three individuals with uncontrolled

CONFIDENTIAL

R&S 150985

hypertension, and eleven individuals with elevated cholesterol levels. Please see Attachment B for a graphic representation of this data. Please contact the Health Promotion Department (238-4334) for assistance in modification of these life-style risk factors.

Attachments

*Trademark of The Dow Chemical Company

CONFIDENTIAL

R&S150986

August 25, 1993

MEDICAL LIMITATION OF RESPIRATOR USAGE

The following two individuals may wear respirators for escape only:

may wear a positive-pressure supplied-air (airline) respirator or a negative-pressure respirator. He may not use a self-contained breathing apparatus (SCBA) for other than escape.

The following forty-five individuals have no medical limitation of respirator usage:

CONFIDENTIAL

REDACTED

R&S150987

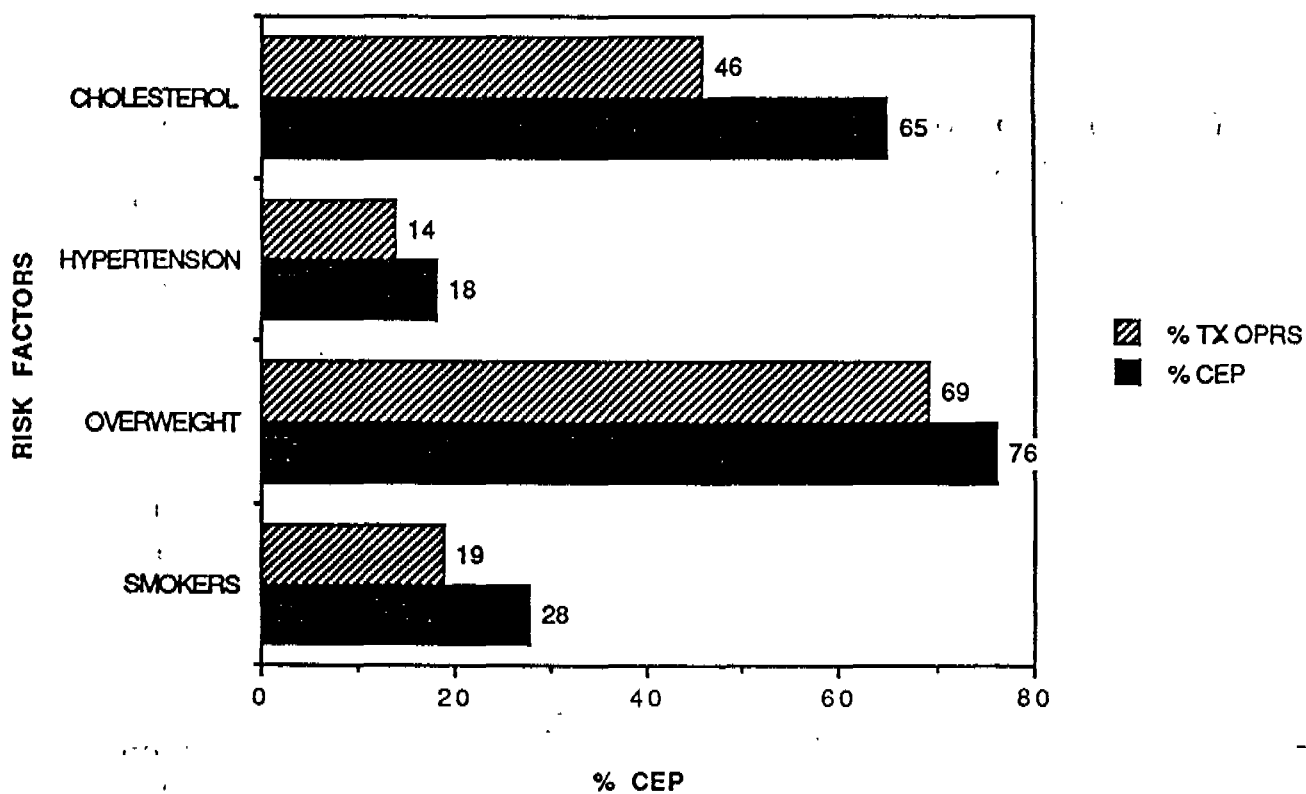
CONFIDENTIAL

REDACTED

R&S150988

August 26, 1993

Data from "CEP 8/93 DATA"



CONFIDENTIAL

R&S150989