

INDUSTRY-WIDE VINYL CHLORIDE EPIDEMIOLOGY UPDATE

The Chemical Manufacturing Association has recently released the results of an epidemiology study involving 37 plants belonging to 17 companies, including Union Carbide facilities at South Charleston, West Virginia, and Texas City, Texas.

This study, conducted for CMA by Environmental Health Associates, Inc., updates the mortality experience of more than 10,000 men employed during or after 1942 and who worked in vinyl chloride areas for at least one year prior to 1973. The production plants studied either made vinyl chloride monomer or made polyvinyl chloride or copolymers with vinyl chloride. Analyses by individual plants were not performed as part of this research.

Initial Study Findings

The present study updates earlier studies that were first published in 1974. The 1974 results, together with other information, led to substantial revisions to our facilities and procedures to greatly reduce the potential for employee exposure. We also implemented other worker protection programs in the mid-1970s to comply with the specifics of the OSHA standard which became effective in 1975.

Update Findings

The initial study observation period has now been extended 10 years with follow-up through Dec. 31, 1982, and more than 35 causes of death have been evaluated. Among the 10,173 men in the study, there have been:

- 1,536 deaths between 1942 and 1982, while 1,705 deaths would have been expected based on death rates for the corresponding general U.S. population. The overall mortality is lower than expected.
- 359 cancer deaths, compared to 342 deaths expected based on the U.S. population. In particular, a statistically significant increase in deaths was noted for cancer of the brain and other parts of the central nervous system (23 observed deaths compared to 13 expected deaths), and for cancer of the liver and biliary tract (37 observed deaths compared to 6 expected deaths). These findings are consistent with the earlier information provided to you in the 1970s.
- There were also 41 observed deaths for emphysema compared to 23 expected deaths. The relative increase in emphysema deaths was a new finding. However, in contrast to the liver cancer findings, the risk of emphysema decreased with longer employment in exposure areas. Such an observation is inconsistent with an employment-related effect.

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General Employee Information

The results from this updated study highlight the continuing need for employees to follow the safe operating procedures and practices established for their jobs and for employees to participate in regular medical checkups. Specific periodic medical examinations are scheduled for persons who have potential for exposure to vinyl chloride in their current job assignment.

Symptoms of possible liver disease, including abdominal pain, weight loss, and jaundice (probably accompanied by pale stools and dark urine), should be promptly brought to the attention of a physician.

Symptoms of possible diseases of the central nervous system include severe headaches, visual disturbances, weakness or loss of normal use of limb and convulsive seizures. Any of these conditions should also be brought to the attention of a physician.

Emphysema is a serious lung condition that may first cause breathlessness on exertion only and progress to more severe disability. It is often associated with chronic bronchitis and aggravated by chest infection or influenza. Cigarette smoking is the most important known cause of this condition and continued smoking will increase the severity of the disease.

We will continue to keep you informed of any new findings associated with this study. Should you have any further questions, we urge you to contact Dr. _____ in our Medical Department.

Location Manager

Location Medical Director

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