

DEPARTMENT OF CHEMISTRY
AND PUBLIC AFFAIRS

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MEMORANDUM

TO: Members, ACS Committee on Environmental Improvement

FROM: Dr. Stephen T. Quigley

SUBJ: Proposed OSHA Emergency Temporary Standard on Vinyl Chloride

The Occupational Safety and Health Administration in the Department of Labor is expected to issue a proposed revised emergency temporary standard on vinyl chloride in light of several reports of fatalities and a study implicating vinyl chloride as a cause of angiosarcoma of the liver.

The proposed rules should be published before April 5, 1974 in the Federal Register. The emergency standard will lower the ceiling exposure for vinyl chloride from the current level of 500 p.p.m. to 50 p.p.m. The "permanent" standard is expected to set 1 p.p.m. as the ceiling for exposure. Most polyvinyl chloride plants are believed to operate their polymerization sections (where the recent fatal exposures have occurred) at exposures of about 50 p.p.m., although recently some plants claim to operate at a level of 10 p.p.m.

To date, at least 11 cases of liver cancer have been linked to vinyl chloride exposure. Vinyl chloride is known to cause other liver diseases and changes in circulation and bone structure in fingers and toes. Polyvinyl chloride is suspected of causing lung damage. A 1961 study shows that a level of 500 p.p.m. of vinyl chloride causes cancer in animals. A recent study by Professor Cesare Maltoni, supported by a consortium of European firms, reveals that liver angiosarcoma found in fatal deaths of vinyl chloride - polyvinyl chloride workers can be induced in rats by exposure to vinyl chloride. B. F. Goodrich Co., the parent company of B. F. Goodrich Chemical Co., has announced that it is funding a medical research program on angiosarcoma at the University of Louisville.

A brief chronology of the events leading to the issuance of a revised standard on vinyl chloride is as follows:

- January 1974: Announcement of an investigation into the cancer deaths of three workers at a B. F. Goodrich Chemical Co. plant in Louisville, Ky.

GENC 009516

March 29, 1974
120-02LA-74

- February 1974: Administrative rulemaking hearings held by the Department of Labor; Industry witnesses supported a revised standard on vinyl chloride exposure, not as an emergency temporary standard, but through ordinary rule-making procedures; Labor representatives and university scientists supported the emergency standard.

The Kentucky Occupational Safety and Health Board added vinyl chloride to a list of cancer-causing agents.

- March 1974: The National Institute of Occupational Safety and Health developed recommendations on analytical methods for detection of vinyl chloride under plant conditions. OSHA announced that an emergency standard would be issued by early April 1974. B.F. Goodrich Co. announced funding for a medical research program on angiocarcinoma and related liver diseases.

Does the committee wish to review the emergency temporary standard on vinyl chloride and develop a draft ACS policy statement for presentation at a rulemaking hearing?

S. T. Quigley

cc: Dr. R. W. Cairns
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