

MEMORANDUM

To: Merl Schwenk
Paul Thompson

From: Cliff Watson

Date: April 23, 1974

Subject: Vinyl Chloride Exposure

We have just received the Federal Register, Vol. 39, No. 67 for Friday, April 5, 1974. In this copy OSHA has propagated a new emergency, temporary standard for exposure to vinyl chloride. The old standard was 500 ppm. The new standard is 50 ppm. As can be seen, this is a 10 to 1 reduction. A background is as follows.

Vinyl chloride is a synthetic chemical made from ethylene or acetylene. It is the parent compound of thermal plastic resin polymers and co-polymers widely used in containers, wrapping tissue, electrical insulation, pipe, conduit and many others. It has been commercially made in the U. S. since 1939. Presently, production is in excess of seven billion pounds per year.

Previously, it was known to be a chlorinated hydrocarbon which has moderate liver toxicity which is where the standard of 500 ppm was established. On January 22, 1974 OSHA was informed by NIOSH that B. F. Goodrich Chemical Company had reported deaths of several of their employees from a rare form of liver cancer which might have been occupationally related. A joint inspection was made by OSHA, NIOSH and the Kentucky Department of Labor of the possible hazard involved in the manufacture of vinyl chloride and polyvinyl chloride on February 15, 1974.

At the hearing the results of a laboratory test by Cesarenaltoni of Bologna were presented. The tests were accomplished on Sprague Towley rats. The rats, mice and hamsters were exposed to concentrations of 10,000, 6,000, 2,500, 500, 250 and 50 ppm for varying periods. Some of the experiments have concluded and others are still going. The VC was introduced to the animals through inhalation.

Tumors have been observed in animals in concentrations as low as 250 ppm. No tumors have been observed in animals at 50 ppm. Three hundred animals are still being exposed to concentrations

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