

Memorandum

To: M. R. CHMURA
From: H. J. SMITH
Date: 9 DECEMBER 1987
Subject: VINYL CHLORIDE

Route ~~Q-B-H-E-T-S~~ File V-464
~~Q-B-H-E-T-S~~ AIR PRODUCTS
~~Q-B-H-E-T-S~~ CHEMICALS MANUFACTURING
Dept.: CHEMICALS MANUFACTURING
Dept./Ext.: CHEMICALS MANUFACTURING/8374
Makewells vinyl chloride

cc: E. I. Handwerk
J. T. Wharton

T. J. Medovich

The report, Effects of Exposure to Vinyl Chloride: An Assessment of the Evidence is a review of the existing literature on epidemiological studies relating vinyl chloride with various health effects. Nothing new comes out of this report and the following major conclusions are reached.

"Review of the massive data now available relating to the long-term health of men occupationally exposed to VCM leads to two clear conclusions. First the men have experienced a specific hazard of the normally extremely rare angiosarcoma of the liver. Approximately 1 in 335 of the men exposed in the 49 plants has died of the disease and approximately 2% of observed deaths have been attributed to it. In the course of time the numbers of cases of angiosarcoma must be expected to be increased 2 to 3 times. Secondly, the mortality from all other causes has been typical of that in normally healthy industrial workers. If any other hazard has existed its effects has been small."

With respect to reproductive hazards, the author declined to examine the evidence stating that, "... the little evidence that has been adduced relating to such possible effects has been reviewed elsewhere and the conclusion reached that no such effects have been demonstrated."

Regarding a hazard to the public, evidence of angiosarcoma in 4 people who lived near plants handling VCM "... strongly suggests that manufacturing VCM or PVC may have caused a minute hazard to the general public." Current controls on VCM releases have lowered levels in the communities surrounding plants and the author concludes, "On any reasonable criterion the hazard to the general public (if there is any at all) must be negligible." The author goes on to say, "No other hazard to the general population, other than a hazard of cancer, can reasonably be postulated."

It must be noted that the author hedges a little on the occupational cancers saying that there may have been a small risk of lung cancer resulting from early, high exposures. He also states, "the balance of evidence does not support the idea that VC has caused cancer in any other organ, but it is impossible to state categorically that it has not." I take this to mean simply that we cannot prove a negative. None the less, there continues to be speculation that exposure to vinyl chloride may be associated with brain cancer, cancers of the haematopoietic and lymphatic tissues, melanoma, thyroid cancer, and cancers of the digestive tract.

H. J. Smith
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