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B. N. WHEELER, JR.

**NIOSH
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INTERNAL CORRESPONDENCE

N CARBIDE CORPORATION

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Date

February 14, 1974

Originating Dept.

Medical Department

Answering letter date

Subject

Gentlemen:

I attach a few notes summarizing a meeting called by NIOSH
to discuss the problem of carcinogenicity of vinyl chloride.

Very truly yours,



**C. U. Dernehl, M. D.
Associate Medical Director**

**CUD:lk
Attachment**

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I attended a meeting called by NIOSH at the Sheraton-Hopkins at Cleveland on February 12, 1974. This meeting was called to acquaint all interested persons with the current status of the problem of cancer of the liver in employees engaged in the manufacture of PVC and to advise regarding NIOSH plans for attack on this problem. The morning was spent in reviewing the current knowledge of the situation and was divided into four categories. I will give the categories and comment briefly on any significant comments that were made in each. By significant I mean information not generally held by those involved in the problem.

1. Manufacturing and Industrial Hygiene

Relatively little new information was uncovered in this review and perhaps the review pointed out most clearly a rather impressive lack of knowledge of NIOSH people regarding manufacturing processes involved in PVC.

2. Medical Findings and Pathology

The significant item here was that NIOSH has confirmed that the suspect fourth case was indeed an angiosarcoma so that we now definitely have four cases of the disease in the Goodrich plant at Louisville. It was also pointed out that all four cases had a non-alcoholic cirrhosis and NIOSH is investigating at least four additional suspect cases of cirrhosis among employees in the plant.

3. Epidemiology

The major discussion here was concerned with the problems of identifying angiosarcoma among the many different diagnostic possibilities listed as cause of death on a death certificate. The epidemiologists point out that there may indeed be a significant number of cases of angiosarcoma hidden under different diagnostic terminology.

4. Toxicology

Nothing new or startling was submitted here.

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The afternoon was devoted to discussion of the same four areas given above but with the interest now pointed toward NIOSH's ongoing program in these areas.

1. In the industrial hygiene area NIOSH expects to visit a number of manufacturing operations and to do appropriate sampling of the air for vinyl chloride monomer. They will look for sources of leaks permitting the escape of VCM and they will investigate improved technology to reduce the escape of VCM. Otherwise they will be conducting routine industrial hygiene surveys.
2. Epidemiology - NIOSH along with other government agencies will be establishing a surveillance of all deaths in the United States of liver cancer with a view to confirming the type of malignancy involved and thus establishing a factual incidence of the (*angiosarcoma*) disease in the United States. They also intend to select a block of plants which should involve all four of the standard manufacturing processes for PVC and hopefully will not involve any copolymers. I doubt that they will be able to meet this criteria. A detailed epidemiological study of all the diseases appearing in this work force will be undertaken in an attempt to develop the spectrum of diseases seen in these workers.
3. Medical - Because it is well nigh impossible to diagnose angiosarcoma of the liver prior to surgery or autopsy, it will be necessary to rely upon the concomitant disease, cirrhosis, to identify persons for whom there should be a high index of suspicion. Since cirrhosis is by itself an exceedingly difficult disease to diagnose until it reaches an advanced stage, NIOSH will convene a panel of experts on liver disease who will develop essential protocols which should be followed by physicians examining employees working in a production of PVC.

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4. Toxicology - After careful review of ongoing toxicology programs NIOSH will select any additional work which it believes should be done, will develop protocols for the studies and will probably ask for bids by outsiders for the completion of the work.

NIOSH has established an advisory committee for dealing with this problem, and Union Carbide has R. N. Wheeler on that advisory committee.

C. U. Dernehl, M. D.
lk
February 13, 1974

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