

ETHYL CORPORATION

INTER-OFFICE

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File

To Mr. J. R. Lees

ADDRESS

From Mitchell Zavon, M.D.

ADDRESS

Subject Vinyl Chloride

DATE June 18, 1976

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Unless there is work underway which I have not discovered, it is evident that the gaps in our knowledge regarding the biological effects of VCM will not soon be filled. Nor is there work underway that is likely to confirm some of the fundamental work that has already been done.

Most of the biological and biochemical work on vinyl chloride that has been published is of the "quick and dirty" variety. This is fine for early and quick approximations but inadequate for development of soundly based strategies aimed at preventing harm to exposed populations.

I had thought from the research description that Dr. Van Durren of New York University was working at identifying the specific carcinogenic agent involved in tumors associated with VCM exposure. He is doing this type of work, but with trichloroethylene, not with VCM. Dr. Lloyd Sullivan at Carnegie-Mellon is not presently working with VCM, having established to his satisfaction that the Sprague Dawley rat used by the Dow group, metabolizes the VCM in a manner similar to that of man, as determined by in-vitro tissue block studies with radio labeled material.

The University of Louisville proposed research is aimed at improving the early detection of malignancies induced by VCM. It has not, as far as I can ascertain been subjected to peer review by scientists knowledgeable in the specific areas encompassed by the proposed research.

There are sufficient questions about the published work on reproductive effects and about the supposed chromosome effects to warrant careful review and evaluation and perhaps some additional studies.

At present the epidemiological work has amply demonstrated an association between high exposures to VCM and an increase in angiosarcoma of the liver, brain and lung tumors. The liver tumors are the most evident. All have been demonstrated in rodents exposed to high concentrations of VCM. The specific mechanism of action, the actual carcinogenic agent, the effect on germ cells in-vivo and whether a threshold for effect exists; none of these have been demonstrated satisfactorily. And the present research effort is unlikely to so demonstrate in the foreseeable future.

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