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MANUFACTURING CHEMISTS ASSOCIATION

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October 21, 1975

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R N. WHEELER, JR.

To: Technical Panel on Vinyl Chloride Research

Subj: Action, Information, and Reference Items

ACTION:

1. Please note that confirming arrangements with Chairman Torkelson, the next Panel Meeting has been rescheduled for December 11 and the Research Coordinator's meeting for December 10 at MCA headquarters. Tentative agenda to follow. The Project Manager will be unavailable on dates previously chosen, December 8 and 9.

2. Industrial Biotest Laboratories (IBT) has requested permission to present the final Vinyl Chloride report at the annual meeting of the American Industrial Hygiene Association in May 1976. Please review the enclosed abstract on "Inhalation Studies with Vinyl Chloride" and be prepared to vote on it at the next meeting. In the interim, comments may be sent to me with copy to Dr. Torkelson.

IBT has already been informed of Dr. Torkelson's suggestion to add the phrase "...consistent with dose" to the last sentence and his questions about whether the animals are all expected to be dead and pathology completed by the deadline. IBT was also reminded that the full paper should be reviewed by the Panel before presentation.

INFORMATION:

3. A revised (October 1) Financial Statement is enclosed, correcting errors in the one distributed with the minutes of the last meeting. Also, subtotals have been added. The key change is in Grand Total Balance on Hand to \$305,935.

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4. A possible circulatory problem relating to Vinyl Chloride is brought up in Dr. Mayo Smith's enclosed letters of October 13 and 14. Answers to the questions posed should be suitable discussion items at the next meeting.

5. Updates on points raised in Dr. Torkelson's letter of September 22, enclosed, are in the following four items.

6. The subject of greatest interest, pathological backup for the National Institute for Occupational Safety and Health's (NIOSH) listing of angiosarcoma cases is still under investigation. The Project Manager received a copy of EPI-74-63-2, Angiosarcoma of the Liver Among Vinyl Chloride Workers, Louisville, Kentucky, May 13, 1974 from Dr. Henry Falk of the Center for Disease Control. Enclosed is a memorandum from Dr. Marcus Key with attachment which appears to cover case numbers 14, wire coating operator and case 15, accountant in NIOSH's Table 1 on VC/PVC workers of June 25, 1974. Further follow-up correspondence and telecons have not yet yielded all of the information desired.

7. A letter of October 3 from Dr. James Woods of National Institute for Environmental Health Sciences (NIEHS) is also enclosed. However, the December 31, 1974 proposal from Midwest Research Institute and modification of May 16, 1975 are too long to include herewith.

A listing of NIEHS extramural projects on Vinyl Chloride and cover letter of October 15, 1975 from Dr. Braun are enclosed.

8. The Consumer Product Safety Commission (CPSC) program is outlined in the Project Manager's communication to the Panel May 8, 1975 and in the enclosed letter of May 6, 1975 from Dr. R. M. Hehir to Dr. Torkelson. In a telecon October 1, 1975 CPSC's Dr. McLoughlin informed the Project Manager this study is going into it's seventh month and no patterns (e.g. in mortality) have yet emerged, nor have reports been written on it. The first sacrifice is scheduled for November 4, 1975.

9. In a telecon September 26 with Dr. Stara of EPA, the Project Manager learned the "Transplacental Carcinogenesis" work is to be done at Kettering Laboratory under the direction of Dr. Bingham. Chambers are being modified and it may be

months before start up. No new information has been received on EPA's "Automobile Interior" project.

REFERENCES:

10. The September 1975 issue of Chemical Engineering Progress, contents page enclosed, includes four papers on Vinyl Chloride Emission Control. Lead authors of two of these papers, Dr. Bell and Mr. Wheeler, are also members of our panel.

11. First page of article on Vinyl Chloride Exposure in a Controlled Industrial Environment from the July '75 issue of Archives of Environmental Health.

12. A booklet on Health and Safety Guide for Plastic Fabricators prepared by NIOSH is available from the Office of Technical Publications, National Institute for Occupational Safety and Health, Post Office Building, Cincinnati, Ohio 45202.

13. A 2nd edition, July 1975, of The Determination of Vinyl Chloride, A Plant Manual is available from Chemical Industries Association Ltd., Alembic House, 93 Albert Embankment, London, SE1 7TU.

14. Enclosed is the first page of an article on "Comparison Between In Vitro Toxicity of Polymer and Mineral Dusts and Their Fibrogenicity" from Annuals of Occupational Hygiene, Vol. 16.

15. The following reports and articles are brought to your attention: Measurements of Vinyl Chloride From Aerosol Sprays by Bruce W. Gay, Jr. et al.; EPA-650/4-75-020, May 1975 Environmental Monitoring Series report on Ambient Air Measurements of Vinyl Chloride in the Niagara Falls Area; Atmospheric Oxidation of Chlorinated Ethylenes report by B. W. Gay, et al., of EPA's Environmental Science Research Laboratory at Research Triangle Park, North Carolina 27711.

Sincerely,

Milton Freifeld
Milton Freifeld
Project Manager

MF/mj
Enclosures

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Inhalation Studies with Vinyl Chloride

M. L. Keplinger, J. W. Goode, D. E. Gordon, and J. C. Calandra
Industrial BIO-TEST Laboratories, Inc.
Northbrook, Illinois 60062

A study was conducted to determine the effects from inhalation of vinyl chloride monomer to rats, mice and hamsters. The study was designed as a life-span study in these species which is usually 1-1/2 to 2 years.

In this study, 200 rats, hamsters and mice (100 of each sex or 600 animals total per exposure group) were exposed to 50, 200 or 2,500 ppm vinyl chloride vapor 7 hours per day 5 days per week. Mice were exposed for 9 months while rats and hamsters were exposed for 12 months. The animals were then held for the rest of their natural lives.

The rats were COBS Charles River; mice were CDI Swiss Charles River; and the hamsters were Golden Syrian from the same source. Food was removed during exposure, water was present and no bedding was used at any time.

All 600 animals per level were exposed in a single chamber. The chambers were operated under dynamic conditions, sealed and under slight negative pressure. This was done so that in the case of an accidental leak, room air would flow into the chamber instead of contaminated air flowing out of the chamber.

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The concentrations in the chamber were analyzed using gas-liquid chromatography. An automatic sampling device allowed samples to be drawn from 3 locations in each chamber. The concentrations at all locations in each chamber were monitored every day.

Moribund and dead animals received gross autopsies and gross lesions were photographed. The major organs of all animals were fixed, prepared and examined histologically.

Findings included angiosarcomas in the liver, alveologenic adenomas in the lung and adeno-squamous carcinomas in mammary glands.