

Monsanto

FROM (NAME & LOCATION)

G.J. Levinskas - A2SC

DATE

September 16, 1975

cc

P.L. Wright

F.R. Johannsen

SUBJECT

Toxicology Monthly Summary

REFERENCE

TO

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Starred (*) items are indicated for possible inclusion in the Departmental Monthly Summary.

- * 1) Polychlorinated Biphenyls (PCBs). The State of Wisconsin, Department of Natural Resources, conducted public hearings to consider adoption of controls on point surface discharge of PCBs to Wisconsin waters. Two proposals were considered: 1) zero discharge, 2) discharge not to exceed the background level by more than 0.005 mg/l (5 ppb). Representatives of the paper recycling industry, which has a strong lobby in Wisconsin, testified that a zero discharge rule would close down their industry. Mr. Glen Schweitzer, Office of Toxic Substances, EPA, testified that the federal water quality guidelines on permissible ambient water PCB content would be revised downward to 1 part per trillion. Dr. J.R. Allen, University of Wisconsin Medical School, testified that dietary PCB concentrations as low as 2.5 ppm resulted in skin lesions and reduced fertility in Rhesus Monkeys. This is the lowest PCB exposure reported to produce adverse effects in primates.

A meeting has been arranged with Dr. Allen to discuss his findings in greater detail. Subsequently, it will be determined what additional studies, if any, Monsanto should undertake to confirm or rebut his findings.

2) Non-PCB Dielectric Fluids. Meetings were held in St. Louis on August 25 with General Electric and on September 5 with Westinghouse to discuss replacements for PCBs as dielectric fluids. The Medical Department participated in those meetings to discuss the toxicity testing programs for those replacement materials which are mixtures of tolyl xylol sulfone and hydrocarbons.

- * 3) Hypocholesterolemic Agent (Maleic Anhydride C-18 Copolymer). A program to obtain the necessary toxicity information to permit clinical evaluation of this material was reviewed with FDA. They had several questions concerning its chemistry and its tentative mechanism of action. It was inferred that an IND (Investigative New Drug) should be obtainable with no particular difficulty if the following conditions were met: 1) consistent production of a uniform, identifiable polymer could be maintained, 2) future results confirm its non-systemic action, and 3) no

adverse toxicity findings are observed in the 90-day feeding experiments.

- *4) MONTAC 1040. A food additive petition has been submitted to FDA requesting the use of this polymer as a side-seam cement for cans. MONTAC 1040 would be an alternate to the use of lead solder.
- *5) Sorbic Acid. A committee of the Federation of American Societies for Experimental Biology (FASEB) is reviewing all food additives that are Generally Recognized As Safe (GRAS) for FDA. Their review of sorbic acid completed prior to 1975, pointed out the lack of a lifetime feeding study and made reference to a study in which this material produced local tumors at the site of injection into animals. NIOSH has included sorbic acid in their lengthy list of suspect carcinogens on the basis of the latter study. Letters have been written to the FASEB committee and NIOSH calling their attention to a 2-year rat feeding study published in 1975, with sorbic acid, requesting that they accept those findings as evidence for the non-carcinogenicity of this product.
- 6) Pyrolysis Product Testing. The Fire Safety Center Audit Committee met at the Southwest Research Institute to review the corporate programs for assessment of the toxicity of smoke from Monsanto products. Results of laboratory scale and fullsize room experiments were presented, and some features of room-size burns were demonstrated to the group. The importance of consistency in the interpretation of data and the need for a consistent policy regarding the release of information by individual companies was discussed.
- 7) Detergent Builders and Synthetic Fatty Acids. Programs for the toxicity testing of Detergent Builder M and synthetic fatty acids, a material to be used in manufacture of bar soap, have been developed and will be initiated by October 1. These programs contain features based on our previous experience with NTA. The studies with synthetic fatty acids incorporate comparisons with coconut fatty acids that are currently used in bar soap formulations.
- 8) Epidemiology. Dr. Mahboubi, an epidemiologist at the Eppley Institute for Research in Cancer, has been retained as a consultant to evaluate the risk of cancer among employees who had worked in the AROCLOR section of the Krummrich Plant.
- A meaningful statistical evaluation of mortality data with former employees of the Springfield plant, to ascertain whether or not they have an occupationally-related health problem, could not be accomplished. Considerably more data will be needed before such a study could be initiated.

- 9) Acrylonitrile (AN). MCA's AN Toxicity Technical Panel met

with representatives of NCI, FDA, NIOSH, EPA and CPSC to discuss toxicity test protocols. NCI's representative indicated that they had no regulatory role to play with respect to protocols, but that they would like to have a scientist-to-scientist dialogue with MCA's Panel members to review technical details in the protocols. This was a useful meeting. In general, there is no substantial disagreement on the objectives or details of the tests. There are some differences in approach, but it was recognized by all that these are a reflection of the different backgrounds and experience of the individuals involved.

It may be of interest to note that the FDA and NIOSH representatives were not aware of the earlier discussions which MCA's Panel members had had with other representatives of both of those agencies.

- 10) TCC. Samples of TCC have been sent to the International Contact Dermatitis Group for subsequent sensitization testing. TCC phototoxicity and photosensitization studies with H.I. Maibach at the University of California have been authorized.
- * 11) Recruiting. Despite active recruiting, including the interviewing of several candidates in St. Louis, we have not succeeded in hiring toxicologists to fill the 2 authorized vacancies. Salary scales are being reviewed by the Personnel Department to determine whether this is a factor in our failure to recruit. We have had offers rejected because of our lack of a laboratory, and we have had a rejection simply because of the uncertainty as to where the laboratory would be located. Until the site is definitely determined, we may have further difficulty in subsequent recruiting.

Recently, an offer of employment was made to a student who will receive his degree about January, 1976.

- 12) Toxicity and Handling Statements. A distinctive form has been prepared on which to print these statements for distribution to customers and in response to inquiries about the toxicity of Monsanto's products. As new statements are prepared, they will be issued on this form.

The use of a printed statement on a distinctive form should enhance Monsanto in the eyes of the recipient and it will diminish the temptation, if any, on the part of individuals to edit those statements.

- 13) Meetings. a) Allyl Chloride-Epichlorohydrin. A toxicological research review, proposed by MCA, was held on August 29, 1975. Representatives of member companies in attendance recommended that

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a research project on each of the above materials be initiated. Details concerning Monsanto's interest in this project and estimation of our share of allocations is presently undergoing evaluation.

b) Chronic Toxicity Testing and the Food Industry. This meeting was held at the Given Institute of Pathobiology. Major topics discussed were: 1) methods of testing for carcinogenicity; 2) interpretation of microscopic lesions of the liver indicative of carcinogenicity; and 3) the importance of epidemiological data in interpreting risk-benefit relationships.

14) Publications. An article entitled "Environmental and Toxicological Planning in Polymer Production and Disposal" by G.J. Levinskas appeared in Environmental Health Perspectives, 11: June, 1975. This was part of a symposium on Public Health Implications of Components of Plastics Manufacture sponsored by NIEHS at Pinehurst, N.C. in July, 1974.


George J. Levinskas

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