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February 23, 1973

Mr. Wilbur H. Speicher
Administrator, Industrial Hygiene
Westinghouse Electric Corporation
700 Braddock Avenue
East Pittsburgh, Pennsylvania

Dear Wilbur:

Jack Garrett and I have discussed his conversation with you sometime ago concerning the toxicity of chlorinated naphthalenes. I thought I would confirm his comments to you by this letter.

Monsanto has not had any experience in the manufacture or use of chlorinated naphthalenes. Our evaluation of their toxicity characteristics then is based on numerous reviews of the literature and from involvement from time to time in incidents where the chlorinated biphenyls were suspected of causing industrial or environmental problems, and where subsequently, the chlorinated naphthalenes were found to be the culprits.

I have enclosed Xerox copies of the discussion in Patty's textbook on the chlorinated naphthalenes. I believe this is a good review of the literature and an objective evaluation of hazards associated with these compounds. Obviously, this discussion relates principally to the industrial hygiene aspects of the hazards and toxicity.

I have also enclosed a copy of the United States Department of Agriculture Memo distributed in 1953, discussing an incident where the chlorinated naphthalenes were proven to be a distinct environmental problem which I have been told cost the manufacturer of the product containing the chlorinated naphthalenes several millions of dollars.

I am sure you are aware that the chlorinated hydrocarbons or askarel type fluids are under continuing surveillance and study by a number of U. S. agencies, including the Food and Drug Administration, the Council of Environmental Quality, the Office of Science and Technology of the President, the National Bureau

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of Standards and several sub-agencies of the Environmental Protection Agency. It is no secret that a number of individuals within these agencies have proposed a complete ban on the use of PCBs, including the use in transformers and capacitors. Continued use of these applications is currently allowed under restrictions based primarily on action by Monsanto to prove that the current quality PCBs manufactured in the United States could be used, with appropriate precautions, without serious industrial hazards and with complete protection of the environment.

I can think of no other action at this time which would intensify the efforts of a number of government agencies to effect a complete ban on the manufacture and use of askarel fluids than to change their composition by introducing other chlorinated hydrocarbons with questionable concurrent increase in hazards in the working environment or to our eco-system.

You are probably aware that the most important data which has lead the government agencies to permit the continued but restricted use of polychlorinated biphenyls are the extensive animal toxicity studies which we have completed in the last two years. These included two-year feeding studies in rats and dogs; a three-generation rat reproduction study; possible effects on poultry relating to egg production, hatchability and egg shell thickness; teratology and mutagenetic studies. Along with these feeding studies have been tissue residue analysis and a major effort on developing biodegradation data. As a matter of interest, the cost of these studies to Monsanto has been something more than a half million dollars.

I am certain that government agencies (and many of the public environmental protection groups) would rightfully question a change in the askarel fluids which would introduce the chlorinated naphthalenes. I can not find published data indicating the possible chronic effects of chlorinated naphthalenes - if it contaminates food or feed products or its possible effect if accidentally released to the environment. As a matter of fact, the published literature on the potential industrial hazards from inhalation is not as complete or current as it should be by today's standards.

I know that for many years, you and your associates have established a system within your company of recommending necessary precautions in handling any materials purchased by you. The Medical Department of Monsanto has a similar program. In addition, we are in the position of essentially "banning" the production or use of any chemical where we think the hazards or risks make that step desirable or necessary. With the data presently at hand, we would not permit the manufacture or use of chlorinated naphthalenes intentionally nor as a significant component or by-product of any product within our company.

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I don't believe I've talked to you since the last meeting of the AIHA, so may I take this opportunity to congratulate you on being elected to honorary membership.

Best personal regards,

Sincerely,

Elmer P. Wheeler
Manager, Environmental Health

EPW/alb

Enclosure

bc: P. B. Benignus - B2SC
T. L. Gossage - B2SL
C. Paton - B2SC

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