

PRESENTATION

To The

INTERDEPARTMENTAL TASK FORCE ON PCBs

WASHINGTON, D. C.

May 15, 1972

by

MONSANTO COMPANY

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Introduction

By

W. B. Papageorge

Considerable interest has been and continues to be expressed by many involved in studies of PCBs and the environment concerning their degradability. Monsanto has received many inquiries relating to results of our studies. We now have accumulated some meaningful data which we believe would be appropriate to present in a status report to the Interdepartmental PCB Task Force. We sincerely appreciate this opportunity to share this information with you this afternoon.

Slide #1 - We plan to discuss current results of laboratory biodegradation studies of PCBs and the levels of PCB residues observed in the tissues of laboratory animals which were used in our toxicity studies. We will review briefly actions Monsanto has taken to reduce PCB usage and environmental losses. We will also discuss the application of our laboratory findings to the development of a modified more readily degradable PCB mixture for use by the capacitor industry as a dielectric fluid. As many of you are aware, we have designated this material as Aroclor 1016.

Slide #2 - Our presentation will begin with Dr. Tucker discussing primary bacterial degradation and PCB residues in fish, fowl and mammal tissues. Dr. Munch will review evidence that demonstrates disappearance of PCBs from the environment and Dr. Paton will discuss Monsanto's PCB sales and use actions and the impact these actions will have on the environment.

Because of the limited time available, may I suggest that questions be held until all the speakers have completed their reports. Following the presentations there will be opportunity for further discussion of information which may be of particular interest to you.

Dr. Tucker, Research Group Leader, will now present a status report of his laboratory results.

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MONSANTO PCB ACTIONS

- ⊙ PHASE-OUT OF PCB SALES WORLDWIDE IN ALL APPLICATIONS EXCEPT DIELECTRICS
- ⊙ CONVERSION OF DIELECTRIC FLUIDS TO MORE BIODEGRADABLE PCB'S

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MONSANTO'S PRESENT PROGRAM TO PREVENT ENVIRONMENTAL POLLUTION BY PCB'S

- NO MORE SALES WORLD-WIDE EXCEPT
DIELECTRIC USERS
- RESTRICT OVER 97% CAPACITOR FLUID SALES TO
AROCOR 1016 ONLY (U.S.A. /CANADA).
- ELIMINATE AROCOR 1260 FROM TRANSFORMER
FLUIDS
- CONTINUE INCINERATION FACILITIES FOR SCRAP PCB'S
- ENCOURAGE DIELECTRIC INDUSTRY THROUGH ANSI
C-107 TO ENFORCE STRICT ENVIRONMENTAL CONTROL
OVER PCB'S

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SUMMARY

By

W. B. Papageorge

In summary, our observations, admittedly limited, both from our laboratory data and from reports of other investigators lead us to believe with considerable confidence that PCBs do degrade in the environment. The complexity of the commercial mixtures has, however, hampered the determination of the varying rates of degradation of all the possible isomers.

Monsanto's sales actions have definitely reduced the amount of PCBs that could be introduced into the environment.

In those applications in which the use of PCBs is considered essential, namely transformers and capacitors, further actions will assure strict environmental control on PCBs.

In transformers the use of the lower chlorinated biphenyls along with proper handling during manufacture, use and repair and proper disposal of waste fluid by high temperature incineration should result in acceptable control.

For the capacitor application the development of Aroclor 1016, which satisfied all of the industry's requirements relating to dielectric characteristics and handling properties as well as having Underwriter Laboratory fire-resistance approval, permits the continued use of PCBs in this important hermetically sealed application but with a fluid that has a significantly lower content of the slower degrading isomers. The use of this material accompanied by proper handling and disposal of the scrap fluid by high temperature incineration represents in our considered opinion a significant step forward in our efforts to control the impact of PCBs on the environment.

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