MITSUBISHI MONSANTO CHEMICAL COMPANY

FROM LOCATION : Tokyo

DATE : December 11, 1972

SUBJECT : PCB DECOMPOSITION BY MERCURY-LAMP LIGHT

REFERENCE :

cc: Messrs.
J. R. Durland
H. S. Bergen
W. R. Corey
W. R. Richard

TO : Mr. W. D. Papageorge
St. Louis

As requested in your letter of November 21 to Dr. Durland, we obtained a brief summary of Professor Eto's report on the above subject made to the 135th western Japan regional meeting of Agricultural Chemical Industry. Its translation is attached.

Details of his report are not available.

Best regards.

S. Uneno

S. Uneno
Product Director
Division C

MM:ri
Encl.

(Brief Summarys)

PCB Decomposition by Mercury-Lamp Light

To look for a simple way of decomposing PCB, we made a series of tests.

Kanechlor 400 and caustic potash were mixed with alcohol and then, 100W high-intensity mercury-lamp light was applied to the mixture.

Alcohol used includes methanol, ethanol, iso-prophy alcohol, n-propyl alcohol, iso butanol, n-butanol, iso-amyl alcohol, etc. Chlorine made free was quantified by Volhard method. In the case of using iso-propyl alcohol, nearly 100% of chlorine was let loose, leaving white crystals which was regarded as biphenyl. In the case of other kinds of alcohol, only 20 - 30% of chlorine was let loose. When ethanol was used, a small quantity of a certain hydroxide was obtained. Reaction under the sun light was also studied.