Monsanto

FROM (NAME & LOCATION) W. R. Richard - T3A

DATE September 7, 1971

SUBJECT POLYCHLORINATED BIPHENYLS RESEARCH SUMMARY

REFERENCE

TO : John Mason - B2SA

cc: H. S. Bergen - B2SA
T. L. Gossage - B2SL
R. E. Keller - 1760
W. B. Papageorge - B2NK
C. Paton - B2SH
E. S. Tucker - 1760
E. P. Wheeler - A2SA

Summary for discussion on PCB's with FDA:

1. Chlorinated biphenyls are biodegradable. (Aroclor 1272 may not be, but this is not in production.)

2. Lower chlorinated biphenyls degrade faster than more highly chlorinated biphenyls (Aroclor 1221 faster than Aroclor 1254 and Aroclor 1260).

3. Measurements of degradation:

   Activated sludge - bacteria, aerobic degradation

   Feeding study in rats

   Feeding study in dogs (latter tissue analysis 10% complete)

4. Correlations of toxicity in rats with chlorinated biphenyl residue in tissue.

   Aroclor 1260 and Aroclor 1254 - at 100 ppm in rats showed one effect - enlarged liver. PCB build-up was ~~500~~ to ~~1000~~ ppm in lipid.

   Aroclor 1254 and Aroclor 1260 at 1 and 10 ppm, and Aroclor 1242 at 1, 10 and 100 ppm in rats showed no effect. The chlorinated biphenyl build-up was ~ 250 ppm in lipid.

5. New Products

   Reduce the chlorination level - cut off Cl_5's or higher isomers.

   Maximize the rate of biodegradation.

   Aroclor 1016 replaces Aroclor 1242 in capacitors.

WRR

W. R. Richard

/is