Monsanto

FROM (NAME & LOCATION) E. S. Tucker - R&D Laboratories - South Second Street

DATE February 18, 1970

SUBJECT AROCLOR - BIODEGRADABILITY

REFERENCE

TO R. A. Lidgett - Ruabon

cc: R. E. Keller - Res. 1
W. R. Richard - GO
H. A. Vodden - Ruabon
M. W. Farrar - Res. 1
R. H. Munch - Res. 2
R. W. Weiss - GO
W. B. Papageorge - GO
D. Danna - GO

As requested by Bill Richard (see enclosed Xerox) I am sending under separate cover, portions of selected bromobiphenyls (Arobrom) and bromochlorobiphenyls (Bromo Aroclor) to you to evaluate the "biodegradability" of these materials with respect to the Aroclor 1242 you've tested. Also included are samples of two blends of distillation cuts from Aroclor 1142, prepared by R. Munch, to see if elimination of the higher chlorinated isomers would make a product which would be more biodegradable.

Our work seems to confirm your observed need for biphenyl-adapted micro-organisms. We have exposed Aroclors 1221, 1242, 1248 and 1254 to biologically populated river water (8 weeks) and to lab sludge in semi-continuous activated sludge units (~ 8 months). Only Aroclor 1221 has shown significant degradation and this is probably due to its high biphenyl content.

Do your micro-organisms, once adapted to biphenyl, require further feeding on biphenyl to continue degrading the chlorinated biphenyls?

Additionally, we have not proceeded further on the SCOT column work. We are, however, interested in any further work that you have done with the wall coated open tubular columns, etc.

I have also included with this letter an official copy of the method we use to analyze water and sediment for PCBs.

Scott

E. S. Tucker

db
Enclosures

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