Monsanto

FROM (NAME & LOCATION) G. W. Miller - Anniston, Alabama

DATE : December 4, 1969

SUBJECT : AROCLOR 5460 SOLUBILITY

REFERENCE

TO : W. A. Kuhn - G.O.

cc: W. R. Richard - G.O.
J. E. Smith - G.O.
M. W. Farrar - JFQ
H. L. Williams
J. C. Landwehr
V. R. Haupt
R. A. Haydel

The acetone insoluble portion of 5460 can be either chlorinated biphenyl or over-chlorinated terphenyl based on the test results from Central Research. At present Anniston R&D is developing data which will allow better process control and thereby minimize production of low soluble material due to the terphenyl phenomena. The biphenyl portion of the problem has hopefully been minimized by piping changes etc, to physically reduce leaks.

A. Recently, Cumming Paton has asked Bill Coaker to test low soluble 5460 (terphenyl) in EVA hot melt mixes to see if any problems can be anticipated with hot melt customers who recently received low soluble (terphenyl) Aroclor 5460. To accomplish this I have forwarded four samples of Aroclor 5460 production. One sample is lot AL-282 which was tested by Central Research and reported as over-chlorinated terphenyl. The remaining three samples are low soluble and are probably over-chlorinated terphenyl. Before any application test work is done, I think we should test all four of these samples to make sure that the over-chlorinated terphenyl-insolubility conclusion is sound. This could be done at either Organic or Central Research and the samples are available from Bill Coaker. Additional mass spec testing to identify the type of insolubility may be required to release some materials presently in our warehouse pending Coaker's application test results.

B. Anniston has developed a rough cost estimate ($8000) to equip for the FDA-5460 test being developed by Ed Emery. The final draft of the method is not complete because additional samples are required for testing. This number will be firmed up and a project issued upon completion of the method development. If I understand the procedure being developed, the final plant control would be to employ the chromatographic procedure for each lot to determine the chlorinated biphenyl level. This coupled with the present solubility test would show the presence of both insoluble species, quantitate the chlorinated biphenyl and determine the solubility.

C. Bill Richard requested that Anniston furnish small samples of Aroclor 5420 and Aroclor 5430 for possible chlorinated biphenyl product replacement. I have prepared approximately 300 grams each and am forwarding them to Quentin Thompson. If larger quantities are needed, we can collect the 50XX from plant chlorinators; however the distillations to 54XX must be done in lab equipment.

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As you can see, we are getting input and requests from all angles at present. We intend to comply with all requests that do not interfere to any great extent with the R&D program if this is your wish.

G. W. Miller

/bs

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