

FROM (LOCATION) R.A. Lidgett, Ruabon

CC: R.A. Baxter
H.A. Vodden
R.E. Keller, St. Louis (memo
only)

DATE : March 30 1972

SUBJECT : AROCLOR ANALYSIS

REFERENCE : RAL:ch

TO : E. Emery, St. Louis

We are at present engaged in M.C.L. in discussions with Prodelec and Bayer about the composition of 42% chlorinated biphenyl.

Prodelec claim that a test sample of M.C.L. A 1242 sent to them contains less than 0.5% w/w penta and higher chlorinated biphenyls and that results for their own material are very similar. We have analysed this sample and obtain a figure 1.8% w/w ($\pm$ 0.2%).

We have also been asked to provide a method for the analysis of 1242 type P.C.Bs specifically for penta + Cl components for use by the European producers and possibly, at a later date, by government agencies.

As a basis for this we have initially used the data given by Sissons and Welte and have developed a capillary column g.c. method which we feel is suitable for present needs (this method is enclosed). Terry Gay has used a similar Apizon L column with the mass spectrometer to determine peak chlorine numbers and we are in agreement with Sissons & Welte on peak assignments (chlorine No. only).

As you can see from the chromatogram it appears that the column elutes penta + components as a batch after the tetra and tri chloro biphenyls and we feel that the method can be used unambiguously (especially if we use the second pentachloro I.S. as discussed).

We therefore intend to submit the method for use as a "standard" method in Europe but before we do this we wish to be absolutely sure that it is suitable.

I should be grateful if you would comment on the feasibility of using this method for penta Cl+ determination both internally and externally.

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Also, as mentioned earlier in this memo the results on a test sample show that although we obtain a figure 4x that of Prodelec we are still well below figures quoted by you for MCL and MC 1242. We have looked at other samples of MCL 1242 and there is a definite variation in penta + content (up to 4% w/w) with indications for one sample that the chlorination was higher than required or that contamination with 1248 or 1254 had occurred on the plant.

All this leads me to ask if you would examine two test samples (a) that sent to Prodelec (MCL 1.8%) and (b) a second from a current batch that we will also analyse. Comparison of results would have two important advantages a) If MC and MCL agree we can resist with confidence alternative claims by Prodelec and Bayer, b) If we disagree we can determine the reason and co-operate in design of the best method.

Initially we intend to send the draft method for examination and test by Bayer and Prodelec and I would value a reply by telex on any major immediate comments. Prodelec & Bayer will probably spend some time evaluating the draft method and during this period perhaps we can establish a combined Monsanto approach.

R.A.L.

R.A. Lidgett

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