From MONSANTO CHEMICAL COMPANY

At St. Louis Research

cc: H. R. Gamrath - MO 3 Ea

Date October 17, 1956

[redacted] Elmer P. Wheeler

At Main Office - 2

Reference

Subject AIR ANALYSIS OF PYDRAUL 150

The problem of analysis of air for extremely small amounts of Pydraul 150 components has been considered and has been discussed with Drs. Munch and Ellenburg. Your memo to Mr. Sido stresses the importance of accuracy in air sampling and analysis in this forthcoming submarine test and I heartily agree.

Analysis of the air for either chlorine or phosphorus after combustion would always be open to question because of the possibility of "tramp" materials getting into the air and giving high results. Such analyses would indicate the maximum amount of Pydraul 150 that could be present, not the absolute amount.

Direct analysis of the air samples by spectral methods does not appear promising according to Dr. Munch because of the very dilute samples involved which would necessitate special expensive absorption cells and multipath instruments.

Concentration appears to be required. If some means of concentrating the material from the air could be found, positive identification of Aroclor 1242 and 2-ethylhexyl diphenyl phosphate could be made by infrared spectral analysis. Such analysis would then be definite proof of the presence of these materials in the air and such data could be used to calculate exposures. Suggested concentration methods might be as follows: (a) Passage of the air through solvents followed by partial evaporation of the solvent, (b) Extracting the organic matter from a large air sample bottle by shaking with a solvent, or (c) Compressing the air sample by some means. These methods are merely suggested routines and exact procedures would have to be devised and tried experimentally. The primary purpose is to obtain enough organic material from the air in a convenient form to analyze spectrographically.

We have discussed this problem several times over the phone and I will be happy to talk to you again upon my return to St. Louis October 29th. In the meantime I thought you might be interested in the above thoughts.

Roger

Roger E. Hatton

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