

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

THE KETTERING LABORATORY
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September 7, 1956

AIR-MAIL

Mr. Elmer P. Wheeler
Industrial Hygienist
Monsanto Chemical Co.
1700 S. Second Street
St. Louis 4, Missouri

Dear Elmer:

I am enclosing two letters for your consideration in relation to the concentration of Aroclor 1242 in air that is saturated with (Pydraul F-150). The one letter contains results obtained in three phases of this study whereas the other contains only the results obtained in the latter 2 phases. We believe the results obtained in each successive phase are more nearly exact. We believe that there may have been a slight crack in the Millipore filter paper while samples were being obtained during the first phase, thus giving results a little high. This was not the case in the second or third studies. The few samples obtained during the third study are believed better (and to be fairly accurate) than those determined during the second since they were sampled for one hour rather than 15 minutes resulting in a quantity of chloride that was on the center of the analytical curve.

We doubt that with the sensitivity of the method and the number of samples taken that a significant distinction can be made between (1) one and two bubblers of Pydraul F-150 for generating the atmosphere and (2) that an increase in concentration would be obtained by bubbling the air through a third bubbler containing Pydraul F-150. Such statistical distinction could be obtained if sufficient samples were collected. The number of samples required could be statistically ascertained, however, this would be a rather large number of samples. For example, it would require between 50 and 100 samples to ascertain a statistical difference of one microgram per liter on data with deviations like that obtained in the first phase. (Each sample requires two analyses, i.e., one for each of the two absorption towers collecting the thermally decomposed Aroclor 1242.) Since our deviation has

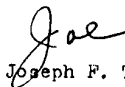
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Page 2

Mr. Elmer P. Wheeler
September 7, 1956

decreased in the second and third phases this figure would probably be reduced a little for data such as we have obtained most recently.

Sincerely yours,



Joseph F. Treon

JFT:fk

cc: Mr. Wheeler
(Washington, D.C.)

P.S. I have sent a photo with the original letter to St. Louis; also I have enclosed a photo with the copy of the letter to Washington. Since I am very low on these pictures will you keep one and return the other.