

STB
Perchlor

Monsanto

MONSANTO INDUSTRIAL CHEMICALS CO.
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St. Louis, Missouri 63186
Phone: (314) 694-1000

May 20, 1976

Dr. Theodore ^OD. Meiggs
USEPA
National Field Investigation Center
Bldg. 53
Box 25227 Denver Federal Center
Denver, Colorado 80225

Dear Dr. Meiggs:

During Tom Gallagher's recent visit to Monsanto's Research Center in St. Louis, we mentioned some anomalies we encountered when using perchlorination techniques to measure PCB's. Tom suggested that we alert you to our concerns. I have attached a copy of a letter we sent to Dr. Wallen in March which describes our findings. We recommend that the perchlorination technique not be used without a confirming method for measuring PCB's.

Hope to see you in Chicago in June at the ASTM meeting.

Sincerely,



James P. Mieux, Ph.D.

ss
Attachment

bcc: R. E. Keller ←
J. C. Weber

DSW 012508

March 15, 1976

Dr. I. E. Wallen
Environmental Protection Agency
Office of Toxic Substances
401 M Street S.W.
Washington, DC 20460

Dear Dr. Wallen:

Monsanto has a concern over the validity of the perchlorination technique used by EPA and others to measure and/or confirm polychlorinated biphenyls in environmental materials.

In our investigation of the perchlorination method, we have found that such chemicals as biphenyl, alkylated biphenyl, and many other substituted biphenyls, interfere with the perchlorination technique. It also appears that various petroleum components may interfere. If these chemicals were present in environmental materials that were being tested for PCB's using the perchlorination method, erroneously high PCB concentrations would be reported.

A recent article in the Journal of the AOAC (Vol.58, No.3, 1975) points out two other limitations of the perchlorination procedure:

1. High and variable reagent blanks, which cause erroneously high findings.
2. Formation of bromononachlorobiphenyl, which causes low recoveries.

A copy of the article is attached.

DSW 012509

Dr. I. E. Wallen

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March 15, 1976

Since these limitations can lead to significant errors in determining trace levels of PCB's in environmental samples, we suggest that EPA carefully review the validity of the perchlorination technique. Results that have been obtained using this technique may not be valid.

If any other information is needed, please let us know.

Sincerely,

J. Coleman Weber
Manager, Product Acceptability

mah

cc: Dr. A. C. Trakowski
Environmental Protection Agency

bcc: W. C. Hammann - T3A
R. E. Keller - T1B
J. P. Mieure - T2F
D. Wood - B2SC
K. W. Easley - Washington 1920
R. G. Kaley - T2F

DSW 012510

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