



MIDWEST RESEARCH INSTITUTE

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November 13, 1984

Dr. John Craddock
Monsanto Company
800 North Lindbergh Boulevard
St. Louis, MO 63166

Dear John:

As we discussed on the telephone recently, MRI has strong experience in the investigation of the combustion or pyrolysis of organic materials. I have included several reprints and brochures which highlight this experience. One of these enclosures is the paper submitted to Chemosphere, which describes the preliminary results of our investigations into the products formed from PCB-containing and other dielectric fluids under fire conditions. I will send you a copy of the more detailed EPA report when it is published in December.

With regard to our discussion about further investigations of the products from certain dielectric fluids, I believe that MRI has the best combustion facility and the broadest capabilities available. My general approach to an investigation for Monsanto would follow the general design used in our EPA study. The conditions would first be optimized using model compounds. This would ideally involve a known, unambiguous reaction from the starting material (e.g., a trichlorobenzene isomer) to a target product (e.g., a PCDD). Using a factorial design and statistical analysis of the data, the optimum conversion conditions would be found. Using the optimum conditions, various real samples (e.g., technical products, field samples, used oils, etc.) would be combusted. The combustion products would be identified, quantitated, and the conversion efficiency calculated. Alternatively, conversion efficiency under other (i.e., nonoptimum) conditions could be measured. If it is important to Monsanto, MRI could also investigate other issues, such as the effects of additives or contaminants. Needless to say, the study would be designed to meet Monsanto's data objectives.

We are most enthusiastic about the possibility of continuing our work in this important area and look forward to further discussions. As you know, you are invited to visit MRI at any time and see our facilities. I look forward to seeing you at the EPRI meeting in December and also to discussing this matter further.

Sincerely,

Mitchell D. Erickson
Principal Chemist

MDE/sp

Enclosures

cc: J. Goings

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