Monsanto

FROM (NAME & LOCATION): W. R. Richard - Research Center

DATE: December 9, 1968

CC:

SUBJECT: DEFENSE OF AROCLOR

REFERENCE:

TO: Ralph Munch
Paul Benignus/J. Bryant
J. Herber/J. Sullivan
Q. Thompson/R. Weiss

I would appreciate your thoughts. Admittedly, this letter is too defensive because we may find that Aroclor is safe and has been misidentified in the environment. However, here goes on the defensive side.

1. Toxicity Defense - Callandra to determine safe level of exposure on a long term basis in ppm by feeding studies.

2. Is chlorinated biphenyl identified in environment? Do chicken work, and compare with what is being found and reported as PCB.

3. Find out whether PCB is an "enzyme inducer".

4. Clean up stream and air pollution from

   our Aroclor plants
   our customers' plants
   our customers' products
   restrict sales from specific uses

5. See if Aroclor handling facilities and operation of customers

   capacitor plants
   transformer plants
   heat transfer systems

   could be improved to minimize exposure.

6. Seek replacement derivatives which are different, less toxic, but which use our plants.

   ØØ - ØØClx - ØØBr or ØØClFx or ØØFx

   - ØØØClx ØOØClx or ØSØClx

   Test toxicity, electrical properties, economics.

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7. Expand the product line to minimize effects of Aroclor decreases.

   Use hydrocarbon + (10% invention)

   Control of DK with another reagent

   Control stress on plastic

   Control solubility of polypropylene

   Could control DK be by ØØFx?
   (Westinghouse wants DK >3.0 in fluid)

8. Examine silicate esters for transformers; capacitors if compatible with polypropylene

   Examine Flutec perfluoro compounds for specialty transformers and capacitors.

   Examine sales of polyisobutylene - low M.Wt. thickeners for oil impregnated cable.

   Examine RØClx for toxicity, for electrical properties.
   RØFx

9. Enter the business for solid insulation by buying into capital

   Polyethylene
   Polypropylene } film production
   Polystyrene

Thanks,

W. R. Richard

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