Monsanto

GE Dielectrics

FROM (NAME & LOCATION): W. R. Richard - T3A

DATE : February 19, 1975

SUBJECT : GENERAL ELECTRIC RESEARCH EXCHANGE Hudson Falls, New York February 11, 1975

REFERENCE :

TO : F I L E

cc: H. S. Bergen - B2SL
J. G. Bryant - T1J
T. L. Gossage - B2SL
L. T. Johnson - 1650
R. H. Munch - T1B
C. Paton - B2SC
Q. E. Thompson - T3E
D. Wood - B2SD

Present from G.E.: F. D. Price, R. A. Stenger, L. P. Hart, Jr., E. S. Dunham, W. O. Solberg, John Eustance, George Newcombe, John Fagel

Present from Monsanto: J. G. Bryant, L. T. Johnson, R. H. Munch, W. R. Richard, Q. E. Thompson

Impressions

If we expect improved acceptance by EPA on biodegradation and toxicity, G.E. would move from Aroclor 1016 to MCS 1043. Price has to be ca. equal to Aroclor 1016.

If we have a ban on PCB, G.E. would try to expand use of DOP in small capacitors. The extent of this expansion is open to interpretation. Mr. Hart's view - Replace DOP with hydrocarbon/sulfone across the line - To do this H/S should be ca. equal in cost on a volume basis to Aroclor 1016. Leave the small market in DOP capacitors alone at present. Drs. Price/Stenger view DOP could be extended across the industrial small capacitor line. Why? DOP is available from more than one supplier. DOP doesn't build "marble palaces" in St. Louis. There is a strong anti-Monsanto emotion on pricing.

G.E. wants a non-PCB for power factor correction. DOP is not satisfactory. Sulfone/HC are the best replacements found so far. They want a fluid with flash point >300°F. and one that can be monitored for quality control. G.E. preferred MCS 1588 and MCS 1238 over MCS 1633 despite the prospects of a lower price on MCS 1633. Don't like flash point and multi-component nature of MCS 1633. However, there will be a lot of resistance to a price greater than Aroclor 1016 on a volume basis.

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Monsanto Views

Need to give G.E. a satisfactory S/HC blend meeting minimum FR and quality - high corona inception and corona quenching. Cost ≅ Aroclor 1016 on volume basis.

Want to have G.E. working with S/HC blends for experience. Mr. Hart did not want to requalify a fluid to replace DOP in the present applications.

We need to determine the hydrocarbon with the best chance of cost/performance which can replace Aroclor 1016 on a large scale.

Monsanto needs to continue the search for a FR biodegradable blend component. We are working with

$$\phi\text{-}CH_2\text{-}\phi$$
$$Cl_3$$

but did not disclose this to G.E. Have not done enough work.

Environmental PCB

Earl Dunham is in charge of clean-up for both Hudson Falls and Fort Edward. Dunham is moving, but slowly. John Fagel suggested to Earl that he replace soap in the washer operation with $NaHCO_3$. Dunham has tried Na_2CO_3 - too alkaline on Al cans. Price feels G.E. lags behind competitors in clean-up.

Monsanto reported - Pilot plant can clean-up a non-soap containing stream to <10 ppb PCB with carbon, or polyurethane foam and possibly with clay. Loadings on carbon varied from 0.1% at Krummrich to 25% at Anniston on carbon. Polyurethane foam was loaded to ∿2%. Results on sectioned plug showed highest concentration in first plug section. Lower chlorinated biphenyls migrate downward from one section of foam to the next. At 2% loading we get ∿6 ppb PCB in effluent. With soap take all the Aroclor off the column, worse than the solubility limit of PCB in water.

We left copies of new EPA proposal, December 1974, with G.E. We noted in this document no plant effluent could contain more than 0.5 lb./day by edict despite calculations using the formula proposed by EPA. We noted also that standard sample was to be filtered sample rather than total sample according to the proposal.

Urgent Need - Internal Monsanto

Choose a hydrocarbon/sulfone blend which will give volume cost equal to Aroclor 1016, with a suitable profit to Monsanto. Get this fluid to G.E. and have it available in case of PCB ban.

WR
W. R. Richard MONS 030633

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