Monsanto

FROM (NAME & LOCATION) Willis S. Clark - General Offices

DATE: September 18, 1970

SUBJECT: PLASTICIZER SALES CALL REPORT

REFERENCE:

TO: FILE

cc: J. R. Darby - JFQ Research
M. W. Farrar - JFQ Research
E. H. Fording - New York
W. J. Gissendanner - WGISS
C. C. Kemp - CKEMP
G. Lawicki - New York
W. F. Waychoff
J. D. Wright - JWRIG

VISIT TO ST. LOUIS OF: GEIGY CHEMICAL COMPANY

DATE OF VISIT: September 9, 1970

FOR GEIGY: George Dominguez - Marketing Manager
Norm Anderson - Research Group Leader
Frank Lyman - Director of Industrial Medicine

FOR MONSANTO: Dick Davis
Martin Farrar
Norm Johnson
Emmet Kelly
Gerry Lawicki
Jim Springgate
Scott Tucker
Elmer Wheeler
Will Clark

OBJECTIVES OF MEETING:

1. Review several technical aspects of our analytical procedure developed by Monsanto for Geigy.

2. Review the quality requirements for a modified Aroclor 1221 in Geigy's dye carrier application.

3. Review the toxicological and environmental problems associated with Aroclor 1221.

4. Review various proposals relating to the business aspects of Geigy's purchase of material from Monsanto.

IR-10 REV 11-69

BACKGROUND

In April, 1970, Geigy visited Monsanto in St. Louis to review the possibility of purchasing products for use by Geigy for the manufacture of dye carriers for polyester fibres. The main products of interest at that time were Aroclor 1221 and HB-40. Since that date, Geigy has proceeded to develop this dye carrier, which they call dye carrier OR, and have started to push it into the market. This material now contains Aroclor 1221.

To date, Geigy has had fair success marketing their product. They feel they are vulnerable, however, on two points. First, the bi/tri chlorobiphenyl content of Aroclor 1221 poses a possible problem with respect to toxicity and environmental contamination. Second, they are vulnerable from outside competition and would like to have some way of limiting this threat. The desire to discuss these two points was the main reason for this visit to St. Louis.

DISCUSSION

1. Scott Tucker and Norm Anderson reviewed the analytical procedure which Monsanto developed for Geigy. Geigy's objective in this area is to have a very inexpensive, portable analytical capability which can be purchased and operated by Geigy's customers. The main problems with the Monsanto procedure relate to its cost and complexity and to the difficulty which Geigy's customers would have. Less sophisticated procedures were discussed along with alternate hardware. Some possibilities were uncovered. These will be pursued by Scott Tucker and the information obtained will be forwarded directly to Norm Anderson.

2. Geigy would like Monsanto to modify Aroclor 1221 to: 1) remove the di/tri chlorobiphenyls which could cause toxicological and environmental problems and 2) remove unreacted biphenyl to improve the odor of the product. The latter is the less important problem. Monsanto did some preliminary

distillation work which led to samples containing 0.5-18% biphenyl and 0.1 to 30% di/tri chlorobiphenyl. These ranges of concentrations were satisfactory to Geigy. It was agreed that samples would be made up and sent within a week. The composition of the samples will be as follows:

Blend	% Biphenyl	% 44' Di/Tri Chlorobiphenyl
A	18.5	.30
B	.50	.30
C	.50	.10

3. Considerable time was spent discussing toxicity and environmental problems. I believe that the concensus would be that there are probably no serious environmental problems with Aroclor 1221, especially if the di/tri chlorobiphenyls are removed. This product should degrade and should not cause problems in sewage treatment facilities. The question of toxicity was another matter. It was agreed that as an industrial chemical, Aroclor 1221 does not have a high degree of toxicity. However, it is a chlorinated hydrocarbon and thus deserves certain handling and use precautions. Certainly local ventilation on processing equipment would be required. This is a matter of some concern for Geigy in as much as the textile industry is evidently notorious for their lack of ventilation equipment. Even biphenyl in their operations is a serious problem. Considerable discussion was generated on this subject in the morning meeting between Dr. Kelly, Dr. Lyman, and Mr. Wheeler. These three continued their discussion of the industrial hazards of mono chlorobiphenyl in a separate discussion in Dr. Kelly's office.

4. The two positions of Monsanto and Geigy on the business aspects of this purchase are as follows:

Geigy: They would like a modified Aroclor 1221, which they alone can purchase, for as low a price as possible.

Monsanto: We would like to supply either Aroclor 1221 or a modified product to Geigy and are willing to consider limited manufacture or sales. However, Monsanto has a large existing stake in this market which we must consider.

An interesting possibility which was raised by Geigy would be for Monsanto to manufacture the entire emulsion, dye carrier system for Geigy. All these matters will receive continued attention in the coming weeks.

Dick Davis also pursued the possible broader interests which Geigy might have in other dye carriers.

CONCLUSIONS

1. Aroclor 1221 or a modified product probably has a future in the dye carrier market. Geigy plans to pursue this.

2. Monsanto remains interested in this market, at the least as a supplier of biphenyl to existing customers and Aroclor 1221 to Geigy and possibly as a supplier on a continuing basis of biphenyl, chlorinated biphenyl, and emulsions directly to the fibres market.

FUTURE ACTION

1. Scott Tucker

Pursue the questions on analytical capability and pass information along to Norm Anderson.

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2. Willis Clark

Work up pricing and blend compositions and send to George Dominguez. Send samples to Dominguez. Maintain continuing contact with Geigy on the questions relating to the terms of their purchase/manufacturing proposals.

Willis S. Clark

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