

Monsanto

FROM: (NAME & LOCATION) Cumming Paton - General Offices

DATE

March 26, 1970

SUBJECT

of GEIGY/AROCOLOR 1221

TO

FILE

M. W. Farrar - JFQ Research
E. H. Fording - New York
Dr. R. E. Kelly/E. Wheeler
Dr. R. E. Keller - RKELL
F. G. Lawicki - New York
J. J. McNamara - Everett
R. A. Onians - Brussels
W. F. Waychoff
J. D. Wright - JWRIG

The following visited St. Louis on March 24/25 from
Geigy, Ardsley, New York:

Al Haase	Central Purchasing	
Norman Anderson	Technical Director	} Dyestuffs Division
George Dominguez	Group Product Manager	

For Monsanto:

Gerry Lawicki
W. B. Papageorge
E. Wheeler/Dr. R. E. Kelly
W. F. Waychoff/C. Paton

Geigy began to buy Aroclor 1221 in January at 66 M pounds per month. They are using this in a new product called Irga-Carrier-OL (confidential). Aroclor 1221 is well over 50% of the product. Irga-OL is used to "open up" polyester or polyester/cotton fabrics to make them receptive to vat dyes. All types of polyester fabrics can be treated this way - apparel, carpet, upholstery, etc. (Competitors may be using biphenyl in this type of operation.) After treatment, scouring, etc. will remove the Aroclor.

Geigy's objectives were:

1. Toxicology/threshold limit values for vapor of Aroclor 1221.
2. Future requirements.

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Dyeing is carried out in an open bath up to 212° F. Above 212° F (up to 260° F), dyeing is in a closed system. The fabrics are dried or heat set after treatment at up to 300° F.

Geigy's concerns were:

1. Potential areas of exposure:
 - (a) Handling during formulation (at Geigy and at dyehouses).
 - (b) Residues of Aroclor 1221 in effluent from dyehouse.
 - (c) Vapor inhalation in dyehouse.
2. Ecological problems related to PCBs.
3. Dermatitis effects.

Geigy feel they can control their own plant handling problems. At the moment, they are marketing only to customers who have ventilation equipment. Unfortunately, some plants (in residential areas) turn off this equipment in response to residents' complaints on odor. Dyehouse workers regard the odor of Aroclor 1221 as a big improvement over biphenyl, hence it is possible that ventilation of Irga-OL would not lead to neighbours' complaints. We made it clear that we regarded Aroclor 1221 vapor at 100° C in an unventilated plant as a potential hazard to workers. We stated that we believed a threshold limit value (TLV) of 1 mg/m³ was safe but to build in an even greater safety factor the aim should be a TLV of 0.5 mg/m³. This is the value set for Aroclor 1254 and we don't regard Aroclor 1221 as being as toxic as Aroclor 1254. We will ask Dr. Keller to supply a technique for determining Aroclor 1221 vapor in air and analysis by GLC. The possible presence of other chlorine-containing compounds in dyehouses precludes the use of wet analysis for Aroclor 1221.

We gave George information on Brink mist eliminators.

Dr. Kelly and Elmer Wheeler seem to have convinced the Geigy people that Aroclor 1221 posed no ecology problem and no dermatitis problem on users of the fabric. Geigy will work on the vapor inhalation problem in dyehouses.

Other Aroclors have apparently been screened. We discussed HB-40 and Anderson felt this should be evaluated. Lawicki will send a sample.

Geigy will consider sending a letter to their Irga-OL customers pointing out the hazard of using it in unventilated facilities. This will be a legal disclaimer along the lines of our PCB letter to Aroclor customers.

Future Aroclor 1221 Demands

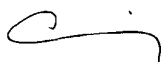
Geigy will need 60-70 M pounds/month of Aroclor 1221 and this will likely grow to 120 M pounds/month by year-end. They will give us twenty days lead time on increased quantities above 60 M pounds/month. We emphasized our ability to fulfill any likely forecasts and stressed our second plant at WGK where Aroclor 1221 could be made if need be. Usage will be in drums for at least three months. The Cranston plant could not accommodate bulk before then. Any switch would be tied to their desire for bulk and timing would also be influenced by our drum inventory. We indicated that T/C was preferable to T/T. Haase angled for a price decrease based on volume. We indicated no dice. We offered help in getting a lower bulk rail rate if need be. Haase asked if we might be willing to share with Geigy the cost of installing ventilation equipment for customers (i.e. Aroclor 1221 price cut). We countered by saying Geigy could finance equipment over two-three year period with customer paying 1 cent/pound or whatever premium to cover cost. This would give Geigy benefit of long-term contracts on Irga-OL. With a contract on Aroclor 1221, we would guarantee quarterly price protection.

HB-40 quoted at 16 cents/pound bulk or 19 cents/pound drums in T/L. Irga-OL is not available in the U. K./Europe as yet but success here could lead to overseas production/sale by Geigy. We told Geigy production of Aroclor 1221 carried out in the U. K.

This was an excellent meeting. Geigy appeared satisfied and good rapport was established. Dr. Kelly and Elmer Wheeler did an excellent job on toxicology/ecology aspects.

Action

1. (FGL)
Supply one gallon of HB-40 to Anderson.
2. (Dr. R. E. Keller)
Send Paton a procedure for air sampling Aroclor 1221 vapor and analyzing Aroclor 1221 level by GLC.
3. (R. A. Onians)
No need to contact Geigy/U. K. or Switzerland meantime but this will alert you to future potential on Aroclor 1221.



Cumming Paton

/dbw