DVNH/ARW

The Government Chemist,
The Government Laboratory,
Cornwall House,
Stamford Street,
LONDON, S.E.1.

20th February, 1967

Dear Sir,

We are currently interested in organochlorine residues in animals and birds, and have noted a reference to the work of Simmons and Tutton of your laboratory. They are stated to have examined human gall-stones and found such residues in 28 patients from two hospitals.

I would be glad to have any further information that is available concerning these experiments and on any similar work you may have carried out in the widerfield of our interest.

Yours faithfully,

D.V.N. HARDY

EXHIBIT
WBP M-9

EXHIBIT
WBP M-76

MON-MT-008553

Monsanto
EUROPE S.A.

... : Belgium, cc :
& LOCATIONS

DATE : 27th February, 1967

SUBJECT :

REFERENCE : DW:gb

TO : D. V. N. Hardy - London

I should like to confirm our telephone conversation of last week, when I requested that you send small samples of the various isomers of Aroclor to Mr. Soren Jensen
Institute of Analytical Chemistry,
University of Stockholm,
Stockholm, 50, SWEDEN.

Apparently samples of about 10 mm/grams each would be sufficient for Mr. Jensen's need and he was particularly interested in the lower chlorinated and more highly chlorinated biphenyls.

D. Wood.

EXHIBIT
WBP M-76.1

EXHIBIT
WBP M-14

MON-MT-008561

.../6-66/50 M-3.

D.V.N. Hardy, London

3rd March, 1967

D. Wood, Brussels

Identification of
Organochlorine Residues
DVNH/ARW

J.C. Hawkes, Ruabon

You recently supplied me with small samples (10 mgms. or so) of substantially pure Aroclor components for transmission to Mr. A. Richardson, of Shell Chemicals. He now says that none of these substances is similar to the unidentified organochlorine residues which are very widely spread e.g. in sea birds. The Government Laboratory is also concerned with this general problem and have found that there is some correlation with a sample of Aroclor Resin (no other distinguishing marks on the label!). As you will know the interest in this problem derives from the work of Jensen and a scaremongering article in the Swedish press in which a highly chlorinated biphenyl was indicated.

To help the three sets of workers and, at the same time, do all we can to clear Aroclors I would like further sets of the samples as supplied to Richardson to go to:-

Mr. Soren Jensen,
Institute of Analytical Chemistry,
University of Stockholm,
Stockholm 50, Sweden.

and

Mr. J.O'G. Tatton,
Laboratory of the Government Chemist,
Cornwall House,
Stamford Street,
London, S.E.1.

Additionally I would like to include small samples of Aroclors 5460 and 4465 with each of the two sets, and to have similar small samples of these Aroclor resins to go to:-

Mr. A. Richardson,
Shell Chemicals,
Tunstall Laboratory,
Sittingbourne, Kent.

In the case of the samples for Jensen would you say that they are sent at the request of Mr. D. Wood of our M.E. Brussels Office. In the case of the other samples would you indicate that they are sent at my request.

MONS 097917

D.V.N. HARDY

EXHIBIT
WBP M-76.2

EXHIBIT
WBP M-15

TOWOLDMON0003772
WATER_PCB-00000794

CP 229 | **OUTBOUND SHIPPING REPORT** | OSR

REQUESTED BY (Department or office & individual)
Cincinnati - F. G. Sutton

PLANT! If sample sent parcel post - destroy yellow copy - otherwise mail to Kate Section, Corporate Distribution Department, - St. Louis

Anniston

DATE ENTERED 3/27/67

DATE SHIPPED 3/31/67

TO Executive Account's Payable - *Saint Louis*

[redacted]

CARRIER Parcel Post 80¢

ASSIGN SHIPPING CHARGE TO: DIV. PLANT CODE 2-09

SHIP TO
Federal Water Pollution Control Administration
Dept. of Interior
1014 Broadway
Cincinnati, Ohio 45202

Attn: Mr. Philip Lewis

MONSANTO SHIPPER'S NO. 635125

CUSTOMER ORDER NO.

ONE

Standard Sample
WILL BE SHIPPED UNLESS OTHERWISE INDICATED.

PRODUCT (Specify amount only if standard sample is inadequate)

Aroclor 5460
Aroclor 1260

SPECIAL INSTRUCTIONS:

THIS SECTION OF FORM FOR PLANT USE ONLY

4-2-2
1 Bottle & 1 Can in ctr

EXHIBIT
WBP M-16

MON-MT-008562

EXHIBIT
WBP M-76.3

S-149 (Rev. 2-66)

TOWOLDMON0003773
WATER_PCB-00000795

TELEPHONE
SITTINGBOURNE 4444
TELEX 96181

TUNSTALL LABORATORY,
BROAD OAK ROAD,
SITTINGBOURNE,
KENT.

AR/SB

6th November, 1967.

Dr. V.N. Hardy,
Monsanto Chemicals Ltd.,
Monsanto House,
10-18 Victoria Street,
London, S.W.1.

Dear Dr. Hardy,

I thank you for your letter of 3rd November, 1967, which indicates that we are both concerned with the very similar problems.

I suggested that there was possible contamination of the river Witham because of the occurrence of the P.C.B's in the eggs of herons feeding on fish which come from the Witham Catchment area. More specifically the heronry is at Tumby Woodside, Lincs., some 10 miles from Boston. I suggest that water pollution may be responsible because the P.C.B's appear to occur to their largest extent in birds from an aquatic environment. We have no evidence of P.C.B. content in herons from elsewhere but we do find that some sea birds from the N.E. Coast also contain P.C.B's whilst on the N.W. and West Coast of Scotland they are absent.

In answer to your second point I would guess that there are several areas of pollution and the Scandinavian source is different from our own. I believe that the fact that the human in the United Kingdom contains very little would indicate that the source of pollution is of aquatic origin. If the atmosphere were polluted to any extent human fat would contain these compounds and from our own experience if they are present it is at very low concentrations indeed, possibly less than 0.1 ppm.

To answer your third point, particular chlorinated insecticides and/or their metabolites occur in almost every organism in the United Kingdom. The biphenyls are not so widely distributed, but like the chlorinated insecticides DDT and its metabolite DDE, and Dieldrin they reach their highest concentration in some aquatic birds where thay may occur in equal or greater concentration than do the insecticides, I would say that the maximum concentration of P.C.B's that we find in wildlife is of the order of 10 to 20 ppm.

It is very difficult to assess the hazard of the P.C.B's but from the concentrations that we find and the reported LD_{50} it is unlikely that the residues of P.C.B. constitute a direct toxic hazard.

If it would be of any assistance for you to come and discuss this problem with us we would be very glad to see you.

Yours sincerely,

G. Richardson

MONS 088145

EXHIBIT
WBP M-76.4

EXHIBIT
WBP M-19

TOWOLDMON0003774
WATER_PCB-00000796