

Tom C. Ford - St. Louis

February 28, 1969

Mr. W. R. Richard
Mr. E. P. Wheeler

Mr. Howard S. Bergen

Enclosed are two copies each of some suggested correspondence about the supposed contamination of wildlife by polychlorinated biphenyls. This includes a brief memo for possible distribution to salesmen and a longer letter for mailing to customers.

The letter essentially contains comments drafted yesterday by Elmer Wheeler and Bill Richard. Neither man has had a chance to see these drafts and, by carbon, I am asking them to call you immediately if they see the need for any further revision.

I am going to be tied up some of today with a job interview, but would be available to come over before 10 a.m. or after 3:30 p.m.

Tom C. Ford

TCF:sfh
Enclosures

MONS 097599

DRAFT
2-28-69

Memo to Organic salesmen, etc.

On Feb. 24, the San Francisco Chronicle carried a feature about "a menacing new pollutant" found in the San Francisco Bay area. The article was based on marine life research by a scientist at the University of California. It stated that residues of polychlorinated biphenyl (PCB) were killing certain marine birds and posed a long-term threat to humans.

This sensational story has caused considerable comment on the West Coast and its claims may be repeated elsewhere. Our Aroclor polychlorinated biphenyl was used by the scientist in his work and we were identified as a producer.

A few facts are in order. This research dates back to earlier work done to analyze pesticide residue in wildlife, soil and water. The search for these materials, in the parts-per-billion range, also brought out other unidentified materials. Several years ago, two Swedish scientists reported they had identified these other substances -- with one of them being PCB. Since commercial PCB, such as Aroclor, is not spread around the land as are pesticides, the scientists theorized that the source must be the industrial wastes of PCB users.

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MONS 097600

These conclusions are puzzling in several aspects. As you know, Aroclors are either used as functional fluids in "closed systems" or as a plasticizer which is an integral part of the polymer. They are not easily released to the natural environment. This raises the question whether the substance identified by the scientists is actually PCB -- or whether it is a compound which only appears to be PCB due to metabolism of other materials in the marine environment.

We have expanded our research program to confirm the identity of the compounds reported to be PCB. It will take extensive investigation to confirm or deny the initial scientific conclusions. We will keep you advised and are also notifying our major Aroclor customers of this matter.

Please contact _____
if any of your customers have questions on the supposed problem of PCB pollution. If a pollution control authority in your area contacts you, please notify Elmer Wheeler in the Medical Department. If a member of the press contacts you, please immediately notify Tom Ford in Public Relations.

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DRAFT
2-28-69

On February 24, the San Francisco Chronicle carried a major feature about "a menacing new pollutant" found in the San Francisco Bay area. The article was based on marine life research carried out by Dr. Robert Risebrough of the University of California. It stated that residues of polychlorinated biphenyl (PCB) were killing certain marine birds and posed a long-term threat to humans.

This sensational story has caused considerable comment on the West Coast and its claims may be repeated elsewhere. As you know, Monsanto manufactures polychlorinated biphenyl and markets it under our Aroclor trade name. We, therefore, would like to present some additional facts.

The work done by Dr. Risebrough dates back to earlier research by other scientists to analyze the amount of pesticides in wildlife, soil and water. The initial pesticide research was extremely difficult since any search to detect materials in the parts-per-billion range also brings out other "interfering" substances.

MONS 097602

Several years ago, two Swedish scientists at Stockholm University's Institution of Analytical Chemistry, Professor Gunnar Widmark and Soren Jensen, reported they had identified the other substances which were appearing during analysis of chlorinated pesticide residues. They said some of the materials were polychlorinated biphenyls or PCB. The amount reported

was in the parts-per-billion range, or less. Since PCB's are not "broadcast" or spread around the land as are pesticides, the scientists theorized that the source must be the industrial wastes of PCB users.

Dr. Risebrough's more recent work reports the identification of PCB, along with DDT and DDE pesticides, in the tissues of birds and fish on the West Coast.

The conclusions of these scientists are puzzling from several aspects. Polychlorinated biphenyls are stable chemical compounds which are essentially insoluble in water. Their use does not make them easily released into the natural environment.

A principal market for PCB is in electrical applications where they are used as insulating fluids for transformers and capacitors. In this use, the chemical is completely sealed in metal containers. Another market is for heat transfer applications where the PCB fluid functions in a closed system.

PCB's are also used in several "plastic type" applications. Here the chemical is incorporated into the polymer as an integral part of the solid material. This applies whether the polymer is used as an adhesive, an elastomer or a surface coating.

The Swedish and American scientists also imply that polychlorinated biphenyls are "highly toxic" chemicals. This is simply not true. The toxicity of any material, whether it be chemicals, drugs, natural plants or even foods, is relative. Compared to the thousands of industrial chemicals and home products, PCB's are not highly toxic unless they are mishandled or misused. During more than 30 years of U.S. production and use, cases of toxic effect have been extremely rare -- and then only where the simple precautions recommended for use were not followed.

To our knowledge, polychlorinated biphenyls are not sprayed or dusted on crops, woodlands or any other areas, as are pesticides. It is, therefore, not only puzzling, but extremely difficult to conceive how commercially produced PCB can show up in wildlife as DDT and other pesticides appear to be. This raises the question whether the substance identified in the Swedish work, and now in California, is actually PCB -- or whether it is a compound which, due to the metabolism of other materials in the marine environment, appears to be PCB.

Unfortunately, even though techniques for analyzing tissue samples have become quite precise, the ability to analyze the possible impact of naturally occurring substances in the food cycle of living organisms has not made comparable advances.

Monsanto has a research program to confirm the identity of the compounds reported to be PCB by the Swedish and California scientists. We also cooperate, on a regular basis, with federal, state and university laboratories in their analysis of chlorinated hydrocarbon residues.

Additionally, Monsanto will continue to exercise the highest degree of control in its manufacturing, shipping and storage of PCB -- as we do with all products. In the functional fluids market, we have carried out a program for several years for the reclamation of used PCB's to avoid disposal of these valuable materials.

The source of the marine life residue identified as PCB is not yet known. It will take extensive research, on a worldwide basis, to confirm or deny the initial scientific conclusions. We will keep you advised of our own research and are available to answer questions as they may arise.

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