STATEMENT FROM:
MONSANTO COMPANY
ST. LOUIS, MO.

March 3, 1969

Late in February, 1969, a West Coast newspaper 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. The article stated that residues of pesticides (DDT and DDE) and polychlorinated biphenyl (PCB) were threatening the welfare of certain birds and posed a long-term threat to humans.

Monsanto manufactures polychlorinated biphenyl and markets it under our Aroclor trade name. (There are other manufacturers in Europe and Japan.) We, therefore, would like to present some additional facts.

The work done by Dr. Risebrough dates back to earlier research by other scientists who, while analyzing pesticide residues in wildlife, soil and water, encountered unknown or "interfering" substances in the parts-per-million range.

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Several years ago, two Swedish scientists at Stockholm University's Institution of Analytical Chemistry, Professor Gunnar Widmark and Soren Jensen, reported they had identified these other substances. They said some of the materials were polychlorinated biphenyl or PCB. Since PCBs 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.

The conclusions of these scientists are puzzling from several aspects. Polychlorinated biphenyls are stable chemical compounds which are essentially insoluble in water and not easily dispersed. 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.

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PCBs are also used in several applications where the chemical is incorporated into a polymer as an integral part of the solid material. Such polymers are used in highly specialized applications as an adhesive, elastomer or surface coating.

Polychlorinated biphenyls are not sprayed or dusted on crops, woodlands or any other areas, as are pesticides. To our knowledge, they also are not used in tires, house paint, household products, epoxy resins or major vinyl plastics, as has been charged.

It is, therefore, not only puzzling, but extremely difficult to conceive how commercially produced PCB can show up in wildlife in the quantities reported. This raises the question whether the substances identified in the Swedish work, and now in California, are actually PCBs -- or whether they are compounds which, due to the metabolism of other materials in the marine environment, appear to be PCBs.

It has also been implied that polychlorinated biphenyls are "highly toxic" chemicals. This is not true. Just like other industrial chemicals and home products now in widespread use, PCBs are not hazardous when properly handled and used. During more than 30 years of U.S. production and use, cases of any toxic effect have been extremely rare -- and then only where the simple precautions recommended for use were not followed.



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Monsanto has a research program to identify the compounds reported to be PCB by the Swedish and California scientists. This involves precise analysis of environmental samples of water, air, soil and wildlife, including metabolic studies. Also under way are studies to determine the biological effects of deliberate dosage of PCBs on fish, birds and mammalian animals. Special emphasis is being paid to endocrinological effects, mineral metabolish and reproduction physiology.

Monsanto has always cooperated, on a regular basis, with federal, state and university laboratories in their analysis of chlorinated hydrocarbon residues. We will continue to do so. Additionally, Monsanto will continue to exercise the highest degree of control in its manufacturing, shipping and storing 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 PCBs to reuse 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 these initial scientific conclusions.

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