STATEMENT FROM:
MONSANTO COMPANY
ST. LOUIS, MO.

March 3, 1969

(Late in February, 1969, a West Coast newspaper ~~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 pesticides (DDT and DDE) and polychlorinated biphenyl (PCB) were killing certain birds and ~~implied~~ proved 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 ~~to analyze the amount of pesticides~~ in wildlife, soil and water, encountered unknowns or "interferences" ~~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.~~ substances in the parts - per billion range.

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Several years ago, two Swedish sceintists at Stockholm University's Institution of Analytical Chemistry, Professor Gunnar Widmark and Soren Jensen, reported they had identified ~~that~~ other substances ~~which were appearing during analysis of chlorinated pesticide residues~~. They said some of the materials were polychlorinated biphenyl or PCB. ~~The amount reported was in the parts-per-billion range, or less~~. 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.

~~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.

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.

PCBs are also used in several ~~"plastics-type"~~ applications, where the chemical is incorporated into a polymer as an integral part of the solid material. ~~This applies whether the~~ Such polymer is used as an adhesive, elastomer or surface coating. in highly specialized applications

It has also been implied that polychlorinated biphenyls are "highly toxic" chemicals. This is not true. ~~The toxicity of any material, whether it be chemicals, drugs, natural plants or even foods, is relative.~~ 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.

— To our knowledge, polychlorinated biphenyls are not sprayed or dusted on crops, woodlands or any other areas, as are pesticides. (They also are not used in tires, house paint or household products, as has been said.) 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.

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~~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 identify the compounds reported to be PCB by the Swedish and California scientists. Monsanto has ~~We have~~ 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. (A)

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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This involves precise analysis of environmental samples of water, air, soil and wildlife, including metabolic studies. Also involved are studies to determine the biological effects of deliberately dosages of PCBs on fish, birds and mammalian animals. Special emphasis is being paid to endocrinological effects, mineral metabolism and reproduction physiology.