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SCIENCE TOPICS

AN ENVIRONMENTAL THREAT

A family of commercial chemicals called PCB's (polychlorinated biphenyls) has been accumulating in the environment in much the same way DDT accumulates, says a feature story in Environmental Science and Technology. PCB's are chronically toxic to birds, animals, and man, but it may be posible to head off this threat before massive damage is done, according to the author, Dr. Carl S. Gustafson, chairman of the department of chemistry at King's College.

The PCB's are depleting populations of certain wild fowl by causing the formation of thin-shelled eggs, it is reported. PCB's are concentrated by fish, shrimp, and oysters; and white-tailed eagles (fish-eating birds) have been found to contain as high as 1.4 percent PCB in their tissues. PCB's are readily stored in liver and fatty tissues of human beings, and if nothing is done to control the situation, they could accumulate in the environment in greater amounts than DDT.

The Monsanto Company, only US manufacturer of PCB's declared its intention to stop selling them, effective August 30, to customers who cannot control the disposal of the end product, the article states. This intention was indicated in a letter to Congressman William F. Ryan of New York. Specifically, customers who use PCB's as softening agents in making pliable plastics are singled out, since such products end up as solid waste to be burned in city dumps or incinerators.

If Monsanto's former customers look for less harmful substitutes, rather than buying PCB's from manufacturers in Europe and Japan, the quantity of PCB getting into the environment could be substantially reduced, the article points out.

PCB's are used as coolant-insulation fluids in transformers and flourescent lights and as softeners in plastics and coating. The properties that make them useful are the same properties that make them persist in the environment, Dr. Gustafson comments. They do not burn, but are vaporized and carried into the atmosphere where they collect on particulate matters and are subsequently returned to the surface of the earth and into rivers, lakes and oceans.

"Another source is probably land runoff from industrial wastes and dumps," the author adds. "A third is the point of manufacture and the plants where PCB's are processed into other products. They can even escape throgh the plant ventilation system into sewers or directly into waterways.

"So frequently action is taken only after it is evident that massive damage has resulted from a particular pollutant. In the case of the PCBs we may have an opportunity to resolve the situation before than happens."

Although used industrially for the past forty years, polychlorinated biphenyls have only recently claimed the attention of environmentalists, Dr. Gustafson points out. Since first detected in Sweden in 1966 and in the United States in 1967, they have been found in rainwater in England, river water in Japan, mussels in the Netherlands, penguin eggs in the Antarctic, terns in the Arctic, waters of the Great Lakes, shrimp in Florida, cod in the Baltic Sea, brown pelican eggs in Panama, brown seals off the coast of Scotland, and in human hair and fatty tissues.

This set to W.B.P. (only)

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Sidelights On Science

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ENVIRONMENT ACTION
BULLETIN
EMMAUS, PA.
W. CIRC. N.AVAIL.

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PAGE ONE

ENVIRONMENTAL BRIEFS: Contrary to its earlier statements, Monsanto will not discontinue making PCB's—substances chemically similar to DDT—*Environment* reports. However, at the urging of Rep. William Ryan (D-N.Y.) the company has said it will not sell PCB's to customers who might use them in ways which would allow their release into the environment. Who makes the decision on the customers? Monsanto, of course. . . .

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