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Fear toxic chemical along Mississippi

By A SPECIAL CORRESPONDENT

MADISON, WIS. — A chemical so toxic, so insidious that it is said by some to make the banned insecticide DDT almost insignificant by comparison was the subject of two days of hearings before state officials here last week.

The chemical is polychlorinated biphenyl. It is man-made. Most Iowans who have heard of it probably know it as PCB. It is not now considered a major threat to the state's environment.

But it may be increasingly a danger along the Mississippi River, a number of the experts at the hearings here indicated.

The reason is twofold.

First, the chemical is virtually indestructible. Sports Illustrated says in an article in its current issue that "compared to DDT, which may persist up to 15 years, PCBs resemble the rock of Gibraltar."

They do not break down from natural biological or physical processes. The only way PCBs can be destroyed, the article says, is in a special incinerator at a temperature of 2,700 degrees Farenheit.

Second Threat

The second element in the potential threat to Iowans is that the chemical is increasingly being found in the Upper Mississippi River watershed and in the Great Lakes.

PCB

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PCB found in some milk

PCB

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The chemical, highly, heat resistant and a good electrical insulator, has been used in making a diverse array of products that ranges from hydraulic fluids, plasticizers, adhesives and paints to carbonless copy paper and printing ink. The chemical enters the environment via such products.

One spokesman for the Wisconsin Department of Natural Resources said the PCB problem now is "pretty well identified as being in the part of the Upper Mississippi shared between Minnesota and Wisconsin" rather than the part bordering Iowa.

Other experts, however, pointed out that since PCBs do not break down, continued contamination of the river's watershed eventually poses a threat further downstream.

Fish Destroyed

Last May, the federal Food and Drug Administration (FDA) ordered the destruction of 10 tons of carp taken from Lake Pepin, a reach of the Mississippi some 80 miles north of the Iowa border, because of high levels of PCBs in the fish.

The FDA limit for PCBs in fish is 5 parts per million. The Lake Pepin carp tested as high as 25 parts per million.

Residents of the Pepin community told the hearing that the fishing and tourist business there has been badly damaged by the chemical's discovery and the resulting publicity.

Research indicates that about 30 per cent of all Americans already have detectable levels of PCBs in their bodies, speakers here said. The substance builds up in fatty tissues.

Studies Toxicity

Dr. James Allen, a pathologist at the University of Wisconsin Medical School, has been studying the toxic effects of PCBs for three years by feeding varying doses to Rhesus monkeys and he told of some of his findings at the hearings.

In an interview he said he had not found any level of PCB consumption, no matter how small, that is not toxic to monkeys if they take it on a regular basis.

In his most recent experiment, he fed monkeys for a year the same level of PCBs that the FDA says is the maximum allowable in fish for human consumption — 5 parts per million.

Within two months, Dr. Allen said, "the monkeys began to show classic signs of PCB intoxication, including loss of hair and eyelashes and acne, and in four months there were irregular menstrual cycles in the females."

He said he encountered "extreme difficulty in breeding these animals" and the babies that were born were abnormally small. As a result of nursing from their contaminated mothers, they became ill and "in fact, we had a high mortality rate as a result of the transmission of the PCBs from the mothers to the infants through the milk."

In 1968, some 1,000 Japanese accidentally ate rice tainted with PCBs and suffered a variety of ill effects, including acne, ulcers, jaundice, swelling, loss of hair and birth defects.

Present Everywhere

PCBs have been manufactured and in use in the United States since the 1930s and also are produced in other countries. The synthetic chemical now is present in varying concentrations, the experts say, everywhere on earth.

The only American manufacturer now is Monsanto Industrial Chemicals Co. A spokesman at the hearing said the firm "stopped production of PCBs since 1970 for product uses which might permit their escape into the environment."

Since 1972, he said, Monsanto has produced the chemical solely for use in "closed systems" such as electrical equipment.

Dr. Allen said PCBs appear in humans mainly as a result of consumption of fish and plants.

Indirect Sources

There are other, less direct sources, as well.

Milk from farms in Michigan and Ohio has been found to be contaminated when dairy herds were fed rations stored in silos coated with paint containing PCBs.

One of the principal sources of the PCBs in upper Mississippi waters is the recycling of paper, the chemicals coming from inks and paper coatings.

Donald L. Bach, a Madison attorney representing the Wisconsin Paper Council, an association of the state's 49 pulp and paper mills, told the hearing that adoption of regulations proposed for the state "would be an economic catastrophe for the paper industry. . . ."

Wisconsin's Lieut. Gov. Martin Schreiber said he would like to see an immediate curtailment of PCBs when less toxic substitutes can be used and he urged neighboring states to "take immediate action on the PCB problem along with Wisconsin."

Urges Ban

U.S. Representative Les Aspin (Dem., Wis.) urged an outright ban on PCB discharges into Wisconsin waters. A spokesman for the Wisconsin chapter of the Izaak Walton League of America said the organization supports a ban on PCB discharges unless they are proven safe at certain levels.

The hearings were held to consider two proposed regulations by the Wisconsin Natural Resources Board.

The first calls for a ban on the discharge in any form into the state's waters. The second proposal would restrict discharges to 5 parts per billion in 24 hours.

Iowa was not represented at the hearings.

The U.S. Environmental Protection Agency will hold a national symposium on PCBs in Chicago, Ill., in November.

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