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Other PCB timebombs concern EPA officials

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POLYCHLORINATED BIPHENYLS, the group of toxic synthetic compounds known as PCBs, have been found in Lake Michigan at levels 30 times those considered acceptable by the U.S. Environmental Protection Agency [EPA], according to G.E. Glass, an EPA researcher.

Control of PCBs has become a battle cry for control of hazardous materials in general. But there are hundreds of other materials that have been found in the lake for which acceptable levels have yet to be determined, Glass said in an interview at an American Chemical Society regional conference held recently at Northwestern University, Evanston.

At a conference symposium on the Great Lakes, researchers noted the problems of PCBs entering the human foodchain through concentration in fish and entering the Great Lakes through air pollutants as well as water pollutants.

GLASS, A RESEARCHER with the EPA's water quality laboratory in Duluth, said PCBs have been found in Lake Michigan at levels of 30 parts per trillion while the EPA's proposed PCB standard is 1 part per trillion.

He said the proposed level is considered necessary to avoid hazardous levels of PCBs in fish. Fish concentrate PCBs in fatty tissue and because concentrations in several Lake Michigan species have exceeded federal Food and Drug Administration standards of 5 parts per million, these species have been banned from interstate sale.

Fish are an efficient and compact indicator that researchers can use to determine levels of hazardous synthetic chemicals in water, Glass said.

CONTROL OF ALL such compounds, once evaluated for hazardous levels, is going to have to be placed on use, according to Glass. "Why spend billions" removing a compound once it has entered the water system, he asked.

PCBs, manufactured by Monsanto Co., have been widely used for carbonless carbon paper, for paints, and hydraulic fluids in industry. Capacitors in commonplace electrical devices such as televisions and air conditioners contain PCBs.

The compounds have been manufactured since 1929 but in recent years, PCBs have been linked to a variety of diseases in human beings and laboratory animals.

IN 1972, MONSANTO voluntarily withdrew PCBs from the market for all but closed systems of use but thousands of pounds of more than 200 varieties of PCBs have found their way into waterways, landfills, and the atmosphere as well.

Rain and snow may carry more than 1,400 pounds per year of PCBs from the air to the lake even with the 1972 restraints, said Thomas J. Murphy, a chemistry professor at De Paul University, Chicago.

Murphy said the estimate was based on PCBs in rain and snow samples collected at De Paul's campus and at other points along Lake Michigan.

WHILE PCBs WERE no longer used in such products as carbonless carbon paper after 1972, every time a company disposes of an old file, chances are such paper will be in it and when it's burned in a city incinerator, more PCBs enter the air, Murphy said.

The amount of PCBs that simply fall from the air into the lake with dust and other pollutants is still an unknown, he said. And while the air pollution appears to be a significant source, other major sources still are being pinpointed.

Using a customer list from Monsanto, the Midwest Regional office of the EPA determined that a Waukegan firm, Outboard Marine Corp., Waukegan, had purchased and discharged some 7 million pounds of PCBs over a 10 year period, said Glenn Pratt, an official with the midwest region enforcement division. [Pratt wasn't participating at the conference].

THE COMPANY used the PCBs for hydraulic fluids, he said, but it hasn't purchased any for three years and is now discharging only nominal amounts of PCBs, "approaching no discharge."

The company estimated that 28 per cent of the 7 million pounds discharged went to the lake and about 10 per cent to the air. What concerns Pratt is the 70 per cent estimated to have gone to landfills, the largest part to landfills in Wisconsin.

"Who knows how many time bombs are sitting around the country in landfills," Pratt said. He said the Illinois EPA has an extensive program to look at landfills and determine what might be in them that could cause future problems.

PRATT SAID a federal toxic substances control law is needed to require an evaluation of impact materials would have on the environment before they go into widespread use.

"All we can control now is what somebody dumps out of a pipe," he said.

Michigan and Indiana now have passed laws banning the use of PCBs and bills for such laws are pending in Illinois, Wisconsin, and Minnesota. The levels of PCBs are higher in Lake Michigan than in any of the other four Great Lakes and "we don't know why," Murphy said.

ANOTHER UNKNOWN is how long it will take the levels to go down even if all the Great Lakes states place bans on PCBs.

Experience with the pesticide DDT suggests the levels of PCBs could become acceptably low in 10 years, according to D. E. Armstrong, a water chemist with the University of Wisconsin at Madison. Yet the time span "could be in the order of tens of years," he said.

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