Monsanto

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MAY 29 1981

FILE - PCB Clippings

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DATE : May 28, 1981

SUBJECT :

REFERENCE :

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TO : Dr. J. H. Craddock - A2SA

The Gannet News Service feature on PCBs under Jeannine Guttman's byline continues to set widespread pickup.

The attached version tightened up and somewhat localized is representative of several articles I've seen and presents a very balanced, even-handed discussion of the subject, complete with good comments from John Craddock.

I think we should begin including reprints of this in our mail out packets.

Dan R. Bishop

DRB:ec

Attachment

PCB-ARCH-EXT0382500

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PCB: It stands for uncertainty

...n staff and wire reports

Fifty-two years ago, it was hailed as the wonder chemical of the decade and was credited with protecting many a home, school, hospital and business from electrical fires.

Today, however, the compound has become one of the most notorious toxins in the country.

Scientists have debated that distinction. Some maintain it causes cancer, while others say it's no more dangerous than table salt.

The chemical is PCB, an acronym for 209 compounds, known as polychlorinated biphenyls, which were invented to be used as e... ical cooling oils.

...ay PCB can be found in everything from microwave ovens to television sets, fluorescent light fixtures, electrical transformers and capacitors, refrigerators and air conditioners.

Although new studies do not support the theory that PCB causes cancer in humans, there is reason to be concerned about the chemical because it bioaccumulates in nature. That means PCB, which is a close chemical cousin to DDT, does not metabolize and cannot be broken down by plants or animals.

Rather, it moves up the food chain and accumulates along the way. The danger is that PCB could end up on your dinner plate in fish, meat, eggs or poultry. And once you've ingested PCB, it remains unmetabolized in your body and lodges itself in your fatty tissues.

The toxin has a half-life of 20 years. In other words, in 20 years' time, about half the PCBs you ingest today will still be in your body. Scientists and researchers are concerned because no one knows exactly what PCB does once it enters the body. Nor is anyone certain how much of it the body can safely absorb over time.

Not surprisingly, almost all Americans have traces of PCB in their bodies, according to a 1980 U.S. surgeon general report on hazardous waste. The chemical was cited as one of a number of toxic compounds so pervasive in the environment that there's no way to escape it.

PCB seems to be everywhere.

For more than a decade, PCB has been discovered in all kinds of foodstuffs across the country.

It has contaminated milk in West Virginia, meatmeal in Illinois, fishmeal in North Carolina and Puerto Rico, fish in the Hudson River and the Great Lakes and poultry feed packaged by Ralston Purina, according to a March 1980 report by the U.S. Food and Drug Administration.

Traces of it continue to be found in fish taken from area waters. Because of that, Michigan and Canadian authorities recommend that people only eat occasional meals of fish taken from Lake St. Clair, Lake Huron and the St. Clair River.

PCB levels as high as 10,000 parts per billion have been found in sediment samples taken from a five-mile stretch of the St. Clair River between Sarnia and Stag Island. The level, which is not unusual for an industrial area, has remained constant since 1976, said John Kincaid, head of the Great Lakes survey unit for the Ontario Ministry of the Environment.

In 1977, it was found in the breast milk of all 1,057 Michigan mothers tested in a state-sponsored program. In 1979, PCB was found in a herd of Kansas cattle, in Maine lobsters and along 200 miles of roadway in North Carolina. In 1980, a DePaul University scientist who examined the dust in his Chicago apartment found sizeable amounts of PCB.

"And those incidents are the ones that are known," said Carol Tucker Foreman of the Food and Drug Administration. "Detection of one particular incident is very much a matter of chance. It's very likely that there are a num-

See PCB, Page 5A

Nursing OK for most mothers

Most Michigan mothers do not have to worry about the small amounts of PCB in their milk when breast-feeding babies, a recent state study has concluded.

But mothers with large amounts of PCB in their milk may want to stop nursing babies, state health officials said.

Mothers exposed to unusually high levels of the industrial lubricant polychlorinated biphenyl — a chemical suspected of causing cancer — should at least have their breast milk tested.

State and county health officials do not test mothers' milk, said Harold Humphrey of the Michigan Public Health Department. But one private laboratory, Environmental Research Group in Ann Arbor, tests breast milk for PCB at a cost of $42.

A spokeswoman for the laboratory said the test takes about four weeks, and it cannot be done until two to three weeks after the baby is born.

Women at higher risk include those who have handled PCB on the job, lived on farms where the chemical was used as a silo sealant, or eaten tainted Great Lakes fish.

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PCB

Continued from Page 1A

ber of localized incidents of contamination each year that we never know about."

But Monsanto Co. of St. Louis, Mo., which invented the chemical in 1929, has issued scores of press releases and sent its top officials on dozens of speaking tours to denounce what it calls PCB hysteria.

"The hazards of PCBs to humans have been greatly exaggerated. PCBs are not human cancer-causing agents and they are not deadly toxins. PCBs are considered only mildly toxic on an acute basis when ingested by humans about on the same order as common table salt," said John H. Craddock, manager of the company's product and environment safety divison.

"The public has been unfairly alarmed about PCB, and that's because officials in the government completely overreacted and chose PCB as some kind of toxic scapegoat," Craddock said.

But what exactly is PCB used for and why is so much of it around — an estimated 750 million pounds?

Since 1929 it has been used as a cooling oil in nearly all electrical things because it was extremely successful at preventing fires. Even though PCB was banned in 1979 when Congress approved the Toxic Substances Control Act, the law allows a five year phase-out grace period. That means that PCB-filled appliances and equipment will be in use around the country until 1984.

PCB's biggest consumer has been the utility industry, which uses the unique chemical to cool its huge electrical transformers and capacitors. The chemical is so extraordinary that nothing could be found to replace it for many years. For that reason, officials with the U.S. Environmental Protection Agency say, it was not outlawed until 1979, even though its toxic dangers were known in the late 1960s.

PCB was a laboratory breakthrough because it had so many desirable qualities. The compound was insoluable in water, resistant to biological and chemical destruction and could tolerate extremely high temperatures without changing its chemical form or igniting. It did not freeze nor did it boil. It could insulate hot electrical coils without conducting current, and it satisified every government safety code when it came to electrical fire prevention.

Then, in 1975, a two-year test study on female rats linked the chemical to liver cancer. Hundreds of articles were written, all labeling the chemical a cancer agent, and the hysteria about PCB spread. More sophisticated scientific research now shows that PCB may not cause cancer in humans and does not conclusively cause cancer in rats, either.

After that batch of studies, many industry officials breathed a sign of relief. And as for the bioaccumulation fear, a recent study on fish in the Great Lakes showed that toxic chemicals are not inherited. In other words, bioaccumulation of compounds like PCB and DDT are not passed on, generation to generation.

Unfortunately, no one knows what happens to people who are either exposed directly to PCB or who eat fish and other foodstuffs containing PCB. And, unless one submits to extensive and complex blood tests, there's no way to determine how much PCB each of us has in our bodies. Monsanto Co. "wanted to stop production of PCB in 1975, but the EPA asked us not to because there was nothing to use in its place," Craddock said. "The EPA thought that taking PCB off the market without a suitable replacement chemical would have a catastrophic effect on the nation's utility industry and would cause widespread power outages," he said.

What's been the result of all the hoopla over polychlorinated biphenyls?

According to nearly all government and industry officials contacted by Gannett News Service, it's been less than satisfactory.

Since 1977 the nation's utility companies have been searching for an adequate substitute for PCB.

Over the years, chemists have come up with two such replacements: silicones and a chemical called dioctylphthalate, or DOP, which is being used as a PCB substitute in electrical capacitors.

Some of that replacement is going on now, even though the EPA ruled that electrical equipment does not have to contain non-PCB fluids until that equipment becomes faulty or malfunctions.

Even though PCB is on its way out, the toxin trauma that the nation's electrical industry has gone through is far from over. In fact, many utility officials fear that it may only have begun. Their fears are based on test results recently released by the National Cancer Institute. The results show that one of the non-PCB replacement compounds, DOP, has been found to cause cancer in female rats.

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