Monsanto

FROM (NAME-LOCATION-PHONE) D. Wood - B2SD

File PCO Dibenzyl Furan

DATE November 3, 1978

cc. E. T. Mollica
J. Ortiz
R. A. Stohr

SUBJECT Chlorinated Dibenzyl Furans
Transformer Fluids

REFERENCE

TO : J. C. Weber
B2SK

Wellington Science and Associates in Ontario, Canada are carrying out a contract for the Environmental Protection Service in Ontario to investigate chlorinated dibenzyl furans and dioxin levels in new and used askarel transformer oils. Stephen Clegg is the project manager - telephone number 519-824-4120 extension 3833.

He stated that they did not expect to find dioxins and that they expect furan levels in new fluid to be extremely low. The main interest is to determine if there is furan content in used transformer fluid. Analysis work will be carried out by Stephen Safe at Guelph University. We should remain alert for completion of this study.

DW

D. Wood

tmc

MONS 201591

IN-10 (REV 8/77)

PCB
Dibenzyl Furan

Toxic Chemical, Born of PCBs, Found

WASH POST 11 SEP 79

By Bill Richards
Washington Post Staff Writer

Federal researchers yesterday said they have discovered that a little-known but highly toxic chemical compound has contaminated fish in Lake Michigan and in several major rivers in the Northeast and Midwest.

Dr. David Stalling, a scientist with the U.S. Fish and Wildlife Service's laboratory in Columbia, Mo., said the compound, known as polychlorinated dibenzofurans (PCDF), is up to 1,000 times as toxic as PCBs, which were banned by the Environmental Protection Agency in 1976 as a hazard to humans.

A second member of the research team that found the PCDF traces in the fish said the compound can cause birth defects and is suspected to be a carcinogen.

Stalling said that PCDF had not been spotted by chemical investigators before because it is a PCB byproduct that can be detected only by the use of recently developed and highly sophisticated laboratory equipment. The compound has, in effect, quietly hitchhiked behind PCBs, he said, although it can be far more powerful.

Stalling said PCDF is released in a highly concentrated form when PCBs are heated but not totally incinerated at temperatures of more than 800 degrees centigrade. Such releases can occur, he said, during manufacturing processes using PCBs and inside electrical equipment, such as transformers and capacitors, where PCB have been widely used as lubricants and coolants.

Investigators have found traces of PCDF in smokestack emissions at power plants in Cincinnati and St. Louis, said Stalling. Those plants, he said, burn a mixture of traditional fuels and unsorted trash that apparently contained some PCBs.

Although federal law prohibits the use or manufactures of PCBs, about 70 percent of the compound that already had been produced by 1976, when the law was passed, is still in use, Stalling said.

In a presentation here at the annual meeting of the American Chemical Society, Stalling said: "The real problem from this compound is that it can be misdiagnosed and people will think that, because they have gotten rid of PCBs, they are safe, when they're not."

A federally funded team of public and private scientists discovered up to two parts per billion of PCDF contamination in fish caught in the Ohio River, the Connecticut River, the Hudson River and in Lake Michigan near Saginaw, Mich., Stalling said.

The research team found PCDF in carp, catfish, trout and salmon. In addition to Stalling, the team included Dr. Ralph Dougherty of Florida State University, Dr. Christopher Rappe of the University of Umea, Sweden, and Dr. Douglas of the EPA.

Stalling said that other researchers have determined recently that one of Japan's worst cases of mass food poisoning was probably due to PCDF contamination.

The incident, which took place in Yusho, Japan, in 1968, occurred when a batch of rice oil was contaminated with what investigators originally believed were PCBs. Several deaths, including two stillborn infants, were attributed to the contaminated rice oil. More than 100 other persons in Yoshu have since suffered chronic headaches, fatigue, weight loss and numbness in their limbs from eating the rice oil.

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