



## Illinois Polychlorinated Biphenyls (PCBs) Advisories

This fact sheet answers questions about the public health risks associated with exposure to polychlorinated biphenyls (PCBs) in fish and how you can reduce exposure.

### WHAT ARE PCBs?

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PCBs are a group of more than 200 similar manmade chemicals that were used as insulating fluid for electrical equipment like capacitors and transformers. They are oily liquids or solids, clear to yellow in color, with no smell or taste. More than 1 billion pounds of PCBs were manufactured in the United States before commercial production of PCBs ended in 1977 because of the health effects associated with exposure. The U.S. Environmental Protection Agency (USEPA) banned all use of PCBs in 1979, but PCBs are still present in many products made prior to 1979. Due to their widespread usage and persistence in the environment, PCBs continue to be detected in air, soil, sediments, and water throughout the world.

### HOW DO PCBs GET INTO BODIES OF WATER IN ILLINOIS?

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Prior to their ban, PCBs were released into the environment through the manufacturing process, spills, and improper disposal. Today, PCBs are released into environment through leaks or improper disposal of PCB-containing equipment. Once released, PCBs adhere to soil or will bind to sediment in an aquatic environment. PCBs enter Illinois water bodies through runoff containing contaminated soil, as well as through atmospheric deposition.

### HOW DO FISH BECOME CONTAMINATED WITH PCBs?

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PCBs bind tightly with sediment and other organic matter in aquatic environments. Fish become contaminated with PCBs from living near contaminated sediment or by eating contaminated prey. Over time, PCBs build up in the fatty tissues of fish and can reach levels thousands of times higher than levels in the water, especially in bottom feeding fish and predatory fish.

### WHY DOES THE STATE ISSUE PCB ADVISORIES?

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Advisories are primarily issued to protect sensitive populations from the adverse health effects of PCB exposure. Studies have shown that exposure to PCBs can cause neurodevelopmental effects in fetuses, nursing babies, and children. Studies also suggest that long-term exposure to PCBs may result in cancer.

### WHAT ARE THE POTENTIAL HEALTH EFFECTS FOR PEOPLE WHO EAT FISH CONTAMINATED WITH PCBs?

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PCBs can cause neurodevelopmental effects in developing children. At higher concentrations, short-term changes in liver activity can occur without any noticeable symptoms. Animal studies also suggest that PCBs can affect the immune, endocrine, and reproductive systems. PCBs are carcinogenic to humans according to the International Agency for Research on Cancer and the National Toxicology Program, and the USEPA has classified PCBs as probable human carcinogens. Cancer risks from PCB exposure in fish can be reduced by following IDPH's fish consumption advisory recommendations.

## ARE PCBs STORED IN THE HUMAN BODY FOR LONG PERIODS OF TIME?

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Yes. PCBs are easily absorbed by the body and are stored in fatty tissue. They are eliminated slowly from the body, and it can take many years for them to be completely eliminated after exposure. Since PCBs are not eliminated entirely, they can build up in the body over time. PCBs are stored mainly in the fat and liver, but smaller amounts can be found in other parts of the body as well. For example, PCBs collect in milk fat and can enter the bodies of infants through breast-feeding.

## HOW CAN I REDUCE OR PREVENT EXPOSURE TO PCBs IN FISH?

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You can reduce your exposure to PCBs by following IDPH's fish consumption advisories and properly preparing your meals. Since PCBs are stored in the fatty areas of the fish, intake of PCBs can be reduced by removing the skin and fat from fish filets. Do not fry fish. Instead, barbecue, broil, or bake fish on an elevated rack that allows fat to drip away. You also can poach fish if you discard the broth.

## WHAT ABOUT THE FISH I BUY IN THE GROCERY STORE? SHOULD I BE CONCERNED THAT THEY MAY BE CONTAMINATED WITH PCBs?

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The U.S. Food and Drug Administration (FDA) regulates fish sold in grocery stores. FDA has a testing program to sample some, but not all, of the fish sold. You should follow IDPH's advice for preparing and cooking fish to reduce your exposure to PCBs.

## SHOULD I BE CONCERNED ABOUT CHILDREN SWIMMING IN BODIES OF WATER IN ILLINOIS BECAUSE OF PCB CONTAMINATION?

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No. PCBs are not very soluble in water and tend to bind tightly to the sediment. Therefore, dermal contact or accidental swallowing of the water will result in minimal exposure to PCBs.

## WHAT IS BEING DONE TO REDUCE THE AMOUNT OF PCBs ENTERING THE ENVIRONMENT FROM MAN-MADE SOURCES?

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PCBs have not been manufactured in the U.S. since 1979 but are present in equipment already produced. As this equipment is replaced, the level of PCBs will decrease. In addition, the Illinois Environmental Protection Agency requires companies that transport, store, or dispose of PCBs to follow the rules and regulations of the federal hazardous waste management program.

## WHERE CAN I GET MORE INFORMATION?

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Division of Environmental Health  
525 W. Jefferson St.  
Springfield, IL 62761

217-782-5830

TTY (hearing impaired use only) 800-547-0466

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