



Fact Sheet: Polychlorinated Biphenyls (PCBs)

Examples: PCB is a category including 209 different chemicals with similar properties, but it's rare to talk about an individual PCB. PCBs are all generally regulated the same way.

Sources: PCBs were used for most of the 20th century to cool and stabilize large electrical power equipment, like the industrial transformers at power stations or on utility poles. PCBs are sometimes known by trade names like Aroclor (Monsanto) and Pyrenol (General Electric). Many factories that put PCBs in electrical equipment are now very contaminated. PCBs were *not* usually used in household electronics like radios and TVs. PCBs were banned by the U.S. Congress in 1979, but they are still present in old power equipment. They might be found in rivers or ponds near contaminated sites, but they are rarely found in tap water or well water.

Physical Properties: PCBs don't break down easily, and stay in the environment for a long time. Like oil, PCBs do not mix easily with water, but unlike oil, they sink in water. Small amounts can stay in water, especially moving water like a river. They can also build up in animals like fish that swim in PCB-contaminated water. PCBs are semi-volatile, meaning, they can go into the air if it is hot or windy.

Exposures: You can be exposed to PCBs by breathing in contaminated air, eating contaminated food or water, or from touching contaminated soil or old electrical equipment containing PCBs. PCBs are stored in the fat in your body. PCBs can go from mother to child while breastfeeding.

Health Effects: Some PCBs are much more toxic than other PCBs. Some are very similar to dioxin (one of the most toxic chemicals of all) and can give you cancer. PCBs can also affect your immune and reproductive systems. Studies have shown that babies exposed to PCBs in utero had a lower birth weight, and had mental and physical development problems.



Check Your Answers: Polychlorinated Biphenyls (PCBs)

Compare your ratings to those done by Wendy J. Heiger-Bernays. She's an Associate Professor of Environmental Health at the Boston University School of Public Health. (On a scale of 1 to 10, the least risky exposure is a 1, and the most risky is a 10.)

Type of Exposure	Risk	A public health professional speaks:
Eating food grown in contaminated soil or with contaminated water (meat only)	8	Eating animal meat, including fish, is the big source of exposure for most people. PCBs build up in animal fat. Animals higher on the food chain will have more PCBs. Tip: Avoid eating meat from any contaminated area.
Swimming or wading in contaminated water	4-6	PCBs are found on the bottom of rivers and ponds. If you stir up the bottom, PCBs can be absorbed through the skin. Tip: Avoid swimming or wading in contaminated areas.
Working or playing in contaminated dirt	6	PCBs can be absorbed through the skin. Tip: Wear gloves, and wash hands well before eating. Keep children away from contaminated soil.
Living or working in a building where contaminants are present in the air	6	PCBs might go into the air in a contaminated building, or if old electronics containing PCBs get broken open. They might also be present in old building materials. Tip: If you know there are PCB sources nearby, have your building air tested. If PCBs are in the air, improve the ventilation.
Living or working where the soil beneath the building is contaminated.	5	If PCB levels are low, and you don't have direct contact with the soil, the risk is low. Dust from outside can come inside, though. Tip: If contamination is high, use air filters inside to take dust out of the air. If your work stirs up dust, wear a mask and gloves.
Eating food grown in contaminated soil or with contaminated water (vegetables only)	2 (plants)	Vegetables aren't known to soak up PCBs from the ground. However, contaminated soil can get on the food. Tip: Use raised beds or mulch in gardens. Wear gloves while gardening and keep the soil wet to reduce dust. Keep children away from contaminated soil. Wash food before eating.
Showering in contaminated water	2	PCBs are unlikely to be in tap or well water. It is only a concern if the water comes directly from a river or lake without treatment. Contamination is only very high in rare cases. In those cases, avoid all contact.
Using contaminated water for cleaning or laundry	2	
Ingesting (drinking or cooking with) contaminated water	1	