

Polychlorinated Biphenyls (PCBs)

What are Polychlorinated Biphenyls (PCBs)?

PCBs are a group of over 200 manmade chemicals. There are no known natural sources of PCBs. Pure PCBs have no smell or taste and, are most often found as oily liquids or solids that are clear or light yellow.

PCBs have been added to lubricants, coolants, and insulators in electrical transformers, capacitors, and fluorescent light ballasts. They have also been used in caulk, paint, and similar building component between 1950 and 1978. The manufacture and use of PCBs in the United States was banned in 1976 by the EPA under the Toxic Substances Control Act to prevent water pollution. They were completely phased out except for certain limited uses by 1978. PCB-containing products still remain in older buildings constructed before the ban and PCBs persist in the environment from past use and disposal.

How are People Exposed to PCBs?

Most people are exposed to PCBs at low levels from the environment – in the air we breathe, the food we eat, the water we drink, and in soil and dust. Food is now the main source of exposure to PCBs. Fish (especially those caught from contaminated waters) contain small amounts of PCBs as do meat and dairy products. People can be exposed to PCBs by breathing in contaminated air or dust when PCB-containing materials are disturbed or disposed of or deteriorate. PCBs build up in the body over time.

What are the Health Risks of PCBs?

The EPA and the International Agency for Research on Cancer (IARC) have designated PCBs as “probably carcinogenic to humans”. Long-term exposure to low levels of PCBs may result in a slightly elevated risk for long-term health effects such as disorders of the liver, thyroid, reproductive system, and immune system or liver cancer.

Babies whose mothers were exposed to high levels during pregnancy can have lower birth weight, behavioral problems, learning disabilities and decreased intelligence, reduced memory and attention span, slow growth, and darkened skin.

Short-term exposure to very high levels of PCBs (workers dismantling electrical transformers, etc.) can cause skin discoloration, rashes and acne-like pimples, nausea and vomiting, headaches and dizziness, numbness and tingling of the lower legs, and liver damage.

Get the Facts About

**BOSTON
PUBLIC
HEALTH
COMMISSION**



Boston Public Health Commission
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Dr. Barbara Ferrer, Executive Director
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For more information, please call:

**Massachusetts Department of Public Health: 617-624-5757
Boston Public Health Commission at 617-534-5965**

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Are There any Government Standards or Limits?

The EPA has set an acceptable risk standard of 0.0005 milligrams of PCBs per liter in drinking water, a clean soil standard of 1 part per million or less in soil, and a reference dose for consumption of 20 nanograms per kilogram (2.2 pounds) of body weight per day. The Food and Drug Administration has also set a limit of 0.2 to 3 parts per million PCBs for infant foods, eggs, milk, fish, and other foods. There are EPA regulations that ensure the safe removal and disposal of materials containing over 50 parts per million of PCB's.

Is there a Test that can tell if I've been exposed to PCBs?

Most people have very low levels of PCBs in their bodies. There are medical tests to measure levels of PCB in the blood, body fat, and breast milk. Testing can show if your PCB levels are elevated (meaning that you had been exposed to above-normal levels of PCBs at some time) but cannot tell how long you were exposed or when, or if you will have any health effects.

Why are PCBs a Concern in Schools?

Because school buildings tend to be of older construction and remain in service much longer, there is the chance that some building materials used in the school may contain PCBs. The most likely building products to contain PCBs in schools are caulking, old light ballasts, and paint. As these deteriorate over time, they can release PCBs into the school environment either into the indoor air or as dust. Because children spend so much of their time in the school building, the EPA has recommended a goal of minimizing students PCB exposure in schools.

What Can be Done to Minimize and Prevent Exposure in Schools?

- Cleaning, monitoring, routine maintenance, and scheduled renovation that removes materials that contain PCBs are the best ways to reduce or prevent exposure
- Students, teachers, parents, caregivers, and custodians/maintenance staff should wash their hands with soap and water after performing any cleaning activities and before eating or drinking
- Children's toys should be washed regularly
- Children should be kept from touching caulking or surfaces near caulk
- Damaged caulk or paint or leaking light ballasts should be reported immediately

Who Can I Call if I Have More Questions?

Massachusetts Department of Public Health Help Line: 617-624-5757

Boston Public Health Commission Environmental Health Office: 617-534-5965

EPA Web Site: <http://www.epa.gov/epawaste/hazard/tsd/pcbs/index.htm>

