

Health Effects of PCBs



“There is no such thing as a ‘safe level’ of PCBs. Concentrations of PCBs commonly found in the general U.S. population has been clearly shown to result in adverse effects on thyroid hormone levels, time that girls reach puberty, blood pressure, and poorer performance on cognitive tests.”
David Carpenter, M.D., Institute for Health & the Environment

Federal Ban on PCBs

The manufacture of polychlorinated biphenyls (PCBs) was stopped by the U.S. federal government in 1977 because of their harmful health effects and because PCBs are extremely persistent and last for decades in the environment. Unfortunately, PCBs remain in various forms in buildings created before 1979, such as PCB oils in school lighting ballast fixtures.

PCB Exposure in Schools

People are exposed to PCBs by three routes, ingestion such as eating PCB-contaminated fish, skin or dermal absorption and inhalation when PCB's off-gas into the air. In schools, the most important route of exposure is inhalation as PCBs evaporate into the air. For instance, in New York City, some schools were found to have PCB concentrations in the air as high as 670,000 parts per

million. Dr. David Carpenter, a national expert on PCBs, told the New York City Department of Education that “the health effects associated with exposure of children, teachers and school staff are serious and merit immediate removal of these sources of contamination.”

Health Effects of PCBs

A growing number of studies have found serious health effects from exposure to PCBs.

Cancer: PCBs are likely to cause cancer and are classified as a “probable carcinogen” by the federal Environmental Protection Agency and the International Agency for Research on Cancer. In addition, a study found children’s risk of developing acute lymphocytic leukemia, increased by two-fold when PCBs were detected in the dust of a room in which the child spent a significant amount of time.¹

Immune System: PCBs suppress the immune system^{2,3} and thyroid function.⁴

Heart Disease: PCBs cause an elevated risk of cardiovascular disease⁵, hypertension⁶ and diabetes.⁷

Hormonal Impacts: PCBs can alter the sex hormone systems, and have been found to lower the age at which a girl reaches puberty⁸ and can reduce the levels of the male hormone, testosterone.⁹

Asthma: PCBs cause an overall increased risk of asthma and other infectious respiratory diseases.¹⁰ More specifically, children have an increased risk of asthma and other infectious respiratory diseases when exposed to persistent organic pollutants, including PCBs.¹¹

Birth Weight & Infant Motor Skills: Women who are exposed to PCBs have babies that weigh slightly less

than babies from women who have not been exposed. In addition, children born to women who ate PCB-contaminated foods have abnormal responses in tests of infant behavior, including problems with motor skills and a decrease in short-term memory.¹²

Ability to Learn: PCBs are associated with cognitive problems and a reduction in the ability to learn and remember.¹³ For example, children who are exposed to PCBs before birth through maternal consumption of PCB contaminated fish were found to have a 6.2-point IQ deficit as compared to non-exposed children¹⁴. Other studies have reported reduced alertness and increased tiredness in association with PCBs.¹⁵

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CHEJ works with communities on environmental health and justice issues across the country. If you are dealing with a PCB contamination issue in your area or need assistance with approaching local officials, contact CHEJ at 703-237-2249 or chej@chej.org.