

HEALTH HAZARDS OF PCBs

Polychlorinated biphenyls (PCBs) are man-made substances composed of mixtures of up to 209 chlorine compounds. *There are no known natural sources of PCBs.* PCBs are either oily liquids or solids that are colorless to light yellow. Some PCBs can exist as a vapor in air. PCBs have no odor or taste. Many commercial PCB mixtures are known by the trade name Aroclor. New production and new use of PCBs are prohibited but PCB-containing materials are still present in many workplaces; schools; commercial, residential, and institutional buildings; and in the general environment.

Exposure to PCBs may cause serious health problems.

CANCERS - The International Agency for Research on Cancer (IARC), the Environmental Protection Agency (EPA), the National Institute for Occupational Safety and Health (NIOSH), and the National Toxicology Program (NTP) all agree that exposure to PCBs can cause cancer. The primary types of cancer associated with PCB exposure are liver cancers and malignant melanomas.



REPRODUCTIVE HARM - Children born to women who worked with PCBs in factories had lower birth weights and were more likely to have been born prematurely. Animal studies indicate that PCB exposures may reduce conception rates, live birth rates, and sperm counts. In addition, mothers may expose children to PCBs through their breast milk.

IMMUNE SYSTEM PROBLEMS - The human immune system is critical for fighting infections. Exposure to PCBs can seriously harm the ability of the immune system to resist infections. People with diseases of the immune

system may be more susceptible to pneumonia and viral infections. Suppression of the immune system may also play a role in how PCB-related cancers happen.

NEUROLOGICAL PROBLEMS - Proper development of the nervous system is critical for early learning. Exposure to PCBs may cause learning deficits, short-term memory loss, reduced visual recognition skills, and other cognitive and behavioral issues.

HOW PCBS CAN GET INTO YOUR BODY

- ① **inhalation (breathing)**
- ② **ingestion (swallowing)**
- ③ **skin contact**

COMMON SOURCES OF PCB EXPOSURE

- ☹ **transformers, capacitors**
- ☹ **hydraulic oils**
- ☹ **fluorescent light ballasts**
- ☹ **caulks, paints**
- ☹ **eating PCB-contaminated fish**

ENDOCRINE DISRUPTION - Thyroid hormone levels are critical for normal growth and development. PCBs can reduce thyroid hormone levels, resulting in developmental damage.

ADDITIONAL HEALTH ISSUES - PCB exposure can also cause swollen eyelids, excessive eye discharge and burning eyes; burning and edema of the face and hands; acute contact

dermatitis, hyperpigmentation of the skin and mucous membranes, chloracne, fingernail discoloration, and increases in blood pressure and triglyceride and cholesterol levels.

I HAVE BEEN EXPOSED - WILL I GET SICK?

The chance of harm occurring is called *risk*. Exposure does not mean that you will definitely get sick. Risk depends on many issues, including your dose (how much gets into your body), how often you are exposed, and how long you are exposed. Generally, the greater the exposure, the greater the risk. Many people who are exposed to low levels of PCBs will never develop a PCB-related illness. However, because any exposure to PCBs involves some increase in risk, the goal is always to eliminate exposure.