



PCB (POLYCHLORINATED BIPHENYLS)

ENVIRONMENTAL HEALTH – CONTAMINANTS FACT SHEETS

WHAT DO WE KNOW ABOUT PCBs?

PCBs are a group of persistent organic pollutants (POPs). They are made by humans and do not occur naturally in the environment. PCBs are a group of 209 similar chemicals that have been used in many products including lubricants, flame retardants, inks, electrical capacitors and transformers, surface coatings and hydraulic fluids. Use of PCBs has been banned in Canada since 1977, but products in use prior to this may still contain PCBs.

Products that contain PCBs can release these contaminants into the air, water, soil and dust. They are very stable and can last a long time in the environment. Some PCBs are more stable than others. PCBs in the environment can be taken up by plants and animals. Humans then eat these plants and animals, and this is the main source of human exposure to PCBs.

POPs (such as PCBs) can build up in animal tissues over time through a process called bioaccumulation (see *Contaminants Overview fact sheet* –

<http://www.hss.gov.nt.ca>). This means that older animals tend to have higher levels of POPs than younger animals. POPs tend to be found at higher levels in animals that eat other animals and in smaller amounts in animals that eat plants. This is due to a process called biomagnification (see *Contaminants Overview fact sheet* –

<http://www.hss.gov.nt.ca>). Marine mammals tend to have the highest levels of POPs.

POPs do not dissolve very well in water. When POPs enter water, they will stick to sediments instead. This means that water contains very low levels of POPs and we do not need to be concerned about POPs in the water. Generally, PCBs have been declining significantly in air, fish, seabirds, seals and beluga.

HOW DO PCBs AFFECT HUMAN HEALTH?

If a person is exposed to POPs, many factors will determine whether any harmful health effects will occur and what the type and severity of those health effects will be. These factors include the dose (how much), the duration (how long), the route or pathway by which you are exposed (breathing, eating, drinking, or skin contact), the other chemicals to which you are exposed, and your individual characteristics such as age, gender, nutritional status, family traits, life-style, and state of health.

The Environmental Protection Agency (US EPA) and the World Health Organization's International Agency for Research on Cancer has classified PCBs as probable human carcinogens.

The health effects of PCBs are not known with certainty; however evidence has shown associations between PCBs and a variety of adverse health effects, which include effects on the immune system, reproductive system, nervous system and endocrine system (hormones).

Even though there is little information on how PCBs affect human health, they are still of concern because they can build up in the fatty tissues of the body over time.



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ARE TRADITIONAL FOODS SAFE TO EAT?

Traditional foods provide many essential nutrients that can lower the risk of chronic diseases. Marine mammals tend to have the highest levels of POPs, particularly in the fatty tissues. However, most people do not need to be concerned

about contaminated-related effects from traditional food consumption. Generally, the benefits of eating traditional foods outweigh the risks from contaminant exposure.

