



HCH (HEXACHLOROCYCLOHEXANE)

ENVIRONMENTAL HEALTH – CONTAMINANTS FACT SHEETS

WHAT DO WE KNOW ABOUT HCH?

HCH is a persistent organic pollutant (POP). There are several forms of HCH. It is made by humans and does not occur naturally in the environment.

One form of HCH, called lindane, was used as a pesticide to treat crops but this use was phased out in Canada by 2004. Other forms of HCH are byproducts of the production of lindane. Up until recently, Lindane was still used to treat lice and mites in humans, but Canada has also phased this use out.

POPs (such as HCH) 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.

HOW DOES HCH 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 main source of exposure to HCH is by eating contaminated food.

At high exposures, HCH can affect the nervous system, liver, kidneys and endocrine system (hormones).

Lindane has been classified as carcinogenic to humans by the World Health Organization's International Agency for Research on Cancer based on evidence linking non-Hodgkin lymphoma, a type of cancer, with high work-related exposure to lindane.

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.