

Coal Tar: FAQ

What is coal tar?

- Coal tar is a by-product of the coal gasification process, historically used to produce naphtha gas from coal. This process was heavily used in the late 19th and early 20th centuries.
- Coal tar is a complex mixture, mostly made up of polycyclic aromatic hydrocarbons (PAHs), and is commonly referred to as dense non-aqueous phase liquid (DNAPL). DNAPLs are liquids denser than water therefore they do not readily dissolve in water. It is this characteristic that makes coal tar contamination of both soils and groundwater very difficult to manage.
- PAHs are a group of over 100 different chemicals which are produced through incomplete burning of coal, oil, gas and garbage. They are produced both naturally, by forest fires for example, and through human activities such as automobile exhaust, industrial processes and smoking cigarettes. PAHs are used to make dyes, plastics, creosote, coal tar, roofing tar and some medicines.

How does coal tar get into your body?

- PAHs can enter your body in three ways: through skin (dermal), breathing (inhalation) and eating (ingestion). To be absorbed through skin, direct contact with contaminated soil, water or air from a waste site containing PAHs would have to occur. PAHs can enter your body when virtually any smoke is inhaled. This includes wood, cigarette, agricultural, and trash-burning smoke as well as automobile exhaust. Breathing smoke which contains PAHs is the most common way people are exposed to PAHs. Workers involved in garbage incineration or the production or use of coal-tar, roofing tar or asphalt could be exposed to PAHs if proper personal protective measures are not taken.
- Eating food grown in contaminated soil can expose people to PAHs. Charring or grilling food can increase the amount of PAHs they contain.

What adverse health effects are associated with coal tar?

- PAHs are a large class of chemicals which range from non-toxic to extremely toxic. Their toxicity, and therefore the amount of the PAH needed to cause a health effect, is dependent upon the type of PAH. Seven types of PAHs have been deemed probable human carcinogens by the U.S. Environmental Protection Agency.
- There is sufficient evidence to determine that workers who are exposed to high levels of PAHs by touching or breathing mixtures of PAHs for long periods of time are at risk for developing cancer.
- PAHs have been found to cause cancer in laboratory animals when exposed through their food, from breathing contaminated air and when it was applied to their skin.
- Reproductive problems were observed in the offspring of pregnant mice that were fed high doses of PAHs. However, these effects have not been observed in people.

Are the beaches on Little Lake safe for me and my children to use?

- The water in Little Lake was tested prior to the swimming season for PAHs and no detectable levels were found.
- The sand at both Rogers Cove and Beavermead Park was imported from a local quarry therefore is not contaminated with PAHs. According to modelling completed by toxicologists, people using the beaches on Little Lake are not at risk of significant exposure to PAHs.

How has the Health Unit been involved in public health concerns related to the coal tar around the Court House?

- While occupational health and safety concerns fall under the Ministry of Labour's jurisdiction, the Health Unit has been aware of the coal tar situation at the Simcoe St. site since the 1980s.
- In fact, local coal gasification sites were extensively documented in the Health Unit's 1996 Environmental Health Status Report and noted again in the Health Unit's most recent Environmental Health Status Report released in June 2010.
- This issue first came to the Health Unit's attention in 1987 when a complaint was received from a worker at the Court House regarding a black oily substance and odour in a stairwell. Together with the Ministry of the Environment and the court administrator the Health Unit investigated and could not find any material or source to the odour. The complaint was referred to the Ministry of Labour who has purview over occupational health matters.

What is the Health Unit doing about this situation? Is it concerned about the health risks of the coal tar in the Court House?

- The Health Unit continues to work with the toxicologist of the Ontario Agency for Health Promotion and Protection to assess the situation.
- Based on the data received to date, there have not been any health hazards identified.
- Once the City of Peterborough completes the comprehensive assessment work that is being planned, the Health Unit will be able to get a better picture of the overall risk to human health at this site, if any.