



Human Health Hazards

Lincoln Park

Polycyclic Aromatic Hydrocarbons (PAHs)

PAHs are a group of approximately 10,000 compounds. Most PAHs in the environment are from incomplete burning of carbon-containing materials like oil, wood, garbage or coal. Many useful products such as mothballs, blacktop, and creosote wood preservatives contain PAHs. They are also found at low concentrations in some special-purpose skin creams and anti-dandruff shampoos that contain coal tars.

Automobile exhaust, industrial emissions and smoke from burning wood, charcoal and tobacco contain high levels of PAHs. In general, more PAHs form when materials burn at low temperatures, such as in wood fires or cigarettes. High-temperature furnaces produce fewer PAHs.

Fires form tiny particles of PAHs and other chemicals. These are known as particulate matter, or PM. Due to their microscopic size, they can move long distances in air. Most PAHs do not dissolve in water but instead bind to sediments. When sediments become suspended in water, PAHs can be transported along with sediment. PAHs can enter groundwater from ash, tar, or creosote that is improperly disposed in landfills.

HOW ARE PEOPLE EXPOSED TO PAHs?

Touching: Concentrated PAHs can affect the skin, particularly when dissolved in oily solvents to form tar. Contact with oily or tarry materials, combined with sunlight, can cause redness or irritation to the skin. In contaminated waterways exposures could be related to fishing, and exposure comes directly from the scales of fish being handled. Most of the exposure is to the hands, with a lesser probability from splashes to limbs or face. In addition to exposure related to fishing, there is a potential for skin contact via wading.

Breathing: Most people are exposed to PAHs when they breathe smoke, auto emissions or industrial exhausts. Most exhausts contain many different PAH compounds. Frequent exposure over many years leads to health problems, particularly to the lungs and heart. People with the highest exposures are smokers, people who live or work with smokers, roofers, road builders and people who live near major highways or industrial sources.

Drinking/Eating: Charcoal-broiled foods, especially meats, are a source of some PAH exposure. Due to metabolism of PAHs in living fish, there is no significant accumulation of PAHs in fish muscle. However, shellfish living in contaminated water may be another major source of exposure. Vegetables do not take up significant amounts of PAHs that are in soil. PAHs may be in groundwater near disposal sites where construction wastes or ash are buried; people may be exposed by drinking this water.

WILL EXPOSURE TO PAHs RESULT IN HARMFUL HEALTH EFFECTS?

For recreational use of Lincoln Park, users should avoid coming in contact with oily slicks and contaminated sediments in the water. Although these are very low exposures, skin that comes in contact with PAHs should be washed immediately with soap.

Occupational and chronic exposure to PAHs may cause cancer. Several PAHs have been shown to cause lung and skin cancer in laboratory animals. Extracts of various types of smoke containing PAHs caused lung tumors in laboratory animals. Cigarette smoke will cause lung cancer.

Where can I get more information?

- Your Local Health Department: North [Shore Health Department \(414\) 371-2980](#)
- Division of Public Health, Bureau of Environmental and Occupational Health, (608) 266-1120: <http://www.dhs.wisconsin.gov/eh/>

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