

## Polycyclic Aromatic Hydrocarbons

Polycyclic Aromatic Hydrocarbons (PAHs) are potentially hazardous organic compounds that are found in most parking lot and driveway sealants.

- The levels of PAHs in coal tar-based sealants have been found to be **one thousand times greater** than the levels in asphalt-based sealants.
- PAH concentrations in rain water runoff from coal tar sealed parking lots are an average of 65 times higher than concentrations from other surface types.
- Currently, the PAH benzo[a]pyrene has a minimum exposure guideline for human health of 10 milligrams per kilogram (mg/kg). In one study, this guideline was exceeded for the house dust in 4 out of 11 apartments whose parking lots used coal tar sealants.

**What happens when sealcoat wears off my driveway?** A freshly sealed blacktop is pretty to look at, but in a few short years the sealcoat has worn away

- It washes into our surface waters where it is a potential danger to aquatic life, and
- It is carried into our homes on the bottoms of our shoes or in the form of the black layer of grime on our hands or feet after a basketball game in the driveway.



## Additional Resources:

- **List of Driveway Sealants Without Coal Tar**  
[http://www.ci.austin.tx.us/watershed/coaltar\\_altproducts.htm](http://www.ci.austin.tx.us/watershed/coaltar_altproducts.htm)
- **Information on Permeable Pavement**  
<http://www.lakesuperiorstreams.org/stormwater/toolkit/paving.html>
- **McHenry County Water Resource Department**  
<http://www.mchenryh2o.com>
- **United States Geological Society**  
<http://tx.usgs.gov/coring/allthingssealcoat.html>
- **United States Environmental Protection Agency**  
[http://www.epa.gov/caddis/ssr\\_urb\\_wsq4.html](http://www.epa.gov/caddis/ssr_urb_wsq4.html)
- **Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Department of Health and Human Services**  
<http://www.atsdr.cdc.gov/>

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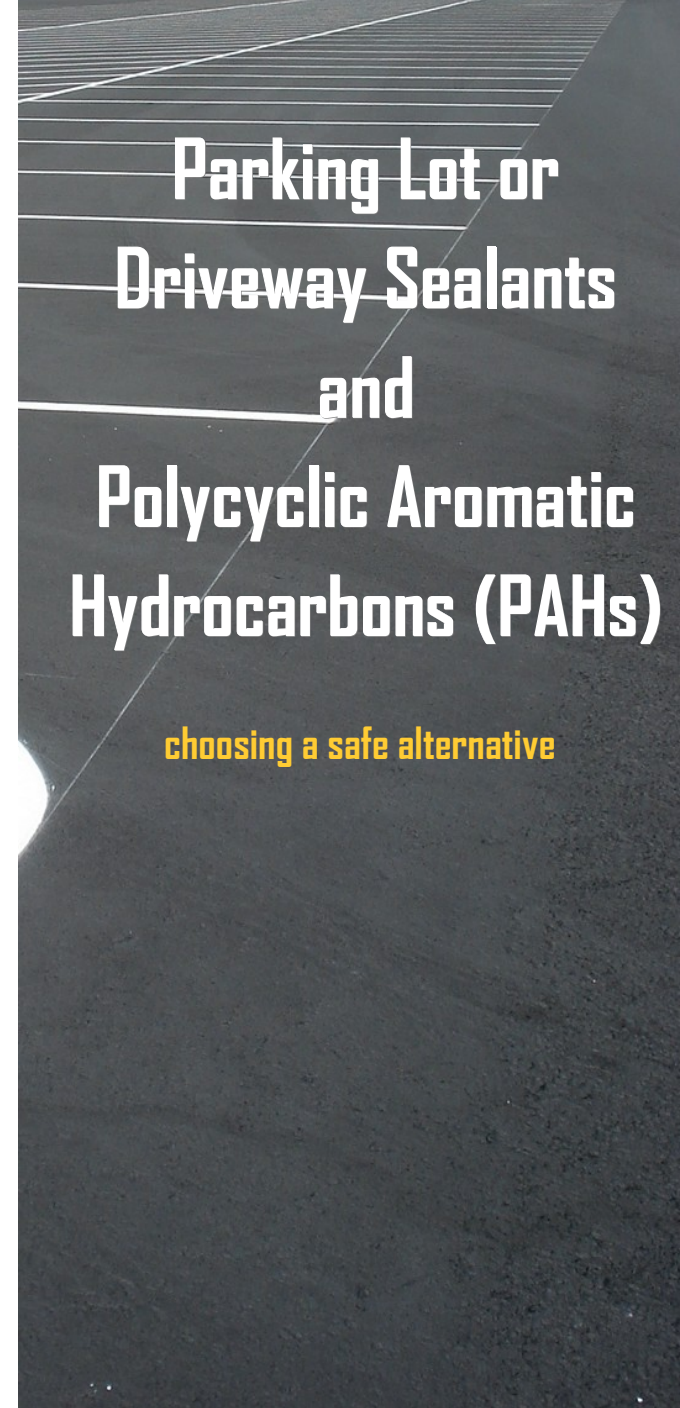


[www.mchenryh2o.com](http://www.mchenryh2o.com)

## McHenry County Government Water Resources

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## McHenry County Government Water Resources



## What's the problem in McHenry County?

With an expected population growth of 190,000 between 2000 and 2030, McHenry County is one of the fastest growing counties in the Nation. This rapid urban growth can have detrimental effects on our water resources such as:

- Increased risk of drinking water shortages resulting from population growth and increased groundwater pumping.
- Higher drinking water pumping and treatment costs resulting from water quality and quantity concerns.
- As pumping increase, groundwater levels decrease, thereby impacting base flows in streams, wetlands, rivers and lakes.
- Groundwater recharge is threatened as impervious surfaces such as parking lots and roof tops are added.
- The volume of pollution increase as an area urbanizes.
- Ecosystems are impacted as surface water pollutants increase.



# WHAT'S SO BAD ABOUT PAHs?

## Risk to Humans

- **Skin Contact:** Dust from many sealcoated driveways and parking lots contain PAHs that can get into your skin when playing basketball or walking around barefoot.



- **Ingestion:** Small children, who have frequent hand-to-mouth contact, are most often in contact with house dust and driveway particles contaminated with PAHs from coal tar-based sealants.
- **Inhalation:** Applicators of pavement sealants come in contact with toxic fumes and skin irritants when sealing with coal tar. This affects professionals, but also homeowners who self-seal their driveways and may not properly protect themselves from the harmful effects.

Studies of people show that individuals exposed by breathing or skin contact for long periods to mixtures that contain PAHs and other compounds can develop cancer.



## Risk to Aquatic Life

PAHs have been shown to have negative impacts on aquatic ecosystems.

- Many bottom feeding organisms, which are often a food source for other aquatic life, are adversely affected when exposed to coal tar sealcoat.
- There is less diversity in aquatic communities downstream of coal tar sealed parking lots.
- Frogs exposed to coal tar-based sealcoat die or have stunted growth.

## Risk to Animals

- In 2011, 400 pigs were affected by coal tar poisoning, 35 of which perished. It was found that these pigs had been bedded on straw that was stored on a recently sealed parking lot.



## A High Cost for Our Economy

One purpose of stormwater ponds is to serve as a settling basin for sediments. The sediment from these ponds must be removed roughly every 10 years for them to remain effective. These sediments are often contaminated with pollutants, including PAHs, from parking lots and driveways.

PAHs in contaminated sediment:

- Bioaccumulate in the stormwater pond sediment creating a potential danger to people who may illegally use the stormwater pond for recreation.
- Adversely affects the wildlife habitat that often forms around stormwater ponds.
- Can cause the sediment to register as a hazardous waste and require costly cleanup by the municipality or Home Owners Association that maintains the affected stormwater pond.



# HOW CAN I DO SOMETHING ABOUT IT?

## What You Can Do...

**Refrain from using products that contain PAHs such as Coal Tar Based Sealcoat.** Some home improvement stores such as Lowes and The Home Depot have already removed coal tar-based sealcoat from their shelves.

Some alternatives include:

- Acrylic asphalt-based, asphalt-based or eco-friendly "green" sealcoat in-lieu of coal tar-based sealcoat.
- Installation of a concrete driveway, which lasts longer and requires less maintenance.
- Installation of permeable pavement for a driveway or parking lot.
- Use of a gravel driveway or parking lot.
- Refrain from using sealcoat altogether.

**Be an informed consumer.** We can reduce the impact of PAHs on our environment by being smart consumers and by investing in products that contain lower levels of PAHs.



- Request to see the Materials Safety Data Sheet for your sealant. Watch for the words "refined coal tar," "coal tar pitch," "coal," "tar," or "RT- 12.," clues that the product contains coal tar and is high in PAHs.
- Coal tar sealants are one of the largest sources of PAHs in urban lakes in the U.S., but they aren't alone. Contamination can come from car exhaust, tire particles, motor oil, and some household products such as dandruff shampoos and certain soaps.

## Permeable Pavement

Using permeable pavement on your driveway or parking lot has many benefits:



- It does not require any type of sealant.
- It has been proven to trap PAHs from motor oil and vehicle emissions that would otherwise be running into our surface water. These PAHs then have a chance to biodegrade with the assistance of microbes.
- It allows rainwater to infiltrate into the ground, recharging our aquifers rather than running into the sewer system and away from the county.
- It requires significantly less salt in the wintertime to keep ice at bay since water does not remain on the surface of the pavement.

**Remember to dispose of excess driveway sealants of any kind at your household hazardous waste collection site.**

See the McHenry County Green Guide (Recycling Directory) for a location near you.

Or Contact the McHenry County Department of Health: (815) 334-4585