



## Replacing your asphalt or concrete driveway?

If you are considering replacing your asphalt or concrete driveway, there are alternatives that still require some maintenance, but do allow stormwater to infiltrate the ground below or alongside the driveway. These practices help to reduce the overall volume of stormwater and pollutants that reach the storm drains and local streams and rivers in Tippecanoe County.



Water will pass through the spaces between the pavers in this driveway.

This driveway utilizes a combination of grass strips and pavers that allow grass or other vegetation to grow through the openings further reducing the impervious surface.



This graphic shows how water can pass through porous concrete driveways. This water will not enter the storm sewer but will infiltrate into the ground.

The **Tippecanoe County Partnership for Water Quality** seeks to partner with local, state, and federal government and other stakeholders to provide quality of life and protection of health, environment, and economy that citizens desire and deserve as they serve as stewards of natural resources, system infrastructure, and public funds while solving stormwater and water quality issues.

The Partnership consists of the

following entities:

**Tippecanoe County**

City of Lafayette

**City of West Lafayette**

Purdue University

**Town of Battle Ground**

Town of Dayton

**Ivy Tech of Lafayette**

### **Tippecanoe County Partnership for Water Quality**

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## Coal-tar Based Sealants and the Potential Impacts to Water Quality



# Polycyclic Aromatic Hydrocarbons (PAHs)

## What are PAHs?

PAHs are a group of more than 100 organic compounds that are produced when materials containing carbon and hydrogen are burned.

Common sources of PAHs include:

- Fireplaces and woodstoves
- Cigarette and tobacco smoke
- Automobile exhaust
- Waste incinerators
- Forest or brush fires
- Decaying organic matter
- Coal-tar based sealants

## Why should we be concerned about PAHs?

Several PAHs are suspected cancer causing compounds for humans and have been shown to be toxic to aquatic life. While PAHs do not dissolve in water, they attach to soil and other particles and can be transported to rivers, streams, and lakes via stormwater runoff.



Parking lot showing worn and eroded sealcoat.

## What are coal-tar sealants?

Coal tar is a byproduct of the coking of coal and is added to the sealant. This product, a coal tar sealant, may contain up to 20% PAHs dry weight. In comparison, an asphalt based sealant may contain up to 0.66% PAHs dry weight. That is up to 670 times less PAHs dry weight than coal tar sealants.

Some studies completed by the City of Austin Texas and the United States Geological Survey (USGS) indicate a relationship between urbanization and the PAH levels in water systems. This is associated with the inherent increase in parking lots, roads, and driveways and the increase in the number of automobiles that typically accompany urban development.



Erosion pathway from parking lot to storm drain

The presence of PAHs in rivers, streams, and lakes is a growing issue in many communities throughout the United States. Some communities, such as those in Tippecanoe County, rely on education efforts to convince homeowners and contractors to discontinue the use of coal-tar based sealants. Others have adopted Ordinances banning the use of these products within their boundaries.

## Austin, Texas

In 2005, the Austin City Council banned the use of coal-tar containing sealants within the City. A Class C misdemeanor punishable by a fine of up to \$500 per day of violation can be enforced.

[www.ci.austin.tx.us/watershed/coaltar\\_main.htm](http://www.ci.austin.tx.us/watershed/coaltar_main.htm)

## Dane County, Wisconsin

In 2007, an Ordinance was adopted banning the use of sealants containing coal tar. Fines can range from \$25 and \$300 per day based on the number of violations within a 12 month period.

<http://danewaters.com/business/coalTar.aspx>

## Washington D.C.

Effective July 1, 2009, any person violating the coal tar sealant ban in Washington D.C. can be fined up to \$2,500 per day of violation.

<http://ddoe.dc.gov/ddoe/site/default.asp>

## What are the alternatives?

Asphalt based sealants are an alternative to coal tar based sealants but efforts should be made prior to application to determine if the sealant will be compatible with the existing pavement. Examples of asphalt based sealants can be found on the Austin Texas website.

Other alternatives include:

- Using concrete which does not require the use of these sealants
- Using permeable asphalt or other porous materials such as pavers, grass strips, or a combination

Be certain to read the product labels or ask contractors to be certain that the product does not contain coal tar.