

Coal Tar Sealcoats – Water Quality and Public Health Risks Fact Sheet

The problem

Coal tar sealcoats used to repair and protect pavements such as parking lots and driveways have been identified as a significant cause of impaired water quality, a threat to aquatic life, and an alarming health risk to the public, especially young children. Scientific studies have shown that the coal tar sealcoats are responsible for high levels of polycyclic aromatic hydrocarbons (PAHs) found in the sediments of lakes, streams, and stormwater basins near coal tar sealcoat treated pavements and in particles and dust from the pavements.

What are PAHs?

PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances. They are in coal tar pitch, which is in the coal tar sealcoat products. Many PAHs are suspected or known carcinogens.

How do coal tar sealcoats harm water quality?

Scientists have found that high levels of PAHs run off coal tar sealcoat treated pavements for months following the application of the coal tar product, harming aquatic life, and increasing sediment cleanup costs. In addition, dust and particles containing PAHs created by routine wear and tear of the pavement treatment are washed into nearby waters during the lifetime of the pavement treatment. Some communities are facing expensive sediment cleanups connected directly to runoff from coal tar sealcoat pavements. For example, the cost of cleaning up PAH contamination in stormwater basins in Inver Grove Heights, a suburb of St. Paul, Minnesota, is estimated to cost \$1.5 to \$4 million dollars.

How do coal tar sealcoats harm people?

People, especially young children, can breathe in or accidentally ingest the dust and small particles contaminated with PAHs created by routine wear and tear of the treated pavement. For someone who spends their entire lifetime living adjacent to coal-tar-sealcoated pavement, the average excess lifetime cancer risk is estimated to be 38 times higher than the urban background exposure. The estimated lifetime cancer risk also is elevated for someone who spends just the first 6 years of their life living adjacent to coal-tar-sealed pavement—about 25 times higher than urban background exposure. (Williams, E.S., Mahler, B.J., and Van Metre, P.C. 2013. Cancer risk from incidental ingestion exposures to PAHs associated with coal-tar-sealed pavement. Environ. Sci. Technol. 2012, 47 (2):1101-1109.)

Are there affordable and available alternatives to coal tar sealcoats?

There is a safer alternative – asphalt sealcoat -- which contains about a thousand times less the amount of PAHs than coal tar sealcoats. Asphalt based sealcoats are safer, readily available, and very affordable according to the Minnesota Pollution Control Agency website. (The state of Minnesota has banned coal tar sealcoats and provides information on alternatives.)

Are coal tar sealcoats in use in the Great Lakes region?

Yes. Coal tar sealcoats are used primarily in the central, southern and eastern U.S. Asphalt-based sealcoats are used mostly in the western U.S.

How are coal tar sealcoats regulated?

The states of Washington and Minnesota have enacted bans on the use of coal tar sealants. A statewide ban is in progress in the state of Wisconsin. In addition, numerous cities and counties across the U.S. and throughout the Great Lakes region are banning the use of coal tar sealcoats for public safety and environmental reasons.

Where can I get more information?

Freshwater Future, a group that works with community organizations throughout the Great Lakes to protect water resources, is educating its members on the hazards of the product and alternatives to its use. The group is also reaching out to communities, universities, suppliers, and contractors to obtain commitments to reduce and eliminate the use of coal tar sealcoats. See <http://freshwaterfuture.org/policy/coal-tar-sealants> and <http://pubs.usgs.gov/fs/2011/3010/pdf/fs2011-3010.pdf> for more information.

References: Mahler, B.J., and P.C. Van Metre. "Coal-Tar-Based Pavement Sealcoat, Polycyclic Aromatic Hydrocarbons (PAHs), and Environmental Health." U.S. Geological Survey, 2011. pubs.usgs.gov/fs/2011/3010. University of Wisconsin Extension. "Avoiding High Costs from Stormwater Sediment Contaminated by Coal Tar - Based Asphalt Sealcoats." University of Wisconsin, 2013. <http://www4.uwm.edu/shwec/publications/cabinet/p2/Stormwater%20Utilities%206-7-13.pdf>