

Ban the Use of Coal Tar (PAH) Sealants

Parking lots and driveways dominate the urban landscape, most of them sealcoated with products containing refined coal tar. Coal tar sealants contain high levels of polycyclic aromatic hydrocarbons (PAHs), which are toxic to fish and other aquatic life and are a known carcinogen.¹ Pavement sealants containing coal tar are typically applied by commercial applicators on parking lots at apartment complexes, retail centers and office buildings. It takes about 450 gallons of sealcoat to apply a single coat to one acre of parking lot. Typically two coats are applied, and applicators suggest reapplication of sealcoat every two to three years. Recent studies² show that coal tar sealcoat products used as a means to protect asphalt pavement are a significant source of PAH contamination in our lakes and streams. The sealant is worn off by abrasive action of traffic, degraded by weathering to particulate form, and carried away by rainfall runoff. In areas without water quality control ponds, the particulates travel down-gradient to become entrained in sediments of nearby waterways.

Studies in Austin, Texas³; Puget Sound near Olympia, Washington; and Illinois⁴ demonstrate that the PAH compounds run off into lakes and streams and are toxic to fish. Additional information shows that PAHs can be detected in blood or urine soon after exposure.⁵

The [Environmental Protection Agency](#) regulates PAHs discharged by industrial sources into waterways. But under the federal Clean Water Act, the EPA can't regulate individual pollutants carried by stormwater runoff. When they wash into waterways, PAHs end up attached to particles of sediment because the compounds do not dissolve easily in water. According to the [Agency for Toxic Substances & Disease Registry](#), microorganisms can break down PAHs in soil or waterways in weeks to months. A number of studies have shown that PAHs harm freshwater species, including amphibians.

Given that stormwater runoff enters the Edwards Aquifer within the Edwards Recharge Zone rapidly and with little or no filtration, we propose that the Edwards Aquifer Authority adopt regulations to prohibit the use, sale, or retail display of sealcoat products that are labeled as containing coal tar within the Edwards Aquifer Recharge Zone and five miles of the contiguous Contributing Zone. Alternative products, including asphalt sealcoat and latex modified asphalt sealer, contain a far lower concentration of PAHs than coal-tar sealants. There are also newer sealants on the market whose makers claim contain virtually no PAHs. Lowes, Home Depot, and other home improvement stores have discontinued the sale of Coal Tar Sealants Nationwide.

The City of Austin, Texas passed an ordinance in 2005⁶ prohibiting the use and sale of Coal Tar Sealants. Dane County, Wisconsin passed a similar ordinance in 2007.⁷

¹ U.S. Department of Health and Human Services. *Report On Carcinogens*, 10th ed.; National Toxicology Program, Public Health Service : Washington, DC, December 2002.

² Van Metre, P.C.; Mahler, B.J.; Wilson, J.T.; *PAHs Underfoot: Contaminated Dust from Coal-Tar Sealcoated Pavement is Widespread in the United States*. 2008. Accessed November 19, 2008. <<http://pubs.acs.org/doi/pdfplus/10.1021/es802119h>>.

³ City of Austin Watershed Protection and Development Review Department. *PAHs in Austin, Texas: Sediments and Coal-Tar Based Pavement Sealants Polycyclic Aromatic Hydrocarbons*. May 2005. Accessed August 3, 2010. <http://www.ci.austin.tx.us/watershed/downloads/coaltar_draft_pah_study.pdf>.

⁴ Lake In The Hills, Illinois was a study site for footnotes 1 and 3. "Concentrations of PAHs in soil and street dust near sealcoated pavement in Lake in the Hills exceeded those near unsealcoated pavement by a factor of from 6.4 to 39 (street dust) and 2.3 to 14 (soil)." (see Table 2 from footnote 2). In addition, 29/30 driveways samples had coal tar and 15-20% of sub-watershed was impacted by coal tar.

⁵ Wisconsin Department of Health Services. Chemical Fact Sheet: *Polycyclic Aromatic Hydrocarbons*. July 2010. Accessed August 3, 2010. <<http://dhs.wisconsin.gov/eh/chemfs/fs/PAH.htm>>.

Resources on the Web

Chemical and Engineering News. *Dustup Over Pavement Coatings*. February 2007. Accessed August 3, 2010. <<http://pubs.acs.org/cen/government/85/8507gov1.html>>.

City of Austin Watershed Protection and Development Review Department. *PAHs in Austin, Texas: Sediments and Coal-Tar Based Pavement Sealants Polycyclic Aromatic Hydrocarbons*. May 2005. <http://www.ci.austin.tx.us/watershed/downloads/coal_tar_draft_pah_study.pdf>.

Mahler, Barbara and Peter Van Metre, Thomas Bashara, Jennifer Wilson, and David Johns. *Environmental Science and Technology*, 2005, 39, 5560-5566. *Parking Lot Sealcoat: An Unrecognized Source of Urban Polycyclic Aromatic Hydrocarbons*. Accessed August 3, 2010. <<http://pubs.acs.org/doi/pdfplus/10.1021/es0501565>>.

Northwest Fisheries Science Center. *Cardiovascular defects in fish embryos exposed to polycyclic aromatic hydrocarbons*. February 2007. <<http://www.nwfsc.noaa.gov/research/divisions/ec/ecotox/fishneurobiology/cardio.cfm>>.

U.S. Geological Survey. *Parking Lot Sealcoat: A Major Source of Polycyclic Aromatic Hydrocarbons (PAHs) in Urban and Suburban Environments*. January 2006. <<http://pubs.usgs.gov/fs/2005/3147/>>.

Washington Department of Fish and Wildlife. *Puget Sound Ambient Monitoring Program*. 2006. <<http://198.238.33.67/fish/psamp/study.htm>>.

⁶ City of Austin, Texas Municipal Code. *Chapter 6-6, Coal Tar Pavement Products*. Accessed August 3, 2010. <[http://www.amlegal.com/nxt/gateway.dll/Texas/austin/thecodeofthecityofaustintexas?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:austin_tx\\$anc=>](http://www.amlegal.com/nxt/gateway.dll/Texas/austin/thecodeofthecityofaustintexas?f=templates$fn=default.htm$3.0$vid=amlegal:austin_tx$anc=>)>

⁷ Dane County, Wisconsin Code. *Chapter 80: Establishing Regulations for Lawn Fertilizer and Coal Tar Sealcoat Products Application and Sale*. Accessed August 3, 2010. <<http://danedocs.countyofdane.com/webdocs/pdf/ordinances/ord080.pdf>>.