



HB 0077 - SUPPORT

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Application of Coal Tar Pavement Products – Prohibitions (Safer Sealant Act of 2021)

Environment and Transportation Committee

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Dear Chair Barve, and Members of the Environment and Transportation Committee:

I am here in my capacity as a Professor of Chemistry at Dickinson College in Carlisle, PA to provide scientific support for HB 0077. This is informed by 3 prior peer-reviewed publications from my research group examining coal tar sealants in stormwater runoff and sediments in PA.

In the U.S., the graying surfaces of private driveways and parking lots are coated with a dark, viscous sealing product (sealcoat) meant to protect the underlying asphalt from weathering. Two types of sealcoat products dominate the market: those containing coal-tar pitch and those containing asphalt. Asphalt sealcoat products can be further defined based on whether they contain petroleum asphalt, or steam-cracked petroleum residues. Of these formulations, coal-tar sealcoat contains 15 - 35% coal-tar pitch, which is a known human carcinogen. Coal tar pitch is enriched in polycyclic aromatic hydrocarbons (PAHs), and studies carried out by United States Geological Survey (USGS) scientists and others found that PAH levels were 65 times higher in urban stormwater in contact with coal-tar sealed asphalt compared to stormwater in contact with unsealed asphalt. Studies examining the toxicity of runoff collected from coal-tar sealed asphalt surfaces have shown that coal-tar runoff is acutely toxic to aquatic biota, acutely lethal to juvenile coho salmon, and it can cause abnormalities in zebrafish embryos. In contrast, runoff from petroleum asphalt sealed surfaces or unsealed surfaces did not show the same adverse effects. Coal-tar-based sealants can also affect human health. For instance, residents living in houses whose driveways were sealed with coal-tar have PAH levels in house dust that were 25 times higher than house dust collected from residences with parking lots with other surface types (e.g., unsealed or asphalt-sealed driveways). Because children have greater hand-to-mouth contact than adults, house dust may represent the primary exposure route of young children to PAHs.

In the U.S., water quality is increasingly threatened as urban areas grow, and urban stormwater runoff is a major contributor to impaired water quality, affecting both the environment and humans. Already, two states (Washington, Minnesota) and many other municipalities and counties around the U.S. have bans preventing coal-tar sealants from being applied.

For these reasons, and many others I urge that you strongly consider banning the application of coal-tar based sealants by supporting HB 0077.