

Coal-Tar Sealant



What are coal-tar pavement sealants?

Coal-tar sealants are a black liquid made from coal-tar pitch which are sprayed or painted onto pavement to make it look newer. To maintain this appearance, these products are reapplied every few years because they wear off. Coal-tar sealants do not help the pavement last longer. They also contain chemicals that are harmful to human health, wildlife, and the environment.

What are the concerns with coal-tar sealants?

The harmful chemicals in coal-tar sealants are **polycyclic aromatic hydrocarbons (PAHs)**. **There are more than 200 types of PAHs in coal-tar sealants**, and they travel easily through the environment. **Even if you are not using coal-tar sealant products yourself, you could still be exposed to them.** The USGS has studied the harmful effects of coal-tar sealant use for years. As a result, coal-tar sealants are banned in Connecticut, Minnesota, and Washington and many cities and counties, while New York and California have banned their use in state funded projects.

Effects of coal-tar sealant use:

- PAHs:
 - Are toxic to plants and wildlife.
 - Are known to cause cancer.
 - Are easily carried through the environment.
 - Are easily ingested by animals and humans, especially children.¹
 - Build up in animal tissue and are transferrable when the animal is eaten. This is especially dangerous for humans eating salt and freshwater fish.²
 - Are measured in dust from buildings adjacent to coal-tar sealed parking lots. Buildings located next to lots using coal tar sealants have PAH concentrations 25 times higher than buildings without nearby coal-tar sealed surfaces.³
- Coal tar sealants burn skin on contact.
- Living next to coal-tar sealed pavement (a parking lot or driveway, for example) is estimated to increase lifetime cancer risk 38 times, and much of the increased risk occurs during early childhood.⁴



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How are coal-tar chemicals spread?

- Vehicles, snow plows, stormwater runoff, shoes, dust, and wind.^{5,6}
- Studies found that water running off a parking lot with coal-tar sealant has as much as 65 times more PAHs than water from an unsealed parking lot.⁷

What should I use instead?

Asphalt-based products are a better choice.

- Made from refining petroleum.
- Less harmful and less of a skin irritant.
- Gives the same black appearance at a similar cost.
- Good longevity with quality ingredients and proper application.
- Holds up best in lower use/traffic areas.

For more information:

¹ EPA Health Hazard Information (<https://www.epa.gov/sites/production/files/2016-09/documents/polycyclic-organic-matter.pdf>)

² UK Marine Special Areas of Conservation (http://www.ukmarinesac.org.uk/activities/water-quality/wq8_40.htm).

³ Mahler, B.J., et.al., 2010. Coal-Tar-Based Parking Lot Sealcoat: An Unrecognized Source of PAH to Settled House Dust, Environ. Sci. Technol., 44 (3), pp 894-900 (<http://pubs.acs.org/doi/abs/10.1021/es902533t>).

⁴ Williams, E.S., et.al., 2013. Cancer risk from incidental ingestion exposures to PAHs associated with coal-tar-sealed pavement. Environ. Sci. Technol., 47 (2), pp 1101-1109 (<http://pubs.acs.org/doi/abs/10.1021/es303371t>).

⁵ Van Metre, P. C.; Mahler, B. J., Contribution of PAHs from Coal-Tar Pavement Sealcoat and Other Sources to 40 U.S. Lakes. Sci. of the Total Environ., 2010, v.409, 334-344 (<http://tx.usgs.gov/coring/pubs/Van%20Metre%20PAH%20sources%20STOTEN2010.pdf>).

⁶ Yang, Y., et.al., 2010. Influence of coal-tar sealcoat and other carbonaceous materials on polycyclic aromatic hydrocarbon loading in an urban watershed: Environ. Sci. Technol., v. 44, p. 1217-1223 (<http://pubs.acs.org/doi/abs/10.1021/es902657h>).

⁷ Mahler, et. al., 2012. Coal-Tar-Based Pavement Sealcoat and PAHs: Implications for the Environment, Human Health, and Stormwater Management. Environ. Sci. Technol., 46 (6), pp 3039-3045 (<http://pubs.acs.org/doi/abs/10.1021/es203699x>).