

USGS Used Invalid Modeling to Evaluate Sources of PAHs in Urban Sediments

DON'T ALLOW FLAWED SCIENCE TO DICTATE PUBLIC POLICY

- Some state and local governments have restricted or banned the use of refined tarsealants (RTS), also known as coal tar sealants, on asphalt pavements.
- These bans or restrictions were based on a flawed “scientific” study conducted by the United States Geological Survey (USGS) claiming that the primary source of Polycyclic Aromatic Hydrocarbons (“PAHs”) contamination in lakes, rivers and other waterways were the result of pavement sealed with RTS.
- The Pavement Coatings Technology Council immediately asked the USGS to release their data and scientific findings to conduct a peer-review analysis, which is critical step in the scientific method (third-party scientists must be able to use the underlying data to try and replicate the findings). Essentially, you must be able to show the data so other scientists can prove your work.
- **For 10 years**, the USGS refused to release any of the data from their study. After a protracted legal battle, a Federal Court of Appeals ruling mandated the USGS release all its data, methods, and findings related to the USGS study of RTS.

WHAT DID THE SCIENTIFIC COMMUNITY DISCOVER ABOUT THE USGA STUDY?

- USGS's modeling approach for RTS has not been validated
- USGS used invalid model inputs
- USGS's study did not include appropriate controls
- USGS didn't use samples of RTS but rather samples of parking lot dust even though the profile of dust collected from sealed and unsealed lots are indistinguishable
- USGS's conclusions were based on circular reasoning
- The results do not support the hypothesis that RTS is an important source of PAHs in urban sediments

In layman's terms, the study conducted by USG's scientists essentially put their thumb on the scale to reach a desired, albeit flawed, conclusion that RTS is a primary source of PAH contamination in lakes and other waterways. In fact, traffic-related emissions, not runoff from pavements sealed with RTS, are the primary source of all PAHs in the urban environment. PAHs from these sealants typically account for less than one half of a percent (0.4%) of what is found in the environment.

AUSTIN, TEXAS BAN CONFIRMS USGS STUDY IS FLAWED

AUSTIN, TEXAS BAN – THEN & NOW

- The City of Austin, Texas enacted an ordinance in November 2005 prohibiting the use and sale of refined coal tar-based sealants. This ban occurred as a result of the USGS study, which failed to include other local sources of PAHs and even disregarded the four former manufactured gas plant (MGP) facilities located at and near the sites of PAHcontamination.
- The City of Austin undertook a retrospective study of PAHs in city sediments in 2012, looking back to monitoring data collected since the 1990s. The study found that PAH levels declined beginning in the late 1990s-early 2000s, and that neither the ban on refined coal tar-based sealants which went into effect in 2006 nor the closing of a fossil fuel fired power plant in 2007 has had any detectable impact on PAH levels. This is consistent with the situation throughout the country – stricter controls on automobile and industrial emissions resulted in a nationwide decline in PAHs – not restrictions on RTS.

QUESTION - If coal tar sealers were the cause of the high PAH levels - why was there no improvement over time?

ANSWER - According to a 2003 article in a local newspaper, the *Austin Statesman*, "The chemical fingerprint of the contamination at the hillside above Barton Springs pool and in the creek is identical to that of coal gasification wastes..." **Coal gasification wastes are found at Manufactured Gas Plant facilities. Manufactured Gas Plants all but ceased operations in the early to mid-1900's.**

A subsequent scientific review of the Austin studies, "found that traffic-related emissions, not runoff from pavement sealed with refined coal tar-based sealer, is consistently identified as the primary source of PAHs in the urban environment."

MORE ON PAHs & RTS/COAL TAR SEALANTS

PAHs are a group of more than 100 chemical compounds which are everywhere in the environment in such diverse sources as: auto exhaust, motor oil, industrial processes, electric power generation, wood and yard waste burning, and even barbeque grilling. PAH's from RTS pavement sealants typically account for less than one half of a percent (0.4%) of what is found in the environment.

- No federal or state regulatory agencies including the USEPA and OSHA have taken steps to ban the use of coal tar pavement sealants – **In fact, refined coal tar pavement sealant is not, nor has it ever been classified as a hazardous material by the USEPA and is not listed on California's Prop 65.**
- **In addition, just before the end of the Obama Administration, the USEPA reevaluated Coal Tar and lowered the risk from the product by a factor of 7-fold.**
- The IARC (International Agency for Research on Cancer) has not classified refined tar or refined coal tar-based sealers as a human carcinogen.
- The FDA has approved coal tar for decades as a base ingredient for skin creams and shampoos that fight certain skin conditions. It is very odd that the FDA would approve coal tar to be applied to the skin and scalp **IF** it was harmful. The amount of PAH's produced by these items is also far higher than that in coal tar sealer.
- Coal tar is commonly used in medicinal products, such as dandruff shampoos, psoriasis and eczema treatments. It is also used to seal drinking water pipes as it is insoluble in water.
- There is no record that PAHs from these pavement sealers have ever caused harm to anyone. Ready-to-use pavement sealers (both refined coal tar and asphalt based) have never been cited for a claim of poor health due to the use of its sealers. **Not even the proponents of any ban or restriction can show that RTS has ever harmed anyone.**
- A focus on just RTS won't reduce the amount of PAHs. Even concrete pavements that do not require sealants **DO** collect PAHs from spills, leaks, abrasion and atmospheric deposition which may be washed into streams during rain events.
- Studies have consistently found that traffic-related emissions, not runoff from pavement sealed with refined coal tar-based sealer, are the primary source of all PAHs in the urban environment.
- RTS is an FAA and DOT required product. Used extensively on runways and bridges.
- Air sampling studies showed RTS-based sealers pose no inhalation risk to applicators, manufacturers or the general public.