



Creosote

2017

Exposure to creosote has the potential to harm your health. The health effects of contact with any hazardous substance depend on how much, for how long and the way in which you are exposed. The effects also depend on personal factors such as family history, overall health, and lifestyle.

What is creosote?

Creosote is a mixture of hundreds to thousands of chemicals extracted at high temperatures from beechwood, the creosote bush, or coal. Coal tar creosote is the most widely used wood preservative in the United States. In the past, wood creosote was used as a disinfectant, a laxative, and a cough treatment.

The major chemicals in creosote used for wood treatment are polycyclic aromatic hydrocarbons (PAHs), cresols, and phenols. PAHs are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances.

How does creosote enter the environment?

Coal tar creosote is released to water and soil mainly as a result of its use in treating wood. In the past, wastewater from wood-treatment facilities was often discharged to unlined lagoons where it formed a sludge. Coal tar creosote may be found in soil as a result of leaking or seeping from treated timber. Small amounts of coal tar creosote may be released into the air during the wood-treating process.

As creosote is a mixture of many chemicals, some of these chemicals will behave differently in the environment than others. Some components may break down quickly, whereas others may persist in the environment for extended periods of time. Shellfish, such as crabs and oysters, living in water near a wood-treatment plant can take up coal tar creosote compounds.

How might I be exposed to creosote?

- Breathing, ingesting, or touching contaminated media, such as air, water, or soil.
- Contact with contaminated soil near wood-treating facilities.
- Drinking from a contaminated well or water source.
- Eating food containing creosote compounds. Shellfish are the main sources of creosote compounds in food.
- Using products that contain creosote to improve a health problem such as eczema or psoriasis.
- Working in a wood-treating facility or working with creosote-treated wood.

What guidelines have been set to protect human health?

The U.S. Environmental Protection Agency (EPA) has set a maximum contaminant level for benzo[a]pyrene, a major PAH, in public drinking water systems of 0.2 micrograms per liter (0.2 µg/L).

How can creosote affect my health?

Eating food or drinking water contaminated with high levels of creosote may cause a burning in the mouth and throat, and stomach pains. Brief direct contact with large amounts of coal tar creosote may result in skin irritation, chemical burns on the eyes, convulsions and mental confusion, kidney or liver problems, unconsciousness, and even death. Longer direct skin contact with low levels of creosote mixtures or their vapors can result in eye and skin damage. Longer exposure to creosote vapors can cause irritation of the respiratory tract. Children exposed to creosote are likely to experience the same health effects as adults exposed to creosote.

Long-term exposure to low levels of creosote, especially direct contact with the skin during wood treatment or manufacture of coal tar creosote-treated products, has resulted in skin cancer and cancer of the scrotum. The EPA has determined that coal tar creosote is a probable human carcinogen.

How can I limit my exposure to creosote?

- Discourage children from playing with dirt near hazardous waste sites.
- If you or your children have been exposed to creosote at home or in the workplace, clothes should be laundered and wash any skin that may have come in contact with contaminants with soap and water.

When should I see a doctor?

Contact your physician if you or your children have symptoms that you think are caused by creosote exposure. You should inform your physician about the symptoms and when, how and for how long you think you and/or your children were exposed to creosote.

Additional Information

Contact N.C. Department of Health and Human Services, Division of Public Health, Health Assessment, Consultation and Education program at (919) 707-5900 for additional information.

References

Agency for Toxic Substances and Disease Registry (ATSDR). Public Health Statement for Creosote. September 2002. Available at <https://www.atsdr.cdc.gov/phs/phs.asp?id=64&tid=18>.

Agency for Toxic Substances and Disease Registry (ATSDR). ToxFAQs for Polycyclic Aromatic Hydrocarbons (PAHs). September 1996. Available at <https://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=121&tid=25>.



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