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## ***CDC's Third National Report on Human Exposure to Environmental Chemicals***

### **Spotlight on Polycyclic Aromatic Hydrocarbons**

Polycyclic aromatic hydrocarbons (PAHs) are a class of chemicals that occur naturally in coal, crude oil, and gasoline. PAHs also are created from the incomplete burning of coal, oil and gas, garbage, or tobacco. Many products contain PAHs including creosote wood preservatives, roofing tar, certain medicines, dyes, and pesticides.

PAHs enter the atmosphere from vehicle exhaust, emissions from residential and industrial furnaces, tobacco smoke, volcanoes, and forest fires. PAHs may attach to particles produced during emission and in the air. PAHs may contaminate surface and groundwater.

#### **How People Are Exposed to PAHs**

PAHs are found throughout the environment. People may be exposed to PAHs by

- Breathing the air near coal-tar or asphalt production or application.
- Breathing cigarette smoke, wood smoke, vehicle exhausts, or fumes from asphalt roads.
- Eating grilled or charred meats or any food with PAHs deposited on them during growing, or processing.

#### **How PAHs Affect People's Health**

According to the International Agency for Research on Cancer, the National Toxicology Program, and the U.S. Environmental Protection Agency, certain PAHs have been classified as definite, probable, or possible carcinogens (cancer-causing agents). Some people who have breathed or touched mixtures of PAHs for long periods have developed cancer. In laboratory animals, some PAHs have caused lung, stomach, or skin cancer.

#### **Levels of PAHs in the U.S. Population**

- For the *Third Report*, scientists tested urine samples for levels of metabolites or breakdown products of PAHs in people aged 6 years and older who took part in CDC's national study known as the National Health and Nutrition Examination Survey.
- Finding a measurable amount of one or more metabolites in the urine does not mean that the levels of PAHs cause adverse health effects.

- Information about levels of specific PAHs in the U.S. population is available in the *Report* at <http://www.cdc.gov/exposurereport>.
- Whether levels of PAH metabolites at the levels reported in the *Third Report* are cause for health concern is not known. More research is needed.

### **For More Information**

- **Agency for Toxic Substances and Disease Registry**  
Toxicological Profile for Polycyclic Aromatic Hydrocarbons (PAHs):  
<http://www.atsdr.cdc.gov/tfacts69.html>  
ToxFAQs for Polycyclic Aromatic Hydrocarbons (PAHs):  
<http://www.atsdr.cdc.gov/tfacts69.html>
- **National Institute for Occupational Safety and Health**  
Hazard Review—Health Effects of Occupational Exposure to Asphalt:  
<http://www.cdc.gov/niosh/pdfs/01-110.pdf>
- **United States Geological Survey**  
Definition Page for Polycyclic Aromatic Hydrocarbons:  
<http://toxics.usgs.gov/definitions/pah.html>

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