

EPA: United States Environmental Protection Agency

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Limited EPA Study Finds Low Level of Concern in Samples of Recycled Tires from Ballfield and Playground Surfaces

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Contact Information: Dale Kemery kemery.dale@epa.gov 202-564-7839 202-564-4355

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WASHINGTON - The U.S. Environmental Protection Agency has released results of a limited field monitoring study of artificial-turf playing fields and playgrounds constructed with recycled tire material or tire crumb. The study was intended to gain experience conducting field monitoring of recreational surfaces that contain tire crumb. EPA will use the information to help determine possible next steps to address questions regarding the safety of tire crumb infill in recreational fields.

“The limited data EPA collected during this study, which do not point to a concern, represent an important addition to the information gathered by various government agencies,” said Peter Grevatt, director of EPA’s Office of Children’s Health Protection. “The study will help set the stage for a meeting this spring, where EPA will bring together officials from states and federal agencies to evaluate the existing body of science on this topic and determine what additional steps should be taken to ensure the safety of kids who play on these surfaces.”

Recycled tire material, or “tire crumb,” is used in many applications, including as a component in synthetic turf fields and playground installations. In response to concerns raised by the public, EPA conducted a limited “scoping study” of tire crumb, which consisted of collecting air and wipe samples at three locations near EPA laboratories at Raleigh, N.C., Athens, Ga., and Cincinnati, Ohio. Sampling also was conducted in the Washington, D.C. area.

The limited study, conducted in August through October 2008, found that the concentrations of materials that made up tire crumb were below levels considered harmful. However, given the limited nature of the study (limited number of constituents monitored, sample sites, and samples taken at each site) and the wide diversity of tire crumb material, it is not possible, without additional data, to extend the results beyond the four study sites to reach more comprehensive conclusions.

The study confirmed that most of the methods tested were accurate, reproducible and appropriate for measuring concentrations of tire crumb constituents and therefore can be used in future studies.

Study findings

- Particulate matter, metals and volatile organic compound concentrations were measured in the air samples and compared with areas away from the turf fields (background levels). The levels found in air samples from the artificial turf were similar to background levels.
- No tire-related fibers were observed in the air samples.
- All air concentrations of particulate matter and lead were well below levels of concern.
- More than 90 percent of the lead in the tire crumb material was tightly bound and unavailable for absorption by users of the turf fields.

- Zinc, which is a known additive in tires, was found in tire crumb samples. However, air and surface wipe monitoring levels of zinc were found to be below levels of concern.

EPA is aware that studies by other agencies were undertaken or completed while this survey was under way. EPA is planning a 2010 meeting with federal and state agencies to review all new study data and determine next steps.

More information on artificial turf: http://www.epa.gov/nerl/features/tire_crumbs.html

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