



## Synthetic Turf

Synthetic turf fields have become popular alternatives to natural grass fields in many Washington communities. These artificial turf fields often contain rubber granules known as "crumb rubber." The crumb rubber is used as filler between the plastic grass blades. Crumb rubber usually comes from scrap tires. Synthetic turf is used on indoor and outdoor athletic fields, playgrounds and landscaping.

### Why were synthetic turf fields developed?

Synthetic turf may save water, avoid the need for fertilizers and pesticides, help cushion athlete impact and prevent serious injuries. Artificial turf provides a year round playable surface, which may make it easier for youth and adults in Washington to be more physically active.

### Why are some people concerned about synthetic turf?

Concerns have been raised about potential chemical exposures from crumb rubber. Crumb rubber usually comes from old tires that may contain heavy metals, volatile organic chemicals, semi-volatile organic chemicals, phthalates and polycyclic aromatic hydrocarbons. An average-size field requires around 100 tons of tire crumb rubber. Crumb rubber must be refilled over time and replaced within about 10 years.

### How are we exposed to crumb rubber at turf fields?

Children and athletes can be exposed to crumb rubber through swallowing, inhaling or skin contact. The chemicals emitted from crumb rubber have been found to be higher on hot days than cooler days. Cooler temperatures and wind help dilute any chemicals released into the air on outdoor turf fields. Proper ventilation of indoor turf fields is important.

### Are we exposed to these chemicals in other ways?

Yes. Many of the same chemicals in tire crumb rubber are common in urban and suburban air. Car exhaust, furnaces, consumer products, flooring, foods and tires wearing down on roads are considered more common sources of exposure to these chemicals than turf fields made with crumb rubber.

### Is there a health risk from crumb rubber?

A public health risk appears unlikely based on the available research and data we have reviewed. Measurements of the chemicals released from crumb rubber have been used to evaluate the risk of exposure from eating, breathing and skin contact with these chemicals. [Research is ongoing; view several key studies.](#)

## **Are there alternatives to crumb rubber?**

Yes. Other materials are available for use on artificial turf fields instead of crumb rubber. Crumb rubber is the material that has been most investigated for possible health impacts to children and athletes playing on synthetic turf.

## **What can parents, coaches and athletes do to minimize any potential exposures?**

While the available research does not indicate a significant health risk, there are several ways to minimize any potential exposures to chemicals from synthetic turf fields.

- Always wash hands after playing on the field and before eating.
- Take off shoes/cleats, sports equipment and soiled uniforms outside or in the garage to prevent tracking crumb rubber into the house.
- Shower after play, and quickly clean any cuts or scrapes to help prevent infection.
- Athletes who accidentally get crumb rubber in their mouths should spit it out; don't swallow it.

## **Should communities install crumb rubber fields?**

It is important for Washington communities to build and support environments that make it easier for adults and youth to be physically active. Physical activity can slow the increase in the proportion of adults who are obese, reduce rates of chronic disease, and improve the quality of life. The currently available research does not suggest that crumb rubber presents a significant public health risk. The Washington State Department of Health will continue to monitor new research on health and environmental impacts.