



PEER
PUBLIC EMPLOYEES
FOR ENVIRONMENTAL
RESPONSIBILITY

Artificial Turf

What is it?

Artificial turf is a recreational playing surface consisting of three primary layers: plastic fibers made to look like grass blades; a backing – typically made of polypropylene – into which the blades are sewn; and infill, material scattered across the plastic, which helps the blades stand upright and weighs the turf down to prevent it from wrinkling. For decades, infill consisted of crumb rubber, or ground up tires. However, when scientists raised the alarm about the dangers of crumb rubber infill, companies began to move toward different infills, such as engineered wood, coconut husks, and recycled sneakers.

Why are we concerned?

In 2019, Public Employees for Environmental Responsibility (PEER) and The Ecology Center discovered that the blades and backing of artificial turf contain per- and polyfluoroalkyl substances, or PFAS. PFAS are a class of thousands of chemicals nicknamed “forever chemicals” because they do not break down readily. Current peer-reviewed scientific studies show the exposure to low levels of PFAS cause thyroid disease, increased cholesterol, increased risk of kidney, liver and testicular cancer, decreased vaccine response and immunotoxicity, and other health effects. Moreover, recent tests have shown that these PFAS leach off the plastic fields into surrounding soil, groundwater, surface water and drinking water. In June of 2022, the U.S. Environmental Protection Agency (EPA) issued interim health advisories on two PFAS, PFOA and PFOS, warning that there are virtually no safe levels of these chemicals in drinking water. Exposure to PFAS can occur from ingestion, inhalation, and dermal absorption.

Artificial turf also sheds micro- and macroplastics; each year, the “grass” blades break and shed hundreds of pounds of plastic into the environment. This large expanse of plastic also

gets incredibly hot, and the turf fields can reach temperatures of 110° to 180° F. Finally, artificial turf contributes to climate change due to the heat island effect, and the fact that the fields emit methane, a potent greenhouse gas.

Why is artificial turf so popular?

There are several myths surrounding artificial turf perpetuated by the manufacturers and the consultants pushing these products:

- First, industry tells us the fields are safer for athletes, but the opposite is true. Aside from the risks of heat stroke, injury rates are higher on artificial turf than natural grass.
- Second, industry claims that communities will save water by using artificial turf, but the plastic grass needs water to keep the temperatures low enough to use, and studies show that water use is comparable to natural grass.
- Third, industry states that athletes will get more playing time on artificial turf but playing hours on a well-maintained grass field are similar.
- Finally, industry brags that artificial turf can be recycled, but there are no recycling facilities in the United States, and used fields get dumped in wetlands, alleys, landfills and parking lots, creating massive disposal problems.

What can we do?

Natural grass is the best solution. A well-constructed grass field, preferably organic, is better for the environment and better for the athletes.



Learn more at: peer.org/artificial-turf