



# THE CASE AGAINST ARTIFICIAL TURF

## What is artificial turf?

Artificial turf is an alternative surface made to look like grass. The top layer is plastic fibers designed to mimic natural grass blades; a second layer is typically made from ground up old tires; the third layer is sand for cushioning; underneath is a plastic backing layer.

## ENVIRONMENTAL AND HEALTH IMPACTS

### Synthetic Grass & Crumb Rubber:

- Contain PFAS, aka “forever chemicals”
- Contain plastic particles that breakdown in the environment and add to the global burden of microplastics.
- The plastic grass blades contain:
  - “Plasticizers”
  - Biphenyl A (BPA)
  - Phthalates
- The crumb rubber infill made from old tires contains:
  - Polyaromatic hydrocarbons (PAHs)
  - Volatile organic compounds (VOCs) like benzene
  - Metals, such as lead and zinc

### Human Health Impacts:

Among the known harmful effects of exposure to these chemicals are damage to the eyes, kidneys and liver, as well as thyroid cancer and disruptions to human hormones.

### Wildlife Impacts:

Toxics particles can runoff into waterways from turf fields and harm wildlife, resulting in high levels of chemicals in aquatic animals.

### Environmental Impacts:

Turf fields add to microplastic pollution that never breaks down. Plastic grass and crumb rubber don't absorb carbon like natural grass.

# ADVERSE HEALTH EFFECTS

**People and animals** may be exposed to the toxins in artificial turf by **breathing** in fumes, **absorbing chemicals** through cuts or scrapes, and accidentally **swallowing** crumb rubber or plastic particles.

**Children** are more likely to face harm because their bodies have fewer defenses against toxic chemicals known to impact learning and physical development. **PFAS** can also effect an unborn child. Studies have shown lower birth weight and increased chance of miscarriage.

## Injuries

Several studies suggest an increase in **foot and ankle injuries** on artificial turf as compared with natural grass.

One concern is increased rates of **turf burns**. Research has found 2-3 times more injuries per player per hour on artificial turf compared with natural grass turf.

Crumb rubber particles can also get into cuts and scrapes on the skin.

## Heat Stress

Temperatures on artificial grass fields are about **20-50°F higher** than natural grass.

In one study, the highest surface temperature measured was **200°F** on a summer day!

**Extreme heat exposure** during sports could lead to dehydration or heat stroke in youth.



## Did you know?

After winning a lawsuit in 2020, the National Women's Soccer Team cannot be required to play on artificial turf.

To protect players from unsafe field surfaces, the National Football League Players Association is calling for a switch to natural grass. The 2024 Super Bowl was played on a natural grass field.

