

Too **hot** for Child's play - Rubber's Pretty Poisons



History

<https://www.playgroundprofessionals.com/magazine/issues/2014/12/evolution-playground-surfacing112>

..."Rubber nuggets or chips derived from tire recycling had been offered as playground surfaces since the 1970s- {pushed by a collaboration between the EPA and industry}. However, these black, ...dirty products found limited acceptance among playground operators. Then, in the late 1990s, a Ohio chemist found a way to **coat the rubber particles with colored pigments and, voilà, colored loose-fill rubber playground surfacing (aka rubber mulch) was born. The coloration technique spread rapidly** and a number of rubber recyclers soon were supplying the product."...

PIP RUBBER HEAT!
Kemp Mill Park July 15

PIP
154



AIR
and
GRASS
95



Asphalt
128



Wood
Fiber
103



Manufacturer Maintenance Instructions- Fibar Poured-In-Place Rubber

- <http://fibar.com/Playgrounds/pip/FibarPIP-%20Maintenance-Instruction2017.pdf>

Debris in the EPDM Top Surface

- Keeping the surface clean of debris is critical in maintaining the product. Sand, dirt, organic material (leaves, twigs) gum etc must be cleaned from the surface. ***If not removed, these particles can work their way into the EPDM surface layer, to severely reduce or eliminate the impact attenuation properties serious injury or death can occur, and the playground should not be used until the surface is cleaned and the particles removed.***
- **drainage can also be affected.**

PIP- breaking down exposing tire waste



Fairland Park Playground

Plastic Synturf & Rubber Playgrounds

BURN



BURNS from Rubber playgrounds and Plastic synturf Fields



Blair HS Plastic Synturf field WITHOUT rubber

IMPACT PROTECTION PROBLEMS

<http://center4research.org/child-teen-health/early-childhood-development/caution-children-at-play-on-potentially-toxic-surfaces/>

California State Study

- 1/3 of the rubber / tire waste playgrounds did NOT pass head impact safety criteria (and the impact safety decreased with rising temperature)
- ALL of the wood fiber mulch playgrounds passed .

TOXIC SUBSTANCE EXPOSURE

Many but one example: A study on rubber mulch (and solid rubber mats) found harmful chemicals in all sampled, often at high levels (Llompart et al 2012).

Most contained high concentrations of several carcinogenic PAHs. Several of the identified PAHs can be released into the air by heat, and when that happens children are likely to inhale them. *The heat needed to do this (140 degrees Fahrenheit/ 60 °C) is common on these surfaces but many of the chemicals also became airborne at a much lower temperature of 77 °F (25 °C).*

The authors concluded that **the use of rubber recycled tires on playgrounds “should be restricted or even prohibited ,,,”**

CONCLUSIONS?

•STOP!

- Do NOT INSTALL RUBBER or PLASTIC SURFACING with or without tire waste
- INSTALL improved NATURAL surfaces for children at play
- **WARN USERS** of the high heat potential
- **TEST** ALL RUBBER& PLASTIC surfaces for IMPACT ATTENUATION REGULARLY
- **SHUT DOWN** playgrounds and fields over 120 deg surface temperature