

Federal Research Action Plan (FRAP) on Recycled Tire Crumb Used on Playing Fields and Playgrounds

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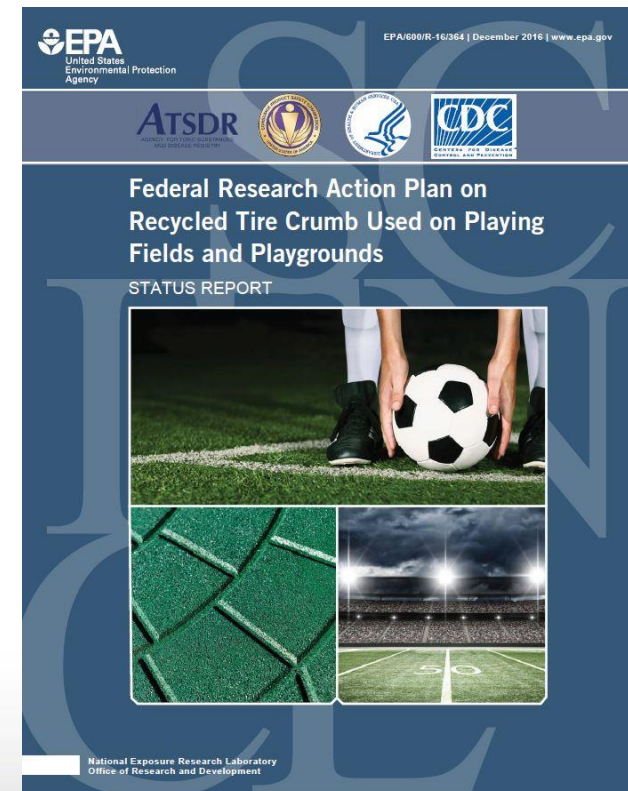
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- US Federal Research Action Plan on Recycled Tire Crumb Used on Playing Fields and Playgrounds Overview
- Status of Federal Research Activities
- Stakeholder Interest
- Other Studies
- Timeline



Why is the Research Being Conducted?

- Concerns have been raised by the public about the safety of recycled rubber tire crumb used in artificial turf fields and on recycled tire-derived material used on playgrounds in the U.S.
- Limited studies have not shown an elevated health risk from playing on fields with tire crumb, but existing studies do not comprehensively evaluate the concerns about health risks.





Overview

- On Feb. 12, 2016, EPA, CDC/ATSDR, and CPSC launched the *Federal Research Action Plan (FRAP) on Recycled Tire Crumb Used on Playing Fields and Playgrounds*.
- Overall goal is to study key environmental health questions
 - Identify/characterize constituents found in tire crumbs
 - Identify/characterize potential exposures that turf field users may experience
 - Conduct a playground study (led by CPSC)
- Research results will not provide all the answers, but is the first time such a comprehensive study has been conducted in the U.S.
- Depending upon findings, available resources and other considerations, additional research beyond the initial effort may be considered.

More information available at: www.epa.gov/tirecrumb

Reviews and Public Comment

- Research Protocol (based on FRAP) was extensively reviewed, including an external peer review and Institutional Review Board (IRB) review.
- Data collection components of the FRAP went through a public comment period and an [Information Collection Request](#) (ICR) review conducted by the White House Office of Management and Budget (OMB).
- ~80 public comments were received. Peer-review and public comments, along with our responses to public comments, are publicly available on [OMB's website](#).
- Initial OMB approval ended January 31, 2017. OMB approval to continue exposure study was granted (August 2017).

Research Protocol

Collections Related to Synthetic Turf Fields with Crumb Rubber Infill





Summary Status of Research Activities

Research Activity	Lead(s)	Status
Literature review and data gaps analysis.	EPA Office of Research and Development (ORD) and CDC/ATSDR	Complete. Released December 2016.
Collect Tire Crumb Samples from manufacturing facilities and turf fields	EPA ORD and CDC/ATSDR	Complete
Tire Crumb Characterization: Chemical constituents; Microbial; Emissions; particle size; bioaccessibility	EPA ORD and CDC/ATSDR	Analysis underway
Exposure Characterization: How people are exposed based on activities on the fields	EPA ORD and CDC/ATSDR	Collect samples Fall 2017
Playground Study	CPSC	Data collection underway
Outreach to Key Stakeholders	EPA and CDC/ATSDR EPA (Office of Land and Emergency Management)	Ongoing



Tire Crumb Characterization

- Tire crumb sample collection complete
 - Nine (9) tire crumb recycling plants
 - 40 fields (indoor and outdoor, various ages)
 - 19 fields on US Army installations
 - 21 community fields
- Sample analysis underway for a wide range of chemical constituents (metals, VOCs, SVOCs); microbial populations; emissions; particle size; bioaccessibility

Tire Crumb Data Collection

Region	Community Fields Contacted	Community Fields Consented/sampled	Total (Army & Community) Fields Sampled
Midwest	96	8	8
Northeast	118	4	9
South	40	5	13
West	52	4	10
TOTAL	306	21	40

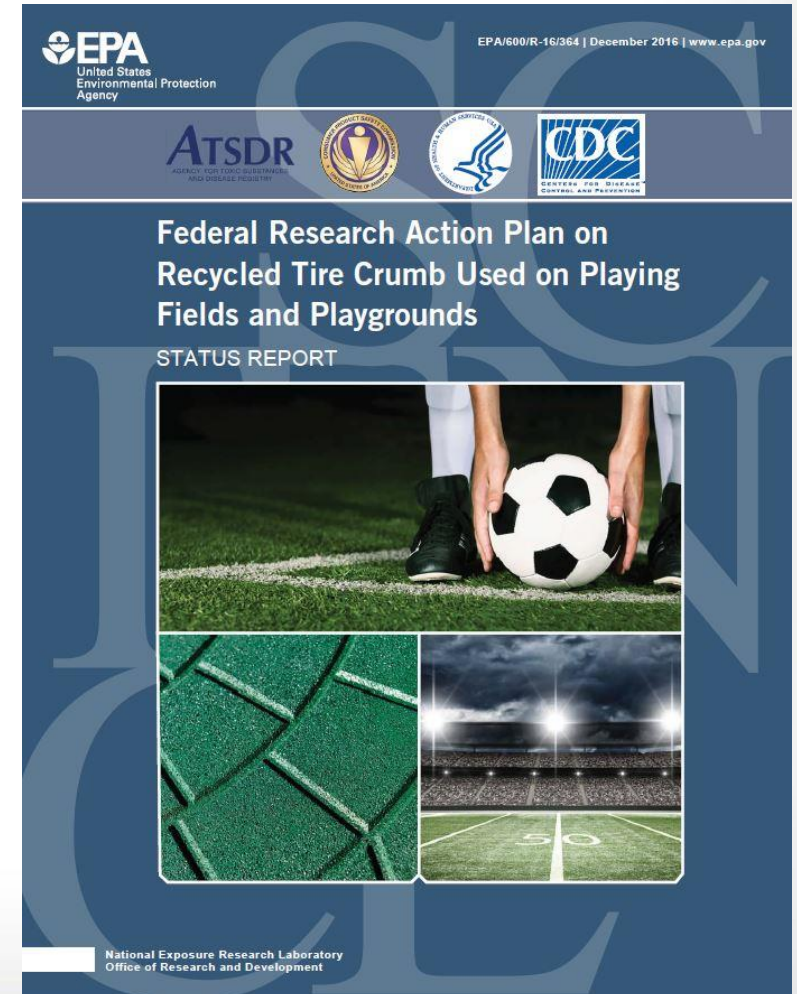
- Estimate *nature, duration, and frequency* of exposure for those who regularly use synthetic turf fields containing tire crumb
 - Gather activity data from people and take personal exposure measurements
 - Conduct studies in warmer months
- Evaluate standard operation and maintenance of fields
- Develop methods for measuring exposure



Status Report and Literature Review Released December 2016

The report included the following information

- Stakeholder outreach summary
- Overview of tire crumb industry including tire manufacture and synthetic turf installation, maintenance, and use
- Final peer-reviewed Literature Review and Data Gaps Analysis
- Status updates on research activities
 - Tire crumb sample collection
 - Tire crumb and exposure characterization activities
 - CPSC Study to better understand how children use playgrounds containing recycled tires
- Next steps





Stakeholder Engagement

- Other government agencies
 - **Federal:** Dept. of Defense/US Army, National Institute of Environmental Health Sciences/National Toxicology Program
 - **State:** California EPA-Office of Environmental Health Hazard Assessment, Environmental Council of the States (ECOS)/Environmental Research Institute of the States (ERIS), CDC's bi-monthly All-State calls
 - **International:** European Chemicals Agency, Dutch National Institute for Public Health and the Environment, French Agency for Food, Environmental and Occupational Health and Safety
- Industry representatives to better understand manufacturing process and use parameters (Rubber Manufacturers Association, others)
- Environmental groups to better understand research gaps
- People who frequently use and maintain fields
- Webinars in April 2016 to describe study (~200 participants)
- Email updates (>800 on listserv) to interested stakeholders

Selected Recent Studies

Completed

- Netherlands National Institute for Public Health and the Environment
 - Evaluation of health risks of playing sports on synthetic turf pitches with rubber granulate (December 2016)
- Washington State Department of Health
 - Investigation of Reported Cancer Among Soccer Players in Washington State (January 2017)
- European Chemicals Agency
 - An Evaluation of the Possible Health Risks of Recycled Rubber Granules used as Infill in Synthetic Sports Fields (February 2017)

Ongoing

- California Environmental Health Study on Synthetic Turf (2015 – 2019)



Summer-Fall 2017

- Complete tire crumb sample analysis.
- Continue and complete exposure characterization.

Winter 2017

- Write up report.

Acknowledgements

Thank you

Questions?