



ENVIRONMENTAL PROTECTION AGENCY

[FRL-9997-05-ORD]

Availability of Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1—Tire Crumb Rubber Characterization

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of release of action plan part 1 final report.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is announcing the release of the *Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1—Tire Crumb Rubber Characterization*. In February 2016, EPA, Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR), and Consumer Product Safety Commission (CPSC) launched the Federal Research Action Plan (FRAP) on Recycled Tire Crumb Used on Playing Fields and Playgrounds. The goal of this research effort under the FRAP is to characterize potential human exposures to the substances associated with recycled tire crumb rubber used on synthetic turf fields. Playgrounds are addressed separately by CPSC.

Results of the effort are being reported in two parts. Part 1 (this document) communicates the research objectives, methods, results and findings for the tire crumb rubber characterization

research (i.e., what is in the material). Part 2, to be released at a later date, will document efforts to characterize potential human exposures to the chemicals found in the tire crumb rubber material while using synthetic turf fields, and will include information from a biomonitoring study initiated by CDC/ATSDR. The timeline and information about the Part 2 report will be posted to the agency's website as it becomes available.

neither Part 1 nor Part 2 of this study, separately or combined, will constitute an assessment of the risks associated with playing on synthetic turf fields with recycled tire crumb rubber infill. The results of the research described in both Part 1 and Part 2 of this study should inform future risk assessments.

DATES: This announcement is effective **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: The Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1 - Tire Crumb Rubber Characterization, will be available via the Internet at <https://www.epa.gov/tirecrumb>.

FOR FURTHER INFORMATION CONTACT: For information on the *Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1—Tire Crumb Rubber Characterization*, contact Kelly Widener, ORD; telephone: 202-564-6737; or email: Widener.Kelly@epa.gov.

SUPPLEMENTARY INFORMATION:

Background Information on the Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1—Tire Crumb Rubber Characterization.

According to the Synthetic Turf Council, there are currently 12,000 to 13,000 synthetic turf fields in the United States, with 1,200 to 1,500 new installations each year. Fields often use recycled tire rubber as infill material, sometimes mixed with sand. Fields are at municipal and county parks; schools, colleges, and universities; professional sports stadiums and practice fields; and military installations. It is estimated that millions of people use or work at these fields each year.

Parents, athletes, schools, and communities have raised concerns about potential health effects. To help address these concerns, the Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ATSDR) and the U.S. Environmental Protection Agency (EPA), in collaboration with the Consumer Product Safety Commission (CPSC), launched a multi-agency research effort in February 2016.

This multi-agency research effort, known as the Federal Research Action Plan (FRAP) on Recycled Tire Crumb Used on Playing Fields and Playground. The specific FRAP research covered in this report is focused on assessing potential human exposure, which includes conducting research activities to characterize the chemicals associated with recycled tire crumb rubber and to identify the ways in which people may be exposed to those chemicals based on their activities on synthetic turf fields. Also, the research includes characterizing emissions and

bioaccessibility to differentiate what is present in the recycled tire crumb rubber from what people may actually be exposed to from recycled tire crumb rubber.

This research was designed to evaluate exposure. Results from this study can be used by others to inform potential risk. Prior to the FRAP being initiated, most studies examining these potential risks have been considered inconclusive or otherwise incomplete. Based upon available literature, this research effort represents the largest tire crumb rubber study conducted in the United States. The information and results from the effort will fill specific data gaps about the potential for human exposure to chemical constituents associated with recycled tire crumb rubber used in synthetic turf fields. The research is not intended to be a risk assessment.

The FRAP includes: 1) A Literature Review/Gap Analysis; 2) Tire Crumb Characterization research; 3) Exposure Characterization research; and 4) A Playground Study. A status report was previously released describing activities of the FRAP as of December 2016 (EPA/600/R-16/364, available at: <https://www.epa.gov/tirecrumb>). The status report included a summary of stakeholder outreach, an overview of the tire crumb rubber manufacturing industry, progress on the research activities, and the final peer-reviewed literature review/gaps analysis (LRGA) white paper.

This *Synthetic Turf Field Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1 - Tire Crumb Rubber Characterization* summarizes the findings from the Tire Crumb Characterization research effort. While the research under the FRAP is not a risk

assessment, the results of the research described in this and future reports will advance the understanding of exposure to inform the risk assessment process. The Part 1 report currently being posted has been through external peer review. A summary of these comments is included in Appendix V. A response-to-peer review comments document will be released along with Part 2.

More information is available at <https://www.epa.gov/tirecrumb> concerning the timeline of the report. Feedback about the study and report can be sent to recycledtirecrumb@epa.gov.

Information collected as part of the Exposure Characterization research under the FRAP (Part 2) will be released at a later date. Part 2 will include information from a biomonitoring study initiated by CDC/ATSDR to investigate potential exposure to constituents in tire crumb rubber infill. The timeline and information about Part 2 will be posted to the agency's website as it becomes available. CPSC is also conducting the work on playgrounds and results from that effort will be reported separately.

Dated: July 8, 2019.

Timothy Watkins,
Director, National Exposure Research Laboratory.
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