Tire Crumb Research Study Federal Research Action Plan Symposium Abstract for the International Society of Exposure Science (ISES) 2017, Research Triangle Park, NC, October 15-19, 2017

Characterization of Exposure Potential during Activities on Synthetic Turf Fields with Recycled Tire Crumb Rubber Infill

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The Federal Research Action Plan on Recycled Tire Crumb Used on Playing Fields and Playgrounds (FRAP), released in February 2016, is a multi-agency research plan in response to concerns over the use of tire crumb rubber as infill on synthetic turf fields. The FRAP outlines specific research objectives, including characterizing tire crumb rubber and implementing a pilot-scale observational exposure characterization study.

In December 2016, ATSDR and the USEPA released a FRAP Status Report. The report included an in-depth literature review and data gaps analysis. Key data gaps included limited exposure information. Specifically, there was limited data on exposure factors, ingestion and dermal routes of exposure, and exposures to tire crumb particles. Additionally, biomonitoring data were very limited, and no epidemiological studies were identified. The Status Report also described tire crumb characterization activities. Data from the tire crumb characterization study is being used to identify key chemical and physical property information and to inform implementation of the exposure characterization study.

Data from the pilot-scale exposure characterization study, while limited, will allow for further exploration of activities and use patterns that could result in exposure to chemicals from the tire crumb rubber infill by children and athletes who have the potential for high-end exposures. Additionally, the data gained from the study will inform biomonitoring approaches for exposure assessment and elucidate the key information needs which would be required for the development of an epidemiological study.

The current presentation will focus on the exposure characterization component of the FRAP and how the ongoing activities, along with exposure information from previous studies, will be used to better characterize synthetic turf field user exposures and inform future research activities. An update on the exposure characterization study will be presented.