July 5, 2022

Dear Mayor McEachern and City Councilors,

Thank you for ordering the additional PFAS testing of artificial turf field components as discussed in your November 2021 Work Session. Residents had concerns regarding potential contamination from PFAS, used as polymer processing aids in manufacturing these materials. Having reviewed the June 7, 2022 technical report and June 21, 2022 meeting discussion, I am writing to bring to your attention some disturbing information that may not have fully registered the first time this report was presented to you.

Testing found both known and UNKNOWN PFAS released from these materials into water using the extraction methods in modified EPA 537.¹

From the Field Turf carpet…

PFAS testing of the carpet material found detectable levels of Bis(2,2,3,3,4,4,4-heptafluorobutyl) carbonate (Figure 1), as well as at least 12 other unidentifiable PFAS compounds for which there are no analytical standards available for calibration or comparison in the Eurofins library of over 5,070 PFAS.

The TOP oxidation process revealed that at least some of the materials leaching from the carpet will oxidize into PFBA, PFHxA, PFOS, PFPeA, Hexafluoropropylene oxide-dimer acid - known as HFPO-DA or GenX, and a proprietary PFAS called Pentafluoropentionic Acid (PPF Acid) (Figure 2), information about which was found in a 2019 Chemours process and non-process wastewater and stormwater PFAS monitoring report.⁴

From the Schmitz Foam ProPlay pad…

PFAS testing of the pad material found detectable levels of PFNA, PFTDA, PFUnA, as well as at least 2 other unidentifiable PFAS compounds for which there are no analytical standards available for calibration.

The TOP oxidation process revealed that at least some of the materials leaching from the pad will oxidize into PFHxA, PFHpA, Hexafluoropropylene oxide-dimer acid, also called HFPO-DA or GenX, Pentafluoropentionic Acid (PPF Acid) (shown above in Figure 2), and another proprietary PFAS called R-EVE, information about which was found in that same Chemours process and non-process wastewater and stormwater PFAS monitoring report, shown here in Figure 3.⁴

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² https://youtu.be/Ao39k2FCKkk
³ http://www.synquestlabs.com/product/id/113318.html
From the Greentech Safeshell infill…

PFAS testing of the infill material found detectable levels of PEPA (Perfluoro-2-ethoxypropanoic acid), PFO2HxA (Perfluoro (3,5-dioxahexanoic)acid), Perfluoropentanoic Acid (PFPeA), PMPA (Perfluoro-2-methoxypropanoic acid), PFMOOA (Perfluoro-2-methoxyacetic acid), and PPF Acid (Perfluoropropionic Acid) as well as at least 3 other unidentifiable PFAS compounds for which there are no analytical standards available for calibration.
The TOP oxidation process revealed that at least some of the materials leaching from the infill will oxidize into 6:2 FTCA (6:2 Fluorotelomer carboxylic acid), PFO2HxA (Perfluoro (3,5-dioxahexanoic)acid), 6:2 FTUCA (6:2 Fluorotelomer unsaturated carboxylic acid), and TAF (Perfluoro (3,5,7,9,11-pentaoxadodecanoic) acid).

For the sake of time, space, and brevity, if you find any of the PFAS found in the infill testing to be new and interesting, you can find several of them in the Chemours monitoring report as well.

How much is too much PFAS? How much is too much risk?
The TRC report was dated June 7, 2022. On June 15, 2022 the EPA issued updated advisories reducing what they consider a “safe amount” in drinking water to be 5 orders of magnitude smaller than they announced in 2016. Therefore, what is considered a “significant amount” of PFAS is highly subjective to interpretation. Further, the toxicological discussion at the meeting on the 21st was narrow in scope, focusing on the dermal exposure pathway, mentioning only incidental ingestion and human toxicity. Lastly, notably lacking from this testing, report, and discussion were the leaching protocol (SPLP) and calculations (concentrations propagated out for installation mass and size) that would have given you an idea of how much PFAS has been and will be leaching off the field materials and into the stormwater management system.

Residents need you to deliberate hazards considering all the relevant information including potential for spectator ingestion (especially for babies/toddlers), PFAS volatility and inhalation routes of exposure, aquatic toxicity, and especially ground and surface water contamination. For further information regarding published toxicity information regarding PFAS, please refer to: https://pfastoxdatabase.org/

In a rapidly changing regulatory environment, where states have been left on their own to determine enforceable limits to widespread pollution, City officials have both the ethical responsibility to limit PFAS contamination where possible, and the fiduciary responsibility to hold their contractors to their promises of PFAS free materials.

Now that the City of Portsmouth has received results confirming the presence, solubility, and mobility of both identifiable and non-identifiable, man-made, toxic, bioaccumulative PFAS in the artificial turf field component products, City officials must take every measure to limit contamination and insulate the taxpayers from the replacement, remediation, and disposal costs of these hazardous materials.

Thank you for your attention to this information.

Sincerely,

Kristen Mello, M.Sc.
Westfield Residents Advocating For Themselves

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