

March 21, 2013

Todd Stevenson  
Office of the Secretary  
Consumer Product Safety Commission  
Washington, D.C. 20207

**Re: Demand for Correction of Information under the Information Quality Act: Synthetic Turf Report**

Dear Mr. Stevenson,

Public Employees for Environmental Responsibility (PEER) hereby submits this Complaint seeking Correction under the Information Quality Act (IQA) of 2000,<sup>1</sup> the Office of Management and Budget (OMB) Guidelines for Ensuring and Maximizing the Quality, Utility, and Integrity of Information disseminated by Federal Agencies (OMB Guidelines),<sup>2</sup> and the Consumer Product Safety Commission (CPSC) Information Quality Guidelines.<sup>3</sup>

PEER respectfully submits this complaint demanding that the CPSC rescind and correct online printed information regarding the safety of artificial turf, including the 2008 report, “CPSC Staff Analysis and Assessment of Synthetic Turf ‘Grass Blades’” (Report) and accompanying press release “CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On” (Press Release) on the basis that they do not comport with the CPSC’s standards of objectivity.

CPSC staff concluded in this Report that the lead found on the surface of the fields, in the synthetic turf blades, would lead to no cases in which “the estimated exposure for children playing on [a synthetic turf] field would exceed 15µ per deciliter of blood.”<sup>4</sup> The highest level of

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<sup>1</sup> Treasury and General Government Appropriations Act, Pub. L. No. 106-554, §515 (Fiscal Year 2001).

<sup>2</sup> Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, Republication, 67 Fed. Reg. 8452 (Feb. 22, 2002).

<sup>3</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>; 44 U.S.C. § 3516(b)(2)(B), note.

<sup>4</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF “GRASS BLADES”, CONSUMER PRODUCT SAFETY COMMISSION 4, *available at* <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf> (*quoting* 16 C.F.R. § 1500.230. Codified Guidance Policy for Lead in Consumer Products (63 FR 70648; December 22, 1998)). The CPSC recognizes a level of 10µ of lead per deciliter of blood as a level of concern with respect to lead poisoning. *Id.*

estimated daily lead ingestion was from a nine-year old, now removed, synthetic turf field, which showed an average of 6.8 $\mu$  of lead contained in the turf blade.<sup>5</sup>

### **PEER CHALLENGES THE FOLLOWING INFORMATION IN THE 2008 REPORT AND ACCOMPANYING PRESS RELEASE REGARDING ARTIFICIAL TURF.**

The CPSC Information Quality Guidelines state that “CPSC disseminates information in a number of ways, including. . . [p]ress releases and video news releases” and “[s]pecial technical reports.”<sup>6</sup> CPSC states that the media, the public, and other government agencies, use their guidelines to “reduce the risk of product-related death and injuries.”<sup>7</sup> With the large number of persons relying upon CPSC disseminated information, flawed or incorrect information may have disastrous consequences. PEER seeks to challenge the objectivity of such disseminations of flawed information related to artificial turf, released in July of 2008.

### **ERRONEOUS INFORMATION ENDANGERS PUBLIC HEALTH.**

CPSC’s Press Release, dated July 30, 2008,<sup>8</sup> and the cited Report conclude, “that young children are not at risk from exposure to lead in these fields.” The headline of this press release reads, “CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On.” Together these statements lead the public to believe that the testing performed by the CPSC was thorough and rigorous, and that its conclusions are scientifically sound.

As discussed below, CPSC’s study upon which the Report and Press Release are based was cursory and flawed, and should not be reasonably expected to support such a statement.<sup>9</sup> Primarily, the CPSC’s statement that artificial turf is “OK to install, OK to play on” and the conclusion that children are not at risk from lead exposure from the artificial turf fields is an overbroad conclusion in light of the limitations of the study detailed below. By making these conclusions the CPSC gives the green light to communities to install and use these fields. This could lead to increased lead and other toxin exposure in children.

According to the Centers for Disease Control and Prevention (“CDC”), even low blood lead levels (“BLL”) in children “are associated with IQ deficits, attention-related behaviors, and

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<sup>5</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF “GRASS BLADES”, CONSUMER PRODUCT SAFETY COMMISSION 5, *available at* <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf>.

<sup>6</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>7</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>8</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) *available at* <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>9</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF “GRASS BLADES”, CONSUMER PRODUCT SAFETY COMMISSION, *available at* <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf>.

poor academic achievement.”<sup>10</sup> The CDC continues, “[t]he absence of an identified BLL without deleterious effects, combined with the evidence that these effects appear to be irreversible, underscores the critical importance of primary prevention,” indicating that lead is considered dangerous at all levels.<sup>11</sup>

Many artificial turf fields have been shown to exceed even CPSC’s own lead standard of 100 ppm for children’s products.<sup>12</sup> Nonetheless, the CPSC’s Report and Press Release are being touted by the artificial turf industry as a “clean bill of health,” giving consumers the false impression that the CPSC study was thorough and conclusive.<sup>13</sup>

Not only does the CPSC’s declaration that artificial turf is safe potentially lead to increased lead exposures, but it could also increase exposures to other chemicals present in the both the plastic blades and in the tire crumb that makes up the infill in artificial turf. The U.S. Environmental Protection Agency (“EPA”) has listed as possibly present in tire crumb pieces the following chemicals: acetone, aniline, arsenic, barium, benzene, benzothiazole, cadmium, chloroethan, chromium, cobalt, copper, halogenated flame retardants, isoprene, latex, manganese, mercury, methyl ethyl ketone, methyle isobutyl ketone, naphthalene, nickel, nylon, phenol, pigments, polycyclic aromatic hydrocarbons, polyester, rayon, styrene – butadiene, toluene, trichloroethylene.<sup>14</sup>

Regardless of the limits of CPSC’s statutory mandate, given the numerous studies showing the presence of such chemicals in tires, and the actual presence of lead on the plastic rugs it is simply incorrect to declare these fields “OK to install, OK to play on.”

### **CHALLENGED INFORMATION IS INFLUENTIAL WITHIN MEANING OF IQA**

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<sup>10</sup> CDC RESPONSE TO ADVISORY COMMITTEE ON CHILDHOOD LEAD POISONING PREVENTION RECOMMENDATIONS IN “LOW LEVEL LEAD EXPOSURE HARMS CHILDREN: A RENEWED CALL OF PRIMARY PREVENTION”, CENTER FOR DISEASE CONTROL AND SAFETY 2 (June 7, 2012), *available at* [http://www.cdc.gov/nceh/lead/ACCLPP/CDC\\_Response\\_Lead\\_Exposure\\_Recs.pdf](http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf).

<sup>11</sup> CDC RESPONSE TO ADVISORY COMMITTEE ON CHILDHOOD LEAD POISONING PREVENTION RECOMMENDATIONS IN “LOW LEVEL LEAD EXPOSURE HARMS CHILDREN: A RENEWED CALL OF PRIMARY PREVENTION”, CENTER FOR DISEASE CONTROL AND SAFETY 2 (June 7, 2012), *available at* [http://www.cdc.gov/nceh/lead/ACCLPP/CDC\\_Response\\_Lead\\_Exposure\\_Recs.pdf](http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf).

<sup>12</sup> Van Ulirsch & Gleason, et al., *Evaluating and Regulating Lead in Synthetic Turf*, 118 ENVIRON. HEALTH PERSPECT. 1345, 1347 (2010), *available at* <http://dx.doi.org/10.1289/ehp.1002239> (finding that “Twelve of 29 actively used synthetic surfaces and two of four new turf products tested exceeded the statutory lead limit of 300 mg/kg for consumer products intended for use by children”).

<sup>13</sup> SYNTHETIC TURF SAFETY PROVEN BY SCIENCE, FIELDTURF 3, *available at* [http://www.fieldturf.com/media/BAhbBIsHOgZmSSJEMjAxMi8wOC8wMS8yMi8yNy81MS82NS9GaWVsZFR1cmZlU2FmZXR5X1Byb3Zlbl9XaXRoX1NjaWVuY2UucGRmBjoGRVQ/FieldTurf\\_Safety\\_Proven\\_With\\_Science.pdf](http://www.fieldturf.com/media/BAhbBIsHOgZmSSJEMjAxMi8wOC8wMS8yMi8yNy81MS82NS9GaWVsZFR1cmZlU2FmZXR5X1Byb3Zlbl9XaXRoX1NjaWVuY2UucGRmBjoGRVQ/FieldTurf_Safety_Proven_With_Science.pdf).

<sup>14</sup> *The Use of Recycled Tire Materials on Playgrounds & Artificial Turf Fields*, ENVIRONMENTAL PROTECTION AGENCY (Dec. 3, 2009), *available at* [http://www.epa.gov/nerl/features/tire\\_crumbs.html](http://www.epa.gov/nerl/features/tire_crumbs.html) (listing a number of chemicals that may be found in tires). *See also* DAVID R. BROWN, ENVIRONMENT AND HUMAN HEALTH, INC., ARTIFICIAL TURF 8-10 (2007), *available at* [http://www.ehhi.org/reports/turf/turf\\_report07.pdf](http://www.ehhi.org/reports/turf/turf_report07.pdf).

The CPSC says that the data they typically produce does not have a clear and substantial impact on important public policy or important private sector decisions.<sup>15</sup> However, in the case of artificial turf installation and use, the industry and its consumers are touting the CPSC's Report<sup>16</sup> and Press Release<sup>17</sup> as a clean bill of health,<sup>18</sup> without recognizing the limitations of the study.

The Synthetic Turf Council cites the CPSC study as "credible research" and uses it to validate the safety of synthetic turf.<sup>19</sup> In their frequently asked questions, they say that the CPSC Report has approved the use of synthetic turf for children and "people of all ages."<sup>20</sup> They also say that any concerns over lead levels in synthetic turf were "resolved" when the CPSC released the results of their study, declaring that "young children are not at risk from exposure to lead in these fields."<sup>21</sup>

Many communities have also relied on the CPSC Report to decide whether to install synthetic turf on athletic fields. For example, in Washington State, the community of Woodinville specifically cites the CPSC Report and Press Release in a "Report to the City Council" discussing whether to install synthetic turf on their athletic fields.<sup>22</sup> Montgomery County, Maryland, also conducted a study analyzing different publications regarding the safety

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<sup>15</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>16</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF "GRASS BLADES", CONSUMER PRODUCT SAFETY COMMISSION, *available at* <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf>.

<sup>17</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) *available at* <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>18</sup> *Field Turf Applauds 'Clean Bill of Health' Given to Synthetic Athletic Fields by U.S. Consumer Product Safety Commission*, GLOBAL NEWswire (July 30, 2008, 4:40 PM), *available at* <http://globenewswire.com/news-release/2008/07/30/382315/147522/en/FieldTurf-Applauds-Clean-Bill-of-Health-Given-to-Synthetic-Athletic-Fields-by-U-S-Consumer-Product-Safety-Commission.html>.

<sup>19</sup> *FAQs: Is synthetic turf safe?*, SYNTHETIC TURF COUNCIL, *available at* <http://www.syntheticurf.org/displaycommon.cfm?an=1&subarticlenbr=209#health> (last visited Jan. 20, 2013).

<sup>20</sup> *FAQs: Is synthetic turf safe?*, SYNTHETIC TURF COUNCIL, *available at* <http://www.syntheticurf.org/displaycommon.cfm?an=1&subarticlenbr=209#health> (last visited Jan. 20, 2013).

<sup>21</sup> *FAQs: Should I be concerned about lead in my field?*, SYNTHETIC TURF COUNCIL, *available at* <http://www.syntheticurf.org/displaycommon.cfm?an=1&subarticlenbr=209#health> (last visited Jan. 20, 2013).

<sup>22</sup> CITY OF WOODINVILLE, REPORT TO THE CITY COUNCIL: DISCUSSION OF HEALTH ISSUES AND SYNTHETIC TURF 4-11 (Oct. 6, 2009), *available at* [http://woodinville.granicus.com/Viewer.php?meta\\_id=34656&view=&showpdf=1](http://woodinville.granicus.com/Viewer.php?meta_id=34656&view=&showpdf=1) (declaring that the CPSC study is one of the three most pertinent and authoritative information sources available regarding synthetic turf safety).

of synthetic turf when deciding whether to install synthetic turf in their athletic fields.<sup>23</sup> In their findings, the report stated that Montgomery County Schools and other county departments “believe that reliance should be placed on the various government studies referenced above that have looked at the human health issues associated with artificial turf fields (and crumb rubber infill in particular) and have not found levels of concern that warrant avoidance of the construction of new artificial turf fields with crumb rubber infill.”<sup>24</sup>

Because communities may exclusively rely on government-disseminated data, the CPSC Report is extremely influential and should contain complete, reliable and objective information.

## **THE CHALLENGED STATEMENTS SHOULD BE RETRACTED BECAUSE THEY VIOLATE CPSC GUIDELINES FOR INFORMATION QUALITY.**

### ***(A) Objectivity***

The CPSC’s guidelines state that information disseminated by the agency should be objective.<sup>25</sup> The guidelines define objectivity as the use of reliable data sources, use of sound analytic techniques, review prior to dissemination, a policy for correcting errors, and revising previously disseminated information.<sup>26</sup> The information released by the CPSC regarding the safety of artificial turf does not satisfy the CPSC’s requirement of objectivity as described in the CPSC’s guidelines for information quality.<sup>27</sup> Specifically, the Report does not use reliable data sources, it does not use sound analytic techniques, has no clear policy for correcting the errors in the study as they stood or in light of new reliable data from elsewhere. The Report also did not revise previously disseminated information in light of needed corrections and newly acquired data.

#### **1. The Report does not use reliable data sources.**

The Report is based on a study which uses very limited samples, only eight fields out of about 3,500 located around the country.<sup>28</sup> As stated in the Report, “Staff obtained samples of turf that had been left over after installation or that became available when a field was

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<sup>23</sup> MONTGOMERY COUNTY SCHOOLS ET AL., A REVIEW OF THE BENEFITS AND ISSUES ASSOCIATED WITH NATURAL GRASS AND ARTIFICIAL TURF RECTANGULAR STADIUM FIELDS, *available at* <http://www6.montgomerycountymd.gov/content/council/ATworkgroup/atreportfinal.pdf> (last visited Jan. 30, 2013).

<sup>24</sup> MONTGOMERY COUNTY SCHOOLS ET AL., A REVIEW OF THE BENEFITS AND ISSUES ASSOCIATED WITH NATURAL GRASS AND ARTIFICIAL TURF RECTANGULAR STADIUM FIELDS 41, *available at* <http://www6.montgomerycountymd.gov/content/council/ATworkgroup/atreportfinal.pdf> (last visited Jan. 30, 2013).

<sup>25</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>26</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>27</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>28</sup> *Federal Agencies at odds over artificial turf recommendations*, CONSUMER REPORTS (Sept. 5, 2008, 11:56 AM), *available at* <http://news.consumerreports.org/safety/2008/09/lead-in-turf.html>.

dismantled. Staff also visited in-service synthetic turf fields. . .<sup>29</sup> It appears from Table 1 that only five in-use, outdoor fields were tested, the rest either were unused samples (6), samples from an indoor field (1), and samples from brand new fields (2). Of those outdoor fields that had been in use, three had been in use for four years or less. The field that had been in use for the longest had the highest levels of lead (an average of 68.1 µg) yet the Press Release inappropriately minimizes this important finding, stating:

As turf is used during athletics or play and exposed over time to sunlight, heat and other weather conditions, the surface of the turf may start to become worn and small particles of the lead-containing synthetic grass fibers might be released. The staff considered in the evaluation that particles on a child's hand transferred to his/her mouth would be the most likely route of exposure and *determined young children would not be at risk*. (Emphasis added).<sup>30</sup>

The data clearly shows a difference in not only age of the field with relation to the presence of lead, but also in relation to the location of the field (indoor versus outdoor), and the color of the grass blades (yellow versus green, etc.).<sup>31</sup> While the limited sample size does not allow for conclusive statements generalized to all artificial fields, the results directly contradict statements such as “CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On.”<sup>32</sup>

In addition to the limited number of samples, the study does not provide information on how samples were selected.<sup>33</sup> This study also lacks information regarding whether the same company manufactured all the samples or if different companies were used. This is important information for consumers particularly regarding fields that showed elevated lead levels.<sup>34</sup>

## **2. The Report does not use sound analytical techniques.**

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<sup>29</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

<sup>30</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) *available at* <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>31</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF “GRASS BLADES”, CONSUMER PRODUCT SAFETY COMMISSION table 1, *available at* <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf>.

<sup>32</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) *available at* <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>33</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF “GRASS BLADES”, CONSUMER PRODUCT SAFETY COMMISSION table 1, *available at* <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf>.

<sup>34</sup> According to Van Ulirsch & Gleason, et al. *Evaluating and Regulating Lead in Synthetic Turf*, 118 ENVIRON. HEALTH PERSPECT. 1345, 1347 (2010), *available at* <http://dx.doi.org/10.1289/ehp.1002239> the CPSC study used four different manufacturers’ turf but that is not cited in the CPSC study.

The CPSC only tested the grass blades for lead without testing for other toxics, including those that are of concern for children; in particular, toxins such as cadmium and phthalates are required to be tested for in children's products. The CPSC also did not test the tire crumb infill.<sup>35</sup> Many consumers are concerned about the tire crumb infill,<sup>36</sup> which has been shown to contain various chemicals<sup>37</sup> and the conclusion that artificial turf is "...OK to Install, OK to Play On" cannot be supported unless all parts of the product are thoroughly tested for all the toxins that are often known to be or are likely to be in the product.

In addition, even for lead exposure the study authors made a number of questionable assumptions. First they ignored pathways to exposure other than ingestion. They hypothetically modeled for indirect ingestion. They did not test for inhalation or trans-dermal absorption, other known routes for metals to enter the body.<sup>38</sup>

In a 2011 New Jersey study that tested for exposure to lead through inhalation from artificial turf the authors posited that field activity (running, playing, etc.) would suspend particles and contaminants (including lead) and increase the risks of exposure through inhalation.<sup>39</sup> This study cautions that:

While it is not possible to draw broad conclusions from this limited sample of fields the results suggest that there is a potential for inhalable lead to be present on turf fields that have significant amounts of lead present as detectable by surface wipes. It also would appear likely from this sample that if the lead is present to any appreciable extent in the wipes it will

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<sup>35</sup> Press Release, Connecticut Attorney General's Office, Attorney General Calls Synthetic Turf Study Dangerously Deceptive, Urges Its Removal and Revision (Aug 18, 2008), *available at* <http://www.ct.gov/ag/cwp/view.asp?Q=421480&A=2795>. *See also Federal Agencies at odds over artificial turf recommendations*, CONSUMER REPORTS (Sept. 5, 2008, 11:56 AM), *available at* <http://news.consumerreports.org/safety/2008/09/lead-in-turf.html> (finding the study inadequate as it was limited to only "grass blades" and not "crumb rubber").

<sup>36</sup> *See* WISCONSIN DEPARTMENT OF HEALTH SERVICES, RECYCLED RUBBER PLAYGROUND COVER, "The Wisconsin Department of Health Services has received a number of questions from parents regarding the safety of recycled rubber on playgrounds." *Id*; *See also* Julie Deardorff, *Synthetic Playing Fields, Experts to discuss safety*, THE CHICAGO TRIBUNE (Mar. 18, 2011), *available at* [http://articles.chicagotribune.com/2011-03-18/features/chi-artificial-turf-experts-to-discuss-safety-20110318\\_1\\_artificial-turf-tire-crumbs-crumbs-rubber](http://articles.chicagotribune.com/2011-03-18/features/chi-artificial-turf-experts-to-discuss-safety-20110318_1_artificial-turf-tire-crumbs-crumbs-rubber) (writing, "Though the [tire infill] looks pristine and requires little maintenance, some worry that athletes playing on these fields may be exposed to chemicals that may pose health risks").

<sup>37</sup> *The Use of Recycled Tire Materials on Playgrounds & Artificial Turf Fields*, ENVIRONMENTAL PROTECTION AGENCY (Dec. 3, 2009), *available at* [http://www.epa.gov/nerl/features/tire\\_crumbs.html](http://www.epa.gov/nerl/features/tire_crumbs.html) (listing a number of chemicals that may be found in tires).

<sup>38</sup> STUART L. SHALAT, FINAL REPORT: AN EVALUATION OF POTENTIAL EXPOSURES TO LEAD AND OTHER METALS AS THE RESULT OF AEROSOLIZED PARTICULATE MATTER FROM ARTIFICIAL TURF PLAYING FIELDS 9 (July 16, 2011), *available at* <http://www.nj.gov/dep/dsr/publications/artificial-turf-report.pdf>.

<sup>39</sup> STUART L. SHALAT, FINAL REPORT, AN EVALUATION OF POTENTIAL EXPOSURES TO LEAD AND OTHER METALS AS THE RESULT OF AEROSOLIZED PARTICULATE MATTER FROM ARTIFICIAL TURF PLAYING FIELDS 2 (July 16, 2011), *available at* <http://www.nj.gov/dep/dsr/publications/artificial-turf-report.pdf>.

likely be present in the breathing zone of players who are active on these fields, and that furthermore, these levels potentially exceed ambient EPA standards.<sup>40</sup>

The fact that inhalation exposure was not assessed by the CPSC underscores the inappropriateness of the declaration that artificial turf is “OK to install, OK to play on.”<sup>41</sup> In the words of the New Jersey study, “only a comprehensive mandated testing of fields can provide assurance that no health hazard on these fields exists from lead or other metals used in their construction and maintenance.”<sup>42</sup>

The assumptions made in modeling also assume that blood lead levels below 15 ug/L are safe. The current lead-health standards do not support this endpoint for modeling.

There was also a lack of testing of older fields. Only two samples were from fields older than five years.<sup>43</sup> The oldest field tested was installed in 1999 and was associated with the highest daily estimated ingestion of lead.<sup>44</sup> Yet, according to the CPSC’s own findings, older fields need to be further evaluated for safety:

Our findings and those presented in the CPSC study indicate that synthetic turf can deteriorate over time to form dust containing lead at levels that may pose a risk to children who play on these surfaces.<sup>45</sup>

In fact, older fields have already been be shut down due to elevated lead levels.<sup>46</sup> At the very least, CPSC should indicate that older fields need continuous monitoring for the presence of lead on the surface.

The CPSC study also only tested for lead and not for other harmful contaminants. The presence of these chemicals and their uncertain impacts on children is one reason why CPSC

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<sup>40</sup> STUART L. SHALAT, FINAL REPORT, AN EVALUATION OF POTENTIAL EXPOSURES TO LEAD AND OTHER METALS AS THE RESULT OF AEROSOLIZED PARTICULATE MATTER FROM ARTIFICIAL TURF PLAYING FIELDS 9 (July 16, 2011), available at <http://www.nj.gov/dep/dsr/publications/artificial-turf-report.pdf>.

<sup>41</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) available at <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>42</sup> STUART L. SHALAT, FINAL REPORT, AN EVALUATION OF POTENTIAL EXPOSURES TO LEAD AND OTHER METALS AS THE RESULT OF AEROSOLIZED PARTICULATE MATTER FROM ARTIFICIAL TURF PLAYING FIELDS 10 (July 16, 2011), available at <http://www.nj.gov/dep/dsr/publications/artificial-turf-report.pdf>.

<sup>43</sup> *Federal Agencies at odds over artificial turf recommendations*, CONSUMER REPORTS (Sept. 5, 2008, 11:56 AM), available at <http://news.consumerreports.org/safety/2008/09/lead-in-turf.html>.

<sup>44</sup> *Federal Agencies at odds over artificial turf recommendations*, CONSUMER REPORTS (Sept. 5, 2008, 11:56 AM), available at <http://news.consumerreports.org/safety/2008/09/lead-in-turf.html>.

<sup>45</sup> Van Ulirsch & Gleason, et al. *Evaluating and Regulating Lead in Synthetic Turf*, 118 ENVIRON. HEALTH PERSPECT. 1345, 1347 (2010), available at <http://dx.doi.org/10.1289/ehp.1002239>.

<sup>46</sup> *UNH Field Closed Due to High Lead Levels*, CBS BOSTON (Oct. 21, 2012, 10:12 AM), available at <http://boston.cbslocal.com/2012/10/21/unh-field-closed-due-to-high-lead-levels/>.

should not have given a blanket declaration that these fields are safe to install or for children to play on. A partial list of these chemicals and their effects include:

- 1, 3-butadiene, a known human carcinogen. It affects the skin, ocular, and nervous systems.<sup>47</sup>
- Benzene, a known human carcinogen. It affects the hematological, immune, and neurological systems.<sup>48</sup>
- Phthalates, these toxicants consist of a number of different chemicals, which can be damaging to the reproductive system, the developing organs, and the liver.<sup>49</sup>
- Polycyclic Aromatic Hydrocarbons (PAHs), these affect the skin, liver, and immune systems.<sup>50</sup> They are also carcinogenic.<sup>51</sup>
- Manganese, this affects the cardiovascular, liver, nervous, and the respiratory systems.<sup>52</sup>
- Carbon Black,<sup>53</sup> these particles can irritate the lungs and potentially result in lung disease. The particles can also irritate the eyes, nose, and throat eventually leading to a chronic condition called “obstructive pulmonary disease” and has been identified as a carcinogen in animals and a possible carcinogen in humans.<sup>54</sup>

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<sup>47</sup> 1, 3-Butadiene, CDC: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=81> (last visited Feb. 5, 2013).

<sup>48</sup> Benzene, CDC: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=14> (last visited Feb. 5, 2013).

<sup>49</sup> Phthalates, CDC: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <http://www.atsdr.cdc.gov/substances/toxchemicallisting.asp?sysid=41> (last visited Feb. 5, 2013).

<sup>50</sup> Polycyclic Aromatic Hydrocarbons (“PAHs”), CDC: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=25> (last visited Feb. 6, 2013). See also Edoardo Menichini et al., *Artificial-turf playing fields: Contents of metals, PAHs, PCBs, PCDDs and PCDFs, inhalation exposure to PAHs and related risk assessment*, 409 SCI. OF THE TOTAL ENVIRON. 4950 (2011) (finding that metals, PAHs, PCBs, PCDDs and PCDFs in rubber used in artificial playing fields and inhalation exposure to PAHs. Zinc and BaP concentrations are high in rubber largely exceeding the Italian soil standards).

<sup>51</sup> See Maria Llompart, et al., *Hazardous Organic Chemicals in Rubber Recycled Tire Playgrounds and Pavers*, 90 CHEMOSPHERE 423-31 (2013). It is well known that rubber tire debris contains toxic compounds such as highly aromatic oils and other reactive additives...Tire rubber is composed of 40-60% rubber polymer, reinforcing agents such as carbon black (20-35%), aromatic extender oil (up to 28%), vulcanization additives, antioxidants, antiozonants, and processing aids (plasticizers and softeners)...One of the main components of extender oil is highly aromatic oil, which contains polycyclic aromatic hydrocarbons (PAHs) in the range of 300-700 mg kg<sup>-1</sup>. *Id.*

<sup>52</sup> Manganese, CDC: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=23> (last visited Feb. 6, 2013).

<sup>53</sup> Carbon Black, NIOSH PUBLICATIONS AND PRODUCTS, <http://www.cdc.gov/niosh/idlh/1333864.HTML> (last visited Feb. 6, 2013). “The that the dispersion of ultrafine carbon black nanoparticles in the lungs of rats following intratracheal instillation results in an inflammatory response that is greater than agglomerated ultrafine carbon black.” *Id.*

<sup>54</sup> *Occupational Safety and Health Guideline for Carbon Black: Potential Human Carcinogen*, CENTERS OF DISEASE CONTROL AND PREVENTION, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (1988), available at <http://www.cdc.gov/niosh/docs/81-123/pdfs/0102.pdf>; *Carbon Black*, U.S. DEPARTMENT OF LABOR (Nov. 10, 2012), available at [http://www.osha.gov/dts/chemicalsampling/data/CH\\_225300.html](http://www.osha.gov/dts/chemicalsampling/data/CH_225300.html); *Final Report: Comparison of the Carcinogenicity of Diesel Exhaust and Carbon Black in Rat Lungs*, ENVIRONMENTAL PROTECTION AGENCY, [http://cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/5342/report/0](http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/5342/report/0) (last visited Mar. 5, 2013).

- Carbon Black nanoparticles, these are potential occupational carcinogens when in the presence of PAHs.<sup>55</sup>
- Latex, this is a known allergen.<sup>56</sup>
- Zinc, this can affect the digestive system, the ability for blood to form, and the respiratory system.<sup>57</sup> It is also highly toxic to aquatic organisms and inhibits the growth of plants when it leaches into water and soil.<sup>58</sup>

In addition to the above listed toxicants, a Connecticut Agricultural Experiment Station Study recently found that the following toxicants were present in tire crumbs:<sup>59</sup>

- Benziothiazole, this toxicant can cause skin and eye irritation and it is harmful if swallowed.<sup>60</sup>
- Butylated hydroxyanisole, this is a recognized carcinogen, a suspected endocrine toxicant, a gastrointestinal toxicant, an immunotoxicant, a neurotoxicant, and a skin and sense organ toxicant.<sup>61</sup>
- n-hexadecane, this is known to be a severe irritant based on human and animal studies.<sup>62</sup>
- 4-(t-octyl) phenol, this is known to be corrosive and destructive to mucous membranes.<sup>63</sup>

### 3. The CPSC's conclusions are not supported by the Reports' findings.

The fact is that lead has been found in numerous artificial turf fields all over the country, in various amounts.<sup>64</sup> Some of these amounts comply with standards issued by the CPSC, but many do not.<sup>65</sup> One 2010 study concluded that:

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<sup>55</sup> FILLING THE KNOWLEDGE GAPS FOR SAFE NANOTECHNOLOGY IN THE WORKPLACE, NIOSH NANOTECHNOLOGY RESEARCH CENTER vi (2004-2011), available at <http://www.cdc.gov/niosh/docs/2013-101/pdfs/2013-101.pdf>.

<sup>56</sup> Latex Allergy: A Prevention Guide, NIOSH PUBLICATIONS AND PRODUCTS, <http://www.cdc.gov/niosh/docs/98-113/> (last visited Feb. 6, 2013).

<sup>57</sup> Zinc, CDC: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=54> (last visited Feb. 6, 2013).

<sup>58</sup> *Inorganics*, ENVIRONMENTAL PROTECTION AGENCY (Dec. 28, 2011), available at <http://www.epa.gov/R5Super/ecology/toxprofiles.htm#zn>.

<sup>59</sup> MaryJane Incorvia Mattina, et al., The Connecticut Agricultural Experiment Station, Examination of Crumb Rubber Produced from Recycled Tires,

<sup>60</sup> *Artificial Turf: Exposures to Ground up Rubber Tires – Athletic Fields, Playgrounds, Garden Mulch*, ENVIRONMENT AND HUMAN HEALTH, INC., [http://www.ehhi.org/reports/turf/health\\_effects.shtml](http://www.ehhi.org/reports/turf/health_effects.shtml) (last visited Feb. 6, 2013).

<sup>61</sup> *Artificial Turf: Exposures to Ground up Rubber Tires – Athletic Fields, Playgrounds, Garden Mulch*, ENVIRONMENT AND HUMAN HEALTH, INC., [http://www.ehhi.org/reports/turf/health\\_effects.shtml](http://www.ehhi.org/reports/turf/health_effects.shtml) (last visited Feb. 6, 2013).

<sup>62</sup> *Artificial Turf: Exposures to Ground up Rubber Tires – Athletic Fields, Playgrounds, Garden Mulch*, ENVIRONMENT AND HUMAN HEALTH, INC., [http://www.ehhi.org/reports/turf/health\\_effects.shtml](http://www.ehhi.org/reports/turf/health_effects.shtml) (last visited Feb. 6, 2013).

<sup>63</sup> *Artificial Turf: Exposures to Ground up Rubber Tires – Athletic Fields, Playgrounds, Garden Mulch*, ENVIRONMENT AND HUMAN HEALTH, INC., [http://www.ehhi.org/reports/turf/health\\_effects.shtml](http://www.ehhi.org/reports/turf/health_effects.shtml) (last visited Feb. 6, 2013).

Twelve of 29 actively used synthetic surfaces and two of four new turf products tested exceeded the statutory lead limit of 300 mg/kg for consumer products intended for use by children [Consumer Product Safety Improvement Act]. . . and the U.S. EPA lead hazard standard of 400 mg/kg for residential soil. . .<sup>66</sup>

Currently, the CPSC lead standard is 300 mg/kg<sup>67</sup> but is 100 mg/kg for children's products. This lower standard for children's products suggests that the amount of noncompliance in artificial turf is even higher.<sup>68</sup>

Regardless of which CPSC lead standard is used, the Report does not justify a blithe conclusion that turf is "OK to install, OK to play on."<sup>69</sup> Indeed, the CPSC Report and accompanying Press Release may have the effect of encouraging a lack of compliance.

#### **THE CPSC'S INFORMATION SHOULD BE CORRECTED IN THE FOLLOWING WAYS:**

- (a) Remove all materials from the website (including the Report,<sup>70</sup> the Press Release,<sup>71</sup> and the accompanying video<sup>72</sup>), particularly the reassurance that fields are "OK to install, OK to play on";

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<sup>64</sup> Van Ulirsch & Gleason, et al. *Evaluating and Regulating Lead in Synthetic Turf*, 118 ENVIRON. HEALTH PERSPECT. 1345, 1346 (2010), available at <http://dx.doi.org/10.1289/ehp.1002239>.

<sup>65</sup> Van Ulirsch & Gleason, et al. *Evaluating and Regulating Lead in Synthetic Turf*, 118 ENVIRON. HEALTH PERSPECT. 1345, 1347 (2010), available at <http://dx.doi.org/10.1289/ehp.1002239>.

<sup>66</sup> Van Ulirsch & Gleason, et al. *Evaluating and Regulating Lead in Synthetic Turf*, 118 ENVIRON. HEALTH PERSPECT. 1345, 1346 (2010), available at <http://dx.doi.org/10.1289/ehp.1002239>.

<sup>67</sup> 15 U.S.C. 1278(a). "Beginning on the date that is 1 year after August 14, 2008, the lead limit referred to in paragraph (1) is 300 parts per million total lead content by weight for any part of the product." *Id.*

<sup>68</sup> 15 U.S.C. 1278(a) "Beginning on the date that is 3 years after August 14, 2008, subparagraph (B) shall be applied by substituting "100 parts per million" for "300 parts per million" unless the Commission determines that a limit of 100 parts per million is not technologically feasible for a product or product category. The Commission may make such a determination only after notice and a hearing and after analyzing the public health protections associated with substantially reducing lead in children's products." *Id.*

<sup>69</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) available at <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>70</sup> CONSUMER PRODUCT SAFETY COMMISSION, CPSC STAFF ANALYSIS AND ASSESSMENT OF SYNTHETIC TURF "GRASS BLADES", CONSUMER PRODUCT SAFETY COMMISSION, available at <http://www.cpsc.gov/PageFiles/104716/turfassessment.pdf>.

<sup>71</sup> Press Release, Consumer Product Safety Commission, CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On (July 30, 2008) available at <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

<sup>72</sup> *CPSC Staff Finds Synthetic Turf Fields OK to Install, OK to Play On: Accompanying video*, Consumer Product Safety Commission (July 30, 2008), available at <http://www.cpsc.gov/en/Newsroom/News-Releases/2008/CPSC-Staff-Finds-Synthetic-Turf-Fields-OK-to-Install-OK-to-Play-On/> (last visited Jan. 29, 2013).

- (b) Disseminate warnings regarding the unknown risks of lead exposure from artificial turf, as well as exposure to other chemicals and contaminants; and
- (c) Commission an independent study that tests a large sample of older and newer fields, indoor and outdoor fields, all parts of the field, different exposure pathways, and different contaminants.

If the CPSC will not perform a new study, the conclusions drawn from the current study should be drastically revised. First, the CPSC should no longer refer to artificial turf as safe or “OK to install, OK to play on.” Second, attention needs to be drawn to the finding that older fields result in higher lead releases due to weathering. Third, all fields should be tested for lead content upon purchase, and fields that test positive for lead should not be installed. Existing fields should be comprehensively tested for the presence of lead, and if lead is found in the blades of any of the colors, should be monitored yearly for surface lead. If lead is found, the field should be removed. Finally, the limitations of the study should be stated clearly in all locations where the study is referenced, including the lack of testing of dermal exposure and inhalation, limited sample size, lack of analysis of other carpet contaminants and lack of any analysis of the tire crumb or other infill. In addition, given that the total composition of and potential toxins in the tire crumb in particular is unknown and unknowable (since the tire crumb infill source is unknown and many tire ingredients are proprietary) tire crumb infills are not amenable to safety testing. Each batch of tire crumb for each field would be different. Tire crumb should be banned for applications where human contact is expected. Stringent monitoring, testing, and source information and ingredient guidelines should be developed for any synthetic turf field infill.

Valid conclusions from the current study must be rewritten to communicate that lead was indeed found on artificial turf fields, and given the limited scope of the study those installing and playing on the fields should always exercise caution.

### **Conclusion.**

Based on the forgoing information, CPSC should rescind and correct its online and printed information declaring artificial turf to be “OK to install, OK to play on.” It should commission a new comprehensive study that takes into account all current knowledge about the composition of all components of artificial turf and more accurately characterizes the real and potential risks from artificial turf.

We look forward to receiving your response within 60 days, as specified in the CPSC information quality guidelines.<sup>73</sup>

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<sup>73</sup> CONSUMER PRODUCT SAFETY COMMISSION, INFORMATION QUALITY GUIDELINES, *available at* <http://www.cpsc.gov/en/Research--Statistics/Information-Quality-Guidelines/>.

Sincerely,

Jeff Ruch  
Executive Director