

**From:** [Olena Beyer](#)  
**To:** [Turf\\_Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** crumb rubber study questions for Synthetic Turf Scientific Advisory Panel Meeting  
**Date:** Thursday, May 30, 2019 11:55:29 PM

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Hi!

**First question.** What are the limits that are you going to use for specific chemicals to consider them to be low level? For example, The Dutch National Institute for Public Health and the Environment (RIVM), in cooperation with Echa, says the general concentration limits set under REACH (regulation of the European Union) for eight carcinogenic PAHs in crumb rubber mixtures are "insufficient" for protecting those who come into contact with the granules while playing at sports facilities and on playgrounds.

The proposal suggests a combined concentration limit for the eight PAHs of 17mg/kg (0.0017% by weight). The current concentration limits applicable for supply to the general public are set at 100mg/kg for two of the PAHs and 1,000mg/kg for the other six.

The eight PAHs are:

- benzo[a]pyrene (BaP);
- benzo[e]pyrene (BeP);
- benzo[a]anthracene (BaA);
- chrysen (CHR);
- benzo[b]fluoranthene (BbFA);
- benzo[j]fluoranthene (BjFA);
- benzo[k]fluoranthene (BkFA); and
- dibenzo[a,h]anthracene (DBA<sub>h</sub>A).

So what are the numbers that you are going to use to assess the risks?

**Second question.** I see that your testing is in-lab testing to extract chemicals. Are you going to do any in-field studies? For example, Dolores Park in San Francisco, which has a renovated playground in 2012, has a very worn playground surface. Since there's no real regulations, no proper maintenance was conducted, except for patching the biggest holes. But the whole surface has small cracks, with the black bottom layer picking through. It poses choking hazard, tripping hazard, and also dangerous chemicals from the bottom layer can come in direct contact with children. It heats up on sunny days to over 140F, which fills the air with carcinogenic fumes. Can you test in place? There are many other playgrounds with broken surfaces at your disposal, if you can't come to San Francisco.

**Third question.** Industry representatives and manufacturers say that crumb rubber is safe for children to play on because the manufacturing process binds the various components of tire, including carbon black and solvents, into a “matrix” that makes it impossible for them to leach out. Is this true?

**Fourth question.** The US Consumer Product Safety Commission declares that synthetic turf is exempt from child safety standards because it is not a children's product. If it acts like a children's product, and it is marketed as a children's product, and it is sold as a children's product, would you recommend for it to be REGULATED like a children's product?

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-Olena Beyer

**From:** [nickbaker](#)  
**To:** [Turf, Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** Comments  
**Date:** Friday, May 31, 2019 2:13:38 AM

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Dear Mrs. Zeise, Science Panel, and OEHHA staff,

Thank you for your time and effort creating protocols for the tire crumb study. Your 500 plus page report confirms that OEHHA found 126 chemicals, many

known to have significant health impacts.

Does OEHHA's have the authority now to mandate that at every field, playground, walking path or area with tire crumb that signs be posted alerting the public

to potential chemical exposures. Under OEHHA's authority could the recent chemical findings be sufficient to encourage the state to halt the use of tire crumb

immediately on fields, playgrounds and paths. I understand the plan was for OEHHA to create a study protocol for tire crumb, but what you have confirmed is

alarming.

Sincerely,

Nicholas Baker

**From:** [Patricia Taylor](#)  
**To:** [Turf, Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Cc:** [David R. Brown, Sc.D.](#); [Nancy O. Alderman, MES](#)  
**Subject:** Questions for the Synthetic Turf Scientific Team and Advisory Panel  
**Date:** Friday, May 31, 2019 9:12:53 AM

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Regarding the *Synthetic Turf and Playground Studies Overview May 2019 Update, Task 7: Human Health Risk Assessment*

We have the following questions:

1. What is your worst case exposure?
2. What is the logic of the risk assessment?
3. How will you communicate your interpretation of the risk for the children to the parents and to the children who are exposed?
4. Who decides what risk is acceptable?
5. Are you proposing there is an acceptable risk?
6. How are you going to deal with Amy Griffin's data?

Best,

Tricia Taylor

**From:** [Shirley S](#)  
**To:** [Turf, Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** Comment: Synthetic Turf Scientific Advisory Panel Meeting  
**Date:** Friday, May 31, 2019 10:43:36 AM

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To the OEHHA:

I'd like to submit the following re: the meeting today on crumb rubber.

NASA graphs show the steady increase of temperatures.

In some states, like California, this has already resulted in creating critical situations.

1. What liability do schools and parks have as to what temperature is safe for children when playing on these fields?
2. With wildfires worsening every year and the reality that firefighters are unable to stop them from burning communities, it is a concern that these fields will burn and release all the chemicals into the air, water and soil.

Have these very real external threats being considered?

Please seriously reconsider any more installation of crumb rubber.

Thank you,  
Shirley Scheker, JD

**From:** [shirley7](#)  
**To:** [Turf\\_Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** Comment: Synthetic Turf Scientific Advisory Panel Meeting  
**Date:** Friday, May 31, 2019 10:47:05 AM

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To the OEHHA:

I am writing in to comment on the meeting on crumb rubber taking place today.

Typically, each toxin is studied for what its individual toxicity might be.

But, studies have found that there are *synergistic* relationships such that one toxin can make others more toxic.

For example:

In [this study](#), the synergistic relationship between lead (0.01mg/L), mercury (0.001mg/L), cadmium (0.005mg/L) and arsenic (0.01mg/L) were looked into. Individually the dose is considered very low and safe for the mice. Although when they are combined, it “induced toxicity to the brain, liver, and kidney of mice.”

Is this being considered? I would bet it has not.

Synthetic turf has not been proven to be safe and it should not be in our schools or playgrounds.

Please consider the long term effects.

Kind regards,  
Shirley

**From:** [Mary Zakrasek](#)  
**To:** [Turf, Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** Synthetic Turf - public comments  
**Date:** Friday, May 31, 2019 10:51:21 AM

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Thank you in advance for responding to these questions:

With the data that was gathered on babies and children, who will establish what the levels of "safe" exposure are for these age groups ...  
or are established adult levels to be used?

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It is reported that crabgrass and other weeds can grow in these fields. Were any fields tested in areas where weeds would be more likely to grow and weed killer such as glyphosate would be used?

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Since synthetic turf does not absorb rainwater but drains and gets into storm sewers, what are the impacts from the long list of chemicals included in the report on aquatic life and drinking water?

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When crumb rubber fields degrade and have to be replaced where do they end up?  
Does the use as a playing field change the classification of tires as hazardous waste - and the crumb rubber would end up in a non-hazardous waste landfill?

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**From:** [Patricia Taylor](#)  
**To:** [Turf, Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Cc:** [David R. Brown, Sc.D.](#); [Nancy O. Alderman, MES](#)  
**Subject:** Questions for the Synthetic Turf Scientific Team and Advisory Panel  
**Date:** Friday, May 31, 2019 10:54:50 AM

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Regarding today's panel discussion on-going:

**In the Ingestion (direct and indirect) exposure pathway discussion:**

The ingestion rate formula parameter for object to mouth exposure to crumb rubber by young children assumes that **only one hand** on the object covered with crumb rubber is going into the young child's mouth.

Why? Infants, crawlers, and toddlers, and even preschoolers, sitting on the sidelines or playing on the edge of the field may use two hands to hold themselves sitting up, as well as use two hands to drink from a bottle, a sippy cup, or to put snack food into their mouths.



**From:** [kw\\_021605](#)  
**To:** [Turf\\_Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** Comment for the CA synthetic turf study  
**Date:** Friday, May 31, 2019 11:07:13 AM

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Gene Sheehan

Re: May 31, 2019 Synthetic Turf California Scientific Advisory Panel Meeting

In today's presentation;

1. How was it determined that dermal uptake is “probably not a predominant pathway” for the “Synthetic Turf (e.g., crumb rubber & turf backing)” in regards to “Gas Emission”? (1)
2. Why is there no place on the “Field Sampling Diary Template” form for notating how old (duration) the tire crumb on the field is? Or, when, where, and how often the additions of fresh tire crumb were? (2)
3. The listed “bystanders” do include residential households living adjacent to these fields. Many fields are located within tens of feet upwind of houses in neighborhoods that are exposed to the off gassing and particulates 24 hours day long, for the lifetime of the field. (3)
4. Why was the question asked, “What ethnic group best describes your child?”? (4)

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#### Footnotes

1. Re: Figure 4-1. Synthetic Turf Field On-Field Exposure Model –
2. Re: Attachment E. Field Sampling Diary Template, Page A25 of A30
3. Re: 4.2.2.3 Field User Categories –
4. Re: On Page | G-47 Draft Report Assessing Human Time-Activity Exposure Patterns Occurring on Synthetic Turf Field

Sent from my iPhone

**From:** [Kelley](#)  
**To:** [Turf, Synthetic@OEHHA](mailto:Turf_Synthetic@OEHHA)  
**Subject:** Public comment for 5/31/19 OEHHA synthetic turf meeting  
**Date:** Friday, May 31, 2019 1:41:12 PM

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Kelley Watts

I would like to ask the panel - knowing what you know now, and knowing that most of the parents that send their children to play on these fields may never have heard of this study, much less understand its findings — would it be reasonable and prudent to request that the summary in the final report include a recommendation that operators of these fields warn about the chemicals found in these fields to the most vulnerable users, (or at least the sick and infirmed) — as well as any potential risk of harm that they may present to their health?

Again-even though some of these chemicals are listed by OEHHA and the International Agency for Research on Cancer as hazardous, I am not speaking of a prop 65 warning - just a compassionate recommendation in the final report.

Sent from my iPhone