

OEHHA Synthetic Turf Study Scientific Panel Meeting

submitted questions / comments -- March 10th, 2017

Panel members: Dr. Edward **Avol** (USC), Dr. John **Balmes** M.D. (UCSF), Dr. Deborah **Bennett** (UC Davis), Dr. Sandy **Eckel** (USC), Dr. Amy **Kyle** (UC Berkeley), Dr. Thomas **McKone**, (UC Berkeley), and Dr. Linda **Sheldon** (US/EPA), Dr. Lauren **Zeise**, (OEHHA)

Concerns from health professionals, as well as citizen groups, and athletes across the country, regarding the CalRecycle / OEHHA study:

1) **Why are transcripts of the scientific panel meetings not made available to the public?**

The posted videos are fine but they are, as you probably know, clumsy to navigate and impractical for scholarly, (or journalistic), review. Millions of dollars have been allocated for this study, so the basic transcribing of these meetings should be easily affordable -- and the posting of the transcripts would be a big help toward transparency and helping to inform interested parties about your work.

2) **Why is the public not being notified -- or being allowed to observe the sampling of the tire crumb -- or it's testing?**

Advanced warning regarding the scheduling does not need to be far reaching. And of course, the field sampling will primarily take place in open fields, where observers would not be a safety concern, or a hindrance. Again this goes toward transparency.

3) **Can reliable scientific conclusions really be made about the health risks which are meaningful and address the public's concerns -- when taking into account the unreliability of the existing, (and proposed), sampling data -- as well as the lack of "safe harbor levels" for many of the chemicals involved?**

These concerns are based in part on data points that have been discussed here, such as tire crumb's significant chemical variability -- in which it contains toxic ingredients in inconsistent and unpredictable concentrations. As per OEHHA, the primary ingredient is an OEHHA declared carcinogen -- which itself is derived from multiple indefinite and variable origins.

This is in addition to the fact that the samples to be taken of this (inconsistent, complex) material will only amount to grams (or less). They will be sampled from a limited number of what is thousands of (quite literally) football field size sources each containing, (as per the EPA), 2 tons of the material per field.

4) **Could it be made to be within the scope and purview of this panel -- to discuss the utility of posting warning signs for the public at California tire crumb synthetic turf fields -- until such a time as exposure to tire crumb chemicals can be reasonably shown to be safe?**

As we know, as this and other studies continue to be dragged out, children continue to accumulate chemical exposures from the fields.

A speculative argument made for not giving parents warning with posted signs -- is to avoid panic.

On the other hand, and perhaps more along the lines of just doing the right thing, warning signs would enable mothers and fathers to be able to, proactively, make an informed choice for their children -- especially for protecting **medically vulnerable children**.

California Office of Environmental Health Hazard Assessment, (OEHHA) Science Advisory Panel,
In reference to meeting and presentation materials presented to the Synthetic Turf Study Scientific Panel

Regarding:

Task 1: Expert, public, and interagency consultation and input

- The cited OEHHA meeting material omits the scientific dispute regarding the opinion of the Dutch (RIVM), Ministry of Health, Welfare and Sport -- which concluded that “Playing sports on synthetic turf fields with rubber granulate is safe”. In opposition, University Amsterdam (VU) scientists reached the conclusion that “rubber granules in fact release chemicals which may cause harmful effects in humans”.

“Dutch University Research Shows: Use of Rubber Infill for Artificial Grass Should Be Avoided”:

<http://zembra.vara.nl/nieuws/dutch-university-research-shows-use-of-rubber-infill-for-artificial-grass-should-be-avoided>

- The OEHHA materials state that, “OEHHA also met with the Rubber Manufacturers Association and the Carbon Black Association”. It would go towards transparency to disclose who attended these meetings and present minutes, recordings, and/or transcripts of the meetings. The same goes towards other meetings -- but especially meetings with parties that have financial and commercial interests, or other vested interests.

Section 2 Exposure Pathways Studies

- The examples of “Exposure Routes” omit exposures which occur directly into the bloodstream via open cuts.
- The “Examples of Exposure Parameter” does not acknowledge that the infill material is so chemically variable, (samples ranging from 1.7-fold to 85-fold higher, as per OEHHA/Vidair), – that ingestion parameters based on frequency, exposure duration, location, and exposure route are valueless as indications of dosage.

Section 2A. / Task 3 - Time Activity Behavior Pattern Study Timeline

- An “activity behavior pattern study” may not be a useful expenditure of either time or financial resources. There are a myriad number of activities and exposure scenarios beyond athletics that are associated with synthetic fields – including the behavior of infants and children with direct contact and access to the infill material.

Section 3 Bioassessability Study / Section 3A Biofluid Compositions

- Bioassessability findings would be affected by the variable states and size of the material sampled -- which can range from gaseous, to nano-particulate, to dust size, to granular.
- Bioassessability findings would be affected by the duration of the chemical’s exposure within the body. Some material may pass through quickly, while other material may become lodged or entrapped for extended lengths of time (potentially days).

1.2. Dermal Exposure— Bioaccessibility Measurements Using Artificial Sweat and Sebum Mixture

- The study omits compromised skin -- due to common athletic abrasions and “turf burn”.

Section 4B. Phase 2 Field Study - Validate and modify field sampling protocol

- The sampling of the fields should be transparent and open to the public.
- The amount of infill “kicked-up” will be dependent on the turf manufacturer, type, and style of plastic grass used, as well as the depth of the infill material used. (This significant variability is quite evident in television broadcasts of sports).

Section 4C -- Phase 3 Field Study

- The composition of an infill sample will be an inconstant combination of weathered particles and newly introduced particles. This is because infill material migrates from the field – in response, “new” (un-weathered) infill material is regularly added to the pre-existing material for replenishment, and as “patches” in various areas of the field. The dust from the Brazil nut effect will most likely vary accordingly

Task 6: Health Assessment from play on synthetic turf fields and playground mats

- The parameters for making an assessment or determination are not clearly laid out or defined.