

# TIRE CRUMB SYNTHETIC TURF REFERENCE MATERIALS (V)

Main Article / Blog (/)

Comments on 3/10/2017 OEHHA meeting material (/comments-on-3102017-oehha-meeting-material.html)

more...

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## Will Government Play Fair with Tire Crumb Synthetic Turf?

The government has been passed the ball

-- to conduct a realistic and credible study of tire crumb synthetic turf.

The following is a chronicle of its progress, (and history).

Will California have what it takes?



Tire crumb being kicked up - NBC Universal

### 1) The Feds Punt

"It should have been corrected a long time ago", toxicologist Suzanne Wuerthele told ESPN (<https://www.youtube.com/watch?v=91svvfuf7iY>) about the report she sent from her regional US/EPA office in Denver to the national EPA headquarters in Washington DC in 2008.



International football & tire crumb

Today a growing number of world class athletes, medical professionals, parents, and public figures voice similar sentiments as they blog, tweet, and speak out more and more about their concerns regarding tire crumb synthetic turf -- and questioning what they see as the governments' lack of commitment to doing a meaningful study of its impacts on human health .



Plastic turf filled with tire crumb.

The turf in question is a green plastic carpet filled with ground up automobile and truck tires called tire crumb infill, (also called styrene-butadiene rubber or sbr). The combination of the turf and the tire crumb was first introduced into the market in the late 1990s.



American football & tire crumb



Tire crumb

Even though government agencies have warned athletes for years to wash their hands after playing in tire crumb synthetic turf -- no Federal agency to date has been willing to commit to an official position regarding the health risks involved in exposing athletes and children to the chemical's in tire crumb. In fact some government agencies were seen as promoting its use.



CDC advisory poster

Currently the US/EPA, the Centers for Disease Control and Prevention (CDC), and the Consumer Products Safety Commission (CPSC) have all retreated from giving the appearance of endorsing tire crumb as being a safe product for use in athletic fields.



USPC's Kaye testifying to Congress

CPSC Chairman Elliot Kaye testified to Congress that, 'Safe to play on...is something that we didn't mean to convey'.

The crux of the controversy is that tire manufacturers are **not** required by law to disclose the specific chemical elements used in the manufacturing of their products. The exact undisclosed chemical mixtures are treated as proprietary information. Industry records acknowledge though that hundreds of chemical compounds (including cancer causing human toxins) are used which can be found in tires and tire crumb.



Bridgestone tire factory

The various secret chemical mixtures are difficult, if not impossible, to pin down -- especially after being mixed in with hundreds of other formula variations, as happens with the combining of the many thousands of different tires that it takes to make up tire crumb.



Pulverizing waste tires into crumb

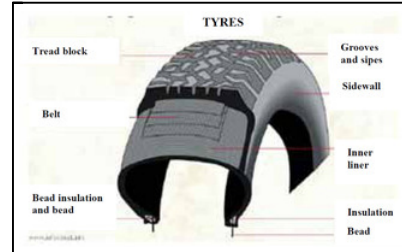
The US/EPA documented that, "There can be substantial variability in the tire crumb materials used -- and the concentrations of contaminants measured."



Goalie glove & tire crumb

The tire industry went even further when it acknowledged that "there is an intrinsic chemical heterogeneity, (or variability), at the microscopic level of a tire related to their chemical composition".

Mixtures will vary depending on the manufacturer, the model, and the different parts of the tire that the individual particles are derived from.



Different aspects of a tire

Variability is also exacerbated by the additional chemical elements that are picked up from the road environment which adhere to the tire -- including the uptake of lead & zinc, (partly from tire weights that were used extensively to balance tires for years), break lining particulates, and chemicals from diesel exhaust.



Lead tire weights

After Wuerthele's report in 2008, the US/EPA conducted a limited-scale study of tire crumb. They were able to uncover 30 chemical compounds in their sampling including what was reported as, "probable cancer causing chemicals".



Baseball & tire crumb

In 2015 a Yale University study (<http://seas.yale.edu/news-events/news/study-led-gaboury-benoit-looks-chemicals-synthetic-playing-surfaces-0>) was able to identify an additional 66 chemicals. Of the chemicals that were tested, 10 were found to be probable carcinogens and 19 were recognized as irritants to the respiratory system as well as the skin and eye. Gaboury Benoit, Ph.D., lead investigator of the Yale study (<http://www.ehhi.org/turf/findings0815.shtml>) said, "Not surprisingly, the shredded tires contain a veritable witch's brew of toxic substances.



Goodyear tire factory

Table 1-1 List of Critical Tire Materials

Material Family	Specific Chemicals and Subcategories	
Carbon black	Carbon Black, Furnace black, (single CB-types were not considered)	
Antioxidants	Heterocyclic compounds; such as, TMQ (2,2,4-Trimethyl-1,2-dihydroquinoline), TMDO (Trimethyl-1,2-dihydroquinoline); Phenylene-diamine derivatives; such as, IPPD (N-Isopropyl-N'-phenyl-p-phenylenediamine), 6PPD (N-1,3-dimethyl-butyl)-N'-phenyl-p-phenylenediamine), DTPD (N,N'-Ditolyl-p-phenylenediamine), DFPD (N,N'-Diphenyl-p-phenylenediamine), 77PD (N,N'-Bis(1,4-dimethylpentylo-phenylenediamine) ADPA (Acetone-diphenylamine condensation product), Phenolic stabilizers, such as BPH (2,2-Methylene-bis-(4-methyl-6-tert-butylphenol) and BHT (2,6-Di-tert-butyl-4-methylphenol)	
ZnO	ZnO	
Accelerators or Vulcanizing Agents	Sulphenamides	DCBS (N,N-Dicyclohexyl-2-benzothiazolesulfenamide), TBBS (N-tert-Butyl-2-benzothiazolesulfenamide), CBS (N-Cyclohexyl-2-benzothiazolesulfenamide), MBS (2-morpholiniothio) benzothiazole)
	Guanidine derivatives	DPG (N,N-Diphenylguanidine); DOTG (Di-ortho-tolyl-guanidine)
	Thiazoles	MBT (2-Mercaptobenzthiazole); MBTS (2,2-Dithiobis(benzothiazole))
	Dithiophosphates	SDT (Di-(2-ethyl)hexylphosphonylpolyulfide)
	Thiurams	MPDT (Dimethyldiphenylthiuram disulfide)TBTD (tetra-butylthiuram disulfide); TMTD (Tetramethylthiuram disulfide); TMTM (tetramethylthiuram monosulfide),TBZTD (Tetrabenzylthiuram disulfide)
	Dithiocarbamates	ZDMC (Zn-dimethyldithiocarbamate); ZDEC (Zn-diethylthiocarbamate); ZDBC (Zn-dibutylthiocarbamate); ZBEC (Zn-Dibenzylthiocarbamate)
	Thioureas	ETU (Ethylene thiourea); DETU (Diethylthiourea)
	Sulfur donors	DTDM (Dithiomorpholine); DPTT (Dipentamethylenethiuram tetrasulfide); CLD (Caprolactam disulfide); MBSS (2-Morpholinodithiobenzothiazole); OTOS (N-Oxydiethylenedithiocarbamyl-N'-oxydiethylenesulfenamide)
Others	H or HEXA (Hexamethylenetetramine)	
Oils	Aromatic oil	
	MES (special purified aromatic oil)	
	Naphthenic oil	
	TDAE (special purified aromatic oil)	
Paraffinic oils		
Resorcinol	Resorcinol	
Formaldehyde	Formaldehyde	

List of chemicals used in a tire - prepared by ChemRisk, Inc.



([https://www.youtube.com/watch?v=q2USPTY\\_wVM](https://www.youtube.com/watch?v=q2USPTY_wVM))

[tap for video]

## 2) The Pile Up

The success of the tire industry business model has been dependent on their customers regularly replacing their automobile and truck tires. Even the greenest of vehicles are expected to go through multiple sets of synthetic rubber tires during their life-spans.



Tire repository

Over 1 billion tires are discarded annually. The waste tires have accumulated over the decades as a consequence, creating enormous tire repositories and hazardous illegal dumps -- setting the stage for dramatic toxic tire fires.



Tire fire

The world's tire manufacturers recognized that its industry had a sizable problem along with a major public relations challenge. How could they maintain their profitable business model of manufacturing tires with a planned obsolescence of every few years, and also address the growing accumulating stockpiles of hazardous waste tires -- all the while appearing to be environmentally responsible?



Kicking up tire dust



illegal tire dump

### 3) A Hail Mary



Aliapur logo

In 2003, the the heads of the seven largest tire producers in the world gathered at a meeting in Lyon, France to form an international consortium.

Representatives from the tire manufacturers; (Bridgestone, Continental, Dunlop, Goodyear, Kléber, Michelin and Pirelli), all joined together to create a company which they called Aliapur. From these meetings sprang a strategy which included the re-purposing of waste tires into play surfaces for children and athletes.



Aliapur/FieldTurf Tarkett joint venture promo

Just two years after Aliapur's initial meeting -- the tire crumb synthetic turf "ball was rolling". The French flooring manufacturer Tarkett, Inc. increased its investment share in FieldTurf, (a Montreal-based brand of plastic turf surfaces). This led to the integration of the two companies, FieldTurf Tarkett.

Other artificial turf companies were also springing up using the same technology, (Shaw Sports Turf [formerly Sportex], AstroTurf, and Sprinturf, LLC, etc.).



FieldTurf pouring tire crumb on top of plastic turf

The version of artificial turf which they would promote required a plastic carpet base upon which each square foot of turf would be covered with approximately three pounds of tire crumb, (approximately 90 tons per average athletic field).



Redistributing tire crumb



Tire crumb covering the plastic turf base

For the production of the required plastic base's polyethylene fibers and polypropylene backing, the new enterprises turned to carpet mills along the I-75 corridor in central Georgia (USA). FieldTurf moved its head corporate office to Calhoun, GA, its associate Shaw Sports Turf also set up in Calhoun, GA. AstroTurf is in Dalton, GA and Sprinturf, LLC based itself down the road in nearby Marietta, GA.




I-75 corridor in central Georgia USA

They joined together and formed the Synthetic Turf Council (STC) in Atlanta, GA to help to promote and lobby for the interests of their new tire crumb synthetic turf industry. To address the health issues, a full court press was launched with a network of lobbyists employed to spin their products (<https://www.youtube.com/watch?v=TmIchJtAhK8>) as not posing a significant health risk to the general public and government officials across the country.



FieldTurf claiming that the health risks are not significant

In 2015 the heads of three of the largest synthetic turf companies met with the Consumer Product Safety Commission Chairman, (CPSC), Elliot Kaye and his staff to address their difficulties with trying to convince the public that exposing athletes and children to tire crumb synthetic turf was without risk.



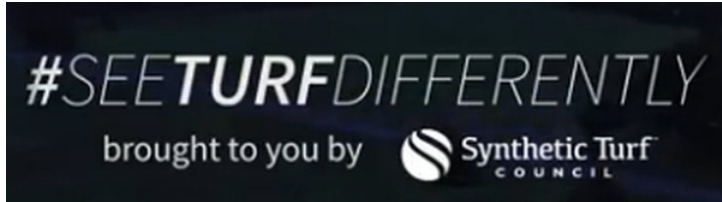
Meeting  
**Office of Chairman Kaye Participating in a Conference Call with FieldTurf**  
 The Office of Chairman Elliot F. Kaye will participate in a conference call with Darren Gill, Vice-President - Marketing, Innovation, Customer Service, FieldTurf; Rom Reddy, Managing Partner, Sprinturf; and, Heard Smith, President, AstroTurf; and Walt A. Sanders, Vice President Law & Government Affairs, Van Fleet Associates, Inc. to discuss scientific studies regarding the safety of synthetic turf and crumb rubber. 2:00

Members of the STC lobbying CPSC chairman (from CPSC web site)

“None of us are wedded to the crumb rubber business”, Darren Gill of FieldTurf disingenuously insisted to the CPSC officials as he made his groups presentation, (which was ironically entitled "Crumb Rubber"), despite the fact that over 95% of the synthetic turf athletic fields that their companies install use crumb rubber as infill.



FieldTurf tire crumb



([https://www.youtube.com/watch?](https://www.youtube.com/watch?v=c64jmXNUPCY)

v=c64jmXNUPCY)

STC marketing campaign [tap for video]

The Synthetic Turf Council tried to further disassociate its image from the tire crumb health risks by introducing various public relations and marketing campaigns such as their "See Turf Differently" campaign-- which includes a promotional video that omits any mention of, (or visual imagery of), tire crumb.



Al Garver - STC

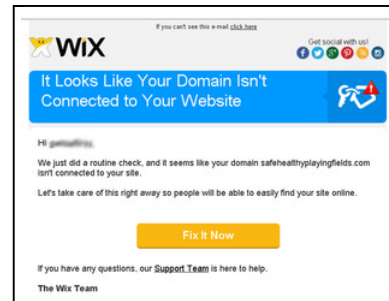
We don't have resources to spend hundreds of thousands or millions on lobbyists", Al Garver, the current STC president declared. Yet, over the years STC has employed multiple lobbyists -- including, in late 2015, when they hired Charles Spies (<http://www.clarkhill.com/people/charles-r-spies>) of the Washington D.C. law firm Clark Hill, PLC. Spies was ostensibly hired by STC for “advice on congressional meetings” and a “letter to the EPA”. Spies is the head of his firm's national Political Law practice, and serves as counsel to multiple super PACs, (including what the firm's website boasts to be “the largest super PAC in history”).



Charles Spies

“It's not like we're gearing up for this massive thing”, insists Synthetic Turf Council president Garver.

But, perhaps one of the more telling signs that they are in fact gearing up, (and the lengths that they are willing to go), was in evidence when Synthetic Turf Council began hijacking the internet traffic that was searching for a citizen coalition's educational web site, (<http://www.safehealthyplayingfields.org/> (<http://www.safehealthyplayingfields.org/>)), by usurping a version of the coalition's domain name -- and directing it to the Synthetic Turf Council website.



(<https://www.youtube.com/watch?v=F5Vli361EEE>)

[tap pic]



(<https://www.youtube.com/watch?v=TmlchJtAhK8>)

STC promo / gearing up

#### 4) Whistles are Blown About the Health Risks

Despite the Synthetic Turf Councils' efforts to undermine its critics and to distance itself from the health risks associated with tire crumb synthetic turf -- notice had been taken and the word was getting out.



(<https://www.youtube.com/watch?v=tlu7jV69qo0>)  
[tap for video]



National citizen grassroots groups like Safe Healthy Playing Fields Coalition, SHPFC (<http://www.safehealthypayingfields.org/>) and Turf Grass Forum stood up to provide educational information for local municipalities and individuals -- and to serve as a counterpoint to industry misinformation being promulgated by turf lobbyists.



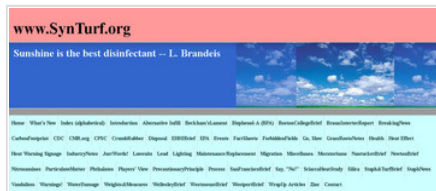
[tap for web site]

"You take something with all kinds of hazardous materials and make it something kids play on?", asked US/EPA toxicologist Suzanne Wuerthele as she raised concerns early on within her agency, saying in a report that "the EPA made a mistake in promoting this".



(<https://www.youtube.com/watch?v=3ShQacWyghc>)  
NBC Nightly News [tap for video]

National news journalist/producer Hannah Rappleye (<http://www.nbcnews.com/news/investigations/how-safe-artificial-turf-your-child-plays-n220166>) along with Kevin Monihan and Monica Alba (<http://www.nbcnews.com/news/investigations/another-turf-field-cancelled-after-nbc-news-report-n227436>) of NBC Nightly News recognized the problem early on -- and had been researching the issue for 2 years before they ran their first story on NBC Nightly News along with correspondent Stephanie Gosk (<http://www.nbcnews.com/watch/nightly-news/how-safe-is-the-artificial-turf-on-your-childs-sports-field-339230787933>).



(<http://synturf.org/>)  
SynTurf.org [tap for web site]

In 2007 Guive Mirfendereski launched SynTurf.org (<http://synturf.org/>), a web site that serves as an archive of reports, articles, and a world-wide forum, "dedicated to information regarding environmental and health risks associated with artificial turf fields".



Protest in San Carlos, CA

That same year, David Brown a toxicologist with Environmental and Human Health, Inc. / EHHI (<http://www.ehhi.org/reports/turf/>), (formerly with the CDC), projected that we would start seeing cancer cases within 10 years in children regularly exposed to tire crumb. "I wouldn't put a child on one of these fields," said Brown.



Toxicologist David Brown

In 2008, television news station KOMO in Seattle introduced the story (<https://www.youtube.com/watch?v=gxMIOLKQ-ba>) of soccer goalie Luke Beardemphl's battle with cancer, "the pellets go into my face, they go into my eyes, and my mouth."



Luke Beardemphl



Soon afterwards a growing list of athletes with cancer, who had also been regularly exposed to tire crumb turf, was begun -- compiled by soccer coach Amy Griffin of the University of Washington.



Amy Griffin & athlete

Jeff Ruch, of the Washington D.C. based Public Employees for Environmental Responsibility (PEER) (<http://www.peer.org/about-us/what-we-do-every-day-at-peer.html>), has persistently questioned the Consumer Product Safety Commission about its refusal to categorize synthetic turf as a children's product despite it being widely marketed to and for children (<https://www.youtube.com/watch?v=u8uS8oLhsM4>).



(<http://www.peer.org/news/news-releases/2013/12/23/epa-retracts-synthetic-turf-safety-assurances/>)

Jeff Ruch of PEER [tap for link]



(<https://www.youtube.com/watch?v=t-Jhh1UoiPw>)

v=t-Jhh1UoiPw)

Jennifer Beals [tap for video]

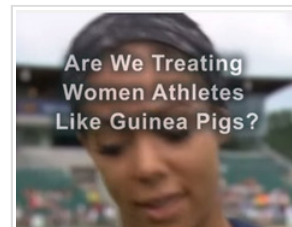
Actor Jennifer Beals spoke eloquently of her concerns ([https://www.youtube.com/watch?v=fl\\_Zi745Ckw](https://www.youtube.com/watch?v=fl_Zi745Ckw)) about tire crumb synthetic turf exposures and the lack of a quality study at a Washington D.C. rally in 2013, "What's good for a tire is not good for a child."



Abby Wambach

US soccer player Sydney Larieux likened being exposed to tire crumb fields to being treated like test guinea pigs.

World Cup athletes Larieux, Abby Wambach (<https://www.youtube.com/watch?v=u7xdE5aj6l0>), and fifty other international players raised awareness by filing a lawsuit against FIFA -- opposing the use of tire crumb synthetic turf at the 2015 Women's World Cup tournament. They received a promise from FIFA that it would never happen again.



(<https://www.youtube.com/watch?v=Cb9uSsdAwjc>)

Sydney Larieux [tap for video]



Rep. Kelly Flood

In 2015 Kentucky State Representative Kelly Flood and public health advocate Carolyn Dennis spearheaded a moratorium on issuing grants for tire crumb projects in the State -- the moratorium is based on health concerns.



Kicking up tire crumb

Pediatricians Dr. Philip Landrigan and Dr. Joel Forman of Mount Sinai Hospital have long led a chorus of health professionals expressing caution about exposing children to tire crumb synthetic turf. (<https://www.youtube.com/watch?v=tlu7jV69qq0>) Landrigan notes, "Children are biologically more vulnerable... they have a long time in which to develop disease which may be triggered by early exposures."



Dr. Phillip Landrigan

Others expressing a need for a credible study include journalists, reporters, politicians, public health advocates, and athletes including: Dr. Kathleen Michels, toxicologist Suzanne Wuerthele, journalist Lynn Peeples (<http://www.huffingtonpost.com/2014/12/20/scrap-tires-toxic->

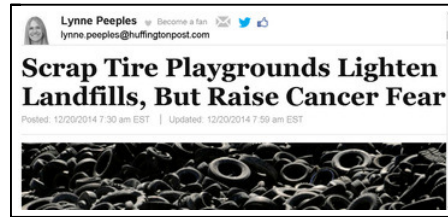
[playgrounds\\_n\\_6356396.html](#)).

journalist [Melonie Woodrow](https://www.youtube.com/watch?v=qeqeCLjCodY) (<https://www.youtube.com/watch?v=qeqeCLjCodY>), Dr. Mehmet Oz, athlete/ journalist [Julie Foudy & ESPN](https://www.youtube.com/watch?v=91svvfuf7iY) (<https://www.youtube.com/watch?v=91svvfuf7iY>), Dr. [Kim Mulvihill](https://www.youtube.com/watch?v=UijtG2Gm9g) (<https://www.youtube.com/watch?v=UijtG2Gm9g>), athlete [Ethan Zohn](http://ezohn.com/) (<http://ezohn.com/>), athlete [Todd Hoffard](https://www.linkedin.com/in/todd-hoffard-83a3499) (<https://www.linkedin.com/in/todd-hoffard-83a3499>), journalist [Rachel Maddow](http://www.msnbc.com/rachel-maddow-show/watch/us-womens-soccer-puts-end-to-fifa-turf-use-460951619836) (<http://www.msnbc.com/rachel-maddow-show/watch/us-womens-soccer-puts-end-to-fifa-turf-use-460951619836>), journalist (<https://www.youtube.com/watch?v=91svvfuf7iY>) [Lawrence O'Donnell](http://www.msnbc.com/the-last-word/watch/how-safe-is-artificial-turf-339292739708) (<http://www.msnbc.com/the-last-word/watch/how-safe-is-artificial-turf-339292739708>), former CA Lt. Governor [Abel Maldonado](https://www.youtube.com/watch?v=1wk3O6XCAGk), CA State Senator [Jerry Hill](https://www.youtube.com/watch?v=1wk3O6XCAGk) (<https://www.youtube.com/watch?v=1wk3O6XCAGk>), CA State Senator [Mark Leno](#), U.S. Senator [Richard Blumenthal](#) (Connecticut), U.S. Senator [Bill Nelson](#) (Florida), Dr. [Homero Horari](#), journalist [Joce Stermann](https://www.youtube.com/watch?v=8Lic-bCE-hg) (<https://www.youtube.com/watch?v=8Lic-bCE-hg>), U.S. Congressman [Fred Upton](#) (Michigan), U.S. Congressman [Frank Pallone](#) (New Jersey), public health advocate/actor [Tom Hanks](#), athlete [Kobe Bryant](#).



(<https://www.youtube.com/watch?v=qeqeCLjCodY>)

Woodrow with OEHHA's Sam Delson [tap for video]



([http://www.huffingtonpost.com/2014/12/20/scrap-tires-toxic-playgrounds\\_n\\_6356396.html](http://www.huffingtonpost.com/2014/12/20/scrap-tires-toxic-playgrounds_n_6356396.html))

Huffington Post - Lynne Peeples [tap for article]

## 5) California's Conflicted Goals

In 2015 the CPSC, the US/EPA, and the CDC all said that they are unable, (or unwilling), at the time to conduct any research of their own into the toxicity of tire crumb. However, they all stated that they were closely watching California.



Stirring up tire crumb with dust mask...

In 2015, two California agencies -- the Office of Environmental Health Hazard Assessment, (OEHHA) in conjunction with CalRecycle -- announced that they would be conducting a study on, "the potential human health effects associated with the use of recycled waste tires in playground and synthetic turf products". This will be the fourth attempt by OEHHA and CalRecycle at reporting on synthetic turf in eight years, (previous reports were done in 2007, 2009, & 2010).



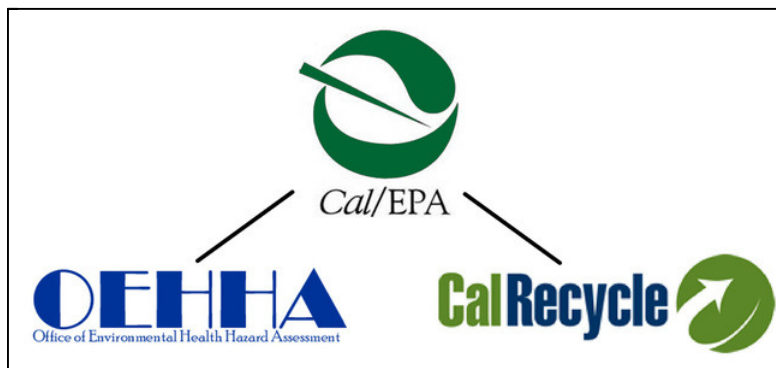
...and without dust masks

NBC Nightly News reported that both the US/EPA and the Consumer Product Safety Commission say that they plan to involve their agencies in the California study, although, neither agency has any jurisdiction about how the study will be conducted or reported on – nor has either agency clarified exactly in what form their assistance might entail.

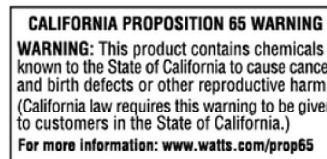


EPA's Gina McCarthy & NBC's Stephanie Gosk

California's Office of Environmental Health Hazard Assessment, (OEHHA) and CalRecycle are both departments which operate under Cal/EPA. (note: Cal/EPA is not connected with the US/EPA).



OEHHA is the scientific adviser within Cal/EPA. OEHHA's goal as a governmental agency includes "providing leadership for the State of California in evaluating risks". OEHHA has as its primary mandate that of, "protecting public health and the environment".



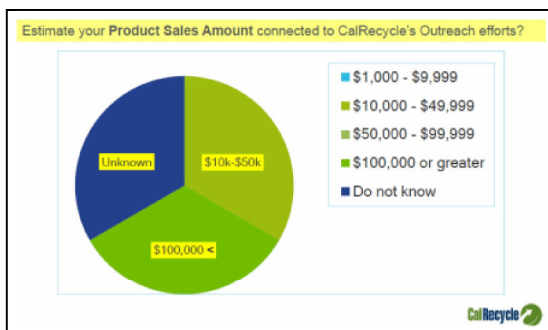
OEHHA Prop 65 signage

On the other hand CalRecycle, (and its earlier incarnation: the California Integrated Waste Management Board, CIWMB), oversees the state's recycling and waste management programs. CalRecycle has a long history of cooperation with the tire derived products (TDP) industries through its mandate to promote markets for waste tires. Since 1989 CalRecycle has awarded grants and loans to "expand markets for used tires", (including tire crumb).

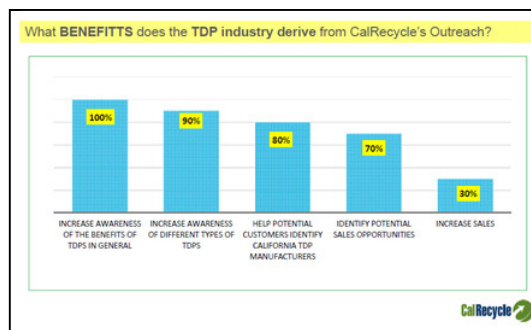


CalRecycle promoting tire derived products (TDP)

The CalRecycle web site notes, "In order to make these markets, (TDP), sustainable, a steady flow of materials into the marketplace...and continuous uses for product must also exist", "The ongoing challenge for CalRecycle is to continue to develop viable markets."



CalRecycle powerpoint re: marketing TDP



CalRecycle powerpoint re: marketing TDP

In what would appear to be a conflict of interest, in 2015 CalRecycle began a five-year plan to increase the statewide infrastructure for tire derived products (TDP). Their multi-year commitment to promoting TDP had already taken effect two months prior to the start of their study of the human health risks associated with TDP.



April - CalRecycle starts 5 year TDP promotion

STATE OF CALIFORNIA STANDARD AGREEMENT STD 213 (Rev 06/03)		AGREEMENT NUMBER DRR14150
		REGISTRATION NUMBER
1. This Agreement is entered into between the State Agency and the Contractor named below.		
STATE AGENCY'S NAME Department of Resources Recycling and Recovery (CalRecycle)		
CONTRACTOR'S NAME Office of Environmental Health Hazard Assessment (OEHA)		
2. The term of this Agreement is:	June 30, 2015	through June 15, 2018 Or upon DGS approval, whichever is later
3. The maximum amount of this Agreement is:	\$2,858,000.00 (Two million eight hundred fifty eight thousand dollars and zero cents)	

June - CalRecycle starts 3 year TDP risk study

In its Report to the Legislature CalRecycle wrote, "To further stimulate the market, CalRecycle will continue the competitive pilot Tire Incentive Program (TIP)".

The TIP provides a reimbursement (as an incentive payment program) to businesses that use crumb rubber.



CalRecycle tire derived products promo

## 6) Playing Both Sides



(<https://www.youtube.com/watch?v=nRV6NkDI4Mg>)

Today Show excerpt [tap for video]

**To All STC Members**

To fight back as an industry against these irresponsible and uninformed media attacks on the safety of synthetic turf and crumb rubber, which affects the entire industry, please copy, paste, and post the following sentence with the links as a comment to any news stories that aren't based on the science, or send it to those who have concerns or questions. Assign someone in your company to do this. Ask them to contact STC Hq. to learn how they can help in the social media space. Cheers, Rick

**Rick Doyle, President**  
Synthetic Turf Council

The Synthetic Turf Council rallies its membership



(<https://www.youtube.com/watch?v=1wk3O6XCAGk>)

Sen. Jerry Hill describes his bill [tap for video]

According to California State Senator Jerry Hill, special interests representing the tire recycling and crumb rubber turf industries, as well as labor interests and education officials spent over \$3.4 million lobbying to oppose his Senate bill which had called for the study.



In Sacramento, the staff at CalRecycle find themselves in the untenable position of promoting tire crumb markets for their associates in the tire recycling industry and at STC – while at the same time attempting to present a plausible study exploring tire crumb’s health risks.

Conflicting decisions will undoubtedly have to be made by Calrecycle and OEHHA; some will steer the study toward serving and protecting the public health interests of children and athletes -- others will steer the study toward serving and protecting the private financial interests of their business associates.



Wiping tire crumb off face



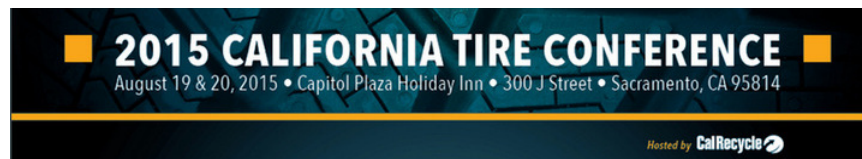
Robert Carlson of CalRecycle

OEHHA shares responsibility for the makeup of the California study’s critical scientific expert advisory panel with Robert Carlson, (of CalRecycle’s Materials Management and Local Assistance Division). As study organizer, Carlson and OEHHA are tasked with convening a panel to help direct the departments on protocol development and study design.

In contrast, Carlson was also simultaneously serving as an organizer for the California Tire Conferences -- a yearly tire conference put together by CalRecycle which is devoted to helping expand the markets for waste tires.



Tire crumb collects in socks



CalRecycle 2015 California Tire Conference header

Ironically, (just two months after his new CalRecycle/OEHHA synthetic turf study was initiated), Robert Carlson participated on a panel at the 2015 Tire Conference. The topic of Carlson’s panel was entitled “Trends in Playground and Turf Markets - Responding to Challenges Regarding Health Aspects of Crumb Rubber”. Despite its subject matter, no public health professionals were included on the panel.



Denise Kennedy

The panel was limited to Carlson and five synthetic turf industry representatives -- and was moderated by Denise Kennedy, a member of the Synthetic Turf Council. The panel included Terry Leveille, a spokesperson for the Synthetic Turf Council who is also a long-time registered lobbyist for the California Tire Dealers Association.



Slide from Terry Leveille's PowerPoint presentation

One slide presented by Leveille laid out in a dramatic fashion his view of the recent media coverage listing:

- October 8, 2014: NBC news reports on "How Safe is the Artificial Turf Your Child Plays On?"
- October 9, 2014: All hell breaks loose.



Slide from Terry Leveille's PowerPoint presentation

Leveille had expressed a paranoid perspective earlier about the media's reporting of the health concerns decrying, "The [unsubstantiated allegations] are a threat to the whole [synthetic turf] industry."

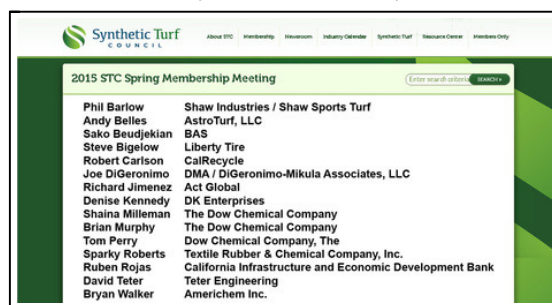


Slide from Terry Leveille's PowerPoint presentation



Robert Carlson

Earlier that year CalRecycle's Robert Carlson had also taken part in the Spring Membership Meeting for the Synthetic Turf Council .



Registrants at STC membership meeting

Joining Carlson, Kennedy, and other industry insiders, (including some prominent chemical manufacturers), was Ruben Rojas, (Deputy Executive Director of California Infrastructure and Economic Development Bank). Rojas gave the keynote address which promoted California as "a Huge and Growing Market for the Synthetic Turf Industry, and a Bellwether for Where the Opportunities Await".



Ruben Rojas



**EDUCATIONAL PROGRAM & MEMBERSHIP MEETING**

EVENT/SESSION

**Call to Order – President Rick Doyle**

**Keynote Address:**

**As the 8th Largest Economy in the World, California is a Huge and Growing Market for the Synthetic Turf Industry, and a Bellwether for Where the Opportunities Await**

- Ruben Rojas, Governor Edmond Brown's Appointee as Deputy Executive Director, California Infrastructure and Economic Development Bank. IBank finances public infrastructure and private development that promote a healthy climate for jobs, contribute to a strong economy and improve the quality of life in California communities

**Update on the Current Crisis and the STC Response: The Outcome of this Crisis will Impact the Entire Synthetic Turf Industry**

- Representative Panel of STC Members

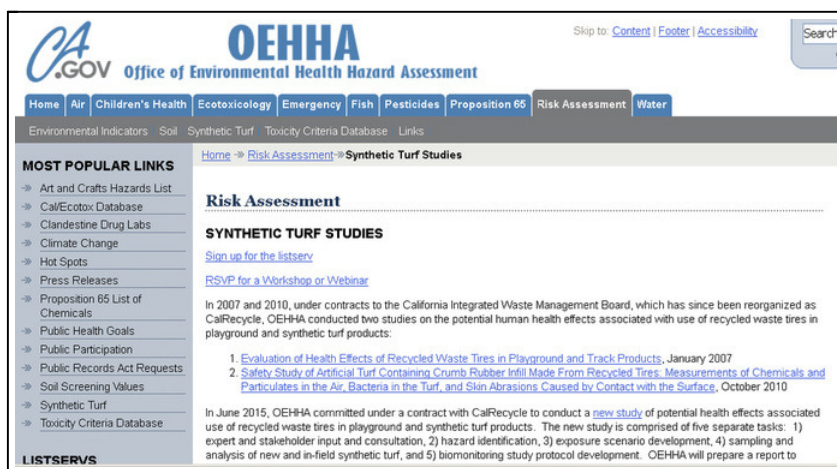
**A Basic Briefing on Chemicals of Concern in Auto/Truck Tires, and the Results of Testing of Various Infill Materials. A New, Science-based Approach to Interpreting the Results**

- Dave Teter, David Teter Consulting

STC goes into "crisis" mode at meetings with Ruban Rojas

And so it was that -- in this loaded environment, and in this context -- California was to commence a new synthetic turf study.

## 7) California's Track Record



The screenshot shows the OEHHA website with a navigation menu including Home, Air, Children's Health, Ecotoxicology, Emergency, Fish, Pesticides, Proposition 65, Risk Assessment, and Water. The main content area is titled "Risk Assessment" and "SYNTHETIC TURF STUDIES". It lists two studies: "Evaluation of Health Effects of Recycled Waste Tires in Playground and Track Products" (January 2007) and "Safety Study of Artificial Turf Containing Crumb Rubber Infill Made From Recycled Tires" (October 2010). A "LISTSERVS" section is also visible on the left.

OEHHA Synthetic Turf Studies web page

Although their websites only lists two studies, in fact California's Office of Health Hazard Assessment (OEHHA) and CalRecycle have already overseen at least three reports on the health effects associated with use of recycled waste tires in playground and synthetic turf products, including:



(<http://www.calrecycle.ca.gov/publications/Documents/Tires%20Products/Health/TurfStudy/LitReview.htm>)

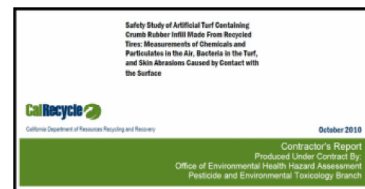
5C62206013.pdf

[tap for 2007 report]



(<http://www.calrecycle.ca.gov/Tires/Products/Health/TurfStudy/LitReview.htm>)

[tap for 2009 report]



(<http://www.calrecycle.ca.gov/publications/Documents/Tires%20Products/Health/TurfStudy/LitReview.htm>)

5C2010009.pdf

[tap for 2010 report]

- 2007, “Evaluation of Health Effects of Recycled Tires in Playground and Track Products (<http://www.calrecycle.ca.gov/publications/Documents/Tires%5C62206013.pdf>)”
- 2009, (contains 41 acknowledged data gaps), “Chemicals and Particulates in the Air above the New Generation of Artificial Turf Playing Fields, and Artificial Turf as a Risk Factor for Infection by Methicillin-Resistant Staphylococcus Aureus (MRSA) (<http://www.calrecycle.ca.gov/Tires/Products/Health/TurfStudy/LitReview.htm>)”
- 2010, (contains 47 acknowledged data gaps), “Safety Study of Artificial Turf Containing Crumb Rubber Infill Made from Recycled Tires: Measurements of Chemicals and Particulates in the Air, Bacteria in the Turf, and Skin Abrasions Caused by Contact with the Surface (<http://www.calrecycle.ca.gov/publications/Documents/Tires%5C2010009.pdf>).”



Toxicologist Charles Vidair, (the OEHHA lead author of the previous California studies), acknowledged the inconsistencies of the existing studies when he pointed out, for instance, that; “chemical concentrations were consistently higher in the New York State study, ranging from 1.7-fold to 85-fold higher.” “These variable results highlight the difficulties faced in obtaining consistent results”.



(<https://www.youtube.com/watch?v=iJ5xlaR27AY>)

Vidair checks before answering [tap for video]

When Vidair was asked during a televised interview about the shortcomings of OEHHA’s own 2010 research – he stopped short and checked with an off-camera department press spokesperson before answering. Vidair then went on to explain how some of the measurements were inherently flawed and as such accurate conclusions were not to be expected.



Spreading tire crumb

Perhaps because of the data gaps and other shortcomings in OEHHA’s existing research, the Synthetic Turf Council and others have consistently used it to support their claim to have found no significant health risk attached to tire crumb. Consequently, dozens of other subsequent reports across the country have exploited California’s OEHHA reports as the basis for their own acceptance of risk.



**Artificial Turf Supply**

---

STC says California OEHHA confirms safety claims of synthetic turf fields

Synthetic Turf Council cites OEHHA report in promo

The San Francisco Department of the Environment cited OEHHA when it wrote, “human health risks are minimal from exposure to the crumb rubber infill used with synthetic turf products, according to the OEHHA study.”



Ingesting exposure

In June, 2015, OEHHA and CalRecycle signed their three-year contract (<http://www.oehha.ca.gov/risk/pdf/OEHHA-CalRecycle-Turf.pdf>) for the current study which OEHHA will once again prepare as a report to CalRecycle -- this time at a cost of nearly three million dollars.





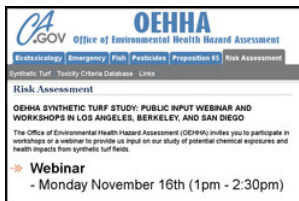
OEHHA's Lauren Zeise

As described by the acting director of OEHHA, Lauren Zeise, and her associates at a series of public workshops -- this latest incarnation of a California synthetic turf study will primarily replicate the methodologies and goals of their, (and other's), previous studies, (New York, New Jersey, and Connecticut have also done similarly limited studies).



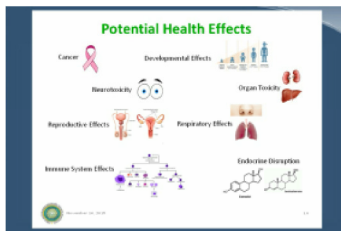
OEHHA's Melonie Marty

This California study will also involve many of the same CalRecycle / OEHHA management and key personnel involved in the previous California studies, (including Zeise, the study administrators Robert Carlson and David Ting, and OEHHA Deputy Director for Scientific Affairs Melonie Marty).



OEHHA webinar posting

Public input has been touted by CalRecycle and OEHHA as a goal of this study -- yet the study's three regional "world cafe style" workshops, (they were described as being like speed-dating), allowed little time for thoroughness, and the one public interactive webinar which was scheduled to last for one and a half hours, was inexplicably cut short by half, after only 45 minutes. Over 135 callers had logged in to the webinar from across the country only to hear 25 selected questions responded to by an OEHHA spokesperson -- repeatedly broken up with a rudimentary slide presentation.



CalRecycle / OEHHA webinar slide

The webinar ended shortly after the question was asked, "How will you assure the study doesn't cause undue public fear", The OEHHA spokesperson then inexplicably foretold, "That's a hard question"... "we don't want to cause alarm or panic."



CalRecycle / OEHHA webinar slide

## 8) The Athlete's and Parents' Dilemma

"The possible toxic effects of exposure to any particular chemical depend on many factors."

"Unfortunately, scientists have not been able to determine exactly how each of these factors will affect any specific individual so that present understanding of chemical exposures provides only general guidance."

from "Entry And Fate of Chemicals in Humans" by the EXTONET Project; (University of California Davis, Cornell University, Michigan State University, and Oregon State University).



Tire crumb public health warning PSA

The study's advisory panel is to assist in the experimental design of the California research, and is the only group that is meeting formally. The panel was limited to six handpicked academicians and one representative from the US/EPA. The panelists are Edward Avol (USC), John Balmes

M.D. (UCSF), Deborah Bennett (UC Davis), Sandy Eckel (USC), Amy Kyle (UC Berkeley), Thomas McKone, (UC Berkeley), and Linda Sheldon (US/EPA). None of the selected panelist's resumes show any previous experience with tire crumb synthetic turf.



Removing crumb from eye

At the Los Angeles study workshop a participant noted that, "at least out of respect for the athletes and the parents of the children fighting cancer -- if an independent experienced user is not represented on the advisory panel then the credibility of at least two of the studies stated goals; expert and stakeholder input and consultation & and exposure scenario development, could be called into question".



Tire crumb splash

The study administrators have announced that they would webcast the panel meetings and allow non-panelists to "listen in on the conversation". Study administrators have said, submitted re-examination from non-panelists will then be potentially brought up or addressed "after the fact, at the end of the meeting, rather than have them involved within the conversation".



Nancy Alderman president of EHHI

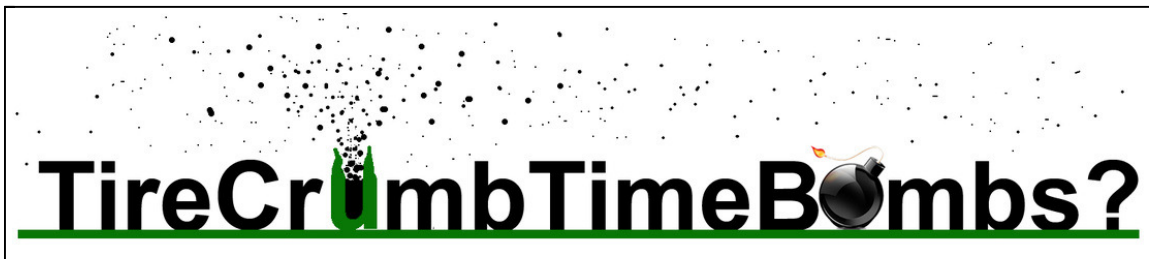
Insularity from experienced independent input during the panel's discussions could prohibit contested data points, clarifying visual aids, and illustrative demonstrations from being introduced and addressed in a timely and effective manner, (if at all). Nancy Alderman (president of the nonprofit Environmental and Human Health, Inc (<http://ehhi.org/>)) in Connecticut offered to fly out and participate on the scientific advisory panel. Alderman and her organization have been studying the issue for over a decade. Her offer was declined.



Athletes repeatedly exposed to tire crumb particles

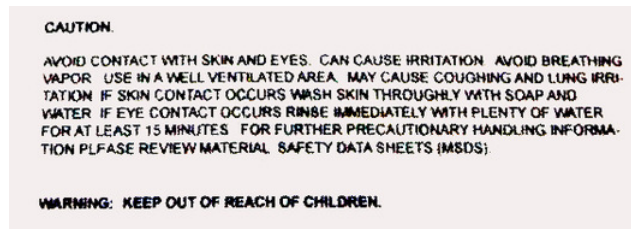
A Californian with expertise in exposure modeling and representation, (as well as over 21 years experience with synthetic turf athletic fields), offered to facilitate communicating the various technical modalities of tire crumb exposure for the study design panel. The volunteer had participated with previous synthetic turf studies -- in addition to being a former collegiate athlete and an official for adult & youth athletic leagues and was asked by parents and athletes to represent them on the panel. Both CalRecycle and OEHHA declined the offer.

## 9) Running Out the Clock?



Tire Crumb Time Bombs PSA header

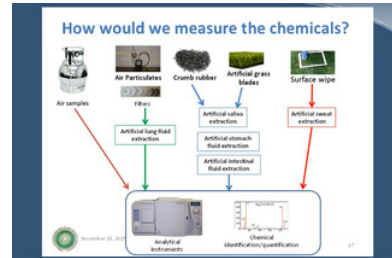
So where does this leave the athletes, the children, the parents, and the general public who are being exposed to these fields daily?



Caution/Warning label on tire crumb container

Will California be spending nearly a million dollars a year for the next three years to simply enact a stall tactic -- enabling CalRecycle and the tire crumb industry to continue to expand its markets?

The California study, as laid out by the CalRecycle / OEHHA staff, seems to be once again going over territory that they (and others) have already covered -- primarily performing a limited number of superficial tests, then applying their findings to a statistically insufficient risk analysis?



OEHHA powerpoint slide

Regarding exposures to tire crumb, the US/EPA has advised that, "understanding human uptake or absorption is a key component in understanding risk" -- but with the limited scope of the proposed California study, and due to the un-quantifiable variability of tire crumb, a meaningful expectation of understanding would seem to be unrealistic.



Worker in respirator mask spreading tire crumb

It will remain to be seen if the California study (as proposed) can answer the most fundamental question being asked of it... "What exactly are the athletes and children, who are ingesting these tire crumb chemicals doing to their bodies?"

QWERTY Media Resources

For purposes of vetting as well as submissions -- go to [Contact \(http://qwrt4c.weebly.com/contact.html\)](http://qwrt4c.weebly.com/contact.html)

Submitted scientific comments can be found by tapping on [Comments on the Science \(http://qwrt4c.weebly.com/comments-on-the-science.html\)](http://qwrt4c.weebly.com/comments-on-the-science.html)

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