

AMENDED IN SENATE JANUARY 4, 2016

AMENDED IN SENATE MARCH 25, 2015

## SENATE BILL

No. 47

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### Introduced by Senator Hill

December 17, 2014

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~~An act to add Article 3 (commencing with Section 115810) to Chapter 4 of Part 10 of Division 104 of, and to repeal Section 115812 of, the Health and Safety Code, and to amend Sections 42872 and 42873 of the Public Resources Code, relating to environmental health. An act to add and repeal Article 3 (commencing with Section 115810) of Chapter 4 of Part 10 of Division 104 of the Health and Safety Code, relating to environmental health.~~

#### LEGISLATIVE COUNSEL'S DIGEST

SB 47, as amended, Hill. Environmental health: ~~synthetic artificial~~ turf.

*Existing law regulates certain behavior related to recreational activities and public safety, including, among other things, playgrounds and wooden playground equipment.*

*The bill would, until January 1, 2020, require a public or private school or local government, before installing, contracting for the installation of, or soliciting bids for a new artificial turf field containing crumb rubber infill, as defined, within the boundaries of a public or private school, or public recreational park to do certain things, including gathering information from companies that offer artificial turf products that do not use crumb rubber infill.*

~~Existing law regulates certain behavior related to recreational activities and public safety, including, among other things, playgrounds and wooden playground equipment.~~

~~This bill would require the Office of Environmental Health Hazard Assessment, by July 1, 2017, in consultation with the Department of Resources Recycling and Recovery, the State Department of Public Health, and the Department of Toxic Substances Control, to prepare and provide to the Legislature and post on the office's Internet Web site a study analyzing synthetic turf, as defined, for potential adverse health impacts. The bill would require the study to include certain information, including a hazard analysis of exposure to the chemicals that may be found in synthetic turf, as provided. The bill would prohibit a public or private school or local government, until January 1, 2018, from installing, or contracting for the installation of, a new field or playground surface made from synthetic turf within the boundaries of a public or private school or public recreational park, unless 3 specified conditions are met, including that the public or private school or local government has obtained at least one estimate from a company that does not use crumb rubber in its turf field and playground products, as provided.~~

~~The California Tire Recycling Act (act) requires a person who purchases a new tire to pay a California tire fee, for deposit in the California Tire Recycling Management Fund, for expenditure by the department, upon appropriation by the Legislature, for programs related to the disposal of waste tires including the awarding of grants. The act specifies that the activities eligible for funding include the manufacture of specified products made from used tires.~~

~~The bill would include the above study as one of the acceptable activities eligible for this funding. The bill would also authorize the awarding of grants to businesses that produce crumb rubber from waste tires for purposes of helping the businesses find alternative markets other than fields and playgrounds for their products. The bill would prohibit the awarding under this program of grants, subsidies, rebates, loans, or any other types of funding to businesses or other enterprises, to public or private schools, or to local governments for purposes of offsetting the cost of manufacturing or installing synthetic turf.~~

~~Vote: majority. Appropriation: no. Fiscal committee: yes-no.  
State-mandated local program: no.~~

*The people of the State of California do enact as follows:*

1     *SECTION 1. Article 3 (commencing with Section 115810) is*  
2     *added to Chapter 4 of Part 10 of Division 104 of the Health and*  
3     *Safety Code, to read:*

4  
5     *Article 3. The Consideration of Alternatives for Artificial Turf*  
6             *Infill Act of 2016*  
7

8     *115810. The Legislature finds and declares all of the following:*

9     *(a) Thousands of schools, parks, and local governments have*  
10    *installed artificial turf fields throughout the state. It has allowed*  
11    *them to use fields year round, save water, and save money, among*  
12    *other benefits.*

13    *(b) Not all artificial turf fields are made from the same*  
14    *materials. While most artificial turf fields use less expensive crumb*  
15    *rubber infill from groundup used car and truck tires, many*  
16    *companies now offer artificial turf infill alternatives made from*  
17    *coconut fibers, rice husks, cork, sand, or virgin crumb rubber.*  
18    *Organic alternative infills can help reduce synthetic turf field*  
19    *temperatures on hot days by as much as 30 degrees compared to*  
20    *crumb rubber infill from used tires.*

21    *(c) The average artificial turf field uses approximately 20,000*  
22    *groundup used tires to make crumb rubber infill. Tires contain*  
23    *many chemicals including, but not limited to: 4-t-octylphenol,*  
24    *acetone, arsenic, barium, benzene, benzothiazole, butylated*  
25    *hydroxyanisole, cadmium, carbon black, chloroethane, chromium,*  
26    *latex, lead, manganese, mercury, methyl ethyl ketone, methyl*  
27    *isobutyl ketone, n-hexadecane, naphthalene, nickel, nylon, phenol,*  
28    *phthalates, polycyclic aromatic hydrocarbons, and zinc.*

29    *(d) In 2008, then Attorney General Jerry Brown sued the*  
30    *nation's largest makers and installers of artificial turf fields for*  
31    *excessive lead levels after testing by the Center for Environmental*  
32    *Health found high concentrations of lead in their products.*

33    *(e) In 2009, the Los Angeles Unified School District banned*  
34    *turf fields containing infill from waste tire crumb rubber and*  
35    *instead chose alternative infills for their artificial turf fields.*

36    *(f) In 2010, then Attorney General Jerry Brown settled the case*  
37    *with the nation's largest makers and installers of artificial turf*  
38    *fields requiring them to reformulate their products to reduce lead*

1 levels and established the nation's first enforceable standards  
2 applicable to lead in artificial turf.

3 (g) The Office of Environmental Health Hazard Assessment's  
4 2010 study on used tire crumb rubber in artificial turf fields  
5 reviewed chemical concentrations in the air above the fields and  
6 found that eight chemicals appear on the California Proposition  
7 65 list of chemicals known to the state to cause cancer. Exposure  
8 via inhalation to five of these chemicals (benzene, formaldehyde,  
9 naphthalene, nitromethane, and styrene) gave increased lifetime  
10 cancer risks that exceeded one in one million. According to the  
11 study, the highest risk was from nitromethane, which could cause  
12 about nine cancer cases in a hypothetical population of one million  
13 soccer players. The study also found that two additional identified  
14 chemicals (toluene and benzene) appear on the California  
15 Proposition 65 list as developmental/reproductive poisons.

16 (h) At least 10 studies since 2007, including those by the United  
17 States Consumer Product Safety Commission and the United States  
18 Environmental Protection Agency, have found potentially harmful  
19 lead levels in turf fibers and in rubber crumbs.

20 (i) A 2011 study titled, "An Evaluation of Potential Exposures  
21 to Lead and Other Metals as the Result of Aerosolized Particulate  
22 Matter from Artificial Turf Playing Fields" concluded that artificial  
23 turf can deteriorate to form dust containing lead at levels that may  
24 pose a risk to children.

25 (j) A 2012 study published in the scientific journal *Chemosphere*  
26 titled, "Hazardous organic chemicals in rubber recycled tire  
27 playgrounds and pavers", showed the high content of toxic  
28 chemicals in these recycled materials and found that "uses of  
29 recycled rubber tires, especially those targeting play areas and  
30 other facilities for children, should be a matter of regulatory  
31 concern."

32 (k) The Swedish Chemicals Agency found that waste tire crumb  
33 rubber contains several particularly hazardous substances and  
34 recommended that rubber granules from waste tires not be used  
35 in artificial turf.

36 (l) In 2013, The United States Environmental Protection Agency  
37 (EPA) posted a disclaimer on the only limited study on tire crumb  
38 risk it had ever conducted. The EPA press release summarizing  
39 the study has been stamped with a notice that it was "outdated"  
40 and a new link has been appended to a statement stressing the

1 need for “future studies” to enable “more comprehensive  
2 conclusions.”

3 (m) On May 19, 2015, the chair of the United States Consumer  
4 Product Safety Commission (CPSC), Elliot Kaye, testified before  
5 the United States Congress that he no longer stands behind a 2008  
6 statement from the commission that crumb rubber is safe to play  
7 on. His testimony described new federal studies underway. The  
8 CPSC also ordered an enforcement review of marketing of artificial  
9 turf products for children because the commission found lead levels  
10 in artificial sports fields above statutory limits in children’s  
11 products.

12 (n) A June 2015, study conducted at Yale University by  
13 Environment and Human Health, Inc., an organization of  
14 physicians and public health professionals, found that crumb  
15 rubber infill from used tires contain at least 96 chemicals. Of the  
16 96 chemicals detected, a little under one-half had no toxicity  
17 assessments done on them for their health effects. Of the one-half  
18 that had toxicity assessments, 20 percent were probable  
19 carcinogens and 40 percent were irritants. The carcinogens found  
20 were 2-Mercaptobenzothiazole, 9,10-Dimethylantracene,  
21 Bis(2-ethylhexyl) phthalate, Fluoranthene, Heptadecane,  
22 2-mercaptobenzothiazole, Phenol, 4-(1,1,3,3-tetramethylbutyl)-,  
23 Phenanthrene Carcinogen - polycyclic aromatic hydrocarbons,  
24 Phthalimide, Pyrene, 1-methyl-, Tetratriacontane, Pyrene, and  
25 Carbon Black. Of the irritants found, 24 percent were respiratory  
26 irritants, some causing asthma symptoms, 37 percent were skin  
27 irritants, and 27 percent were eye irritants.

28 (o) In June 2015, The Department of Resources Recycling and  
29 Recovery in collaboration with the Office of Environmental Health  
30 Hazard Assessment (OEHHA) agreed to spend nearly three million  
31 dollars (\$3,000,000) to conduct a three-year study of potential  
32 health effects associated with the use of recycled waste tires in  
33 playground and artificial turf products. Making use of the toxicity  
34 criteria, monitoring data, and exposure pattern analysis results  
35 obtained in the study, OEHHA will conduct an assessment of  
36 potential health impacts associated with use of artificial turf and  
37 playground mats.

38 (p) While the public awaits the results of the OEHHA study and  
39 other studies being conducted at the national level and around the  
40 country, it is in the public’s best interest, especially from a

1 *children’s health perspective, that schools and local governments*  
2 *consider the various infill options when choosing to install artificial*  
3 *turf fields.*

4 *115810.1. For purposes of this article, “crumb rubber infill”*  
5 *means any composition material that contains recycled crumb*  
6 *rubber from waste tires and is used to cover or surface an artificial*  
7 *turf field.*

8 *115810.2. (a) Before a public or private school or local*  
9 *government may install, contract for the installation of, or solicit*  
10 *bids for a new artificial turf field containing crumb rubber infill*  
11 *within the boundaries of a public or private school or public*  
12 *recreational park, the public or private school or local government*  
13 *shall do all of the following:*

14 *(1) (A) Gather information from companies that offer artificial*  
15 *turf products that do not use crumb rubber infill.*

16 *(B) For purposes of this paragraph, information shall include,*  
17 *but not be limited to, information obtained from discussions with*  
18 *at least one company that offers artificial turf products that do not*  
19 *contain crumb rubber infill.*

20 *(2) Consider the use of material that does not contain crumb*  
21 *rubber infill in its artificial turf field project based on the*  
22 *information gathered pursuant to paragraph (1).*

23 *(3) Hold a public meeting that includes as a properly noticed*  
24 *agenda item a discussion of the installation of crumb rubber infill,*  
25 *with an opportunity for public comment. Members of the public*  
26 *wishing to make a comment during the public meeting shall be*  
27 *permitted to do so consistent with the established comment*  
28 *procedure for the meeting.*

29 *(b) Subdivision (a) shall not apply to any installation of an*  
30 *artificial turf field containing crumb rubber infill that commenced,*  
31 *or any contract for such an installation entered into, prior to*  
32 *January 1, 2017.*

33 *(c) Subdivision (a) shall not apply to any maintenance that is*  
34 *needed on an artificial turf field containing crumb rubber infill in*  
35 *existence as of January 1, 2017, or that is installed consistent with*  
36 *subdivision (b).*

37 *115810.3. This article shall remain in effect only until January*  
38 *1, 2020, and as of that date is repealed, unless a later enacted*  
39 *statute, that is enacted before January 1, 2020, deletes or extends*  
40 *that date.*

1 SECTION 1. ~~Article 3 (commencing with Section 115810) is~~  
2 ~~added to Chapter 4 of Part 10 of Division 104 of the Health and~~  
3 ~~Safety Code, to read:~~

4  
5 Article 3. ~~The Children's Safe Playground and Turf Field Act~~  
6 ~~of 2015~~  
7

8 115810. ~~For purposes of this article, "synthetic turf" means~~  
9 ~~any composition material that contains recycled crumb rubber~~  
10 ~~from waste tires and is used to cover or surface a field or~~  
11 ~~playground.~~

12 115811. ~~(a) By July 1, 2017, the Office of Environmental~~  
13 ~~Health Hazard Assessment, in consultation with the Department~~  
14 ~~of Resources Recycling and Recovery, the State Department of~~  
15 ~~Public Health, and the Department of Toxic Substances Control,~~  
16 ~~shall prepare and provide to the Legislature and post on the office's~~  
17 ~~Internet Web site a study analyzing synthetic turf for potential~~  
18 ~~adverse health impacts.~~

19 ~~(b) The study shall include all of the following:~~

20 ~~(1) A hazard analysis of exposure to the chemicals that may be~~  
21 ~~found in synthetic turf, such as 4-t-octylphenol, acetone, arsenic,~~  
22 ~~barium, benzene, benzothiazole, butylated hydroxyanisole,~~  
23 ~~cadmium, carbon black, chloroethane, chromium, lead, manganese,~~  
24 ~~matex, mercury, methyl ethyl ketone, methyl isobutyl ketone,~~  
25 ~~n-hexadecane, naphthalene, nickel, nylon, phenol, phthalates,~~  
26 ~~polycyclic aromatic hydrocarbons, and zinc.~~

27 ~~(2) An analysis that considers the varying exposure activities,~~  
28 ~~environments, duration of play, ages of different populations who~~  
29 ~~play on synthetic turf, and exposure pathways, including whether~~  
30 ~~chemicals found in tires have negative impacts on human health~~  
31 ~~when used in indoor and outdoor fields and parks with various~~  
32 ~~weather exposures and potentially ingested by children or coming~~  
33 ~~in contact with children's bodies.~~

34 ~~(3) Biomonitoring or other exposure monitoring of children or~~  
35 ~~adults exposed to synthetic turf to be used to assess their exposure~~  
36 ~~to chemicals found in the synthetic turf, to the extent feasible, to~~  
37 ~~determine potential health impacts on children and other age~~  
38 ~~groups.~~

39 ~~(4) An examination of the potential for fields and playgrounds~~  
40 ~~containing synthetic turf to cause adverse health impacts, including,~~

1 but not limited to, non-Hodgkin lymphoma, testicular cancer,  
2 prostate cancer, sarcoma cancer, and leukemia. This examination  
3 shall include people who have developed these health impacts and  
4 played on fields and playgrounds containing used tires, including,  
5 but not limited to, soccer goalies.

6 (5) ~~An examination of the health impacts associated with~~  
7 ~~synthetic turf fields and playgrounds of varying age.~~

8 (6) ~~An evaluation of the differences in the manufacturing of~~  
9 ~~synthetic turf and different turf, field, and playground products,~~  
10 ~~including those that do not use recycled tires, and how these~~  
11 ~~differences may affect health impacts. The evaluation shall include,~~  
12 ~~but not be limited to, the types and age of tires used, the tire~~  
13 ~~processing, and the type of plasticizer, backing material, adhesives,~~  
14 ~~and plastic blades of artificial grass used to make the final synthetic~~  
15 ~~turf product.~~

16 (7) ~~An evaluation of the differences, in terms of health impacts,~~  
17 ~~between fields and playgrounds covered with synthetic turf and~~  
18 ~~nonsynthetic turf, including, but not limited to, fields made from~~  
19 ~~cocoonut fibers, rice husks, cork, sand, and used shoes.~~

20 (8) ~~A review of current research on the health impacts of~~  
21 ~~synthetic turf done by authoritative bodies from around the country~~  
22 ~~and the world.~~

23 (9) ~~Research to fill any data gaps, such as those data gaps~~  
24 ~~identified by the report prepared by the Office of Environmental~~  
25 ~~Health Hazard Assessment on behalf of the Department of~~  
26 ~~Resources Recycling and Recovery titled “Safety Study of~~  
27 ~~Artificial Turf Containing Crumb Rubber Infill Made From~~  
28 ~~Recycled Tires: Measurements of Chemicals and Particulates in~~  
29 ~~the Air, Bacteria in the Turf, and Skin Abrasions Caused by~~  
30 ~~Contact with the Surface.”~~

31 (10) ~~An examination of the health impacts of exposures to many~~  
32 ~~low level volatile organic compounds and polycyclic aromatic~~  
33 ~~hydrocarbons found in synthetic turf fields and playgrounds.~~

34 (11) ~~An analysis that compares the temperatures on synthetic~~  
35 ~~turf, nonwaste tire turf, and grass turf during the high-temperature~~  
36 ~~periods in the summer. This analysis shall include a health impact~~  
37 ~~analysis including, but not limited to, heat stress, heat illness, and~~  
38 ~~other heat-related health issues.~~



1 ~~(e) A representative sample of synthetic turf fields and~~  
2 ~~playgrounds around the state shall be analyzed for purposes of the~~  
3 ~~study.~~

4 ~~(d) (1) A study submitted to the Legislature pursuant to~~  
5 ~~subdivision (a) shall be submitted in compliance with Section 9795~~  
6 ~~of the Government Code.~~

7 ~~(2) The requirement for submitting a study to the Legislature~~  
8 ~~imposed pursuant to subdivision (a) is inoperative on July 1, 2021,~~  
9 ~~pursuant to Section 10231.5 of the Government Code.~~

10 ~~115812. (a) (1) A public or private school or local government~~  
11 ~~shall not install, or contract for the installation of, a new field or~~  
12 ~~playground surface made from synthetic turf within the boundaries~~  
13 ~~of a public or private school or public recreational park unless the~~  
14 ~~following three conditions are met:~~

15 ~~(A) The bid specification of the public or private school or local~~  
16 ~~government for the turf field or playground surface includes at~~  
17 ~~least one option that does not use crumb rubber from waste tires.~~

18 ~~(B) The public or private school or local government has~~  
19 ~~obtained at least one estimate from a company that does not use~~  
20 ~~crumb rubber from waste tires in its turf field and playground~~  
21 ~~products.~~

22 ~~(C) The public or private school or local government has held~~  
23 ~~a public meeting regarding the installation of synthetic turf with~~  
24 ~~an opportunity for public comment.~~

25 ~~(2) Paragraph (1) shall not apply to any installation of a field~~  
26 ~~or playground surface made from synthetic turf that commenced,~~  
27 ~~or any contract for such installation entered into, prior to January~~  
28 ~~1, 2016.~~

29 ~~(3) Paragraph (1) shall not apply to any maintenance that is~~  
30 ~~needed on a synthetic turf field or playground in existence as of~~  
31 ~~January 1, 2016.~~

32 ~~(b) This section shall remain in effect only until January 1, 2018,~~  
33 ~~and as of that date is repealed, unless a later enacted statute, that~~  
34 ~~is enacted before January 1, 2018, deletes or extends that date.~~

35 ~~SEC. 2. Section 42872 of the Public Resources Code is~~  
36 ~~amended to read:~~

37 ~~42872. (a) The tire recycling program may include, but is not~~  
38 ~~limited to, the following:~~

39 ~~(1) The awarding of grants, subsidies, rebates, and loans to~~  
40 ~~businesses or other enterprises, and public entities, involved in~~

1 activities and applications that result in reduced landfill disposal  
2 of used whole tires and reduced illegal disposal or stockpiling of  
3 used whole tires.

4 (2) The awarding of grants for research aimed at developing  
5 technologies or improving current activities and applications that  
6 result in reduced landfill disposal of used whole tires.

7 (3) The awarding of grants or loans for the evaluation, planning,  
8 design, improvement, and implementation of alternative used tire  
9 recycling programs in this state.

10 (4) The awarding of grants, subsidies, rebates, or loans to  
11 businesses that shred used tires for purposes of recycling.

12 (5) Development and implementation of an information and  
13 education program, including seminars and conferences, aimed at  
14 promoting alternatives to the landfill disposal of used whole tires.

15 (6) The awarding of grants or loans to tire shredding programs  
16 at authorized landfills, solid waste transfer stations, or dedicated  
17 tire shredding facilities, including the direct purchase of shredders  
18 or financing of shredder contracts.

19 (7) Development and implementation of a waste tire incentive  
20 payment program to promote increased demand for waste tires  
21 recycled in this state and to promote higher valued products.

22 (8) The awarding of grants to businesses that produce crumb  
23 rubber from waste tires for purposes of helping the business to  
24 find alternative markets other than fields and playgrounds for their  
25 products.

26 (b) The tire recycling program shall not include the awarding  
27 of grants, subsidies, rebates, loans, or any other types of funding  
28 to businesses or other enterprises, to public or private schools, or  
29 to local governments for purposes of offsetting the cost of  
30 manufacturing or installing synthetic turf as that term is defined  
31 in Section 115810 of the Health and Safety Code.

32 SEC. 3.— Section 42873 of the Public Resources Code is  
33 amended to read:

34 42873. (a) Activities eligible for funding under this article,  
35 that reduce, or that are designed to reduce or promote the reduction  
36 of, landfill disposal of used whole tires, may include the following:

37 (1) Polymer treatment.

38 (2) Rubber reclaiming and crumb rubber production.

39 (3) Retreading.

40 (4) Shredding.

1     ~~(5) The manufacture of products made from used tires,~~  
2     ~~including, but not limited to, all of the following:~~

3     ~~(A) Rubberized asphalt, asphalt rubber, modified binders, and~~  
4     ~~chip seals.~~

5     ~~(B) Playground equipment.~~

6     ~~(C) Crash barriers.~~

7     ~~(D) Erosion control materials.~~

8     ~~(E) Nonslip floor and track surfacing.~~

9     ~~(F) Oil spill recovery equipment.~~

10    ~~(G) Roofing adhesives.~~

11    ~~(H) Tire-derived aggregate applications, including lightweight~~  
12    ~~fill and vibration mitigation.~~

13    ~~(I) Molded products.~~

14    ~~(J) Products using recycling rubber and other materials, such~~  
15    ~~as plastic.~~

16    ~~(K) Paint and coatings.~~

17    ~~(6) Other environmentally safe applications or treatments~~  
18    ~~determined to be appropriate by the department.~~

19    ~~(7) A study to analyze synthetic turf for potential adverse health~~  
20    ~~impacts, pursuant to Section 115811 of the Health and Safety Code.~~

21    ~~(b) (1) The department shall not expend funds for an activity~~  
22    ~~that provides support or research for the incineration of tires. For~~  
23    ~~the purposes of this article, incineration of tires, includes, but is~~  
24    ~~not limited to, fuel feed system development, fuel sizing analysis,~~  
25    ~~and capacity and production optimization.~~

26    ~~(2) Paragraph (1) does not affect the permitting or regulation~~  
27    ~~of facilities that engage in the incineration of tires.~~