
SENATE COMMITTEE ON ENVIRONMENTAL QUALITY

Senator Allen, Chair

2023 - 2024 Regular

Bill No.	AB 1423	Hearing Date:	6/28/2023
Author:	Schiavo		
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Urgency:	No	Fiscal:	Yes
Consultant:	Theresa Keates		

SUBJECT: Product safety: PFAS: artificial turf or synthetic surfaces

DIGEST: This bill would prohibit, commencing January 1, 2024, a public entity or educational institution, as specified, from purchasing or installing a covered surface that contains intentionally added PFAS or PFAS at a concentration at or above 1 part per million (ppm) and would require manufacturers or installers to notify recipients of artificial turf that meet these PFAS criteria. Commencing January 1, 2025, this bill would prohibit a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface meeting these PFAS criteria. If the Department of Toxic Substances Control (DTSC) takes a regulatory action on artificial turf, would repeal the prohibitions of this bill.

ANALYSIS:

Existing law:

- 1) Under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) (HSC § 25249.5 et seq.):
 - a) Prohibits a person, in the course of doing business, from knowingly discharging or releasing a chemical known to the state to cause cancer or reproductive toxicity into water or onto or into land where such chemical passes or probably will pass into any source of drinking water.
 - b) Prohibits a person, in the course of doing business, from knowingly and intentionally exposing any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual.
 - c) Requires the Governor to publish a list of chemicals known to cause cancer or reproductive toxicity and to annually revise the list. The Office of Environmental Health Hazard Assessment (OEHHA) has listed perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS),

which are members of the PFAS class, as chemicals known to the state to cause developmental toxicity and cancer.

- 2) Under the Safer Consumer Products (Green Chemistry) statutes (HSC § 25252 et seq.):
 - a) Requires the Department of Toxic Substances Control (DTSC) to adopt regulations to establish a process to identify and prioritize chemicals or chemical ingredients in consumer products that may be considered chemicals of concern, as specified.
 - b) Requires DTSC to adopt regulations to establish a process to evaluate chemicals of concern in consumer products, and their potential alternatives, to determine how to best limit exposure or to reduce the level of hazard posed by a chemical of concern.
 - c) Specifies, but does not limit, regulatory responses that DTSC can take following the completion of an alternatives analysis, ranging from no action, to a prohibition of the chemical in the product.

This bill:

- 1) Defines “covered surface” as artificial turf or a synthetic surface resembling grass.
- 2) Commencing January 1, 2024, requires a manufacturer or installer proposing to sell, design, or install a field with a covered surface containing intentionally added PFAS or PFAS at or above 1 ppm to notify the recipient.
- 3) Commencing January 1, 2024, prohibits covered surfaces containing intentionally added PFAS or PFAS at or above 1 ppm to be purchased or installed by:
 - a) A public entity.
 - b) A public or private school serving pupils K through 12.
 - c) A public or private institution of higher education.
 - i) Requests but does not require the University of California to comply.
- 4) Commencing January 1, 2025, prohibits any person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface containing intentionally added PFAS or PFAS at or above 1 ppm.
- 5) Requires manufacturers of covered surfaces to use the least toxic alternative when replacing PFAS in a covered surface and that if DTSC conducts an

alternatives analysis, those findings and guidelines are to govern the choice of alternatives.

- 6) Repeals the prohibitions in this bill if DTSC adopts a regulatory response governing activity covered in this bill.
- 7) Provides that, upon an action brought by the Attorney General, a city attorney, a county counsel, or a district attorney, a person or entity that violates the PFAS restrictions of this bill shall be liable for a civil penalty not to exceed five thousand dollars (\$5,000) for a first violation, and not to exceed ten thousand dollars (\$10,000) for each subsequent violation.
 - a) Provides that if DTSC adopts regulations that conflict with this authority, the Attorney General, city attorney, county counsel, or district attorney may resolve any action brought prior to the adoption of DTSC regulations but shall no longer be authorized to bring any action.
 - b) Except as described in (a) above, provides that these penalty provisions do not impair or impede any other rights, causes of action, claims, or defenses available under any other law. Provides that the remedies delineated in the bill are cumulative with any other remedies available under any other law.

Background

- 1) *Perfluoroalkyl and polyfluoroalkyl substances (PFAS)*. Per- and polyfluoroalkyl substances (PFAS) are a large group of synthetic substances that have been widely used in industrial and consumer applications for their heat, water, and oil resistance properties since their invention in the 1930s. PFAS are used extensively in carpets, furniture fabrics, apparel, paper packaging for food, non-stick cookware, personal care products, and other products designed to be waterproof; grease, heat, water and stain resistant; or, non-stick. Commercial applications span many sectors of the economy, including aerospace, apparel, automotive, building and construction, pharmaceuticals, medical devices, paints, electronics, semiconductors, energy, oil and gas exploration, first responder safety, firefighting foams, and health care.

Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals. PFAS are long-lasting chemicals that break down very slowly over time. During production, use, and disposal, PFAS can migrate into the soil, water, and air. PFAS have been found in indoor and outdoor environments, plants, soil, food, drinking water, wildlife and domestic animals, and humans. The persistence and proliferation of PFAS chemicals makes it challenging to study and assess the overall potential human health and environmental risks of PFAS exposure.

- 2) *Hazards of PFAS.* PFAS exposure occurs mainly through ingestion of contaminated food or liquids. Exposure can also occur through inhalation and touch, and PFAS can be transferred through pregnancy and breastfeeding. PFAS remains in the body for a long time, so as people continue to be exposed to PFAS, the PFAS levels in their bodies may increase to the point that they suffer adverse health effects. According to the United States Environmental Protection Agency (US EPA), current peer-reviewed scientific studies have shown that exposure to certain levels of PFAS may lead to reproductive effects such as decreased fertility or increased high blood pressure in pregnant people; developmental effects or delays in children, including low birth weight, accelerated puberty, bone variations, or behavioral changes; increased risk of some cancers, including prostate, kidney, and testicular cancers; reduced ability of the body's immune system to fight infections, including reduced vaccine response; interference with the body's natural hormones; and, increased cholesterol levels and/or risk of obesity.
- 3) *Regulating PFAS as a class.* There are many thousands of chemicals in the PFAS class (the US EPA's master list of PFAS chemicals listed over 12,000 as of the writing of this analysis) and more types of PFAS can be developed. DTSC has adopted a rationale for regulating this large and diverse number of PFAS chemicals as a class rather than with a piecemeal approach. This is because all PFAS share at least one common hazard trait and regulations that focus on subsets of these chemicals have resulted in their replacement with other PFAS with similar hazards.
- 4) *DTSC's Safer Consumer Products Program.* DTSC administers the Safer Consumer Products (SCP, previously known as Green Chemistry) Program, which aims to advance the design, development, and use of products that are chemically safer for people and the environment. DTSC's approach provides science-based criteria and procedures for identifying and evaluating alternatives with the objective of replacing chemicals of concern with safer chemicals and avoiding the use of substitute chemicals that pose equal or greater harm. Under DTSC's SCP Program, all PFAS chemicals are "Candidate Chemicals" because they exhibit specified hazard traits. DTSC has designated two product categories that contain PFAS as "Priority Products": carpets and rugs and certain surface treatments. A Priority Product is a consumer product identified by DTSC that contains one or more Candidate Chemicals and that has the potential to contribute to significant or widespread adverse impacts to humans or the environment. Manufacturers of a Priority Product must submit certain documentation regarding their product to DTSC and submit an alternatives analysis or they can remove the product for sale in California or remove or

replace the chemical of concern. DTSC has proposed evaluating artificial turf with PFAS in its 2021-2023 Priority Product Work Plan, and previously proposed investigating PFAS in other product categories, such as food packaging and children's products, but during the investigative period the Legislature prohibited PFAS in those product categories and it appears DTSC has shifted its resources to investigating other product/chemical combinations.

While the intent of the SCP regulations is to establish a robust and thorough regulatory process rooted in science to consider exposure to chemicals in consumer products, it has long been recognized that DTSC does not have the resources to evaluate all, or even a significant percentage of, chemicals in every consumer product application. To that end, the SCP statute does not preclude the Legislature from taking legislative action on the use of chemicals in consumer product applications. When there is credible scientific evidence to support a change in state policy to protect public health, the Legislature can respond to that science more quickly than DTSC can. However, many PFAS prohibitions, including this bill, have not been assigned to an agency and therefore lack oversight and enforcement (see "Chemical bans benefit from someone in charge" Comment).

- 5) *Prior PFAS legislation.* The Legislature has enacted several PFAS prohibitions in the last several years. These include PFAS prohibitions at different levels across many product categories: a ban on PFAS in textiles (AB 1817, Ting, Chapter 762, Statutes of 2022); cosmetic products (AB 2771, Friedman, Chapter 804, Statutes of 2022); food packaging (AB 1200, Ting, Chapter 503, Statutes of 2021); new juvenile products (AB 652, Friedman, Chapter 500, Statutes of 2021); and, firefighting foam (SB 1044, Allen, Chapter 308, Statutes of 2020). The Legislature also authorized the State Water Board to order public water systems to monitor for PFAS and required municipalities to notify consumers for PFAS detected above notification levels (AB 756, C. Garcia, Chapter 162, Statutes of 2019). California is not alone in this: just this year, 195 new bills were introduced in dozens of state legislatures in the country seeking to ban PFAS in an expanding list of products. In early February 2023, the European Union, which already bans certain PFAS types, proposed an across-the-board ban on the use of PFAS. If adopted, the E.U.'s ban would come into effect in 2027.

Comments

- 1) *Purpose of Bill.* According to the author, "PFAS are a class of 'forever chemicals' which, when ingested, inhaled, or contacted with the skin can harm human and environmental health. This includes negative impacts on the

immune system, cardiovascular system, childhood development, and risks of cancer. Artificial turf fields have been found to contain PFAS, and, as fields age, they release microplastic dust that contains PFAS. Children are particularly at risk of inhaling and ingesting this dust as they play on fields. AB 1423 protects youth and adult athletes by ensuring that fields installed in schools and by public agencies do not contain PFAS and that artificial turf of the future does not contain these harmful chemicals.”

- 2) *PFAS in artificial turf.* A number of recent studies identified PFAS in artificial turf, where PFAS may be used as an aid in molding and extrusion of the plastic blades, or may be applied to the finished product to enhance surface properties. Artificial turf is listed in DTSC’s 2021-2023 Priority Product Work Plan as part of the SCP Program. According to this Plan, chemicals in artificial turf are of particular concern because turf is frequently used by sensitive subpopulations such as young children and the potential exposure to chemicals is high because of the wear and tear the turf undergoes through high-friction athletic use and its exposure to the elements outdoors. This wear and tear also means chemicals including PFAS can readily enter the environment, including contaminating groundwater. A set of tests of artificial turf being considered for installation at a high school in 2021 detected PFAS of between 10 and 70 ppm in the artificial turf components, as measured in total organic fluorine. Existing patents for artificial turf suggest concentrations as high as 400 ppm.
- 3) *Chemical bans benefit from someone in charge.* Many chemical prohibition bills, including this one, are placed in a unique location in the California Codes, sometimes referred to as the “orphan codes.” In these code sections, no state agency is designated to provide oversight of the provisions of the law. As a result, there is no direct enforcement, no establishment of standardized testing methods, no compliance program, no guidance for manufacturers seeking to comply with these laws, and no related information for consumers. Because of these deficiencies, it is challenging for some manufacturers to comply and difficult or impossible to know if manufacturers are complying with the requirements of the law.

The only current option for enforcement of the prohibitions in the “orphan codes” is for a district attorney or the state Attorney General to bring an action against a manufacturer under the Unfair Competition Law (UCL), unless specified otherwise. However, this requires a member of the public to pay for the testing of a product for the presence of a prohibited chemical, and then the Attorney General or district attorney must have the resources and ability to prioritize action on these complaints. To the knowledge of this and prior Committees that have considered this bill, this kind of enforcement has not

happened, nor has any comprehensive report or investigation been done on compliance with the prohibitions in the “orphan code.”

This bill takes a step forward on statutory chemical prohibitions by adding civil penalties for violations of the restrictions in the bill. These penalty provisions are in addition to the authority to enforce under the UCL, and are consistent with existing statutory penalties relating to PFAS in firefighting foam.

Further, this bill repeals its prohibitions if DTSC adopts a regulatory response on artificial turf. This approach was taken in AB 1319 (Butler, Chapter 467, Statutes of 2011), which banned bisphenol A above 0.1 parts per billion in baby bottles. Artificial turf is listed in DTSC’s 2021-2023 Priority Product Work Plan as part of the SCP Program, but it will likely take a number of years to result in a regulation for PFAS in artificial turf. The intention is to ensure that there is the appropriate entity provides guidance and ensures compliance with the regulatory actions it determines appropriate, once it is prepared to do so.

- 4) *PFAS concentration thresholds.* This and several other PFAS prohibitions prohibit intentionally added PFAS and additionally set a concentration threshold for any PFAS in a product, intentionally added or not. Such a threshold may be warranted because determining whether PFAS were intentionally added in the manufacturing of a product can be a challenge when certain manufacturing information is proprietary or contaminated product components are used. Setting a concentration threshold can further protect public health, but the chosen concentration should be appropriate. There is no concentration of PFAS that has been proven safe, and as long-lasting chemicals, they build up in the human body and in the environment over time. PFAS in different types of products may be of greater concern than others depending on how likely the chemicals are to enter the body.

As with enforcement, determining an appropriate concentration threshold could benefit from a public entity with scientists with health and environmental backgrounds determining the risks of chemical exposure at different levels. Without that resource, the Legislature is tasked with setting the appropriately protective standard in statute, and presumably updating those statutory thresholds by legislation when needed. An agency performing oversight would also be better-equipped to establish testing methodology standards.

This bill would set that threshold at 1 ppm, which is low compared to previous legislation. The lowest threshold in other proposed PFAS bans is 10 ppm: AB 246 (Papan) would set a threshold of 10 ppm in menstrual products beginning

in 2027 and AB 727 (Weber) would set a threshold of 10 ppm in cleaning products beginning in 2028. Other PFAS prohibitions in statute set thresholds in different product categories ranging from 50 ppm to 100 ppm, and some have this threshold decrease over time (see the “Related/Prior Legislation” section of this analysis). For, drinking water, which may deserve the most stringent limit, the US EPA’s proposed legally enforceable Maximum Contaminant Level (MCLs) is 4 parts per *trillion* (ppt) for PFOA and PFOS, two chemicals in the PFAS family.

While commercial labs do not currently appear to commonly test for PFAS concentrations as low as 1 ppm, the technology does exist and is used in research laboratories. Testing capabilities have improved with time, a trend that can be expected to continue. However, there is uncertainty about the reliability of commercial testing for concentrations as low as 1 ppm by 2024. Existing studies of PFAS in artificial turf do not all test for PFAS in the same way, but those that measure total organic fluorine, the same method as in this bill and other PFAS bills, have used laboratory testing with a detection limit that enabled testing 20 ppm. ***To be better aligned with current testing capabilities given the short timeline of implementation in this bill, the committee may wish to amend the threshold in this bill to 20 ppm.***

The opposition is also concerned that manufacturers are no longer in control of contamination that could occur after the installation of a field. ***In acknowledgement of this, the committee may wish to amend the bill to specify that PFAS testing occur after manufacturing, but before installation.***

- 5) ***Short timelines.*** The bill’s statewide ban on artificial turf that contains intentionally added PFAS or PFAS above the threshold would come into effect on January 1, 2025. The opposition is concerned that smaller manufacturers may require more time to comply. ***The committee may wish to amend the bill to extend the implementation of the statewide ban to January 1, 2026.***
- 6) ***Regrettable substitutions.*** When prohibiting a toxic or otherwise hazardous chemical, it is important to prevent manufacturers from replacing the prohibited chemical with another hazardous chemical, or a chemical even more hazardous than the one prohibited. Like several other statutes dealing with chemicals in the “orphan code,” this bill requires a manufacturer to use the least toxic alternative when removing regulated PFAS to comply with the restrictions in this bill. DTSC does have a process to avoid such regrettable substitutions: manufacturers of products listed as Priority Products complete alternative analyses. This process takes a lifecycle approach and considers not only the toxicity of a chemical, but also its persistence and environmental

impact. This bill yields to DTSC's alternative analysis if and when that is completed. ***The committee may wish to make a clarifying amendment that manufacturers conduct alternative analyses, not DTSC.***

- 7) *Committee amendments. Staff recommends the committee adopt the bolded amendments contained in comments 4, 5, and 6 above.*

Related/Prior Legislation

AB 727 (Weber) would prohibit, beginning January 1, 2026, a person from manufacturing, selling, delivering, distributing, holding, or offering for sale, a cleaning product that contains intentionally-added PFAS or PFAS at or above 50 ppm, on January 1, 2027, a cleaning product that contains PFAS at or above 25 ppm, and on January 1, 2028, 10 ppm. This bill is pending before the Senate Judiciary Committee.

AB 246 (Papan) would prohibit, commencing January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale in the state any menstrual products that contain intentionally added PFAS or, commencing January 1, 2027, concentrations of PFAS above 10 parts per million. This bill is pending before the Judiciary Quality Committee.

AB 347 (Ting) would require DTSC to enforce and ensure compliance with PFAS prohibitions and require DTSC to test at least 200 juvenile products and 200 food packaging samples by January 1, 2025. It would authorize DTSC to assess fines against manufacturers in violation of the PFAS prohibitions. This bill is pending before the Senate Environmental Quality Committee.

AB 1817 (Ting, Chapter 762, Statutes of 2022) prohibits, beginning January 1, 2024, a person from distributing, selling, or offering for sale in the state a textile article, as defined, that contains intentionally added PFAS, or starting January 1, 2025, any PFAS at concentrations of 100 ppm or more, or starting January 1, 2027, 50 ppm or more.

AB 2771 (Friedman, Chapter 804, Statutes of 2022) prohibits, commencing January 1, 2025, a person or entity from manufacturing, selling, delivering, holding, or offering for sale in commerce any cosmetic product that contains intentionally added PFAS.

AB 502 (Allen, Chapter 701, Statutes of 2022) makes a number of updates to California's Safer Consumer Products Program in line with perceived

shortcomings from its first ten years with regards to the speed of the program to filling existing data gaps.

AB 1200 (Ting, Chapter 503, Statutes of 2021) prohibits, commencing January 1, 2023, the sale of food packaging, as defined, that contains intentionally added PFAS or PFAS at concentrations at or above 100 ppm. This bill also requires, starting January 1, 2024, certain labels for cookware products containing intentionally added chemicals from specified lists.

AB 652 (Freidman, Chapter 500, Statutes of 2021) prohibits, on or after July 1, 2023, a person from selling or distributing in commerce any new juvenile products that contain intentionally added PFAS or PFAS at or above 100 ppm.

AB 2762 (Muratsuchi, Chapter 314, Statutes of 2020) prohibits, commencing January 1, 2025, a person or entity from manufacturing, selling, delivering, holding, or offering for sale, in commerce any cosmetic product that contains any specified intentionally added ingredients, including some PFAS chemicals.

SB 1044 (Allen, Chapter 308, Statutes of 2020) prohibits the manufacture, sale, distribution, and use of firefighting foam containing intentionally added PFAS chemicals by January 1, 2022, with some exceptions, and requires notification of the presence of intentionally added PFAS in the protective equipment of firefighters.

AB 1319 (Butler, Chapter 467, Statutes of 2011) prohibits bisphenol A (BPA) above 0.1 parts per billion from bottles or cups designed to hold food or beverages for children 3 years of age or younger.

DOUBLE REFERRAL:

If this measure is approved by the Senate Environmental Quality Committee, the do pass motion must include the action to re-refer the bill to the Senate Governance and Finance Committee.

SOURCE: Environmental Working Group

SUPPORT:

California Professional Firefighters
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
East Bay Municipal Utility District
Safe Healthy Playing Fields, INC.

OPPOSITION:

Synthetic Turf Council

ARGUMENTS IN SUPPORT:

According to Safe Healthy Playing Fields, Inc.: “The presence of PFAS in synthetic turf is beyond dispute. The volume of current, ‘retired’ and planned playing fields and the rush to roll out plastic grass carpets by individuals, businesses and municipalities falsely believing it to be an answer to drought conditions, and the increasing frequency with which cities and boards of education are deliberately seeking to place plastic playing fields near or over waterways, single source aquifers and drinking water reservoirs speaks to the urgency that both the PFAS chemicals and the product itself must be regulated. SHPFI requests you to be acutely aware of the human health ramifications of hundreds of thousands of children and athletes often exposed for multiple hours per day and multiple days per week. We ask you to employ the precautionary principle in regards to both the chemicals and the product.”

ARGUMENTS IN OPPOSITION:

According to the Synthetic Turf Council, “As currently drafted, AB 1423 creates significant compliance challenges for artificial turf manufacturers and suppliers for the following reasons: The bill a ban on the sale of artificial turf containing intentionally added PFAS on January 1, 2024 to certain public entities and by January 1, 2025 for all sales in California. These dates do not provide enough time for manufacturers and suppliers to develop viable alternatives for the market place. [...] The bill also intends to regulate levels of unintentionally added PFAS to 1 part per million (PPM) in total organic fluorine. While our manufacturers and suppliers fully intend to comply with the provisions of the bill related to intentionally added PFAS, we are concerned that trace quantities of a chemical may be present in natural or synthetic ingredients, recycled content, manufacturing processes or equipment.”

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