See pages:
56 (May 1)
24-25 (May 2)
22 (May 3)

From: "Mauer, Dan \(REC\)"
To: "Madland, Sarah (REC)" <sarah.madland@sfgov.org>
"Bradley, Stacy \(REC\)" <stacy.bradley@sfgov.org>
Date: 4/25/2023 5:43:36 PM
Subject: FW: State Bill regarding Artificial Turf
Attachments: 202320240AB1423_Assembly Environmental Safety And Toxic Material s.pdf
v5_AB 1423_SLC Proposal_SFPUC_RP.docx

Team,

I asked Rebecca about her timeline here and she indicated “tight time line” I know that Stacy was going to discuss this with Phil today but I think we should discuss asap so that we can have a meaningful discussion and response here.

Do you have a moment to chat today for 5 min to determine next steps?

Thx
Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca
Sent: Tuesday, April 25, 2023 10:13 AM
To: Mauer, Dan (REC)
Cc: Ross, Autumn (PUC) ; Batjiaka, Ryan (PUC) ; Maack, Emma (PUC) ; Ahn, Matthew (PUC)
Subject: RE: State Bill regarding Artificial Turf

Hi Dan,

We're on a bit of a tight timeline since we need our GM to approve the proposal next week for submission to the Mayor's office the week after (May 8). I will also be out of office this Thursday and Friday, but our subject matter experts are cc'd here if you have additional questions.

Some context that may be helpful for your operations as I read the bill:

- Starting 2024, manufacturers and installers must notify relevant parties if the turf contains regulated PFAS.
- The restriction for public entities does not apply to any "who have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023."
- The ban on sale & manufacture of these products begins in 2025.

Essentially, anything you currently have solid plans for should be exempt. If there's anything still in the works, it'd have to initiate before the end of this year to move forward. By 2025, these products should (theoretically) be off the market.

Maybe the broader question is whether there is a big enough market for acceptable alternatives, or if the industry can make adjustments by 2025? And whether delays in manufacturing alternatives will significantly impact your operations. As I understand it, cork infill products may still have PFAS in the grass blades, either as a byproduct of manufacturing or deliberately added for water/weathering resistance.

If it's helpful, I've attached a draft copy of our SLC proposal and the Assembly Committee's analysis of the bill. The SFPUC's concerns are primarily about stormwater contamination, but the broader health concerns addressed in the analysis are an important component as well.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Monday, April 24, 2023 5:45 PM
To: Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Rebecca,

Thanks for the email. I'm reviewing this information with some RPD staff and once I get feedback, I'll reach back with our thoughts and comments here. Do you have a timeline on when you are looking for feedback?

Thanks
Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Friday, April 21, 2023 2:45 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: State Bill regarding Artificial Turf

Hi Dan,

I hope you're doing well. I'm reaching out to you today on the recommendation of Department of the Environment to ask you for feedback on a state bill that the SFPUC would like to bring to the City's State Legislation Committee for a Support position.

AB 1423 (Schiavo, Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces) is a bill that would, starting in 2024, restrict public entities' ability to purchase and install artificial turf and other surface coverings that contain regulated PFAS. It would then institute a total ban on such products by 2025. The SFPUC has an interest in supporting many PFAS product bans, but this is especially pertinent given that stormwater runoff from these kinds of surfaces can cause PFAS to enter our wastewater stream.

ENV recommended I reach out to you since you've been working on artificial turf replacement for the past few years at Rec & Park. Do you anticipate this bill causing issues for the department? Do you have any policies currently in place that restrict purchase of such coverings?

Rebecca Peacock

My pronouns are: they/them/Mx.

Administrative Analyst, Policy & Government Affairs

San Francisco Public Utilities Commission

Work Cell: (415) 757-8365

rpeacock@sfwater.org

sfpuc.org

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

Date of Hearing: April 18, 2023

ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS
Alex Lee, Chair
AB 1423 (Schiavo) – As Amended April 13, 2023

SUBJECT: Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces

SUMMARY: Prohibits, commencing January 1, 2025, the manufacturing or sale of artificial turf that contains PFAS, as defined, and prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing artificial turf that contains PFAS. Specifically, **this bill**:

1) Makes legislative findings about PFAS and PFAS exposure.

2) Defines "covered surface" as artificial turf or a synthetic surface that resembles grass.

3) Defines "perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

4) Defines "regulated PFAS" as including either of the following:
   a) PFAS that a manufacturer has intentionally added to a product and that has a functional or technical effect in the product; or,
   b) The presence of PFAS in a product or product component at or above one part per million (ppm), as measured in total organic fluorine.

5) Requires, commencing January 1, 2024, a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

6) Prohibits, commencing January 1, 2024, a covered surface containing regulated PFAS from being purchased or installed by any of the following entities:
   a) A public entity, including a charter city, charter county, city, or county;
   b) A public or private school serving pupils in kindergarten or any of grades 1 to 12, inclusive; or,
   c) A public or private institution of higher education, except the University of California.

7) Requests, commencing January 1, 2024, the University of California to comply with the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

8) Exempts those entities above that have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023, from the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

9) Prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains regulated PFAS.

10) 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 in covered surfaces provisions 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.

11) 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.

12) Requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

EXISTING LAW:

1) Requires, commencing January 1, 2022, a person that sells firefighter personal protective equipment to provide a written notice to the purchaser if the firefighter personal protective equipment contains intentionally added PFAS chemicals. (Health and Safety Code (HSC) § 13029 (b)(1))

2) Prohibits, commencing January 1, 2022, a manufacturer of class B firefighting foam from manufacturing, or knowingly selling, offering for sale, distributing for sale, or distributing for use, and a person from using, class B firefighting foam containing intentionally added PFAS chemicals. (HSC § 13061 (b)(1))

3) Prohibits, on and after July 1, 2023, a person, including, but not limited to, a manufacturer, from selling or distributing in commerce in this state any new, not previously owned, juvenile product, as defined, that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 108946)

4) Prohibits, on or after January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale in the state any new, not previously used, textile articles that contain intentionally added PFAS, or PFAS at or above 100 PPM, and on or after January 1, 2027, 50 PPM, as measured in total organic fluorine. (HSC § 108971)

5) 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. (HSC § 108980 (a))

6) 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. (HSC § 108981.5)

7) Prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 109000)

8) Authorizes the State Water Resources Control Board (State Water Board) to order a public water system to monitor for PFAS; requires community water systems to report detections; and, where a detected level of these substances exceeds the response level, to take a water source out of use or provide a prescribed public notification. (HSC §116378)

Under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

1) 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. (HSC § 25249.5)

2) 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. (HSC § 25249.6)

3) 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. (HSC § 25249.8)

Under the Safer Consumer Products (Green Chemistry) statutes:

1) 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. (HSC § 25252)

2) 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. (HSC § 25253 (a))

3) 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. (HSC § 25253)

FISCAL EFFECT: Unknown.

COMMENTS:

Need for the 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 has been found to contain PFAS, and as fields age, the artificial turf releases microplastic dust that contains PFAS. Children are particularly at risk of inhaling and ingesting this dust as they play on fields. AB 1423 empowers consumers to avoid artificial grass that uses PFAS in manufacturing, and it further ensures that fields installed in schools and by the state in the future will not contain PFAS, protecting youth and preventing the long term health impacts of PFAS."

Perfluoroalkyl and polyfluoroalkyl substances (PFAS): Per- and polyfluorinated substances (PFASs) are a large group of synthetic, highly fluorinated substances that have been widely used in industrial and consumer applications for their heat, water, and lipid resistance properties for more than seven decades. PFAS are long-lasting chemicals that break down very slowly over time. PFAS are ubiquitous, and researchers have found PFAS in indoor and outdoor environments, plants, soil, food, drinking water, wildlife, companion animals, production animals, and humans at locations across the nation and around the globe. Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals. More than 9,000 PFAS chemicals are included in the United States Environmental Protection Agency's (US EPA's) Master List of PFAS Substances. 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.

The breadth of uses of PFAS is immense, making it impossible to avoid exposure. PFAS are used extensively in surface coating and protectant formulations due to their unique ability to reduce the surface tension of liquids. In consumer products, PFAS is used 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. During production, use, and disposal, PFAS can migrate into the soil, water, and air.

Exposure to PFAS: The main route of exposure to PFAS is through ingestion of contaminated food or liquid (accounting for up to half of total exposure), and through inhalation and ingestion of contaminated indoor air and dust. Food can become contaminated with PFAS through contaminated soil and water used to grow the food, food packaging containing PFAS, and equipment that uses PFAS during food processing. Some foods, such as fish, meat, eggs and leafy vegetables, may contain PFAS due to bioaccumulation and crop uptake. Studies have shown that PFAS can transfer from pregnant mothers to their fetuses via the placenta during gestation, as well as transfer from nursing mothers to their infants via breastfeeding. Dermal exposure is also possible when people touch products treated with PFAS, such as carpets or clothing. Young children may be susceptible to higher levels of exposure than adults because they ingest more dust containing PFAS and mouth PFAS-treated consumer products. Workers, such as carpet installers, carpet cleaners, firefighters, and workers in furniture, furnishings, outdoor clothing, and carpet stores, may also experience above average PFAS exposure levels.

Exposure to PFAS in drinking water is an escalating concern due to the persistence of PFAS chemicals in the environment and their tendency to accumulate in groundwater. Groundwater PFAS contamination typically has been associated with industrial facilities where these chemicals were manufactured or used in other products, and in airfields where the chemicals have been used for firefighting. PFAS chemicals can also enter the environment and drinking water through composting, landfilling, recycling, and incineration of products containing PFAS. The State Water Board indicates that the four major sources of PFAS in drinking water in California are fire training/fire response sites, industrial sites, landfills, and wastewater treatment plants/biosolids. The State Water Board notes that because of their presence and persistence in many drinking water supplies, PFAS remain a serious source of exposure decades after their release into the environment.

Like humans, wildlife is exposed to PFAS by consuming contaminated water or food. Within aquatic food webs, PFAS were found to increase in concentration from ambient water to plankton and further up the food chain.

Hazard traits of PFAS: According to DTSC, all PFAS display at least one of the hazard traits identified in California's Safer Consumer Products (Green Chemistry) Hazard Traits Regulations (22 C.C.R § 69401 et seq.). An intrinsic property of PFAS is the extreme environmental persistence of either the individual compounds or their degradation products or both, resulting in their classification as "forever chemicals." Most PFAS are mobile in environmental media such as air and water, and thus are widespread in living organisms and the environment. Several PFAS bioaccumulate significantly in animals or plants and emerging evidence points to their phytotoxicity, aquatic toxicity, and terrestrial ecotoxicity.

DTSC contends that exposure to PFAS can lead to adverse health outcomes in humans. If humans are exposed to PFAS through diet, drinking water, or inhalation, some of these chemicals remain in the body for a long time. 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 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 women; 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.

Regulating PFAS as a class: DTSC has adopted a rationale for regulating PFAS chemicals as a class, concluding, "it is both ineffective and impractical to regulate this complex class of chemicals with a piecemeal approach." This rationale was presented in the February, 2021, *Environmental Health Perspectives* article, "Regulating PFAS as a Chemical Class under the California Safer Consumer Products Program." The authors of the article state,

> "The widespread use, large number, and diverse chemical structures of PFAS pose challenges to any sufficiently protective regulation, emissions reduction, and remediation at contaminated sites. Regulating only a subset of PFAS has led to their replacement with other members of the class with similar hazards, that is, regrettable substitutions. Regulations that focus solely on perfluoroalkyl acids (PFAAs) are ineffective, given that nearly all other PFAS can generate PFAAs in the environment… We at the California DTSC propose regulating certain consumer products if they contain any member of the class of PFAS because: *a*) all PFAS, or their degradation, reaction, or metabolism products, display at least one common hazard trait according to the California Code of Regulations, namely environmental persistence; and *b*) certain key PFAS that are the degradation, reaction or metabolism products, or impurities of nearly all other PFAS display additional hazard traits, including toxicity; are widespread in the environment, humans, and biota; and will continue to cause adverse impacts for as long as any PFAS continue to be used. Regulating PFAS as a class is thus logical, necessary, and forward-thinking."

Other researchers have made the case for managing PFAS as a chemical class, including in "Scientific Basis for Managing PFAS as a Chemical Class" published in June, 2020, in *Environmental Science & Technology Letters* and "Strategies for grouping per- and

polyfluoroalkyl substances (PFAS) to protect human and environmental health," also published in June, 2020, in *Environmental Science: Processes & Impacts.*

Artificial turf: Artificial turf is also referred to as synthetic turf, SynTurf, AstroTurf, artificial/synthetic grass, or plastic grass. It is composed of a backing layer foundation, blades resembling grass, and a filling that serves as shock absorbing material. According to DTSC in its Safer Consumer Products Program 2021-2023 Priority Product Work Plan, the backing and fiber layers of artificial turf are made of similar materials as carpets and rugs, such as polyvinyl chloride, polypropylene, nylon, and polyurethane. DTSC points to information provided by the Synthetic Turf Council, which estimates that there are currently between 12,000 and 13,000 synthetic turf sports fields in the United States, with 1,200 to 1,500 new installations each year. The Synthetic Turf Council estimated that 750 fields are replaced each year. With the average field containing approximately 40,000 pounds of plastic carpet and 400,000 pounds of infill, this can create over 300 million pounds of waste annually.

DTSC argues that the use of artificial turf at outdoor facilities is of concern since these facilities are frequently used by sensitive subpopulations, including young children. While air circulation is generally better in an outdoor application, there is also an increased potential for exposure to concerning chemicals in turf due to faster material degradation by outdoor elements, such as ultraviolet light, and high friction athletic use. In addition to increasing the release of chemicals from artificial turf during use, these factors also affect the product's life and make it necessary to replace it every eight to 10 years.

PFAS in artificial turf: In its 2021-2023 Priority Product Work Plan, DTSC notes that it is interested in PFAS in synthetic turf due to multiple public comments received on their proposed regulations to list carpets and rugs containing PFASs as a Priority Product. DTSC points to testing on artificial turf commissioned by two non-profit organizations, Public Employees for Environmental Responsibility (PEER) and The Ecology Center. The testing, which appears to have been on 10 samples (one new, one manufactured in 2004, and 8 of unclear manufacturing dates), found elemental fluorine and specific PFAS chemicals, which they argue suggests that PFAS is an ingredient of the carpet grass fibers or the backing, or a byproduct of the manufacturing process. PEER and The Ecology Center also report that that they found turf patents and industry literature discussing the widespread use of PFAS as a plastic processing aid to enhance smoothness and reduce friction. They say that this may mean PFAS are in many other plastic products. It should be noted that, in response to the media coverage of these reports, the Synthetic Turf Council put out a statement that condemned the groups' "inaccurate, non-verified report using questionable test methods."

Through the Safer Consumer Products Program, DTSC has previously evaluated PFASs in carpets and rugs, as well as in other consumer products. DTSC says that, as with carpets and rugs, PFASs may be used in the manufacture of artificial turf as an aid in molding and extrusion of the plastic blades, or may be applied to the finished product to enhance surface properties. According to DTSC, the PFASs present in artificial turf have a similar potential to contribute to or cause adverse impacts to sensitive subpopulations. Therefore, DTSC plans to leverage its prior work on PFASs in carpets and rugs and other products to evaluate PFASs in artificial turf. This evaluation is pending.

Alternatives to PFAS in artificial turf: The author's office points to specific reports for examples of potential alternatives to PFAS in artificial turf. One is a March 22, 2023, proposal for

restriction of PFAS by the European Chemicals Agency, which reviews information on PFAS alternatives. This report overviews the various use cases and assessment of alternatives for PFAS. While there is no outright mention of turf, the author's office argues that a few examples are close, such as use of replacements in plastic packaging, where it is used as an aid to improve flow behavior. The author's office points out that the report indicates that there is strong evidence for alternatives for PFAS used as processing aids. The author's office also points to a Corning slide deck on the potential use of silicones for die stick resistance in extrusion in place of PFAS.

This bill: This bill prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains PFAS at or above one ppm. It also prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing a covered surface that contains PFAS at that level. Finally, also commencing January 1, 2024, it requires a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

Recent US EPA action on PFAS: According to the US EPA, "Under the Biden-Harris Administration, [US] EPA has restored scientific integrity and accelerated the pace of research and actions needed to tackle the PFAS crisis and protect American communities." On October 18, 2021, US EPA Administrator Michael S. Regan announced the agency's PFAS Strategic Roadmap, which laid out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which US EPA plans to take specific actions and commits to, "bolder new policies to safeguard public health, protect the environment, and hold polluters accountable."

Additionally, the US EPA reported that since the roadmap's release in October 2021, US EPA has taken a number of key actions to address PFAS, including proposing to designate two PFAS as hazardous substances under the federal Comprehensive Environmental Response, Compensation, and Liability Act; releasing drinking water health advisories for four PFAS; laying the foundation for enhancing data on PFAS; and, beginning to distribute $10 billion in funding to address emerging contaminants under the Bipartisan Infrastructure Law.

State action on PFAS: California has undertaken efforts to address PFAS substances across several state entities.

At DTSC, all PFAS chemicals are "Candidate Chemicals" under the Safer Consumer Products (SCP, previously known as Green Chemistry) Program, because they exhibit a hazard trait and/or an environmental or toxicological endpoint, and the entire class of PFAS was added by the California Environmental Contaminant Biomonitoring Program to its list of priority chemicals.

On July 1, 2021, DTSC designated carpets and rugs containing PFAS as a "Priority Product." 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. The Priority Product designation required domestic and foreign carpet and rug manufacturers that use PFAS and related chemicals in their products to submit information on all of the manufacturer's products that contain PFAS and are sold in California, by August 30, 2021. Manufacturers were then required to show intent to remove or replace

PFAS in their products, remove the product from the market, or identify potential alternatives to PFAS to be used in the product by December 28, 2021.

In regulations that went into effect on April 1, 2022, DTSC also designated treatments containing PFAS for use on converted textiles or leathers such as carpets, upholstery, clothing, and shoes as a Priority Product. Domestic and foreign manufacturers of treatments for converted textiles or leathers that contain any member of the class of PFAS selling their products in California were required to submit information on those products by May 31, 2022. After submitting the required information, manufacturers were then required to show intent to mitigate exposure to PFAS in their products by September 28, 2022.

DTSC has also proposed evaluating artificial turf with PFAS in their Draft Priority Product Work Plan for 2021-2023. Previously, DTSC 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.

OEHHA, under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), listed PFOA and PFOS as chemicals known to the state to cause reproductive toxicity. In July, 2021, OEHHA announced the release of a draft document for public review describing proposed Public Health Goals (PHGs) for PFOA and PFOS in drinking water. A PHG is the level of a chemical contaminant in drinking water that does not pose a significant risk to health. PHGs published by OEHHA are considered by the State Water Resources Control Board (State Water Board) in setting drinking water regulatory standards (Maximum Contaminant Levels, or MCLs) for California.

The State Water Board has taken a number of additional recent actions related to PFAS in drinking water, including, in July 2020, issuing investigative orders to publicly owned treatment works that receive PFAS in their influent wastewater flow to include sampling for 31 PFAS compounds. In August 2020, it also issued a General Order for public water systems to sample for and report PFAS. It also issued drinking water notification levels and response levels for several PFAS compounds.

Recently, the State Legislature has taken action on PFAS by enacting a slew of bills prohibiting PFAS at different levels across many product categories. These include a ban on textiles that contain PFAS (AB 1817,Ting, Chapter 762, Statutes of 2022); a ban on cosmetic products that contain PFAS (AB 2771, Friedman, Chapter 804, Statutes of 2022); a ban on food packaging that contains PFAS (AB 1200, Ting, Chapter 503, Statutes of 2021); a ban on new juvenile products that contain PFAS (AB 652, Freidman, Chapter 500, Statutes of 2021); and, a ban on firefighting foam containing PFAS (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).

Chemical bans and the Safer Consumer Products Program: In 2008, California enacted AB 1879 (Feuer and Huffman, Chapter 559, Statutes of 2008) to establish a regulatory process for identifying and prioritizing chemicals of concern in consumer products, to create methods for analyzing alternatives to existing hazardous chemicals, and to ultimately take regulatory action to reduce the level of harm from the chemicals in those products. DTSC did this by

promulgating the Safer Consumer Products regulations, which took effect in October 2013. 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.

While the intent of AB 1879 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. The permutations of product and chemical combinations are virtually limitless. To that end, the Safer Consumer Products 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 expeditiously than can DTSC. Since AB 1879 was enacted, the Legislature has enacted policies on various chemical-product applications, which include, in addition to the PFAS prohibitions listed above, a ban on flame retardants in children's products, mattresses, and upholstered furniture (AB 2998, Bloom, Chapter 924, Statutes of 2018); a ban on BPA in toddler sippy cups and bottles (AB 1319, Butler, Chapter 467, Statutes of 2011); a ban on the sale of jewelry with cadmium at certain levels (AB 929, Pavley, Chapter 313, Statutes of 2010); and, a ban on the sale of brake pads containing copper in exceedances of certain levels (SB 346, Kehoe, Chapter 307, Statutes of 2010).

DTSC, in fact, wrote in support of AB 1319 (Butler) stating: "DTSC does not believe that the [Safer Consumer Products] regulations should ever be viewed as excluding action that the Legislature might take to address specific product related concerns that are brought to its attention. Not only have the regulations taken longer to adopt than originally anticipated, DTSC also expects that the process to be represented in the regulations will be subject to time and resource constraints. There may be circumstances that warrant more timely action than DTSC can accommodate through its process."

Enforcement and compliance for chemical prohibition laws: Most of the chemical prohibition bills listed previously 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 compliance program, no guidance for manufacturers seeking to comply with these laws, and no related information for consumers. This means there are no regulations or public guidance documents clarifying the intent of the law and no state entity investigating complaints, testing affected products for compliance, or bringing enforcement actions against violators. Because of these deficiencies, it is challenging for some manufacturers to comply and impossible to know if any manufacturers are complying with the requirements of the law.

This bill: The provisions of this bill are placed in the "orphan code" section of the Health and Safety Code.

Unfair Competition Law (UCL): 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 UCL (unless specified otherwise). The UCL is one of the primary tools currently available to government attorneys to protect the public from "any unlawful, unfair or fraudulent business act or practice and unfair, deceptive, untrue or misleading

advertising[.]" (Business and Professions Code Section 17200.). As recently summarized by the California Supreme Court:

> The statute's purpose is to protect both consumers and competitors by promoting fair competition in commercial markets for goods and services. In service of that purpose, the Legislature framed the UCL's substantive provisions in broad, sweeping language to reach anything that can properly be called a business practice and that at the same time is forbidden by law. By proscribing any unlawful business practice, section 17200 borrows violations of other laws and treats them as unlawful practices that the unfair competition law makes independently actionable. [T]he Legislature…intended by this sweeping language to permit tribunals to enjoin on-going wrongful business conduct in whatever context such activity might occur. To that end, the Legislature has created a scheme of overlapping enforcement authority. […] While the UCL provides for both public and private enforcement, authorized public prosecutors have an additional tool to enforce the state's consumer protection laws: civil penalties. (Abbott Laboratories v. Superior Court (2020) 9 Cal. 5th 642, 651-52 [internal citations and quotations omitted.])

Remedies under the UCL include injunctive relief, restitution, and civil penalties. It is important to note that even though a district attorney or the Attorney General can take an action to enforce these chemical prohibitions in the "orphan codes" using the UCL, before a case is filed, a member of the public must purchase and test products at a certified laboratory for the prohibited chemical, which is expensive. Then, the Attorney General or district attorney must have the resources and ability to prioritize action on these complaints before other responsibilities.

To date, the Committee is unaware of any comprehensive report or investigation by any entity on compliance with the chemical prohibitions in the "orphan code," nor is it aware of any entity that is sampling, testing, or tracking compliance with the "orphan codes." Additionally, to date, the Committee is not aware of any enforcement actions taken by the Attorney General or a district attorney under the UCL, or any other law, to enforce any of the chemical prohibition laws under the "orphan codes."

This bill: While the provisions of this bill are placed under the "orphan" section of the Health and Safety Code, the author has added provisions that provide government attorneys with civil penalty options to bring against violators of the law. Specifically, this bill 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 for covered surfaces as delineated in this bill shall be liable for a civil penalty, capped at $5,000 for a first violation and $10,000 for each subsequent violation. The bill additionally provides that these penalty provisions do not impair or impede any other rights, causes of action, claims, or defenses available under any other law. AB 1423 also provides that the remedies delineated in the bill are cumulative with any other remedies available under any other law. These penalty provisions are in addition to the authority for government attorneys to enforce under the UCL, and are consistent with existing statutory penalties relating to PFAS in firefighting foam.

In addition to the penalty provisions currently included in the bill, the author has indicated that she is willing to continue to work with the Committee and stakeholders on a comprehensive enforcement program for dangerous chemicals in products.

Acceptable levels of exposure to PFAS: This bill prohibits PFAS in a covered surface at or above one ppm, as measured in total organic fluorine. There are two other bills pending before the Committee with differing PFAS thresholds in different product categories, and 5 statutes with differing PFAS thresholds for other products (see the "Existing Law" section of this analysis.) As with enforcement, setting thresholds on chemicals in products would benefit from a public entity with oversight responsibility. In that case, a team of scientists with related public health backgrounds could set the appropriately protective thresholds and be able to update the thresholds through regulation consistent with emerging science. 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.

For the thresholds set in this bill, the author's office argues, "Artificial turf requires a more stringent limit [than other uses of PFAS] due to a few factors and it should not be compared to other products like clothing, food packaging, and children's products. The most important distinctions are weathering and mechanical stress. In terms of weathering, artificial turf spends its entire life outside in the sun and rain. Many other products are not intended by the manufacturer to be used outside, full time, for 8-12 years in all weather. This weathering increases the risk posed by this product as it sheds PFAS laden plastic dust. ...For mechanical stress, artificial turf is intended to be played on with shoes, cleats, and other sports equipment with significant force. This mechanical grinding creates small particles that children inhale, ingest, and come into dermal contact with. A secondary concern is similar to other products in that it also leaches PFAS from its plastic "encapsulation"; however, the sheer size and scope of this product sitting outside statewide means that it should be treated differently with acres and acres of fields capable of leeching PFAS into stormwater and groundwater."

Regrettable substitutions: While each of the laws listed in the "orphan code" prohibit a chemical that has been suspected of or found to be toxic or hazardous the laws do not prevent a manufacturer from replacing the prohibited chemical with another hazardous chemical, or a chemical even more hazardous than the one prohibited. In addition, several of the laws dealing with chemicals in the "orphan code" require manufacturers to use the least toxic alternative when replacing the chemical in question. Without a state entity overseeing these substitutions, it is difficult or impossible to know whether manufacturers are replacing prohibited chemicals with substances that are safer or more hazardous.

This bill: This bill requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

Moving forward: This bill, along with the other PFAS bills pending in front of the Committee, takes a step forward on statutory chemical prohibitions by adding civil penalties for violations of the restrictions in the bill. However, there remains no entity proving guidance or ensuring compliance with the prohibitions. Moving forward, the authors of these bills, along with stakeholders, the Committee, and the Administration, should continue to discuss effective oversight of these new and existing chemical prohibition laws.

Related legislation:

1. AB 246 (Papan). Prohibits, beginning January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale a menstrual product that contains intentionally-added PFAS, and beginning January 1, 2027, a menstrual product that contains PFAS at or above

10 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

2. AB 727 (Weber). Prohibits, beginning January 1, 2025, 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, and on January 1, 2027, a cleaning product that contains PFAS at or above 25 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

3. 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 regulated PFAS, and requires a manufacturer to use the least toxic alternative when removing regulated PFAS in textile articles to comply with the provisions of the bill.

4. 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.

5. AB 1200 (Ting, Chapter 503, Statutes of 2021). Prohibits, commencing January 1, 2023, the sale of food packaging that contains PFAS; requires, commencing January 1, 2024, cookware manufacturers to label their product if it contains an intentionally added chemical on specified lists; and prohibits, commencing January 1, 2023, for the internet and January 1, 2024, for the cookware package, a cookware manufacturer from making a claim that cookware is free of a chemical, unless no chemical from that chemical class is intentionally added to the cookware.

6. 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 PFAS.

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

8. SB 1056 (Portantino, 2020). Would have required the State Water Board to establish an analytical laboratory method that can be used as a tool to assess the extent of PFAS contamination in drinking water, surface water, groundwater, and wastewater. This bill was held in the Senate Environmental Quality Committee.

9. AB 756 (C. Garcia, Chapter 162, Statutes of 2019). Authorizes the State Water Board to order one or more public water systems to monitor for PFAS and requires municipalities to notify consumers for PFAS detected above notification levels.

10. AB 841 (Ting, Chapter 372, Statutes of 2019). As heard by the Assembly, would have required OEHHA to assess PFAS substances, especially as they might be found in drinking water, to determine which might pose a potential risk to human health. The contents of this bill were deleted in the Senate and amended with unrelated content.

11. AB 958 (Ting, 2018). Would have required a manufacturer of food packaging or cookware sold in the state to visibly disclose on an exterior location of the food packaging or cookware packaging a specified statement relating to the presence of PFAS in the product. This bill was held on the Senate Floor.

12. SB 1313 (Corbett, 2008). Would have prohibited the manufacture, sale, or distribution of any food contact substance, as defined, which contains perfluorinated compounds, as defined, in any concentration exceeding 10 parts per billion. This bill was vetoed by Governor Arnold Schwarzenegger whose veto message said, "I have signed AB 1879 (Feuer) and SB 509 (Simitian) which mark the beginning of California's historic Green Chemistry Initiative. It is within this process that chemicals like PFCs should be addressed."

REGISTERED SUPPORT / OPPOSITION:

Support

A Voice for Choice Advocacy
Active San Gabriel Valley
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal and SoCal Chapters
Environmental Working Group
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council
Natural Resources Defense Council (NRDC)
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

Opposition

None on file.

Analysis Prepared by: Shannon McKinney / E.S. & T.M. /

Date Submitted	[DATE]
Submitting Department	SFPUC
Contact Name	Rebecca Peacock
Contact Email and Phone Number	rpeacock@sfwater.org / 415-757-8365
SLC Meeting Presenter	Rebecca Peacock
Reviewed and approved by Department Head?	□ YES □ NO
Reviewed and approved by Commission?	□ YES □ NO **X** N/A

AB 1423
Asm. Schiavo, Asm. District #40, Democrat
Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces

Recommended Position

□ SPONSOR X SUPPORT □ SUPPORT if amended □ OPPOSE □ OTHER & Describe

Summary

This bill would require manufacturers and installers of artificial turf proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated perfluoroalkyl and polyfluoroalkyl substances (PFAS). Beginning in 2024, it would restrict public entities' ability to purchase and install artificial turf and other surface coverings. This includes cities, counties, charter cities, public and private K-12 schools, and public and private higher education institutions. By 2025, the bill would prohibit the manufacture, distribution, or sale of any covered surface that contains regulated PFAS.

The SFPUC recommends a support position for AB 1423.

Background/Analysis

PFAS (per and polyfluoroalkyl substances) are a group of chemicals that do not break down and have negative health impacts. The U.S. Environmental Protection Agency (EPA) has proposed exceptionally low health advisory levels as well as maximum contaminant levels for certain PFAS in drinking water. Additional regulatory action is expected and PFAS monitoring will eventually be included in National Pollutant Discharge Elimination System (NPDES) permits. Proposed Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) designation for PFAS could potentially make public utilities vulnerable to superfund liability claims despite the fact the public utilities are merely passive receivers of these compounds. Current wastewater treatment processes do not destroy PFAS and the only realistic way to reduce PFAS in SFPUC effluent and biosolids is to reduce the sources of PFAS entering the collection system.

Legislation which primarily aims to protect Californians from exposure to PFAS also reduces the amount of PFAS arriving at SFPUC wastewater treatment plants. In previous legislative sessions PFAS has been banned in firefighting foam, food packaging, juvenile products, cosmetics, and textiles.

Challenge

There has been a significant increase in regulatory action around PFAS at both the State and Federal level as the scientific community has established that these compounds are a significant threat to the environment and human health. The only realistic way to prevent human exposure and environmental release of these compounds is to limit their use. The only strategy available to the SFPUC to reduce PFAS entering its wastewater treatment plants is to reduce the amount of PFAS being used in its service area through source reduction. AB 1423 would limit environmental release of PFAS by prohibiting its use in artificial turf beginning in 2025. The SFPUC operates a combined sewer system and any runoff from artificial turf in San Francisco during rain events will eventually reach an SFPUC treatment plant.

Solution/Recommended Proposal

The SFPUC recommends a support position as it will reduce the amount of PFAS being transported to wastewater treatment plants and protect the health and safety of Californians who regularly use artificial turf for recreation and athletic events.

Departments Impacted & Why

As the EPA and State Water Board introduce more regulations around PFAS, if nothing is done to reduce PFAS entering wastewater treatment plants, the SFPUC Wastewater Enterprise could eventually find it difficult to meet PFAS regulatory requirements.

We have consulted the following departments regarding this position:
Environment Department
SFUSD
Rec & Park

Fiscal Impact

An inability to meet future PFAS regulation could result in additional costs of tens of millions of dollars annually if changes in effluent and biosolids management were required. This could entail the construction of as-of-yet undeveloped treatment technologies or other costly changes in management practices.

Support / Opposition

Support (as of April 13, 2023)
A Voice for Choice Advocacy
Active San Gabriel Valley
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal, and SoCal Chapters
Environmental Working Group
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council
Natural Resources Defense Council (NRDC)
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

Opposition (As of April 13, 2023)
None on file.

From: "Mauer, Dan \(REC\)"
To: "Avery, Jack (REC)" <jack.avery@sfgov.org>
Date: 5/3/2023 10:28:23 PM
Subject: RE: State Bill regarding Artificial Turf

OK, No need to talk if you are fine. Below are some brief responses to your questions. Best I can do quickly

How significantly would this impact our projects?

This would be extremely impactful for all our sites if the turf industry doesn't or can't change to address this issue. It would me that that will can't do new syn turf projects and the renewal of all syn turf when it needs to be replaced will have tremendous cost and user impacts. We would need to convert all our syn fields to natural grass. Millions and millions over time The impact to playground replacements might be a bit easier but still impactful.

Do you have a rough estimate of how many projects would be able to purchase/install PFA turf before 2025?

One turf field (Kimbell) and a few playgrounds.

And how many planned projects would be subject to the 2025 ban? Of those projects, how many would need to change their cost estimates?

Not sure. Would require more study and review.

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Avery, Jack (REC)
Sent: Wednesday, May 3, 2023 3:23 PM
To: Mauer, Dan (REC)
Subject: RE: State Bill regarding Artificial Turf

Hi Dan,

I just spoke with Sarah.

Considering the lack of info and our concerns, she's decided that we are opposed to the bill as is.

Let me know if you want to talk further.

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Wednesday, May 3, 2023 12:50 PM
To: Avery, Jack (REC) <jack.avery@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Hey Jack,

Would it help to chat live about this one when you have a moment. Let me know if that works for you.
Available all afternoon

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Avery, Jack (REC) <jack.avery@sfgov.org>
Sent: Wednesday, May 3, 2023 11:28 AM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Thanks Dan.

I think that any use of PFAs in the manufacturing process could be considered as “intentionally added”.

Public entities are prohibited from buying or installing PFA turf by January 1, 2024.

The bill does exempt projects that have concluded permitting/design or purchased/contracted synthetic turf before December 31, 2023

But, beginning January 1 2025, all manufacture, sale and distribution of PFA turf is prohibited.

How significantly would this impact our projects?

Do you have a rough estimate of how many projects would be able to purchase/install PFA turf before 2025?

And how many planned projects would be subject to the 2025 ban? Of those projects, how many would need to change their cost estimates?

Some notes from the Asm. Env Safety & Toxic Materials Committee.

(Mostly just for tracking purposes and general knowledge, no need to respond).

"Exposure to PFAS: The main route of exposure to PFAS is through ingestion of contaminated food or liquid (accounting for up to half of total exposure), and through inhalation and ingestion of contaminated indoor air and dust."

DTSC's primary concerns w/ synthetic turf is exposure to young children, and short shelf life (8-10 years)/product degradation and replacement. (pg 6).

"Therefore, DTSC plans to leverage its prior work on PFASs in carpets and rugs and other products to evaluate PFASs in artificial turf. This evaluation is pending." (pg 6).

Bill would be placed in "Orphan Codes", with no agency responsible for oversight, with no enforcement, no compliance program, no guidance for manufacturers or consumers, no regulations. (pg 9) Enforcement is done instead by allowing AG and district attorneys to levy fines against people and entities

[Bill Analysis - AB-1423 Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces. (ca.gov)]

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Tuesday, May 2, 2023 10:44 AM
To: Avery, Jack (REC) <jack.avery@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Jack

My two cents

This language is really vague. One thing to note is that it only applies to intentionally added PFAS - if any manufacturers are coating the grass blades with PFAS to improve water resistance, for example.

Have they done research on syn turf firms/products to know if these companies "intentionally" add PFAS to their products? I don't know the answer to that but my guess is that they don't. At least the company we have been working with for our athletic fields. I do know that they use PFAS as a

lubricant when they extrude their fibers. PFAS is used so that the fibers are extruded smooth and clean. Is that considered “intentionally” added?

I’ll defer to you on how to respond here but I think if we wanted to to confirm the products we used on our fields, playgrounds and dog play areas don’t fall under this definition, then we would need to do some homework.

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Tuesday, May 2, 2023 10:34 AM
To: Avery, Jack (REC) <jack.avery@sfgov.org>; Mauer, Dan (REC) <dan.mauer@sfgov.org>; Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>
Cc: Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>; Lam, Emily (PUC) <EmLam@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Good morning,

I wanted to clarify what we are looking for here – in light of your concerns, are they severe enough that REC would be opposed to SFPUC taking this to the SLC for a support position? If not, then we are happy to include your concerns and notes in our proposal for the committee’s consideration.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Peacock, Rebecca
Sent: Monday, May 1, 2023 5:35 PM
To: Avery, Jack (REC) <jack.avery@sfgov.org>; Mauer, Dan (REC) <dan.mauer@sfgov.org>; Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>
Cc: Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>; Lam, Emily <EmLam@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Hi Jack,

Thanks for reaching out and clarifying.

It sounds like your major concern is about non-PFAS product availability, which is what I suspected may be the case.

I'm not familiar enough with the artificial turf industry to know how this will impact product availability. One thing to note is that it only applies to intentionally added PFAS - if any manufacturers are coating the grass blades with PFAS to improve water resistance, for example. There is some discussion of this in the attached bill analysis from the Assembly committee.

This is also on the heels of similar bills from last year that impose bans on PFAS in textiles and cosmetic products starting in 2025. SFPUC and ENV supported these bills as well. PFAS regulation bills inevitably face pushback from their relevant industries, and it's almost certain they have engaged this bill's author. I would not be surprised if

this bill were amended again down the line to make some accommodations.

As for your specific questions on PFAS concentrations in wastewater/environment, my colleagues @Batjiaka, Ryan and @Ross, Autumn A can probably answer with more confidence.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Avery, Jack (REC) <jack.avery@sfgov.org>
Sent: Monday, May 1, 2023 5:11 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>; Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

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Hi,

Thanks for connecting me Dan.

Rebecca, thanks for flagging this for us.

We have a couple of questions as well. Dividing questions and comments into 2 sections below.

Industry

My understanding is that there aren't currently suitable alternatives for synthetic turf that don't utilize PFAs.

I'm not clear on how quickly the industry would be able to get new products to market, which is a concern. Impacts to RPD would depend on available substitutes, costs, product development timeline, etc.

Have there been any conversations with the industry and the author and/or sponsor of the bill?

Environmental

How much of a problem is this (PFAs getting into water from synthetic turf)?

What are other comparable sources of PFA contamination? What are the most and least harmful sources of PFAs?

Best,

Jack Avery

Manager of Policy and Public Affairs

San Francisco Recreation and Park Department

City & County of San Francisco

McLaren Lodge in Golden Gate Park

501 Stanyan Street | San Francisco, CA | 94117

E-mail: jack.avery@sfgov.org

Direct: (415) 831-6349

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Friday, April 28, 2023 1:30 PM
To: Peacock, Rebecca (PUC) <RPeacock@sfwater.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>; Avery, Jack (REC) <jack.avery@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Hello Rebecca,

My apologies for not responding sooner. I'm connecting you with my colleague, Jack Avery, in our public affairs office who will be able to assist you on discussing this topic in more detail.

Jack, could you please work with Rebecca on her questions? Let me know if you need my assistance in that communication.

Much thanks

Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Tuesday, April 25, 2023 10:13 AM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Hi Dan,

We're on a bit of a tight timeline since we need our GM to approve the proposal next week for submission to the Mayor's office the week after (May 8). I will also be out of office this Thursday and Friday, but our subject matter experts are cc'd here if you have additional questions.

Some context that may be helpful for your operations as I read the bill:

- Starting 2024, manufacturers and installers must notify relevant parties if the turf contains regulated PFAS.
- The restriction for public entities does not apply to any "who have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023."
- The ban on sale & manufacture of these products begins in 2025.

Essentially, anything you currently have solid plans for should be exempt. If there's anything still in the works, it'd have to initiate before the end of this year to move forward. By 2025, these products should (theoretically) be off the market.

Maybe the broader question is whether there is a big enough market for acceptable alternatives, or if the industry can make adjustments by 2025? And whether delays in manufacturing alternatives will significantly impact your operations. As I understand it, cork infill products may still have PFAS in the grass blades, either as a byproduct of manufacturing or deliberately added for water/weathering resistance.

If it's helpful, I've attached a draft copy of our SLC proposal and the Assembly Committee's analysis of the bill. The SFPUC's concerns are primarily about stormwater contamination, but the broader health concerns addressed in the analysis are an important component as well.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Monday, April 24, 2023 5:45 PM
To: Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

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Hello Rebecca,

Thanks for the email. I'm reviewing this information with some RPD staff and once I get feedback, I'll reach back with our thoughts and comments here. Do you have a timeline on when you are looking for feedback?

Thanks
Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Friday, April 21, 2023 2:45 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: State Bill regarding Artificial Turf

Hi Dan,

I hope you're doing well. I'm reaching out to you today on the recommendation of Department of the Environment to ask you for feedback on a state bill that the SFPUC would like to bring to the City's State Legislation Committee for a Support position.

AB 1423 (Schiavo, Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces) is a bill that would, starting in 2024, restrict public entities' ability to purchase and install artificial turf and other surface coverings that contain regulated PFAS. It would then institute a total ban on such products by 2025. The SFPUC has an interest in supporting many PFAS product bans, but this is especially pertinent given that stormwater runoff from these kinds of surfaces can cause PFAS to enter our wastewater stream.

ENV recommended I reach out to you since you've been working on artificial turf replacement for the past few years at Rec & Park. Do you anticipate this bill causing issues for the department? Do you have any policies currently in place that restrict purchase of such coverings?

Rebecca Peacock

My pronouns are: they/them/Mx.

Administrative Analyst, Policy & Government Affairs

San Francisco Public Utilities Commission

Work Cell: (415) 757-8365

rpeacock@sfwater.org

sfpuc.org

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

From: "Batjiaka, Ryan" <RBatjiaka@sfwater.org>
To: "Peacock, Rebecca (PUC)" <RPeacock@sfwater.org>
"Avery, Jack \(REC\)" <jack.avery@sfgov.org>
"Mauer, Dan \(REC\)" <dan.mauer@sfgov.org>
"Ross, Autumn \(PUC\)" <ARoss@sfwater.org>
Date: 5/2/2023 10:12:32 PM
Subject: RE: State Bill regarding Artificial Turf
Attachments: ab_1423_cfa_358877_asm_comm.doc
AB 1423 - PFAS in Astroturf Fact Sheet Updated 4.13.23.pdf

Hi Jack,

Just wanted to follow up on some of your questions. Attached is additional information about the bill.

Industry

There are major suppliers of synthetic turf doing things like football field installations with what they claim are PFAS free synthetic turf. It's important to dig in to supplier claims though as some may be saying they are PFAS free but only for 40 particular compounds tested for by a certain EPA method. I don't know if there has been any back and forth with suppliers on this bill as there are currently no organizations listed in opposition to the bill which I believe means no one from the synthetic turf industry is engaging on this.

Environmental

In terms of most vs least harmful sources of PFAS to humans, this would be whatever the biggest exposure route was for the most toxic of the PFAS compounds. Usually this is contaminated drinking water, seafood, food packaging, swallowing contaminated soil, or working around PFAS containing firefighting foam. EPA does state that, "Young children crawl on floors and put things in their mouths which leads to a higher risk of exposure to PFAS in carpets, household dust, toys, and cleaning products." So artificial turf could be a meaningful exposure pathway to young children.

I would say in terms of direct human exposure, you could assume that carpeting and synthetic turf would provide somewhat similar rates of exposure. PFAS have are being phased out in textiles (including carpeting although many retailers had voluntarily phased of carpet that contained PFAS) in California with AB 1817.

The issue for us at the SFPUC is not the direct human exposure (although that is a general societal concern) from synthetic turf, but the fact that we are a combined sewer system in San Francisco which means we receive run off from any synthetic turf fields at our treatment plant. Now how much PFAS

does this contribute to our overall PFAS load compared to other sources? I wouldn't have a hard number for this, but it's clearly just one among many sources as opposed to the source of all our problems. That's unfortunately the challenge with PFAS, is that it is in many different products. Because we don't have a clear idea of all the products it is in (a PFAS disclosure law that passed the legislature last year was vetoed by the governor) we still don't have a clear idea of a mass balance coming into our plant from all the different sources. But because of the number of products containing PFAS, restricting PFAS in a single product won't make a large change and therefore we need to go through source by source until we eventually get to the point where society phases out PFAS as an entire class of compounds. The EU will be considering a class wide phase out this year. We are facing an extremely challenging regulatory landscape for PFAS and we currently do not have the ability to destroy PFAS with our treatment technologies. The only tool we have at this point is reducing the sources.

Sorry if I was not able to answer all your questions completely.

Thanks,

Ryan Batjiaka

Resource Recovery

Wastewater Enterprise, San Francisco Public Utilities Commission

628-233-4807

From: Peacock, Rebecca
Sent: Tuesday, May 02, 2023 10:34 AM
To: Avery, Jack (REC) ; Mauer, Dan (REC) ; Ross, Autumn A ; Batjiaka, Ryan
Cc: Maack, Emma ; Ahn, Matthew Y ; Lam, Emily
Subject: RE: State Bill regarding Artificial Turf

Good morning,

I wanted to clarify what we are looking for here – in light of your concerns, are they severe enough that REC would be opposed to SFPUC taking this to the SLC for a support position? If not, then we are happy to include your concerns and notes in our proposal for the committee's consideration.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Peacock, Rebecca
Sent: Monday, May 1, 2023 5:35 PM
To: Avery, Jack (REC) <jack.avery@sfgov.org>; Mauer, Dan (REC) <dan.mauer@sfgov.org>; Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>
Cc: Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>; Lam, Emily <EmLam@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Hi Jack,

Thanks for reaching out and clarifying.

It sounds like your major concern is about non-PFAS product availability, which is what I suspected may be the case.

I'm not familiar enough with the artificial turf industry to know how this will impact

product availability. One thing to note is that it only applies to intentionally added PFAS - if any manufacturers are coating the grass blades with PFAS to improve water resistance, for example. There is some discussion of this in the attached bill analysis from the Assembly committee.

This is also on the heels of similar bills from last year that impose bans on PFAS in textiles and cosmetic products starting in 2025. SFPUC and ENV supported these bills as well. PFAS regulation bills inevitably face pushback from their relevant industries, and it's almost certain they have engaged this bill's author. I would not be surprised if this bill were amended again down the line to make some accommodations.

As for your specific questions on PFAS concentrations in wastewater/environment, my colleagues @Batjiaka, Ryan and @Ross, Autumn A can probably answer with more confidence.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Avery, Jack (REC) <jack.avery@sfgov.org>
Sent: Monday, May 1, 2023 5:11 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>; Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

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Hi,

Thanks for connecting me Dan.

Rebecca, thanks for flagging this for us.

We have a couple of questions as well. Dividing questions and comments into 2 sections below.

Industry

My understanding is that there aren't currently suitable alternatives for synthetic turf that don't utilize PFAs.

I'm not clear on how quickly the industry would be able to get new products to market, which is a concern. Impacts to RPD would depend on available substitutes, costs, product development timeline, etc.

Have there been any conversations with the industry and the author and/or sponsor of the bill?

Environmental

How much of a problem is this (PFAs getting into water from synthetic turf)?

What are other comparable sources of PFA contamination? What are the most and least harmful sources of PFAs?

Best,

Jack Avery

Manager of Policy and Public Affairs

San Francisco Recreation and Park Department

City & County of San Francisco

McLaren Lodge in Golden Gate Park

501 Stanyan Street | San Francisco, CA | 94117

E-mail: jack.avery@sfgov.org

Direct: (415) 831-6349

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Friday, April 28, 2023 1:30 PM
To: Peacock, Rebecca (PUC) <RPeacock@sfwater.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>; Avery, Jack (REC) <jack.avery@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Hello Rebecca,

My apologies for not responding sooner. I'm connecting you with my colleague, Jack Avery, in our public affairs office who will be able to assist you on discussing this topic in more detail.

Jack, could you please work with Rebecca on her questions? Let me know if you need my assistance in that communication.

Much thanks

Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Tuesday, April 25, 2023 10:13 AM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Hi Dan,

We're on a bit of a tight timeline since we need our GM to approve the proposal next week for submission to the Mayor's office the week after (May 8). I will also be out of office this Thursday and Friday, but our subject matter experts are cc'd here if you have additional questions.

Some context that may be helpful for your operations as I read the bill:

- Starting 2024, manufacturers and installers must notify relevant parties if the turf contains regulated PFAS.
- The restriction for public entities does not apply to any "who have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023."
- The ban on sale & manufacture of these products begins in 2025.

Essentially, anything you currently have solid plans for should be exempt. If there's

anything still in the works, it'd have to initiate before the end of this year to move forward. By 2025, these products should (theoretically) be off the market.

Maybe the broader question is whether there is a big enough market for acceptable alternatives, or if the industry can make adjustments by 2025? And whether delays in manufacturing alternatives will significantly impact your operations. As I understand it, cork infill products may still have PFAS in the grass blades, either as a byproduct of manufacturing or deliberately added for water/weathering resistance.

If it's helpful, I've attached a draft copy of our SLC proposal and the Assembly Committee's analysis of the bill. The SFPUC's concerns are primarily about stormwater contamination, but the broader health concerns addressed in the analysis are an important component as well.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Monday, April 24, 2023 5:45 PM
To: Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

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Hello Rebecca,

Thanks for the email. I'm reviewing this information with some RPD staff and once I get feedback, I'll reach back with our thoughts and comments here. Do you have a timeline on when you are looking for feedback?

Thanks
Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Friday, April 21, 2023 2:45 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: State Bill regarding Artificial Turf

Hi Dan,

I hope you're doing well. I'm reaching out to you today on the recommendation of Department of the Environment to ask you for feedback on a state bill that the SFPUC would like to bring to the City's State Legislation Committee for a Support position.

AB 1423 (Schiavo, Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces) is a bill that would, starting in 2024, restrict public entities' ability to purchase and install artificial turf and other surface coverings that contain regulated PFAS. It would then institute a total ban on such products by 2025. The SFPUC has an interest in supporting many PFAS product bans, but this is especially pertinent given that stormwater runoff from these kinds of surfaces can cause PFAS to enter our wastewater stream.

ENV recommended I reach out to you since you've been working on artificial turf replacement for the past few years at Rec & Park. Do you anticipate this bill causing issues for the department? Do you have any policies currently in place that restrict purchase of such coverings?

Rebecca Peacock

My pronouns are: they/them/Mx.

Administrative Analyst, Policy & Government Affairs

San Francisco Public Utilities Commission

Work Cell: (415) 757-8365

rpeacock@sfwater.org

sfpuc.org

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

Date of Hearing:

ASSEMBLY COMMITTEE ON
, Chair() – As

SUBJECT:

SUMMARY: Prohibits, commencing January 1, 2025, the manufacturing or sale of artificial turf that contains PFAS, as defined, and prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing artificial turf that contains PFAS. Specifically, **this bill**:
Makes legislative findings about PFAS and PFAS exposure.

Defines "covered surface" as artificial turf or a synthetic surface that resembles grass.

Defines "perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

Defines "regulated PFAS" as including either of the following:
PFAS that a manufacturer has intentionally added to a product and that has a functional or technical effect in the product; or,
The presence of PFAS in a product or product component at or above one part per million (ppm), as measured in total organic fluorine.

Requires, commencing January 1, 2024, a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

Prohibits, commencing January 1, 2024, a covered surface containing regulated PFAS from being purchased or installed by any of the following entities:
A public entity, including a charter city, charter county, city, or county;
A public or private school serving pupils in kindergarten or any of grades 1 to 12, inclusive; or,
A public or private institution of higher education, except the University of California.

Requests, commencing January 1, 2024, the University of California to comply with the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

Exempts those entities above that have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023, from the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

Prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains regulated PFAS.

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 in covered surfaces provisions 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.

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.

Requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

EXISTING LAW:

Requires, commencing January 1, 2022, a person that sells firefighter personal protective equipment to provide a written notice to the purchaser if the firefighter personal protective equipment contains intentionally added PFAS chemicals. (Health and Safety Code (HSC) § 13029 (b)(1))

Prohibits, commencing January 1, 2022, a manufacturer of class B firefighting foam from manufacturing, or knowingly selling, offering for sale, distributing for sale, or distributing for use, and a person from using, class B firefighting foam containing intentionally added PFAS chemicals. (HSC § 13061 (b)(1))

Prohibits, on and after July 1, 2023, a person, including, but not limited to, a manufacturer, from selling or distributing in commerce in this state any new, not previously owned, juvenile product, as defined, that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 108946)

Prohibits, on or after January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale in the state any new, not previously used, textile articles that contain intentionally added PFAS, or PFAS at or above 100 PPM, and on or after January 1, 2027, 50 PPM, as measured in total organic fluorine. (HSC § 108971)

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. (HSC § 108980 (a))

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. (HSC § 108981.5)

Prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 109000)

Authorizes the State Water Resources Control Board (State Water Board) to order a public water system to monitor for PFAS; requires community water systems to report detections; and, where a detected level of these substances exceeds the response level, to take a water source out of use or provide a prescribed public notification. (HSC §116378)

Under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
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. (HSC § 25249.5)

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. (HSC § 25249.6)

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. (HSC § 25249.8)

Under the Safer Consumer Products (Green Chemistry) statutes:
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. (HSC § 25252)
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. (HSC § 25253 (a))
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. (HSC § 25253)
FISCAL EFFECT: Unknown.
COMMENTS:
Need for the 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 has been found to contain PFAS, and as fields age, the artificial turf releases microplastic dust that contains PFAS. Children are particularly at risk of inhaling and ingesting this dust as they play on fields. AB 1423 empowers consumers to avoid artificial grass that uses PFAS in manufacturing, and it further ensures that fields installed in schools and by the state in the future will not contain PFAS, protecting youth and preventing the long term health impacts of PFAS."
Perfluoroalkyl and polyfluoroalkyl substances (PFAS): Per- and polyfluorinated substances (PFASs) are a large group of synthetic, highly fluorinated substances that have been widely used in industrial and consumer applications for their heat, water, and lipid resistance properties for more than seven decades. PFAS are long-lasting chemicals that break down very slowly over time. PFAS are ubiquitous, and researchers have found PFAS in indoor and outdoor environments, plants, soil, food, drinking water, wildlife, companion animals, production animals, and humans at locations across the nation and around the globe. Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals. More than 9,000 PFAS chemicals are included in the United States Environmental Protection Agency's (US EPA's) Master List of PFAS Substances. 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.
The breadth of uses of PFAS is immense, making it impossible to avoid exposure. PFAS are used extensively in surface coating and protectant formulations due to their unique ability to reduce the surface tension of liquids. In consumer products, PFAS is used 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. During production, use, and disposal, PFAS can migrate into the soil, water, and air.
Exposure to PFAS: The main route of exposure to PFAS is through ingestion of contaminated food or liquid (accounting for up to half of total exposure), and through inhalation and ingestion of contaminated indoor air and dust. Food can become

contaminated with PFAS through contaminated soil and water used to grow the food, food packaging containing PFAS, and equipment that uses PFAS during food processing. Some foods, such as fish, meat, eggs and leafy vegetables, may contain PFAS due to bioaccumulation and crop uptake. Studies have shown that PFAS can transfer from pregnant mothers to their fetuses via the placenta during gestation, as well as transfer from nursing mothers to their infants via breastfeeding. Dermal exposure is also possible when people touch products treated with PFAS, such as carpets or clothing. Young children may be susceptible to higher levels of exposure than adults because they ingest more dust containing PFAS and mouth PFAS-treated consumer products. Workers, such as carpet installers, carpet cleaners, firefighters, and workers in furniture, furnishings, outdoor clothing, and carpet stores, may also experience above average PFAS exposure levels.

Exposure to PFAS in drinking water is an escalating concern due to the persistence of PFAS chemicals in the environment and their tendency to accumulate in groundwater. Groundwater PFAS contamination typically has been associated with industrial facilities where these chemicals were manufactured or used in other products, and in airfields where the chemicals have been used for firefighting. PFAS chemicals can also enter the environment and drinking water through composting, landfilling, recycling, and incineration of products containing PFAS. The State Water Board indicates that the four major sources of PFAS in drinking water in California are fire training/fire response sites, industrial sites, landfills, and wastewater treatment plants/biosolids. The State Water Board notes that because of their presence and persistence in many drinking water supplies, PFAS remain a serious source of exposure decades after their release into the environment.

Like humans, wildlife is exposed to PFAS by consuming contaminated water or food. Within aquatic food webs, PFAS were found to increase in concentration from ambient water to plankton and further up the food chain.

Hazard traits of PFAS: According to DTSC, all PFAS display at least one of the hazard traits identified in California's Safer Consumer Products (Green Chemistry) Hazard Traits Regulations (22 C.C.R § 69401 et seq.). An intrinsic property of PFAS is the extreme environmental persistence of either the individual compounds or their degradation products or both, resulting in their classification as "forever chemicals." Most PFAS are mobile in environmental media such as air and water, and thus are widespread in living organisms and the environment. Several PFAS bioaccumulate significantly in animals or plants and emerging evidence points to their phytotoxicity, aquatic toxicity, and terrestrial ecotoxicity.

DTSC contends that exposure to PFAS can lead to adverse health outcomes in humans. If humans are exposed to PFAS through diet, drinking water, or inhalation, some of these chemicals remain in the body for a long time. 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 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 women; 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.

Regulating PFAS as a class: DTSC has adopted a rationale for regulating PFAS chemicals as a class, concluding, "it is both ineffective and impractical to regulate this complex class of chemicals with a piecemeal approach." This rationale was presented in the February, 2021, *Environmental Health Perspectives* article, "Regulating PFAS as a Chemical Class under the California Safer Consumer Products Program." The authors of the article state,

"The widespread use, large number, and diverse chemical structures of PFAS pose challenges to any sufficiently protective regulation, emissions reduction, and remediation at contaminated sites. Regulating only a subset of PFAS has led to their replacement with other members of the class with similar hazards, that is, regrettable substitutions. Regulations that focus solely on perfluoroalkyl acids (PFAAs) are ineffective, given that nearly all other PFAS can generate PFAAs in the environment… We at the California DTSC propose regulating certain consumer products if they contain any member of the class of PFAS because: *a*) all PFAS, or their degradation, reaction, or metabolism products, display at least one common hazard trait according to the California Code of Regulations, namely environmental persistence; and *b*) certain key PFAS that are the degradation, reaction or metabolism products, or impurities of nearly all other PFAS display additional hazard traits, including toxicity; are widespread in the environment, humans, and biota; and will continue to cause adverse impacts for as long as any PFAS continue to be used. Regulating PFAS as a class is thus logical, necessary, and forward-thinking."

Other researchers have made the case for managing PFAS as a chemical class, including in "Scientific Basis for Managing PFAS as a Chemical Class" published in June, 2020, in *Environmental Science & Technology Letters* and "Strategies for grouping per- and polyfluoroalkyl substances (PFAS) to protect human and environmental health," also published in June, 2020, in *Environmental Science: Processes & Impacts.*

Artificial turf: Artificial turf is also referred to as synthetic turf, SynTurf, AstroTurf, artificial/synthetic grass, or plastic grass. It is composed of a backing layer foundation, blades resembling grass, and a filling that serves as shock absorbing material. According to DTSC in its Safer Consumer Products Program 2021-2023 Priority Product Work Plan, the backing and fiber layers of artificial turf are made of similar materials as carpets and rugs, such as polyvinyl chloride, polypropylene, nylon, and polyurethane. DTSC points to information provided by the Synthetic Turf Council, which estimates that there are currently between 12,000 and 13,000 synthetic turf sports fields in the United States, with 1,200 to 1,500 new installations each year. The Synthetic Turf Council estimated that 750 fields are replaced each year. With the average field containing approximately 40,000 pounds of plastic carpet and 400,000 pounds of infill, this can create over 300 million pounds of waste annually.

DTSC argues that the use of artificial turf at outdoor facilities is of concern since these facilities are frequently used by sensitive subpopulations, including young children. While air circulation is generally better in an outdoor application, there is also an increased potential for exposure to concerning chemicals in turf due to faster material degradation by outdoor elements, such as ultraviolet light, and high friction athletic use. In addition to increasing the release of chemicals from artificial turf during use,

these factors also affect the product's life and make it necessary to replace it every eight to 10 years.
PFAS in artificial turf: In its 2021-2023 Priority Product Work Plan, DTSC notes that it is interested in PFAS in synthetic turf due to multiple public comments received on their proposed regulations to list carpets and rugs containing PFASs as a Priority Product. DTSC points to testing on artificial turf commissioned by two non-profit organizations, Public Employees for Environmental Responsibility (PEER) and The Ecology Center. The testing, which appears to have been on 10 samples (one new, one manufactured in 2004, and 8 of unclear manufacturing dates), found elemental fluorine and specific PFAS chemicals, which they argue suggests that PFAS is an ingredient of the carpet grass fibers or the backing, or a byproduct of the manufacturing process. PEER and The Ecology Center also report that that they found turf patents and industry literature discussing the widespread use of PFAS as a plastic processing aid to enhance smoothness and reduce friction. They say that this may mean PFAS are in many other plastic products. It should be noted that, in response to the media coverage of these reports, the Synthetic Turf Council put out a statement that condemned the groups' "inaccurate, non-verified report using questionable test methods."
Through the Safer Consumer Products Program, DTSC has previously evaluated PFASs in carpets and rugs, as well as in other consumer products. DTSC says that, as with carpets and rugs, PFASs may be used in the manufacture of artificial turf as an aid in molding and extrusion of the plastic blades, or may be applied to the finished product to enhance surface properties. According to DTSC, the PFASs present in artificial turf have a similar potential to contribute to or cause adverse impacts to sensitive subpopulations. Therefore, DTSC plans to leverage its prior work on PFASs in carpets and rugs and other products to evaluate PFASs in artificial turf. This evaluation is pending.
Alternatives to PFAS in artificial turf: The author's office points to specific reports for examples of potential alternatives to PFAS in artificial turf. One is a March 22, 2023, proposal for restriction of PFAS by the European Chemicals Agency, which reviews information on PFAS alternatives. This report overviews the various use cases and assessment of alternatives for PFAS. While there is no outright mention of turf, the author's office argues that a few examples are close, such as use of replacements in plastic packaging, where it is used as an aid to improve flow behavior. The author's office points out that the report indicates that there is strong evidence for alternatives for PFAS used as processing aids. The author's office also points to a Corning slide deck on the potential use of silicones for die stick resistance in extrusion in place of PFAS.

This bill: This bill prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains PFAS at or above one ppm. It also prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing a covered surface that contains PFAS at that level. Finally, also commencing January 1, 2024, it requires a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.
Recent US EPA action on PFAS: According to the US EPA, "Under the Biden-Harris Administration, [US] EPA has restored scientific integrity and accelerated the pace of research and actions needed to tackle the PFAS crisis and protect American communities." On October 18, 2021, US EPA Administrator Michael S. Regan announced the agency's PFAS Strategic Roadmap, which laid out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which US EPA plans to take specific actions and commits to, "bolder new policies to safeguard public health, protect the environment, and hold polluters accountable."

Additionally, the US EPA reported that since the roadmap's release in October 2021, US EPA has taken a number of key actions to address PFAS, including proposing to designate two PFAS as hazardous substances under the federal Comprehensive Environmental Response, Compensation, and Liability Act; releasing drinking water health advisories for four PFAS; laying the foundation for enhancing data on PFAS; and, beginning to distribute $10 billion in funding to address emerging contaminants under the Bipartisan Infrastructure Law.

State action on PFAS: California has undertaken efforts to address PFAS substances across several state entities.

At DTSC, all PFAS chemicals are "Candidate Chemicals" under the Safer Consumer Products (SCP, previously known as Green Chemistry) Program, because they exhibit a hazard trait and/or an environmental or toxicological endpoint, and the entire class of PFAS was added by the California Environmental Contaminant Biomonitoring Program to its list of priority chemicals.

On July 1, 2021, DTSC designated carpets and rugs containing PFAS as a "Priority Product." 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. The Priority Product designation required domestic and foreign carpet and rug manufacturers that use PFAS and related chemicals in their products to submit information on all of the manufacturer's products that contain PFAS and are sold in California, by August 30, 2021. Manufacturers were then required to show intent to remove or replace PFAS in their products, remove the product from the market, or identify potential alternatives to PFAS to be used in the product by December 28, 2021.

In regulations that went into effect on April 1, 2022, DTSC also designated treatments containing PFAS for use on converted textiles or leathers such as carpets, upholstery, clothing, and shoes as a Priority Product. Domestic and foreign manufacturers of treatments for converted textiles or leathers that contain any member of the class of PFAS selling their products in California were required to submit information on those products by May 31, 2022. After submitting the required information, manufacturers were then required to show intent to mitigate exposure to PFAS in their products by September 28, 2022.

DTSC has also proposed evaluating artificial turf with PFAS in their Draft Priority Product Work Plan for 2021-2023. Previously,

DTSC 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.

OEHHA, under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), listed PFOA and PFOS as chemicals known to the state to cause reproductive toxicity. In July, 2021, OEHHA announced the release of a draft document for public review describing proposed Public Health Goals (PHGs) for PFOA and PFOS in drinking water. A PHG is the level of a chemical contaminant in drinking water that does not pose a significant risk to health. PHGs published by OEHHA are considered by the State Water Resources Control Board (State Water Board) in setting drinking water regulatory standards (Maximum Contaminant Levels, or MCLs) for California.

The State Water Board has taken a number of additional recent actions related to PFAS in drinking water, including, in July 2020, issuing investigative orders to publicly owned treatment works that receive PFAS in their influent wastewater flow to include sampling for 31 PFAS compounds. In August 2020, it also issued a General Order for public water systems to sample for and report PFAS. It also issued drinking water notification levels and response levels for several PFAS compounds.

Recently, the State Legislature has taken action on PFAS by enacting a slew of bills prohibiting PFAS at different levels across many product categories. These include a ban on textiles that contain PFAS (AB 1817,Ting, Chapter 762, Statutes of 2022); a ban on cosmetic products that contain PFAS (AB 2771, Friedman, Chapter 804, Statutes of 2022); a ban on food packaging that contains PFAS (AB 1200, Ting, Chapter 503, Statutes of 2021); a ban on new juvenile products that contain PFAS (AB 652, Freidman, Chapter 500, Statutes of 2021); and, a ban on firefighting foam containing PFAS (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).

Chemical bans and the Safer Consumer Products Program: In 2008, California enacted AB 1879 (Feuer and Huffman, Chapter 559, Statutes of 2008) to establish a regulatory process for identifying and prioritizing chemicals of concern in consumer products, to create methods for analyzing alternatives to existing hazardous chemicals, and to ultimately take regulatory action to reduce the level of harm from the chemicals in those products. DTSC did this by promulgating the Safer Consumer Products regulations, which took effect in October 2013. 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.
While the intent of AB 1879 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. The permutations of product and chemical combinations are virtually limitless. To that end, the Safer Consumer Products 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 expeditiously than can DTSC. Since AB 1879 was enacted, the Legislature has enacted policies on various chemical-product applications, which include, in addition to the PFAS prohibitions listed above, a ban on flame retardants in children's products, mattresses, and upholstered furniture (AB 2998, Bloom, Chapter 924, Statutes of 2018); a ban on BPA in toddler sippy cups and bottles (AB 1319, Butler, Chapter 467, Statutes of 2011); a ban on the sale of jewelry with cadmium at certain levels (AB 929, Pavley, Chapter 313, Statutes of 2010); and, a ban on the sale of brake pads containing copper in exceedances of certain levels (SB 346, Kehoe, Chapter 307, Statutes of 2010).

DTSC, in fact, wrote in support of AB 1319 (Butler) stating: "DTSC does not believe that the [Safer Consumer Products] regulations should ever be viewed as excluding action that the Legislature might take to address specific product related concerns that are brought to its attention. Not only have the regulations taken longer to adopt than originally anticipated, DTSC also expects that the process to be represented in the regulations will be subject to time and resource constraints. There may be circumstances that warrant more timely action than DTSC can accommodate through its process."
Enforcement and compliance for chemical prohibition laws: Most of the chemical prohibition bills listed previously 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 compliance program, no guidance for manufacturers seeking to comply with these laws, and no related information for consumers. This means there are no regulations or public guidance documents clarifying the intent of the law and no state entity investigating complaints, testing affected products for compliance, or bringing enforcement actions against violators. Because of these deficiencies, it is challenging for some manufacturers to comply and impossible to know if any manufacturers are complying with the requirements of the law.

This bill: The provisions of this bill are placed in the "orphan code" section of the Health and Safety Code.

Unfair Competition Law (UCL): 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 UCL (unless specified otherwise). The UCL is one of the primary tools currently available to government attorneys to protect the public from "any unlawful, unfair or fraudulent business act or practice and unfair, deceptive, untrue or misleading advertising[.]" (Business and Professions Code Section 17200.). As recently summarized by the California Supreme Court:

The statute's purpose is to protect both consumers and competitors by promoting fair competition in commercial markets for goods and services. In service of that purpose, the Legislature framed the UCL's substantive provisions in broad, sweeping language to reach anything that can properly be called a business practice and that at the same time is forbidden by law. By proscribing any unlawful business practice, section 17200 borrows violations of other laws and treats them as unlawful practices that the unfair competition law makes independently actionable. [T]he Legislature…intended by this sweeping language to permit tribunals to enjoin on-going wrongful business conduct in whatever context such activity might occur. To that end, the Legislature has created a scheme of overlapping enforcement authority. […] While the UCL provides for both public and private enforcement, authorized public prosecutors have an additional tool to enforce the state's consumer protection laws: civil penalties. (Abbott Laboratories v. Superior Court (2020) 9 Cal. 5th 642, 651-52 [internal citations and quotations omitted.])

Remedies under the UCL include injunctive relief, restitution, and civil penalties. It is important to note that even though a district attorney or the Attorney General can take an action to enforce these chemical prohibitions in the "orphan codes" using the UCL, before a case is filed, a member of the public must purchase and test products at a certified laboratory for the prohibited chemical, which is expensive. Then, the Attorney General or district attorney must have the resources and ability to prioritize action on these complaints before other responsibilities.

To date, the Committee is unaware of any comprehensive report or investigation by any entity on compliance with the chemical prohibitions in the "orphan code," nor is it aware of any entity that is sampling, testing, or tracking compliance with the "orphan codes." Additionally, to date, the Committee is not aware of any enforcement actions taken by the Attorney General or a district attorney under the UCL, or any other law, to enforce any of the chemical prohibition laws under the "orphan codes."

This bill: While the provisions of this bill are placed under the "orphan" section of the Health and Safety Code, the author has added provisions that provide government attorneys with civil penalty options to bring against violators of the law. Specifically, this bill 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 for covered surfaces as delineated in this bill shall be liable for a civil penalty, capped at $5,000 for a first violation and $10,000 for each subsequent violation. The bill additionally provides that these penalty provisions do not impair or impede any other rights, causes of action, claims, or defenses available under any other law. AB 1423 also provides that the remedies delineated in the bill are cumulative with any other remedies available under any other law. These penalty provisions are in addition to the authority for government attorneys to enforce under the UCL, and are consistent with existing statutory penalties relating to PFAS in firefighting foam.

In addition to the penalty provisions currently included in the bill, the author has indicated that she is willing to continue to work with the Committee and stakeholders on a comprehensive enforcement program for dangerous chemicals in products.

Acceptable levels of exposure to PFAS: This bill prohibits PFAS in a covered surface at or above one ppm, as measured in total organic fluorine. There are two other bills pending before the Committee with differing PFAS thresholds in different product categories, and 5 statutes with differing PFAS thresholds for other products (see the "Existing Law" section of this analysis.) As with enforcement, setting thresholds on chemicals in products would benefit from a public entity with oversight responsibility. In that case, a team of scientists with related public health backgrounds could set the appropriately protective thresholds and be able to update the thresholds through regulation consistent with emerging science. 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.

For the thresholds set in this bill, the author's office argues, "Artificial turf requires a more stringent limit [than other uses of PFAS] due to a few factors and it should not be compared to other products like clothing, food packaging, and children's products. The most important distinctions are weathering and mechanical stress. In terms of weathering, artificial turf spends its entire life outside in the sun and rain. Many other products are not intended by the manufacturer to be used outside, full time, for 8-12 years in all weather. This weathering increases the risk posed by this product as it sheds PFAS laden plastic dust. ...For mechanical stress, artificial turf is intended to be played on with shoes, cleats, and other sports equipment with significant force. This mechanical grinding creates small particles that children inhale, ingest, and come into dermal contact with. A secondary concern is similar to other products in that it also leaches PFAS from its plastic "encapsulation"; however, the sheer size and scope of this product sitting outside statewide means that it should be treated differently with acres and acres of fields capable of leeching PFAS into stormwater and groundwater."

Regrettable substitutions: While each of the laws listed in the "orphan code" prohibit a chemical that has been suspected of or found to be toxic or hazardous the laws do not prevent a manufacturer from replacing the prohibited chemical with another hazardous chemical, or a chemical even more hazardous than the one prohibited. In addition, several of the laws dealing with chemicals in the "orphan code" require manufacturers to use the least toxic alternative when replacing the chemical in question. Without a state entity overseeing these substitutions, it is difficult or impossible to know whether manufacturers are replacing prohibited chemicals with substances that are safer or more hazardous.

This bill: This bill requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

Moving forward: This bill, along with the other PFAS bills pending in front of the Committee, takes a step forward on statutory chemical prohibitions by adding civil penalties for violations of the restrictions in the bill. However, there remains no entity

proving guidance or ensuring compliance with the prohibitions. Moving forward, the authors of these bills, along with stakeholders, the Committee, and the Administration, should continue to discuss effective oversight of these new and existing chemical prohibition laws.

Related legislation:

AB 246 (Papan). Prohibits, beginning January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale a menstrual product that contains intentionally-added PFAS, and beginning January 1, 2027, a menstrual product that contains PFAS at or above 10 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

AB 727 (Weber). Prohibits, beginning January 1, 2025, 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, and on January 1, 2027, a cleaning product that contains PFAS at or above 25 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials 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 regulated PFAS, and requires a manufacturer to use the least toxic alternative when removing regulated PFAS in textile articles to comply with the provisions of the bill.

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 1200 (Ting, Chapter 503, Statutes of 2021). Prohibits, commencing January 1, 2023, the sale of food packaging that contains PFAS; requires, commencing January 1, 2024, cookware manufacturers to label their product if it contains an intentionally added chemical on specified lists; and prohibits, commencing January 1, 2023, for the internet and January 1, 2024, for the cookware package, a cookware manufacturer from making a claim that cookware is free of a chemical, unless no chemical from that chemical class is intentionally added to the cookware.

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 PFAS.

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

SB 1056 (Portantino, 2020). Would have required the State Water Board to establish an analytical laboratory method that can be used as a tool to assess the extent of PFAS contamination in drinking water, surface water, groundwater, and wastewater. This bill was held in the Senate Environmental Quality Committee.

AB 756 (C. Garcia, Chapter 162, Statutes of 2019). Authorizes the State Water Board to order one or more public water systems to monitor for PFAS and requires municipalities to notify consumers for PFAS detected above notification levels.

AB 841 (Ting, Chapter 372, Statutes of 2019). As heard by the Assembly, would have required OEHHA to assess PFAS substances, especially as they might be found in drinking water, to determine which might pose a potential risk to human health. The contents of this bill were deleted in the Senate and amended with unrelated content.

AB 958 (Ting, 2018). Would have required a manufacturer of food packaging or cookware sold in the state to visibly disclose on an exterior location of the food packaging or cookware packaging a specified statement relating to the presence of PFAS in the product. This bill was held on the Senate Floor.

SB 1313 (Corbett, 2008). Would have prohibited the manufacture, sale, or distribution of any food contact substance, as defined, which contains perfluorinated compounds, as defined, in any concentration exceeding 10 parts per billion. This bill was vetoed by Governor Arnold Schwarzenegger whose veto message said, "I have signed AB 1879 (Feuer) and SB 509 (Simitian) which mark the beginning of California's historic Green Chemistry Initiative. It is within this process that chemicals like PFCs should be addressed."

REGISTERED SUPPORT / OPPOSITION:

Support

A Voice for Choice Advocacy
Active San Gabriel Valley
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal and SoCal Chapters
Environmental Working Group
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council

Natural Resources Defense Council (NRDC)
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

Opposition

None on file.

Analysis Prepared by:

Assemblywoman Pilar Schiavo
40th Assembly District

AB 1423 – PFAS in Astroturf

Summary

AB 1423 empowers consumers to avoid artificial grass that uses toxic polyfluoroalkyl substances (PFAS) chemicals in manufacturing, protecting youth and preventing the long term health impacts of PFAS. AB 1423 does so by prohibiting installation of new fields containing PFAS by public entities or schools and banning PFAS in artificial turf sold in California beginning 2025.

Background

PFAS are a class of "forever chemicals" which, when ingested, inhaled, or contact with the skin can harm human and environmental health.[1] This includes negative impacts on the immune system, cardiovascular system, childhood development, and risks of cancer. In fact, based on new data and draft analyses, the Environmental Protection Agency's (EPA's) most recent interim health advisories for PFOA and PFOS in drinking water are 4 parts per quadrillion (ppq) and 20 ppq, respectively. This is below detection limits, which means there is virtually no safe levels of these compounds in water.[2]

California has passed numerous bills to eliminate PFAS from consumer products that pose a specific risk through regular contact. These include juvenile products (AB 652, 2021); cosmetics (AB 2771, 2021 & AB 2762, 2019); firefighting foam and equipment (AB 1044, 2019); food packaging (AB 1200, 2021); and textiles (AB 1817, 2021). One product that has yet to be addressed which creates hazardous conditions especially for children is artificial turf or grass. PFAS is in every blade as it's used to prevent the blade from sticking to the mold in the extrusion process.

In 2008, reporting emerged in New York and New Jersey that raised concerns about lead used to give older artificial turf its green color as well as other heavy metals. While focused on a different toxin, the study by the New Jersey Department of Environmental Protection found that children were more at risk for inhalation of hazardous dust kicked up during play on a field.[3] As for microplastic dust from artificial grass, the Swedish Environmental Protection Agency conducted studies on the amount of plastic and microplastics shed from artificial turf annually, finding an average of 5 grams of particles under 300 microns per square meter per year.[4] In context, California has over 1000 artificial fields, and if each is just the size of a football field (5,351 square meters), that's over 50,000 pounds of plastic particles shed a year. With PFAS a component of this microplastic dust, and our children uniquely exposed, California must act to reduce exposure to this chemical and protect our children from these forever chemicals.

Current Law

(HSC § 108970) Details testing methods and contaminant limits for textiles containing PFAS.

(BPC § 19094) Outlines the labeling requirements for manufactured products containing flame retardant chemicals.

This bill

AB 1423 will:

1) Require, beginning 2024, manufacturers or installers proposing to design, sell, or install a field to notify the entity whether the product contains PFAS.
2) Prohibits, beginning 2024, any public entity, public or private school, and college from installing artificial turf that contains PFAS.
3) Prohibits, beginning 2025, the manufacture or sale of artificial turf containing more than 1 ppm of PFAS.
4) Allows the Attorney General to pursue civil action against those in violation of (3).

[1] A Review of the Pathways of Human Exposure to Poly- and Perfluoroalkyl Substances (PFASs) and Present Understanding of Health Effects

[2] Questions and Answers: Drinking Water Health Advisories for PFOA, PFOS, GenX Chemicals and PFBS

[3] An Evaluation of Potential Exposures to Lead and Other Metals as the Result of Aerosolized Particulate Matter from Artificial Turf Playing Fields.

[4] Microplastic from Cast Rubber Granulate and Granulate-free Artificial Grass Surfaces

Assemblywoman Pilar Schiavo
40th Assembly District

Support

Environmental Working Group (Sponsor)
American College of Obstetricians and Gynecologists, District IX
Active San Gabriel Valley
Ban Single Use Plastics
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, LA Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal and SoCal Chapters
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council
Natural Resources Defense Council
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

For More Information

Grayson Doucette, PhD (he/him)
Office of Assemblywoman Schiavo
Grayson.doucette@asm.ca.gov or (916) 319-2040

From: "Peacock, Rebecca" <RPeacock@sfwater.org>
To: "Avery, Jack (REC)" <jack.avery@sfgov.org>
"Mauer, Dan \(REC\)" <dan.mauer@sfgov.org>
"Ross, Autumn \(PUC\)" <ARoss@sfwater.org>
"Batjiaka, Ryan \(PUC\)" <RBatjiaka@sfwater.org>
Date: 5/2/2023 5:33:57 PM
Subject: RE: State Bill regarding Artificial Turf

Good morning,

I wanted to clarify what we are looking for here – in light of your concerns, are they severe enough that REC would be opposed to SFPUC taking this to the SLC for a support position? If not, then we are happy to include your concerns and notes in our proposal for the committee's consideration.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Peacock, Rebecca
Sent: Monday, May 1, 2023 5:35 PM
To: Avery, Jack (REC) ; Mauer, Dan (REC) ; Ross, Autumn A ; Batjiaka, Ryan
Cc: Maack, Emma ; Ahn, Matthew Y ; Lam, Emily
Subject: RE: State Bill regarding Artificial Turf

Hi Jack,

Thanks for reaching out and clarifying.

It sounds like your major concern is about non-PFAS product availability, which is what I suspected may be the case.

I'm not familiar enough with the artificial turf industry to know how this will impact product availability. One thing to note is that it only applies to intentionally added PFAS - if any manufacturers are coating the grass blades with PFAS to improve water resistance, for example. There is some discussion of this in the attached bill analysis from the Assembly committee.

This is also on the heels of similar bills from last year that impose bans on PFAS in textiles and cosmetic products starting in 2025. SFPUC and ENV supported these bills as well. PFAS regulation bills inevitably face pushback from their relevant industries, and it's almost certain they have engaged this bill's author. I would not be surprised if this bill were amended again down the line to make some accommodations.

As for your specific questions on PFAS concentrations in wastewater/environment, my colleagues @Batjiaka, Ryan and @Ross, Autumn A can probably answer with more confidence.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Avery, Jack (REC) <jack.avery@sfgov.org>
Sent: Monday, May 1, 2023 5:11 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>; Peacock, Rebecca <RPeacock@sfwater.org>

Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

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Hi,

Thanks for connecting me Dan.

Rebecca, thanks for flagging this for us.

We have a couple of questions as well. Dividing questions and comments into 2 sections below.

Industry

My understanding is that there aren't currently suitable alternatives for synthetic turf that don't utilize PFAs.

I'm not clear on how quickly the industry would be able to get new products to market, which is a concern. Impacts to RPD would depend on available substitutes, costs, product development timeline, etc.

Have there been any conversations with the industry and the author and/or sponsor of the bill?

Environmental

How much of a problem is this (PFAs getting into water from synthetic turf)?

What are other comparable sources of PFA contamination? What are the most and least harmful sources of PFAs?

Best,

Jack Avery

Manager of Policy and Public Affairs

San Francisco Recreation and Park Department

City & County of San Francisco

McLaren Lodge in Golden Gate Park

501 Stanyan Street | San Francisco, CA | 94117

E-mail: jack.avery@sfgov.org

Direct: (415) 831-6349

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Friday, April 28, 2023 1:30 PM
To: Peacock, Rebecca (PUC) <RPeacock@sfwater.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>; Avery, Jack (REC) <jack.avery@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Hello Rebecca,

My apologies for not responding sooner. I'm connecting you with my colleague, Jack Avery, in our public affairs office who will be able to assist you on discussing this topic in more detail.

Jack, could you please work with Rebecca on her questions? Let me know if you need my assistance in that communication.

Much thanks

Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Tuesday, April 25, 2023 10:13 AM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Hi Dan,

We're on a bit of a tight timeline since we need our GM to approve the proposal next week for submission to the Mayor's office the week after (May 8). I will also be out of office this Thursday and Friday, but our subject matter experts are cc'd here if you have additional questions.

Some context that may be helpful for your operations as I read the bill:

- Starting 2024, manufacturers and installers must notify relevant parties if the turf contains regulated PFAS.
- The restriction for public entities does not apply to any "who have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface,

- or purchased a covered surface on or before December 31, 2023."
- The ban on sale & manufacture of these products begins in 2025.

Essentially, anything you currently have solid plans for should be exempt. If there's anything still in the works, it'd have to initiate before the end of this year to move forward. By 2025, these products should (theoretically) be off the market.

Maybe the broader question is whether there is a big enough market for acceptable alternatives, or if the industry can make adjustments by 2025? And whether delays in manufacturing alternatives will significantly impact your operations. As I understand it, cork infill products may still have PFAS in the grass blades, either as a byproduct of manufacturing or deliberately added for water/weathering resistance.

If it's helpful, I've attached a draft copy of our SLC proposal and the Assembly Committee's analysis of the bill. The SFPUC's concerns are primarily about stormwater contamination, but the broader health concerns addressed in the analysis are an important component as well.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Monday, April 24, 2023 5:45 PM
To: Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

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Hello Rebecca,

Thanks for the email. I'm reviewing this information with some RPD staff and once I get feedback, I'll reach back with our thoughts and comments here. Do you have a timeline on when you are looking for feedback?

Thanks
Dan

Dan Mauer
Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Friday, April 21, 2023 2:45 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: State Bill regarding Artificial Turf

Hi Dan,

I hope you're doing well. I'm reaching out to you today on the recommendation of Department of the Environment to ask you for feedback on a state bill that the SFPUC would like to bring to the City's State Legislation Committee for a Support position.

AB 1423 (Schiavo, Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces) is a bill that would, starting in 2024, restrict public entities' ability to purchase and install artificial turf and other surface coverings that contain regulated PFAS. It would then institute a total ban on such products by 2025. The SFPUC has an interest in supporting many PFAS product bans, but this is especially pertinent given that stormwater runoff from these kinds of surfaces can cause PFAS to enter our wastewater stream.

ENV recommended I reach out to you since you've been working on artificial turf replacement for the past few years at Rec & Park. Do you anticipate this bill causing issues for the department? Do you have any policies currently in place that restrict purchase of such coverings?

Rebecca Peacock

My pronouns are: they/them/Mx.

Administrative Analyst, Policy & Government Affairs

San Francisco Public Utilities Commission

Work Cell: (415) 757-8365

rpeacock@sfwater.org

sfpuc.org

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

From: "Peacock, Rebecca" <RPeacock@sfwater.org>
To: "Avery, Jack (REC)" <jack.avery@sfgov.org>
"Mauer, Dan \(REC\)" <dan.mauer@sfgov.org>
"Ross, Autumn \(PUC\)" <ARoss@sfwater.org>
"Batjiaka, Ryan \(PUC\)" <RBatjiaka@sfwater.org>
Date: 5/2/2023 12:34:56 AM
Subject: RE: State Bill regarding Artificial Turf
Attachments: 202320240AB1423_Assembly Environmental Safety And Toxic Material s.pdf

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Hi Jack,

Thanks for reaching out and clarifying.

It sounds like your major concern is about non-PFAS product availability, which is what I suspected may be the case.

I'm not familiar enough with the artificial turf industry to know how this will impact product availability. One thing to note is that it only applies to intentionally added PFAS - if any manufacturers are coating the grass blades with PFAS to improve water resistance, for example. There is some discussion of this in the attached bill analysis from the Assembly committee.

This is also on the heels of similar bills from last year that impose bans on PFAS in textiles and cosmetic products starting in 2025. SFPUC and ENV supported these bills as well. PFAS regulation bills inevitably face pushback from their relevant industries, and it's almost certain they have engaged this bill's author. I would not be surprised if this bill were amended again down the line to make some accommodations.

As for your specific questions on PFAS concentrations in wastewater/environment, my colleagues @Batjiaka, Ryan and @Ross, Autumn A can probably answer with more confidence.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Avery, Jack (REC)
Sent: Monday, May 1, 2023 5:11 PM
To: Mauer, Dan (REC) ; Peacock, Rebecca
Cc: Ross, Autumn A ; Batjiaka, Ryan ; Maack, Emma ; Ahn, Matthew Y
Subject: RE: State Bill regarding Artificial Turf

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Hi,

Thanks for connecting me Dan.

Rebecca, thanks for flagging this for us.

We have a couple of questions as well. Dividing questions and comments into 2 sections below.

Industry

My understanding is that there aren't currently suitable alternatives for synthetic turf that don't utilize PFAs.

I'm not clear on how quickly the industry would be able to get new products to market, which is a concern. Impacts to RPD would depend on available substitutes, costs, product development timeline, etc.

Have there been any conversations with the industry and the author and/or sponsor of the bill?

Environmental

How much of a problem is this (PFAs getting into water from synthetic turf)?

What are other comparable sources of PFA contamination? What are the most and least harmful sources of PFAs?

Best,

Jack Avery

Manager of Policy and Public Affairs

San Francisco Recreation and Park Department

City & County of San Francisco

McLaren Lodge in Golden Gate Park

501 Stanyan Street | San Francisco, CA | 94117

E-mail: jack.avery@sfgov.org

Direct: (415) 831-6349

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Friday, April 28, 2023 1:30 PM
To: Peacock, Rebecca (PUC) <RPeacock@sfwater.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>; Avery, Jack (REC) <jack.avery@sfgov.org>
Subject: RE: State Bill regarding Artificial Turf

Hello Rebecca,

My apologies for not responding sooner. I'm connecting you with my colleague, Jack Avery, in our public affairs office who will be able to assist you on discussing this topic in more detail.

Jack, could you please work with Rebecca on her questions? Let me know if you need my assistance in that communication.

Much thanks

Dan

Dan Mauer
Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Tuesday, April 25, 2023 10:13 AM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

Hi Dan,

We're on a bit of a tight timeline since we need our GM to approve the proposal next week for submission to the Mayor's office the week after (May 8). I will also be out of office this Thursday and Friday, but our subject matter experts are cc'd here if you have additional questions.

Some context that may be helpful for your operations as I read the bill:

- Starting 2024, manufacturers and installers must notify relevant parties if the turf contains regulated PFAS.
- The restriction for public entities does not apply to any "who have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023."
- The ban on sale & manufacture of these products begins in 2025.

Essentially, anything you currently have solid plans for should be exempt. If there's anything still in the works, it'd have to initiate before the end of this year to move forward. By 2025, these products should (theoretically) be off the market.

Maybe the broader question is whether there is a big enough market for acceptable alternatives, or if the industry can make adjustments by 2025? And whether delays in manufacturing alternatives will significantly impact your operations. As I understand it, cork infill products may still have PFAS in the grass blades, either as a byproduct of manufacturing or deliberately added for water/weathering resistance.

If it's helpful, I've attached a draft copy of our SLC proposal and the Assembly Committee's analysis of the bill. The SFPUC's concerns are primarily about stormwater contamination, but the broader health concerns addressed in the analysis are an important component as well.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Sent: Monday, April 24, 2023 5:45 PM
To: Peacock, Rebecca <RPeacock@sfwater.org>
Cc: Ross, Autumn A <ARoss@sfwater.org>; Batjiaka, Ryan <RBatjiaka@sfwater.org>; Maack, Emma <EMaack@sfwater.org>; Ahn, Matthew Y <MAhn@sfwater.org>
Subject: RE: State Bill regarding Artificial Turf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Rebecca,

Thanks for the email. I'm reviewing this information with some RPD staff and once I get feedback, I'll reach back with our thoughts and comments here. Do you have a timeline on when you are looking for feedback?

Thanks
Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Friday, April 21, 2023 2:45 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: State Bill regarding Artificial Turf

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Rebecca Peacock

My pronouns are: they/them/Mx.

Administrative Analyst, Policy & Government Affairs

San Francisco Public Utilities Commission

Work Cell: (415) 757-8365

rpeacock@sfwater.org

sfpuc.org

Date of Hearing: April 18, 2023

ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS
Alex Lee, Chair
AB 1423 (Schiavo) – As Amended April 13, 2023

SUBJECT: Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces

SUMMARY: Prohibits, commencing January 1, 2025, the manufacturing or sale of artificial turf that contains PFAS, as defined, and prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing artificial turf that contains PFAS. Specifically, **this bill**:

1) Makes legislative findings about PFAS and PFAS exposure.

2) Defines "covered surface" as artificial turf or a synthetic surface that resembles grass.

3) Defines "perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

4) Defines "regulated PFAS" as including either of the following:
   a) PFAS that a manufacturer has intentionally added to a product and that has a functional or technical effect in the product; or,
   b) The presence of PFAS in a product or product component at or above one part per million (ppm), as measured in total organic fluorine.

5) Requires, commencing January 1, 2024, a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

6) Prohibits, commencing January 1, 2024, a covered surface containing regulated PFAS from being purchased or installed by any of the following entities:
   a) A public entity, including a charter city, charter county, city, or county;
   b) A public or private school serving pupils in kindergarten or any of grades 1 to 12, inclusive; or,
   c) A public or private institution of higher education, except the University of California.

7) Requests, commencing January 1, 2024, the University of California to comply with the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

8) Exempts those entities above that have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023, from the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

9) Prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains regulated PFAS.

10) 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 in covered surfaces provisions 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.

11) 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.

12) Requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

EXISTING LAW:

1) Requires, commencing January 1, 2022, a person that sells firefighter personal protective equipment to provide a written notice to the purchaser if the firefighter personal protective equipment contains intentionally added PFAS chemicals. (Health and Safety Code (HSC) § 13029 (b)(1))

2) Prohibits, commencing January 1, 2022, a manufacturer of class B firefighting foam from manufacturing, or knowingly selling, offering for sale, distributing for sale, or distributing for use, and a person from using, class B firefighting foam containing intentionally added PFAS chemicals. (HSC § 13061 (b)(1))

3) Prohibits, on and after July 1, 2023, a person, including, but not limited to, a manufacturer, from selling or distributing in commerce in this state any new, not previously owned, juvenile product, as defined, that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 108946)

4) Prohibits, on or after January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale in the state any new, not previously used, textile articles that contain intentionally added PFAS, or PFAS at or above 100 PPM, and on or after January 1, 2027, 50 PPM, as measured in total organic fluorine. (HSC § 108971)

5) 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. (HSC § 108980 (a))

6) 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. (HSC § 108981.5)

7) Prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 109000)

8) Authorizes the State Water Resources Control Board (State Water Board) to order a public water system to monitor for PFAS; requires community water systems to report detections; and, where a detected level of these substances exceeds the response level, to take a water source out of use or provide a prescribed public notification. (HSC §116378)

Under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

1) 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. (HSC § 25249.5)

2) 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. (HSC § 25249.6)

3) 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. (HSC § 25249.8)

Under the Safer Consumer Products (Green Chemistry) statutes:

1) 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. (HSC § 25252)

2) 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. (HSC § 25253 (a))

3) 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. (HSC § 25253)

FISCAL EFFECT: Unknown.

COMMENTS:

Need for the 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 has been found to contain PFAS, and as fields age, the artificial turf releases microplastic dust that contains PFAS. Children are particularly at risk of inhaling and ingesting this dust as they play on fields. AB 1423 empowers consumers to avoid artificial grass that uses PFAS in manufacturing, and it further ensures that fields installed in schools and by the state in the future will not contain PFAS, protecting youth and preventing the long term health impacts of PFAS."

Perfluoroalkyl and polyfluoroalkyl substances (PFAS): Per- and polyfluorinated substances (PFASs) are a large group of synthetic, highly fluorinated substances that have been widely used in industrial and consumer applications for their heat, water, and lipid resistance properties for more than seven decades. PFAS are long-lasting chemicals that break down very slowly over time. PFAS are ubiquitous, and researchers have found PFAS in indoor and outdoor environments, plants, soil, food, drinking water, wildlife, companion animals, production animals, and humans at locations across the nation and around the globe. Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals. More than 9,000 PFAS chemicals are included in the United States Environmental Protection Agency's (US EPA's) Master List of PFAS Substances. 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.

The breadth of uses of PFAS is immense, making it impossible to avoid exposure. PFAS are used extensively in surface coating and protectant formulations due to their unique ability to reduce the surface tension of liquids. In consumer products, PFAS is used 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. During production, use, and disposal, PFAS can migrate into the soil, water, and air.

Exposure to PFAS: The main route of exposure to PFAS is through ingestion of contaminated food or liquid (accounting for up to half of total exposure), and through inhalation and ingestion of contaminated indoor air and dust. Food can become contaminated with PFAS through contaminated soil and water used to grow the food, food packaging containing PFAS, and equipment that uses PFAS during food processing. Some foods, such as fish, meat, eggs and leafy vegetables, may contain PFAS due to bioaccumulation and crop uptake. Studies have shown that PFAS can transfer from pregnant mothers to their fetuses via the placenta during gestation, as well as transfer from nursing mothers to their infants via breastfeeding. Dermal exposure is also possible when people touch products treated with PFAS, such as carpets or clothing. Young children may be susceptible to higher levels of exposure than adults because they ingest more dust containing PFAS and mouth PFAS-treated consumer products. Workers, such as carpet installers, carpet cleaners, firefighters, and workers in furniture, furnishings, outdoor clothing, and carpet stores, may also experience above average PFAS exposure levels.

Exposure to PFAS in drinking water is an escalating concern due to the persistence of PFAS chemicals in the environment and their tendency to accumulate in groundwater. Groundwater PFAS contamination typically has been associated with industrial facilities where these chemicals were manufactured or used in other products, and in airfields where the chemicals have been used for firefighting. PFAS chemicals can also enter the environment and drinking water through composting, landfilling, recycling, and incineration of products containing PFAS. The State Water Board indicates that the four major sources of PFAS in drinking water in California are fire training/fire response sites, industrial sites, landfills, and wastewater treatment plants/biosolids. The State Water Board notes that because of their presence and persistence in many drinking water supplies, PFAS remain a serious source of exposure decades after their release into the environment.

Like humans, wildlife is exposed to PFAS by consuming contaminated water or food. Within aquatic food webs, PFAS were found to increase in concentration from ambient water to plankton and further up the food chain.

Hazard traits of PFAS: According to DTSC, all PFAS display at least one of the hazard traits identified in California's Safer Consumer Products (Green Chemistry) Hazard Traits Regulations (22 C.C.R § 69401 et seq.). An intrinsic property of PFAS is the extreme environmental persistence of either the individual compounds or their degradation products or both, resulting in their classification as "forever chemicals." Most PFAS are mobile in environmental media such as air and water, and thus are widespread in living organisms and the environment. Several PFAS bioaccumulate significantly in animals or plants and emerging evidence points to their phytotoxicity, aquatic toxicity, and terrestrial ecotoxicity.

DTSC contends that exposure to PFAS can lead to adverse health outcomes in humans. If humans are exposed to PFAS through diet, drinking water, or inhalation, some of these chemicals remain in the body for a long time. 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 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 women; 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.

Regulating PFAS as a class: DTSC has adopted a rationale for regulating PFAS chemicals as a class, concluding, "it is both ineffective and impractical to regulate this complex class of chemicals with a piecemeal approach." This rationale was presented in the February, 2021, *Environmental Health Perspectives* article, "Regulating PFAS as a Chemical Class under the California Safer Consumer Products Program." The authors of the article state,

> "The widespread use, large number, and diverse chemical structures of PFAS pose challenges to any sufficiently protective regulation, emissions reduction, and remediation at contaminated sites. Regulating only a subset of PFAS has led to their replacement with other members of the class with similar hazards, that is, regrettable substitutions. Regulations that focus solely on perfluoroalkyl acids (PFAAs) are ineffective, given that nearly all other PFAS can generate PFAAs in the environment… We at the California DTSC propose regulating certain consumer products if they contain any member of the class of PFAS because: *a*) all PFAS, or their degradation, reaction, or metabolism products, display at least one common hazard trait according to the California Code of Regulations, namely environmental persistence; and *b*) certain key PFAS that are the degradation, reaction or metabolism products, or impurities of nearly all other PFAS display additional hazard traits, including toxicity; are widespread in the environment, humans, and biota; and will continue to cause adverse impacts for as long as any PFAS continue to be used. Regulating PFAS as a class is thus logical, necessary, and forward-thinking."

Other researchers have made the case for managing PFAS as a chemical class, including in "Scientific Basis for Managing PFAS as a Chemical Class" published in June, 2020, in *Environmental Science & Technology Letters* and "Strategies for grouping per- and

polyfluoroalkyl substances (PFAS) to protect human and environmental health," also published in June, 2020, in *Environmental Science: Processes & Impacts.*

Artificial turf: Artificial turf is also referred to as synthetic turf, SynTurf, AstroTurf, artificial/synthetic grass, or plastic grass. It is composed of a backing layer foundation, blades resembling grass, and a filling that serves as shock absorbing material. According to DTSC in its Safer Consumer Products Program 2021-2023 Priority Product Work Plan, the backing and fiber layers of artificial turf are made of similar materials as carpets and rugs, such as polyvinyl chloride, polypropylene, nylon, and polyurethane. DTSC points to information provided by the Synthetic Turf Council, which estimates that there are currently between 12,000 and 13,000 synthetic turf sports fields in the United States, with 1,200 to 1,500 new installations each year. The Synthetic Turf Council estimated that 750 fields are replaced each year. With the average field containing approximately 40,000 pounds of plastic carpet and 400,000 pounds of infill, this can create over 300 million pounds of waste annually.

DTSC argues that the use of artificial turf at outdoor facilities is of concern since these facilities are frequently used by sensitive subpopulations, including young children. While air circulation is generally better in an outdoor application, there is also an increased potential for exposure to concerning chemicals in turf due to faster material degradation by outdoor elements, such as ultraviolet light, and high friction athletic use. In addition to increasing the release of chemicals from artificial turf during use, these factors also affect the product's life and make it necessary to replace it every eight to 10 years.

PFAS in artificial turf: In its 2021-2023 Priority Product Work Plan, DTSC notes that it is interested in PFAS in synthetic turf due to multiple public comments received on their proposed regulations to list carpets and rugs containing PFASs as a Priority Product. DTSC points to testing on artificial turf commissioned by two non-profit organizations, Public Employees for Environmental Responsibility (PEER) and The Ecology Center. The testing, which appears to have been on 10 samples (one new, one manufactured in 2004, and 8 of unclear manufacturing dates), found elemental fluorine and specific PFAS chemicals, which they argue suggests that PFAS is an ingredient of the carpet grass fibers or the backing, or a byproduct of the manufacturing process. PEER and The Ecology Center also report that that they found turf patents and industry literature discussing the widespread use of PFAS as a plastic processing aid to enhance smoothness and reduce friction. They say that this may mean PFAS are in many other plastic products. It should be noted that, in response to the media coverage of these reports, the Synthetic Turf Council put out a statement that condemned the groups' "inaccurate, non-verified report using questionable test methods."

Through the Safer Consumer Products Program, DTSC has previously evaluated PFASs in carpets and rugs, as well as in other consumer products. DTSC says that, as with carpets and rugs, PFASs may be used in the manufacture of artificial turf as an aid in molding and extrusion of the plastic blades, or may be applied to the finished product to enhance surface properties. According to DTSC, the PFASs present in artificial turf have a similar potential to contribute to or cause adverse impacts to sensitive subpopulations. Therefore, DTSC plans to leverage its prior work on PFASs in carpets and rugs and other products to evaluate PFASs in artificial turf. This evaluation is pending.

Alternatives to PFAS in artificial turf: The author's office points to specific reports for examples of potential alternatives to PFAS in artificial turf. One is a March 22, 2023, proposal for

restriction of PFAS by the European Chemicals Agency, which reviews information on PFAS alternatives. This report overviews the various use cases and assessment of alternatives for PFAS. While there is no outright mention of turf, the author's office argues that a few examples are close, such as use of replacements in plastic packaging, where it is used as an aid to improve flow behavior. The author's office points out that the report indicates that there is strong evidence for alternatives for PFAS used as processing aids. The author's office also points to a Corning slide deck on the potential use of silicones for die stick resistance in extrusion in place of PFAS.

This bill: This bill prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains PFAS at or above one ppm. It also prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing a covered surface that contains PFAS at that level. Finally, also commencing January 1, 2024, it requires a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

Recent US EPA action on PFAS: According to the US EPA, "Under the Biden-Harris Administration, [US] EPA has restored scientific integrity and accelerated the pace of research and actions needed to tackle the PFAS crisis and protect American communities." On October 18, 2021, US EPA Administrator Michael S. Regan announced the agency's PFAS Strategic Roadmap, which laid out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which US EPA plans to take specific actions and commits to, "bolder new policies to safeguard public health, protect the environment, and hold polluters accountable."

Additionally, the US EPA reported that since the roadmap's release in October 2021, US EPA has taken a number of key actions to address PFAS, including proposing to designate two PFAS as hazardous substances under the federal Comprehensive Environmental Response, Compensation, and Liability Act; releasing drinking water health advisories for four PFAS; laying the foundation for enhancing data on PFAS; and, beginning to distribute $10 billion in funding to address emerging contaminants under the Bipartisan Infrastructure Law.

State action on PFAS: California has undertaken efforts to address PFAS substances across several state entities.

At DTSC, all PFAS chemicals are "Candidate Chemicals" under the Safer Consumer Products (SCP, previously known as Green Chemistry) Program, because they exhibit a hazard trait and/or an environmental or toxicological endpoint, and the entire class of PFAS was added by the California Environmental Contaminant Biomonitoring Program to its list of priority chemicals.

On July 1, 2021, DTSC designated carpets and rugs containing PFAS as a "Priority Product." 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. The Priority Product designation required domestic and foreign carpet and rug manufacturers that use PFAS and related chemicals in their products to submit information on all of the manufacturer's products that contain PFAS and are sold in California, by August 30, 2021. Manufacturers were then required to show intent to remove or replace

PFAS in their products, remove the product from the market, or identify potential alternatives to PFAS to be used in the product by December 28, 2021.

In regulations that went into effect on April 1, 2022, DTSC also designated treatments containing PFAS for use on converted textiles or leathers such as carpets, upholstery, clothing, and shoes as a Priority Product. Domestic and foreign manufacturers of treatments for converted textiles or leathers that contain any member of the class of PFAS selling their products in California were required to submit information on those products by May 31, 2022. After submitting the required information, manufacturers were then required to show intent to mitigate exposure to PFAS in their products by September 28, 2022.

DTSC has also proposed evaluating artificial turf with PFAS in their Draft Priority Product Work Plan for 2021-2023. Previously, DTSC 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.

OEHHA, under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), listed PFOA and PFOS as chemicals known to the state to cause reproductive toxicity. In July, 2021, OEHHA announced the release of a draft document for public review describing proposed Public Health Goals (PHGs) for PFOA and PFOS in drinking water. A PHG is the level of a chemical contaminant in drinking water that does not pose a significant risk to health. PHGs published by OEHHA are considered by the State Water Resources Control Board (State Water Board) in setting drinking water regulatory standards (Maximum Contaminant Levels, or MCLs) for California.

The State Water Board has taken a number of additional recent actions related to PFAS in drinking water, including, in July 2020, issuing investigative orders to publicly owned treatment works that receive PFAS in their influent wastewater flow to include sampling for 31 PFAS compounds. In August 2020, it also issued a General Order for public water systems to sample for and report PFAS. It also issued drinking water notification levels and response levels for several PFAS compounds.

Recently, the State Legislature has taken action on PFAS by enacting a slew of bills prohibiting PFAS at different levels across many product categories. These include a ban on textiles that contain PFAS (AB 1817,Ting, Chapter 762, Statutes of 2022); a ban on cosmetic products that contain PFAS (AB 2771, Friedman, Chapter 804, Statutes of 2022); a ban on food packaging that contains PFAS (AB 1200, Ting, Chapter 503, Statutes of 2021); a ban on new juvenile products that contain PFAS (AB 652, Freidman, Chapter 500, Statutes of 2021); and, a ban on firefighting foam containing PFAS (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).

Chemical bans and the Safer Consumer Products Program: In 2008, California enacted AB 1879 (Feuer and Huffman, Chapter 559, Statutes of 2008) to establish a regulatory process for identifying and prioritizing chemicals of concern in consumer products, to create methods for analyzing alternatives to existing hazardous chemicals, and to ultimately take regulatory action to reduce the level of harm from the chemicals in those products. DTSC did this by

promulgating the Safer Consumer Products regulations, which took effect in October 2013. 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.

While the intent of AB 1879 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. The permutations of product and chemical combinations are virtually limitless. To that end, the Safer Consumer Products 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 expeditiously than can DTSC. Since AB 1879 was enacted, the Legislature has enacted policies on various chemical-product applications, which include, in addition to the PFAS prohibitions listed above, a ban on flame retardants in children's products, mattresses, and upholstered furniture (AB 2998, Bloom, Chapter 924, Statutes of 2018); a ban on BPA in toddler sippy cups and bottles (AB 1319, Butler, Chapter 467, Statutes of 2011); a ban on the sale of jewelry with cadmium at certain levels (AB 929, Pavley, Chapter 313, Statutes of 2010); and, a ban on the sale of brake pads containing copper in exceedances of certain levels (SB 346, Kehoe, Chapter 307, Statutes of 2010).

DTSC, in fact, wrote in support of AB 1319 (Butler) stating: "DTSC does not believe that the [Safer Consumer Products] regulations should ever be viewed as excluding action that the Legislature might take to address specific product related concerns that are brought to its attention. Not only have the regulations taken longer to adopt than originally anticipated, DTSC also expects that the process to be represented in the regulations will be subject to time and resource constraints. There may be circumstances that warrant more timely action than DTSC can accommodate through its process."

Enforcement and compliance for chemical prohibition laws: Most of the chemical prohibition bills listed previously 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 compliance program, no guidance for manufacturers seeking to comply with these laws, and no related information for consumers. This means there are no regulations or public guidance documents clarifying the intent of the law and no state entity investigating complaints, testing affected products for compliance, or bringing enforcement actions against violators. Because of these deficiencies, it is challenging for some manufacturers to comply and impossible to know if any manufacturers are complying with the requirements of the law.

This bill: The provisions of this bill are placed in the "orphan code" section of the Health and Safety Code.

Unfair Competition Law (UCL): 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 UCL (unless specified otherwise). The UCL is one of the primary tools currently available to government attorneys to protect the public from "any unlawful, unfair or fraudulent business act or practice and unfair, deceptive, untrue or misleading

advertising[.]" (Business and Professions Code Section 17200.). As recently summarized by the California Supreme Court:

> The statute's purpose is to protect both consumers and competitors by promoting fair competition in commercial markets for goods and services. In service of that purpose, the Legislature framed the UCL's substantive provisions in broad, sweeping language to reach anything that can properly be called a business practice and that at the same time is forbidden by law. By proscribing any unlawful business practice, section 17200 borrows violations of other laws and treats them as unlawful practices that the unfair competition law makes independently actionable. [T]he Legislature…intended by this sweeping language to permit tribunals to enjoin on-going wrongful business conduct in whatever context such activity might occur. To that end, the Legislature has created a scheme of overlapping enforcement authority. […] While the UCL provides for both public and private enforcement, authorized public prosecutors have an additional tool to enforce the state's consumer protection laws: civil penalties. (Abbott Laboratories v. Superior Court (2020) 9 Cal. 5th 642, 651-52 [internal citations and quotations omitted.])

Remedies under the UCL include injunctive relief, restitution, and civil penalties. It is important to note that even though a district attorney or the Attorney General can take an action to enforce these chemical prohibitions in the "orphan codes" using the UCL, before a case is filed, a member of the public must purchase and test products at a certified laboratory for the prohibited chemical, which is expensive. Then, the Attorney General or district attorney must have the resources and ability to prioritize action on these complaints before other responsibilities.

To date, the Committee is unaware of any comprehensive report or investigation by any entity on compliance with the chemical prohibitions in the "orphan code," nor is it aware of any entity that is sampling, testing, or tracking compliance with the "orphan codes." Additionally, to date, the Committee is not aware of any enforcement actions taken by the Attorney General or a district attorney under the UCL, or any other law, to enforce any of the chemical prohibition laws under the "orphan codes."

This bill: While the provisions of this bill are placed under the "orphan" section of the Health and Safety Code, the author has added provisions that provide government attorneys with civil penalty options to bring against violators of the law. Specifically, this bill 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 for covered surfaces as delineated in this bill shall be liable for a civil penalty, capped at $5,000 for a first violation and $10,000 for each subsequent violation. The bill additionally provides that these penalty provisions do not impair or impede any other rights, causes of action, claims, or defenses available under any other law. AB 1423 also provides that the remedies delineated in the bill are cumulative with any other remedies available under any other law. These penalty provisions are in addition to the authority for government attorneys to enforce under the UCL, and are consistent with existing statutory penalties relating to PFAS in firefighting foam.

In addition to the penalty provisions currently included in the bill, the author has indicated that she is willing to continue to work with the Committee and stakeholders on a comprehensive enforcement program for dangerous chemicals in products.

Acceptable levels of exposure to PFAS: This bill prohibits PFAS in a covered surface at or above one ppm, as measured in total organic fluorine. There are two other bills pending before the Committee with differing PFAS thresholds in different product categories, and 5 statutes with differing PFAS thresholds for other products (see the "Existing Law" section of this analysis.) As with enforcement, setting thresholds on chemicals in products would benefit from a public entity with oversight responsibility. In that case, a team of scientists with related public health backgrounds could set the appropriately protective thresholds and be able to update the thresholds through regulation consistent with emerging science. 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.

For the thresholds set in this bill, the author's office argues, "Artificial turf requires a more stringent limit [than other uses of PFAS] due to a few factors and it should not be compared to other products like clothing, food packaging, and children's products. The most important distinctions are weathering and mechanical stress. In terms of weathering, artificial turf spends its entire life outside in the sun and rain. Many other products are not intended by the manufacturer to be used outside, full time, for 8-12 years in all weather. This weathering increases the risk posed by this product as it sheds PFAS laden plastic dust. ...For mechanical stress, artificial turf is intended to be played on with shoes, cleats, and other sports equipment with significant force. This mechanical grinding creates small particles that children inhale, ingest, and come into dermal contact with. A secondary concern is similar to other products in that it also leaches PFAS from its plastic "encapsulation"; however, the sheer size and scope of this product sitting outside statewide means that it should be treated differently with acres and acres of fields capable of leeching PFAS into stormwater and groundwater."

Regrettable substitutions: While each of the laws listed in the "orphan code" prohibit a chemical that has been suspected of or found to be toxic or hazardous the laws do not prevent a manufacturer from replacing the prohibited chemical with another hazardous chemical, or a chemical even more hazardous than the one prohibited. In addition, several of the laws dealing with chemicals in the "orphan code" require manufacturers to use the least toxic alternative when replacing the chemical in question. Without a state entity overseeing these substitutions, it is difficult or impossible to know whether manufacturers are replacing prohibited chemicals with substances that are safer or more hazardous.

This bill: This bill requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

Moving forward: This bill, along with the other PFAS bills pending in front of the Committee, takes a step forward on statutory chemical prohibitions by adding civil penalties for violations of the restrictions in the bill. However, there remains no entity proving guidance or ensuring compliance with the prohibitions. Moving forward, the authors of these bills, along with stakeholders, the Committee, and the Administration, should continue to discuss effective oversight of these new and existing chemical prohibition laws.

Related legislation:

1. AB 246 (Papan). Prohibits, beginning January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale a menstrual product that contains intentionally-added PFAS, and beginning January 1, 2027, a menstrual product that contains PFAS at or above

10 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

2. AB 727 (Weber). Prohibits, beginning January 1, 2025, 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, and on January 1, 2027, a cleaning product that contains PFAS at or above 25 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

3. 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 regulated PFAS, and requires a manufacturer to use the least toxic alternative when removing regulated PFAS in textile articles to comply with the provisions of the bill.

4. 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.

5. AB 1200 (Ting, Chapter 503, Statutes of 2021). Prohibits, commencing January 1, 2023, the sale of food packaging that contains PFAS; requires, commencing January 1, 2024, cookware manufacturers to label their product if it contains an intentionally added chemical on specified lists; and prohibits, commencing January 1, 2023, for the internet and January 1, 2024, for the cookware package, a cookware manufacturer from making a claim that cookware is free of a chemical, unless no chemical from that chemical class is intentionally added to the cookware.

6. 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 PFAS.

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

8. SB 1056 (Portantino, 2020). Would have required the State Water Board to establish an analytical laboratory method that can be used as a tool to assess the extent of PFAS contamination in drinking water, surface water, groundwater, and wastewater. This bill was held in the Senate Environmental Quality Committee.

9. AB 756 (C. Garcia, Chapter 162, Statutes of 2019). Authorizes the State Water Board to order one or more public water systems to monitor for PFAS and requires municipalities to notify consumers for PFAS detected above notification levels.

10. AB 841 (Ting, Chapter 372, Statutes of 2019). As heard by the Assembly, would have required OEHHA to assess PFAS substances, especially as they might be found in drinking water, to determine which might pose a potential risk to human health. The contents of this bill were deleted in the Senate and amended with unrelated content.

11. AB 958 (Ting, 2018). Would have required a manufacturer of food packaging or cookware sold in the state to visibly disclose on an exterior location of the food packaging or cookware packaging a specified statement relating to the presence of PFAS in the product. This bill was held on the Senate Floor.

12. SB 1313 (Corbett, 2008). Would have prohibited the manufacture, sale, or distribution of any food contact substance, as defined, which contains perfluorinated compounds, as defined, in any concentration exceeding 10 parts per billion. This bill was vetoed by Governor Arnold Schwarzenegger whose veto message said, "I have signed AB 1879 (Feuer) and SB 509 (Simitian) which mark the beginning of California's historic Green Chemistry Initiative. It is within this process that chemicals like PFCs should be addressed."

REGISTERED SUPPORT / OPPOSITION:

Support

A Voice for Choice Advocacy
Active San Gabriel Valley
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal and SoCal Chapters
Environmental Working Group
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council
Natural Resources Defense Council (NRDC)
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

Opposition

None on file.

Analysis Prepared by: Shannon McKinney / E.S. & T.M. /

From: "Peacock, Rebecca" <RPeacock@sfwater.org>
To: "Mauer, Dan (REC)" <dan.mauer@sfgov.org>
Date: 4/25/2023 5:13:14 PM
Subject: RE: State Bill regarding Artificial Turf
Attachments: 202320240AB1423_Assembly Environmental Safety And Toxic Material s.pdf
v5_AB 1423_SLC Proposal_SFPUC_RP.docx

Hi Dan,

We're on a bit of a tight timeline since we need our GM to approve the proposal next week for submission to the Mayor's office the week after (May 8). I will also be out of office this Thursday and Friday, but our subject matter experts are cc'd here if you have additional questions.

Some context that may be helpful for your operations as I read the bill:

- Starting 2024, manufacturers and installers must notify relevant parties if the turf contains regulated PFAS.
- The restriction for public entities does not apply to any "who have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023."
- The ban on sale & manufacture of these products begins in 2025.

Essentially, anything you currently have solid plans for should be exempt. If there's anything still in the works, it'd have to initiate before the end of this year to move forward. By 2025, these products should (theoretically) be off the market.

Maybe the broader question is whether there is a big enough market for acceptable alternatives, or if the industry can make adjustments by 2025? And whether delays in manufacturing alternatives will significantly impact your operations. As I understand it, cork infill products may still have PFAS in the grass blades, either as a byproduct of manufacturing or deliberately added for water/weathering resistance.

If it's helpful, I've attached a draft copy of our SLC proposal and the Assembly Committee's analysis of the bill. The SFPUC's concerns are primarily about stormwater contamination, but the broader health concerns addressed in the analysis are an

important component as well.

Rebecca Peacock

San Francisco Public Utilities Commission

c: 415-757-8365

they/them /Mx.

From: Mauer, Dan (REC)
Sent: Monday, April 24, 2023 5:45 PM
To: Peacock, Rebecca
Cc: Ross, Autumn A ; Batjiaka, Ryan ; Maack, Emma ; Ahn, Matthew Y
Subject: RE: State Bill regarding Artificial Turf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Rebecca,

Thanks for the email. I'm reviewing this information with some RPD staff and once I get feedback, I'll reach back with our thoughts and comments here. Do you have a timeline on when you are looking for feedback?

Thanks
Dan

Dan Mauer

Project Manager, Capital Improvement Division

San Francisco Recreation and Park Department | City & County of San Francisco

49 South Van Ness Avenue, 12th Floor | San Francisco, CA | 94102

(628) 652-6630 (Office) (415) 218-1156 (Cell)

dan.mauer@sfgov.org

From: Peacock, Rebecca <RPeacock@sfwater.org>
Sent: Friday, April 21, 2023 2:45 PM
To: Mauer, Dan (REC) <dan.mauer@sfgov.org>
Cc: Ross, Autumn (PUC) <ARoss@sfwater.org>; Batjiaka, Ryan (PUC) <RBatjiaka@sfwater.org>; Maack, Emma (PUC) <EMaack@sfwater.org>; Ahn, Matthew (PUC) <MAhn@sfwater.org>
Subject: State Bill regarding Artificial Turf

Hi Dan,

I hope you're doing well. I'm reaching out to you today on the recommendation of Department of the Environment to ask you for feedback on a state bill that the SFPUC would like to bring to the City's State Legislation Committee for a Support position.

AB 1423 (Schiavo, Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces) is a bill that would, starting in 2024, restrict public entities' ability to purchase and install artificial turf and other surface coverings that contain regulated PFAS. It would then institute a total ban on such products by 2025. The SFPUC has an interest in supporting many PFAS product bans, but this is especially pertinent given that stormwater runoff from these kinds of surfaces can cause PFAS to enter our wastewater stream.

ENV recommended I reach out to you since you've been working on artificial turf replacement for the past few years at Rec & Park. Do you anticipate this bill causing issues for the department? Do you have any policies currently in place that restrict

purchase of such coverings?

Rebecca Peacock

My pronouns are: they/them/Mx.

Administrative Analyst, Policy & Government Affairs

San Francisco Public Utilities Commission

Work Cell: (415) 757-8365

rpeacock@sfwater.org

sfpuc.org

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

Date of Hearing: April 18, 2023

ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS
Alex Lee, Chair
AB 1423 (Schiavo) – As Amended April 13, 2023

SUBJECT: Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces

SUMMARY: Prohibits, commencing January 1, 2025, the manufacturing or sale of artificial turf that contains PFAS, as defined, and prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing artificial turf that contains PFAS. Specifically, **this bill**:

1) Makes legislative findings about PFAS and PFAS exposure.

2) Defines "covered surface" as artificial turf or a synthetic surface that resembles grass.

3) Defines "perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

4) Defines "regulated PFAS" as including either of the following:
   a) PFAS that a manufacturer has intentionally added to a product and that has a functional or technical effect in the product; or,
   b) The presence of PFAS in a product or product component at or above one part per million (ppm), as measured in total organic fluorine.

5) Requires, commencing January 1, 2024, a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

6) Prohibits, commencing January 1, 2024, a covered surface containing regulated PFAS from being purchased or installed by any of the following entities:
   a) A public entity, including a charter city, charter county, city, or county;
   b) A public or private school serving pupils in kindergarten or any of grades 1 to 12, inclusive; or,
   c) A public or private institution of higher education, except the University of California.

7) Requests, commencing January 1, 2024, the University of California to comply with the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

8) Exempts those entities above that have concluded the design and permitting of a covered surface, contracted for the installation of a covered surface, or purchased a covered surface on or before December 31, 2023, from the prohibition on the purchase or installation of a covered surface containing regulated PFAS.

9) Prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains regulated PFAS.

10) 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 in covered surfaces provisions 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.

11) 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.

12) Requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

EXISTING LAW:

1) Requires, commencing January 1, 2022, a person that sells firefighter personal protective equipment to provide a written notice to the purchaser if the firefighter personal protective equipment contains intentionally added PFAS chemicals. (Health and Safety Code (HSC) § 13029 (b)(1))

2) Prohibits, commencing January 1, 2022, a manufacturer of class B firefighting foam from manufacturing, or knowingly selling, offering for sale, distributing for sale, or distributing for use, and a person from using, class B firefighting foam containing intentionally added PFAS chemicals. (HSC § 13061 (b)(1))

3) Prohibits, on and after July 1, 2023, a person, including, but not limited to, a manufacturer, from selling or distributing in commerce in this state any new, not previously owned, juvenile product, as defined, that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 108946)

4) Prohibits, on or after January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale in the state any new, not previously used, textile articles that contain intentionally added PFAS, or PFAS at or above 100 PPM, and on or after January 1, 2027, 50 PPM, as measured in total organic fluorine. (HSC § 108971)

5) 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. (HSC § 108980 (a))

6) 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. (HSC § 108981.5)

7) Prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains that contains intentionally added PFAS or PFAS at or above 100 ppm, as measured in total organic fluorine. (HSC § 109000)

8) Authorizes the State Water Resources Control Board (State Water Board) to order a public water system to monitor for PFAS; requires community water systems to report detections; and, where a detected level of these substances exceeds the response level, to take a water source out of use or provide a prescribed public notification. (HSC §116378)

Under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

1) 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. (HSC § 25249.5)

2) 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. (HSC § 25249.6)

3) 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. (HSC § 25249.8)

Under the Safer Consumer Products (Green Chemistry) statutes:

1) 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. (HSC § 25252)

2) 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. (HSC § 25253 (a))

3) 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. (HSC § 25253)

FISCAL EFFECT: Unknown.

COMMENTS:

Need for the 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 has been found to contain PFAS, and as fields age, the artificial turf releases microplastic dust that contains PFAS. Children are particularly at risk of inhaling and ingesting this dust as they play on fields. AB 1423 empowers consumers to avoid artificial grass that uses PFAS in manufacturing, and it further ensures that fields installed in schools and by the state in the future will not contain PFAS, protecting youth and preventing the long term health impacts of PFAS."

Perfluoroalkyl and polyfluoroalkyl substances (PFAS): Per- and polyfluorinated substances (PFASs) are a large group of synthetic, highly fluorinated substances that have been widely used in industrial and consumer applications for their heat, water, and lipid resistance properties for more than seven decades. PFAS are long-lasting chemicals that break down very slowly over time. PFAS are ubiquitous, and researchers have found PFAS in indoor and outdoor environments, plants, soil, food, drinking water, wildlife, companion animals, production animals, and humans at locations across the nation and around the globe. Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals. More than 9,000 PFAS chemicals are included in the United States Environmental Protection Agency's (US EPA's) Master List of PFAS Substances. 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.

The breadth of uses of PFAS is immense, making it impossible to avoid exposure. PFAS are used extensively in surface coating and protectant formulations due to their unique ability to reduce the surface tension of liquids. In consumer products, PFAS is used 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. During production, use, and disposal, PFAS can migrate into the soil, water, and air.

Exposure to PFAS: The main route of exposure to PFAS is through ingestion of contaminated food or liquid (accounting for up to half of total exposure), and through inhalation and ingestion of contaminated indoor air and dust. Food can become contaminated with PFAS through contaminated soil and water used to grow the food, food packaging containing PFAS, and equipment that uses PFAS during food processing. Some foods, such as fish, meat, eggs and leafy vegetables, may contain PFAS due to bioaccumulation and crop uptake. Studies have shown that PFAS can transfer from pregnant mothers to their fetuses via the placenta during gestation, as well as transfer from nursing mothers to their infants via breastfeeding. Dermal exposure is also possible when people touch products treated with PFAS, such as carpets or clothing. Young children may be susceptible to higher levels of exposure than adults because they ingest more dust containing PFAS and mouth PFAS-treated consumer products. Workers, such as carpet installers, carpet cleaners, firefighters, and workers in furniture, furnishings, outdoor clothing, and carpet stores, may also experience above average PFAS exposure levels.

Exposure to PFAS in drinking water is an escalating concern due to the persistence of PFAS chemicals in the environment and their tendency to accumulate in groundwater. Groundwater PFAS contamination typically has been associated with industrial facilities where these chemicals were manufactured or used in other products, and in airfields where the chemicals have been used for firefighting. PFAS chemicals can also enter the environment and drinking water through composting, landfilling, recycling, and incineration of products containing PFAS. The State Water Board indicates that the four major sources of PFAS in drinking water in California are fire training/fire response sites, industrial sites, landfills, and wastewater treatment plants/biosolids. The State Water Board notes that because of their presence and persistence in many drinking water supplies, PFAS remain a serious source of exposure decades after their release into the environment.

Like humans, wildlife is exposed to PFAS by consuming contaminated water or food. Within aquatic food webs, PFAS were found to increase in concentration from ambient water to plankton and further up the food chain.

Hazard traits of PFAS: According to DTSC, all PFAS display at least one of the hazard traits identified in California's Safer Consumer Products (Green Chemistry) Hazard Traits Regulations (22 C.C.R § 69401 et seq.). An intrinsic property of PFAS is the extreme environmental persistence of either the individual compounds or their degradation products or both, resulting in their classification as "forever chemicals." Most PFAS are mobile in environmental media such as air and water, and thus are widespread in living organisms and the environment. Several PFAS bioaccumulate significantly in animals or plants and emerging evidence points to their phytotoxicity, aquatic toxicity, and terrestrial ecotoxicity.

DTSC contends that exposure to PFAS can lead to adverse health outcomes in humans. If humans are exposed to PFAS through diet, drinking water, or inhalation, some of these chemicals remain in the body for a long time. 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 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 women; 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.

Regulating PFAS as a class: DTSC has adopted a rationale for regulating PFAS chemicals as a class, concluding, "it is both ineffective and impractical to regulate this complex class of chemicals with a piecemeal approach." This rationale was presented in the February, 2021, *Environmental Health Perspectives* article, "Regulating PFAS as a Chemical Class under the California Safer Consumer Products Program." The authors of the article state,

> "The widespread use, large number, and diverse chemical structures of PFAS pose challenges to any sufficiently protective regulation, emissions reduction, and remediation at contaminated sites. Regulating only a subset of PFAS has led to their replacement with other members of the class with similar hazards, that is, regrettable substitutions. Regulations that focus solely on perfluoroalkyl acids (PFAAs) are ineffective, given that nearly all other PFAS can generate PFAAs in the environment… We at the California DTSC propose regulating certain consumer products if they contain any member of the class of PFAS because: *a*) all PFAS, or their degradation, reaction, or metabolism products, display at least one common hazard trait according to the California Code of Regulations, namely environmental persistence; and *b*) certain key PFAS that are the degradation, reaction or metabolism products, or impurities of nearly all other PFAS display additional hazard traits, including toxicity; are widespread in the environment, humans, and biota; and will continue to cause adverse impacts for as long as any PFAS continue to be used. Regulating PFAS as a class is thus logical, necessary, and forward-thinking."

Other researchers have made the case for managing PFAS as a chemical class, including in "Scientific Basis for Managing PFAS as a Chemical Class" published in June, 2020, in *Environmental Science & Technology Letters* and "Strategies for grouping per- and

polyfluoroalkyl substances (PFAS) to protect human and environmental health," also published in June, 2020, in *Environmental Science: Processes & Impacts.*

Artificial turf: Artificial turf is also referred to as synthetic turf, SynTurf, AstroTurf, artificial/synthetic grass, or plastic grass. It is composed of a backing layer foundation, blades resembling grass, and a filling that serves as shock absorbing material. According to DTSC in its Safer Consumer Products Program 2021-2023 Priority Product Work Plan, the backing and fiber layers of artificial turf are made of similar materials as carpets and rugs, such as polyvinyl chloride, polypropylene, nylon, and polyurethane. DTSC points to information provided by the Synthetic Turf Council, which estimates that there are currently between 12,000 and 13,000 synthetic turf sports fields in the United States, with 1,200 to 1,500 new installations each year. The Synthetic Turf Council estimated that 750 fields are replaced each year. With the average field containing approximately 40,000 pounds of plastic carpet and 400,000 pounds of infill, this can create over 300 million pounds of waste annually.

DTSC argues that the use of artificial turf at outdoor facilities is of concern since these facilities are frequently used by sensitive subpopulations, including young children. While air circulation is generally better in an outdoor application, there is also an increased potential for exposure to concerning chemicals in turf due to faster material degradation by outdoor elements, such as ultraviolet light, and high friction athletic use. In addition to increasing the release of chemicals from artificial turf during use, these factors also affect the product's life and make it necessary to replace it every eight to 10 years.

PFAS in artificial turf: In its 2021-2023 Priority Product Work Plan, DTSC notes that it is interested in PFAS in synthetic turf due to multiple public comments received on their proposed regulations to list carpets and rugs containing PFASs as a Priority Product. DTSC points to testing on artificial turf commissioned by two non-profit organizations, Public Employees for Environmental Responsibility (PEER) and The Ecology Center. The testing, which appears to have been on 10 samples (one new, one manufactured in 2004, and 8 of unclear manufacturing dates), found elemental fluorine and specific PFAS chemicals, which they argue suggests that PFAS is an ingredient of the carpet grass fibers or the backing, or a byproduct of the manufacturing process. PEER and The Ecology Center also report that that they found turf patents and industry literature discussing the widespread use of PFAS as a plastic processing aid to enhance smoothness and reduce friction. They say that this may mean PFAS are in many other plastic products. It should be noted that, in response to the media coverage of these reports, the Synthetic Turf Council put out a statement that condemned the groups' "inaccurate, non-verified report using questionable test methods."

Through the Safer Consumer Products Program, DTSC has previously evaluated PFASs in carpets and rugs, as well as in other consumer products. DTSC says that, as with carpets and rugs, PFASs may be used in the manufacture of artificial turf as an aid in molding and extrusion of the plastic blades, or may be applied to the finished product to enhance surface properties. According to DTSC, the PFASs present in artificial turf have a similar potential to contribute to or cause adverse impacts to sensitive subpopulations. Therefore, DTSC plans to leverage its prior work on PFASs in carpets and rugs and other products to evaluate PFASs in artificial turf. This evaluation is pending.

Alternatives to PFAS in artificial turf: The author's office points to specific reports for examples of potential alternatives to PFAS in artificial turf. One is a March 22, 2023, proposal for

restriction of PFAS by the European Chemicals Agency, which reviews information on PFAS alternatives. This report overviews the various use cases and assessment of alternatives for PFAS. While there is no outright mention of turf, the author's office argues that a few examples are close, such as use of replacements in plastic packaging, where it is used as an aid to improve flow behavior. The author's office points out that the report indicates that there is strong evidence for alternatives for PFAS used as processing aids. The author's office also points to a Corning slide deck on the potential use of silicones for die stick resistance in extrusion in place of PFAS.

This bill: This bill prohibits, commencing January 1, 2025, a person or entity from manufacturing, distributing, selling, or offering for sale in the state any covered surface that contains PFAS at or above one ppm. It also prohibits, commencing January 1, 2024, a public entity, a public or private school, or a public or private institution of higher learning, as specified, from purchasing or installing a covered surface that contains PFAS at that level. Finally, also commencing January 1, 2024, it requires a manufacturer or installer of a covered surface proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated PFAS.

Recent US EPA action on PFAS: According to the US EPA, "Under the Biden-Harris Administration, [US] EPA has restored scientific integrity and accelerated the pace of research and actions needed to tackle the PFAS crisis and protect American communities." On October 18, 2021, US EPA Administrator Michael S. Regan announced the agency's PFAS Strategic Roadmap, which laid out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which US EPA plans to take specific actions and commits to, "bolder new policies to safeguard public health, protect the environment, and hold polluters accountable."

Additionally, the US EPA reported that since the roadmap's release in October 2021, US EPA has taken a number of key actions to address PFAS, including proposing to designate two PFAS as hazardous substances under the federal Comprehensive Environmental Response, Compensation, and Liability Act; releasing drinking water health advisories for four PFAS; laying the foundation for enhancing data on PFAS; and, beginning to distribute $10 billion in funding to address emerging contaminants under the Bipartisan Infrastructure Law.

State action on PFAS: California has undertaken efforts to address PFAS substances across several state entities.

At DTSC, all PFAS chemicals are "Candidate Chemicals" under the Safer Consumer Products (SCP, previously known as Green Chemistry) Program, because they exhibit a hazard trait and/or an environmental or toxicological endpoint, and the entire class of PFAS was added by the California Environmental Contaminant Biomonitoring Program to its list of priority chemicals.

On July 1, 2021, DTSC designated carpets and rugs containing PFAS as a "Priority Product." 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. The Priority Product designation required domestic and foreign carpet and rug manufacturers that use PFAS and related chemicals in their products to submit information on all of the manufacturer's products that contain PFAS and are sold in California, by August 30, 2021. Manufacturers were then required to show intent to remove or replace

PFAS in their products, remove the product from the market, or identify potential alternatives to PFAS to be used in the product by December 28, 2021.

In regulations that went into effect on April 1, 2022, DTSC also designated treatments containing PFAS for use on converted textiles or leathers such as carpets, upholstery, clothing, and shoes as a Priority Product. Domestic and foreign manufacturers of treatments for converted textiles or leathers that contain any member of the class of PFAS selling their products in California were required to submit information on those products by May 31, 2022. After submitting the required information, manufacturers were then required to show intent to mitigate exposure to PFAS in their products by September 28, 2022.

DTSC has also proposed evaluating artificial turf with PFAS in their Draft Priority Product Work Plan for 2021-2023. Previously, DTSC 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.

OEHHA, under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), listed PFOA and PFOS as chemicals known to the state to cause reproductive toxicity. In July, 2021, OEHHA announced the release of a draft document for public review describing proposed Public Health Goals (PHGs) for PFOA and PFOS in drinking water. A PHG is the level of a chemical contaminant in drinking water that does not pose a significant risk to health. PHGs published by OEHHA are considered by the State Water Resources Control Board (State Water Board) in setting drinking water regulatory standards (Maximum Contaminant Levels, or MCLs) for California.

The State Water Board has taken a number of additional recent actions related to PFAS in drinking water, including, in July 2020, issuing investigative orders to publicly owned treatment works that receive PFAS in their influent wastewater flow to include sampling for 31 PFAS compounds. In August 2020, it also issued a General Order for public water systems to sample for and report PFAS. It also issued drinking water notification levels and response levels for several PFAS compounds.

Recently, the State Legislature has taken action on PFAS by enacting a slew of bills prohibiting PFAS at different levels across many product categories. These include a ban on textiles that contain PFAS (AB 1817,Ting, Chapter 762, Statutes of 2022); a ban on cosmetic products that contain PFAS (AB 2771, Friedman, Chapter 804, Statutes of 2022); a ban on food packaging that contains PFAS (AB 1200, Ting, Chapter 503, Statutes of 2021); a ban on new juvenile products that contain PFAS (AB 652, Freidman, Chapter 500, Statutes of 2021); and, a ban on firefighting foam containing PFAS (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).

Chemical bans and the Safer Consumer Products Program: In 2008, California enacted AB 1879 (Feuer and Huffman, Chapter 559, Statutes of 2008) to establish a regulatory process for identifying and prioritizing chemicals of concern in consumer products, to create methods for analyzing alternatives to existing hazardous chemicals, and to ultimately take regulatory action to reduce the level of harm from the chemicals in those products. DTSC did this by

promulgating the Safer Consumer Products regulations, which took effect in October 2013. 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.

While the intent of AB 1879 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. The permutations of product and chemical combinations are virtually limitless. To that end, the Safer Consumer Products 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 expeditiously than can DTSC. Since AB 1879 was enacted, the Legislature has enacted policies on various chemical-product applications, which include, in addition to the PFAS prohibitions listed above, a ban on flame retardants in children's products, mattresses, and upholstered furniture (AB 2998, Bloom, Chapter 924, Statutes of 2018); a ban on BPA in toddler sippy cups and bottles (AB 1319, Butler, Chapter 467, Statutes of 2011); a ban on the sale of jewelry with cadmium at certain levels (AB 929, Pavley, Chapter 313, Statutes of 2010); and, a ban on the sale of brake pads containing copper in exceedances of certain levels (SB 346, Kehoe, Chapter 307, Statutes of 2010).

DTSC, in fact, wrote in support of AB 1319 (Butler) stating: "DTSC does not believe that the [Safer Consumer Products] regulations should ever be viewed as excluding action that the Legislature might take to address specific product related concerns that are brought to its attention. Not only have the regulations taken longer to adopt than originally anticipated, DTSC also expects that the process to be represented in the regulations will be subject to time and resource constraints. There may be circumstances that warrant more timely action than DTSC can accommodate through its process."

Enforcement and compliance for chemical prohibition laws: Most of the chemical prohibition bills listed previously 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 compliance program, no guidance for manufacturers seeking to comply with these laws, and no related information for consumers. This means there are no regulations or public guidance documents clarifying the intent of the law and no state entity investigating complaints, testing affected products for compliance, or bringing enforcement actions against violators. Because of these deficiencies, it is challenging for some manufacturers to comply and impossible to know if any manufacturers are complying with the requirements of the law.

This bill: The provisions of this bill are placed in the "orphan code" section of the Health and Safety Code.

Unfair Competition Law (UCL): 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 UCL (unless specified otherwise). The UCL is one of the primary tools currently available to government attorneys to protect the public from "any unlawful, unfair or fraudulent business act or practice and unfair, deceptive, untrue or misleading

advertising[.]" (Business and Professions Code Section 17200.). As recently summarized by the California Supreme Court:

> The statute's purpose is to protect both consumers and competitors by promoting fair competition in commercial markets for goods and services. In service of that purpose, the Legislature framed the UCL's substantive provisions in broad, sweeping language to reach anything that can properly be called a business practice and that at the same time is forbidden by law. By proscribing any unlawful business practice, section 17200 borrows violations of other laws and treats them as unlawful practices that the unfair competition law makes independently actionable. [T]he Legislature…intended by this sweeping language to permit tribunals to enjoin on-going wrongful business conduct in whatever context such activity might occur. To that end, the Legislature has created a scheme of overlapping enforcement authority. […] While the UCL provides for both public and private enforcement, authorized public prosecutors have an additional tool to enforce the state's consumer protection laws: civil penalties. (Abbott Laboratories v. Superior Court (2020) 9 Cal. 5th 642, 651-52 [internal citations and quotations omitted.])

Remedies under the UCL include injunctive relief, restitution, and civil penalties. It is important to note that even though a district attorney or the Attorney General can take an action to enforce these chemical prohibitions in the "orphan codes" using the UCL, before a case is filed, a member of the public must purchase and test products at a certified laboratory for the prohibited chemical, which is expensive. Then, the Attorney General or district attorney must have the resources and ability to prioritize action on these complaints before other responsibilities.

To date, the Committee is unaware of any comprehensive report or investigation by any entity on compliance with the chemical prohibitions in the "orphan code," nor is it aware of any entity that is sampling, testing, or tracking compliance with the "orphan codes." Additionally, to date, the Committee is not aware of any enforcement actions taken by the Attorney General or a district attorney under the UCL, or any other law, to enforce any of the chemical prohibition laws under the "orphan codes."

This bill: While the provisions of this bill are placed under the "orphan" section of the Health and Safety Code, the author has added provisions that provide government attorneys with civil penalty options to bring against violators of the law. Specifically, this bill 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 for covered surfaces as delineated in this bill shall be liable for a civil penalty, capped at $5,000 for a first violation and $10,000 for each subsequent violation. The bill additionally provides that these penalty provisions do not impair or impede any other rights, causes of action, claims, or defenses available under any other law. AB 1423 also provides that the remedies delineated in the bill are cumulative with any other remedies available under any other law. These penalty provisions are in addition to the authority for government attorneys to enforce under the UCL, and are consistent with existing statutory penalties relating to PFAS in firefighting foam.

In addition to the penalty provisions currently included in the bill, the author has indicated that she is willing to continue to work with the Committee and stakeholders on a comprehensive enforcement program for dangerous chemicals in products.

Acceptable levels of exposure to PFAS: This bill prohibits PFAS in a covered surface at or above one ppm, as measured in total organic fluorine. There are two other bills pending before the Committee with differing PFAS thresholds in different product categories, and 5 statutes with differing PFAS thresholds for other products (see the "Existing Law" section of this analysis.) As with enforcement, setting thresholds on chemicals in products would benefit from a public entity with oversight responsibility. In that case, a team of scientists with related public health backgrounds could set the appropriately protective thresholds and be able to update the thresholds through regulation consistent with emerging science. 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.

For the thresholds set in this bill, the author's office argues, "Artificial turf requires a more stringent limit [than other uses of PFAS] due to a few factors and it should not be compared to other products like clothing, food packaging, and children's products. The most important distinctions are weathering and mechanical stress. In terms of weathering, artificial turf spends its entire life outside in the sun and rain. Many other products are not intended by the manufacturer to be used outside, full time, for 8-12 years in all weather. This weathering increases the risk posed by this product as it sheds PFAS laden plastic dust. ...For mechanical stress, artificial turf is intended to be played on with shoes, cleats, and other sports equipment with significant force. This mechanical grinding creates small particles that children inhale, ingest, and come into dermal contact with. A secondary concern is similar to other products in that it also leaches PFAS from its plastic "encapsulation"; however, the sheer size and scope of this product sitting outside statewide means that it should be treated differently with acres and acres of fields capable of leeching PFAS into stormwater and groundwater."

Regrettable substitutions: While each of the laws listed in the "orphan code" prohibit a chemical that has been suspected of or found to be toxic or hazardous the laws do not prevent a manufacturer from replacing the prohibited chemical with another hazardous chemical, or a chemical even more hazardous than the one prohibited. In addition, several of the laws dealing with chemicals in the "orphan code" require manufacturers to use the least toxic alternative when replacing the chemical in question. Without a state entity overseeing these substitutions, it is difficult or impossible to know whether manufacturers are replacing prohibited chemicals with substances that are safer or more hazardous.

This bill: This bill requires a manufacturer of a covered surface to use the least toxic alternative when replacing regulated PFAS in a covered surface.

Moving forward: This bill, along with the other PFAS bills pending in front of the Committee, takes a step forward on statutory chemical prohibitions by adding civil penalties for violations of the restrictions in the bill. However, there remains no entity proving guidance or ensuring compliance with the prohibitions. Moving forward, the authors of these bills, along with stakeholders, the Committee, and the Administration, should continue to discuss effective oversight of these new and existing chemical prohibition laws.

Related legislation:

1. AB 246 (Papan). Prohibits, beginning January 1, 2025, a person from manufacturing, distributing, selling, or offering for sale a menstrual product that contains intentionally-added PFAS, and beginning January 1, 2027, a menstrual product that contains PFAS at or above

10 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

2. AB 727 (Weber). Prohibits, beginning January 1, 2025, 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, and on January 1, 2027, a cleaning product that contains PFAS at or above 25 PPM. This bill is pending before the Assembly Environmental Safety and Toxic Materials Committee.

3. 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 regulated PFAS, and requires a manufacturer to use the least toxic alternative when removing regulated PFAS in textile articles to comply with the provisions of the bill.

4. 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.

5. AB 1200 (Ting, Chapter 503, Statutes of 2021). Prohibits, commencing January 1, 2023, the sale of food packaging that contains PFAS; requires, commencing January 1, 2024, cookware manufacturers to label their product if it contains an intentionally added chemical on specified lists; and prohibits, commencing January 1, 2023, for the internet and January 1, 2024, for the cookware package, a cookware manufacturer from making a claim that cookware is free of a chemical, unless no chemical from that chemical class is intentionally added to the cookware.

6. 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 PFAS.

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

8. SB 1056 (Portantino, 2020). Would have required the State Water Board to establish an analytical laboratory method that can be used as a tool to assess the extent of PFAS contamination in drinking water, surface water, groundwater, and wastewater. This bill was held in the Senate Environmental Quality Committee.

9. AB 756 (C. Garcia, Chapter 162, Statutes of 2019). Authorizes the State Water Board to order one or more public water systems to monitor for PFAS and requires municipalities to notify consumers for PFAS detected above notification levels.

10. AB 841 (Ting, Chapter 372, Statutes of 2019). As heard by the Assembly, would have required OEHHA to assess PFAS substances, especially as they might be found in drinking water, to determine which might pose a potential risk to human health. The contents of this bill were deleted in the Senate and amended with unrelated content.

11. AB 958 (Ting, 2018). Would have required a manufacturer of food packaging or cookware sold in the state to visibly disclose on an exterior location of the food packaging or cookware packaging a specified statement relating to the presence of PFAS in the product. This bill was held on the Senate Floor.

12. SB 1313 (Corbett, 2008). Would have prohibited the manufacture, sale, or distribution of any food contact substance, as defined, which contains perfluorinated compounds, as defined, in any concentration exceeding 10 parts per billion. This bill was vetoed by Governor Arnold Schwarzenegger whose veto message said, "I have signed AB 1879 (Feuer) and SB 509 (Simitian) which mark the beginning of California's historic Green Chemistry Initiative. It is within this process that chemicals like PFCs should be addressed."

REGISTERED SUPPORT / OPPOSITION:

Support

A Voice for Choice Advocacy
Active San Gabriel Valley
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal and SoCal Chapters
Environmental Working Group
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council
Natural Resources Defense Council (NRDC)
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

Opposition

None on file.

Analysis Prepared by: Shannon McKinney / E.S. & T.M. /

Date Submitted	[DATE]
Submitting Department	SFPUC
Contact Name	Rebecca Peacock
Contact Email and Phone Number	rpeacock@sfwater.org / 415-757-8365
SLC Meeting Presenter	Rebecca Peacock
Reviewed and approved by Department Head?	□ YES □ NO
Reviewed and approved by Commission?	□ YES □ NO **X** N/A

AB 1423
Asm. Schiavo, Asm. District #40, Democrat
Product safety: perfluoroalkyl and polyfluoroalkyl substances: artificial turf or synthetic surfaces

Recommended Position

□ SPONSOR X SUPPORT □ SUPPORT if amended □ OPPOSE □ OTHER & Describe

Summary

This bill would require manufacturers and installers of artificial turf proposing to design, sell, or install a field with a covered surface to any party to notify the party at the earliest possible date that the covered surface contains regulated perfluoroalkyl and polyfluoroalkyl substances (PFAS). Beginning in 2024, it would restrict public entities' ability to purchase and install artificial turf and other surface coverings. This includes cities, counties, charter cities, public and private K-12 schools, and public and private higher education institutions. By 2025, the bill would prohibit the manufacture, distribution, or sale of any covered surface that contains regulated PFAS.

The SFPUC recommends a support position for AB 1423.

Background/Analysis

PFAS (per and polyfluoroalkyl substances) are a group of chemicals that do not break down and have negative health impacts. The U.S. Environmental Protection Agency (EPA) has proposed exceptionally low health advisory levels as well as maximum contaminant levels for certain PFAS in drinking water. Additional regulatory action is expected and PFAS monitoring will eventually be included in National Pollutant Discharge Elimination System (NPDES) permits. Proposed Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) designation for PFAS could potentially make public utilities vulnerable to superfund liability claims despite the fact the public utilities are merely passive receivers of these compounds. Current wastewater treatment processes do not destroy PFAS and the only realistic way to reduce PFAS in SFPUC effluent and biosolids is to reduce the sources of PFAS entering the collection system.

Legislation which primarily aims to protect Californians from exposure to PFAS also reduces the amount of PFAS arriving at SFPUC wastewater treatment plants. In previous legislative sessions PFAS has been banned in firefighting foam, food packaging, juvenile products, cosmetics, and textiles.

Challenge

There has been a significant increase in regulatory action around PFAS at both the State and Federal level as the scientific community has established that these compounds are a significant threat to the environment and human health. The only realistic way to prevent human exposure and environmental release of these compounds is to limit their use. The only strategy available to the SFPUC to reduce PFAS entering its wastewater treatment plants is to reduce the amount of PFAS being used in its service area through source reduction. AB 1423 would limit environmental release of PFAS by prohibiting its use in artificial turf beginning in 2025. The SFPUC operates a combined sewer system and any runoff from artificial turf in San Francisco during rain events will eventually reach an SFPUC treatment plant.

Solution/Recommended Proposal

The SFPUC recommends a support position as it will reduce the amount of PFAS being transported to wastewater treatment plants and protect the health and safety of Californians who regularly use artificial turf for recreation and athletic events.

Departments Impacted & Why

As the EPA and State Water Board introduce more regulations around PFAS, if nothing is done to reduce PFAS entering wastewater treatment plants, the SFPUC Wastewater Enterprise could eventually find it difficult to meet PFAS regulatory requirements.

We have consulted the following departments regarding this position:
Environment Department
SFUSD
Rec & Park

Fiscal Impact

An inability to meet future PFAS regulation could result in additional costs of tens of millions of dollars annually if changes in effluent and biosolids management were required. This could entail the construction of as-of-yet undeveloped treatment technologies or other costly changes in management practices.

Support / Opposition

Support (as of April 13, 2023)
A Voice for Choice Advocacy
Active San Gabriel Valley
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
California Product Stewardship Council
California Professional Firefighters
Clean Water Action
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Elders Climate Action, NorCal, and SoCal Chapters
Environmental Working Group
Friends Committee on Legislation of California
Glendale Environmental Coalition
National Stewardship Action Council
Natural Resources Defense Council (NRDC)
Safe Healthy Playing Fields, Inc.
Sierra Club California
Surfrider Foundation
Urban Ecology Project

Opposition (As of April 13, 2023)
None on file.