**SENATE COMMITTEE ON ENVIRONMENTAL QUALITY**
**Senator Allen, Chair**
**2021 - 2022 Regular**

| | | | |
|---|---|---|---|
| **Bill No:** | AB 2771 | | |
| **Author:** | Friedman | | |
| **Version:** | 6/13/2022 | **Hearing Date:** | 6/22/2022 |
| **Urgency:** | No | **Fiscal:** | No |
| **Consultant:** | Jacob O'Connor | | |

**SUBJECT:** Cosmetic products: safety

**DIGEST:** Prohibits, beginning January 1, 2025 a person or entity from manufacturing or offering for sale in commerce any cosmetic product that contains intentionally added perfluoroalkyl and polyfluoroalkyl substances.

**ANALYSIS:**

Existing law:

1) Requires, under the Safer Consumer Products statutes 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. (Health and Safety Code (HSC) § 25252)

2) Establishes the Safer Consumer Products (SCP) Program and 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 § 25252 et seq.)

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)

4) Prohibits, commencing January 1, 2025, any person or entity from manufacturing, selling, delivering, holding, or offering for sale in commerce any cosmetic product that contains a number of intentionally added ingredient, including the following long-chain PFAS and their salts: perfluorooctane sulfonate (PFOS); perfluorooctanoic acid (PFOA); perfluorononanoic acid (PFNA); and, perfluorodecanoic acid (PFDA). (HSC § 108980)

5) Under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), 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 per- and polyfluoroalkyl substances (PFAS) class, as chemicals known to the state to cause developmental toxicity. (HSC § 25249.8)

6) 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. (HSC § 13029)

7) 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)

8) 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 that contains regulated PFAS chemicals. (HSC § 108946)

9) Prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains regulated PFAS. (HSC § 109000)

10) 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)

This bill:

1) Defines, for the purposes of this legislation:

    a) "Cosmetic product" to mean an article for retail sale or professional use intended to be rubbed, poured, sprinkled, sprayed on, introduced into, or otherwise applied to the human body for cleaning, beautifying, promoting attractiveness, or altering the appearance.

b) "Perfluoroalkyl and polyfluoroalkyl substances" as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.
c) "Intentionally added PFAS" as either:
    i) PFAS chemicals that a manufacturer has intentionally added to a product and that have a functional or technical effect on the product; or
    ii) PFAS chemicals that are intentional breakdown products of an added chemical.

2) Prohibits, beginning January 1, 2025 any person or entity from manufacturing, selling, delivering, holding, or offering for sale in commerce any cosmetic product that contains intentionally added PFAS.

**Background**

1) *Perfluoroalkyl and polyfluoroalkyl substances (PFAS).* PFAS are a class of man-made chemical compounds that contain multiple fluorine atoms bonded to a single carbon atom. These carbon-fluorine bonds are extremely stable and chemically unreactive, which makes PFAS very useful in creating long-lasting and resistant products. As such, PFAS have been produced and used in consumer products since the 1940s, often as surface coatings to repel water, dirt, oil, and grease. They have been used in food packaging, stain- and water-repellent fabrics, nonstick products such as Teflon, and in fire-fighting foams.

   Unfortunately, PFAS' stability also means that these compounds are resistant to being metabolized by organisms or otherwise degraded and so have slowly built up in the environment. Their chemical properties also make many PFAS highly mobile – able to travel long distances, move through soil, seep into groundwater, or be carried through the air far from their point of production or use. These factors combined with their widespread use have made PFAS so ubiquitous that almost every person on Earth has been exposed to PFAS and scientists have found these toxins in the blood of nearly all people tested.

2) *PFAS, don't you know that you're toxic?* Several PFAS have been shown to bioaccumulate significantly in animals or plants and emerging evidence points to their phytotoxicity, aquatic toxicity, and terrestrial ecotoxicity. The Agency for Toxic Substances and Disease Registry (ATSDR) and the US EPA developed the toxicologic profile of 14 PFAS chemicals. Based on a number of factors, including the consistency of findings across studies, the available epidemiology studies suggest associations between perfluoroalkyl exposure and several adverse health effects, including liver damage, increased risk of

thyroid disease, decreased antibody response to vaccines, increased risk of asthma, risk of decreased fertility, and small decreases in birth weight.

3) *PFAS are a diverse class of chemical compounds*. Because PFAS have been so industrially useful, many different types of PFAS have been created. As of September 2020, more than 9,000 PFAS chemicals were included in the United States Environmental Protection Agency's (US EPA's) Master List of PFAS Substances. Each one has variations in their chemical properties, but all share a resistance to chemical reactivity and to environmental and biological degradation. Perfluorooctanesulfonic acid (PFOS), used to create Teflon, and perfluorooctanoic acid (PFOA), previously used in Scotchgarde, have been the most extensively studied.

   Because of extensive research demonstrating the health risks of these PFAS have been phased out of production and replaced with new PFAS touted as safer alternatives based on the idea that they linger for a shorter time in human bodies. Unfortunately, further research has shown that many of these alternatives are associated with similar adverse health effects as the original PFAS and can travel even more easily in the environment.

4) *To meaningfully regulate PFAS they must be treated as a chemical class*. Performing a complete assessment of the health impacts of all 9,000 PFAS is impractical. As such, 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… Regulating PFAS as a class is thus logical, necessary, and forward-thinking."

5) *PFAS are widely used in cosmetics.* PFAS are employed in cosmetics for a variety of purposes, including their film-forming ability, increased product durability and spreadability, and weather resistance. The water-repellant properties of PFAS (also known as hydrophobicity) add to their utility in emulsions, lubricants, and waterproof foundations and mascaras. In a 2021 study, scientists analyzed 231 cosmetic products from the United States and Canada for total fluorine content. They found that foundations, eye products,

mascaras, and lip products, typically those marketed as "wear-resistant" or "long-lasting", had the highest levels of fluorine. To further assess whether these high-fluorine products contained PFAS, as opposed to other sources of fluorine, the authors selected 29 products and performed additional analytical studies. All 29 products were found to have detectable levels of at least four different PFAS compounds, with a maximum of 13 PFAS detected in a single product. The most commonly used PFAS found in these products were fluorotelomer alcohols (FTOHs), a group of volatile PFAS that are precursors to perfluorinated carboxylic acids which, in turn, are environmentally mobile and may be highly toxic to humans and the environment.

6) *PFAS in cosmetics may be particularly likely to lead to environmental or human exposure.* As cosmetic products are applied directly to the human body, the health risks posed by PFAS in these products are significant. PFAS-containing lipsticks can be ingested with relative ease; PFAS in mascaras can be absorbed via tear ducts; PFAS in creams, lotions, and emulsions may be absorbed by the skin; and, spray-on cosmetics and powders containing PFAS may be inhaled. With personal care products the exposure risks are compounded by their frequent, often daily, application, contributing to greater bioaccumulation. However scientific research into the exposure risk of PFAS from cosmetics is scant, making it difficult to definitively say whether or not PFAS in cosmetics are likely to cause human health problems.

   Another important point of concern is environmental toxicity, especially water contamination. Because personal care products are often washed off, PFAS in cosmetics can easily end up in wastewater. PFAS are difficult to remove during conventional wastewater treatment, leading to carry-over into effluent water and biosolids. Effluent water can then move PFAS into receiving water bodies, such as rivers which may, in turn, serve as drinking water sources for downstream communities. Because PFAS enter the environment at all stages of their lifecycle – manufacture, use, and disposal – and given their mobility, groundwater contamination in the state is thought to be extensive.

**Comments**

1) *Purpose of Bill.* According to the author, “PFAS, or perfluorinated and polyfluorinated substances, are a class of approximately 12,000 toxic man-made chemicals that can be found in many products, such as nonstick cookware, water repellent clothing, furniture and carpet, and household products, as well as a myriad of industrial materials. Exposure to PFAS has been associated with a wide range of health concerns, including cancer,

reproductive harm, high cholesterol, and reduced immune response and vaccine effectiveness.

"When released into the environment, PFAS do not breakdown, but rather, they persist and are often referred to as "forever chemicals." Because of their ubiquitous use, PFAS are now found in water, soil, foods, and animals. Virtually all people in the United States have PFAS in their bodies, and babies are born with them.

"Disturbingly, these toxicants have, to date, also been identified in drinking water sources serving over 16 million Californians. This puts a tremendous onus on water agencies to address PFAS in waste and drinking water, at great cost and technical complexity. Pollution prevention, such as regulating discharges or limiting sources of PFAS from entering the watershed is the most cost effective and feasible management approach.

"We all use personal care products. But if these products contain PFAS, that PFAS will wash off of us when we bathe, or will enter our bodies and then the watershed. Prohibiting PFAS from being added to cosmetics sold in our state will help to reduce the amount of PFAS that water and sanitation agencies must manage and remove. Such a prohibition would also protect public health."

2) *PFAS in cosmetics are nonessential.* As the public has grown to be more wary of PFAS chemicals and pressure has mounted many companies, including L'Oréal, H&M, Lumene, The Body Shop, and Sephora have been able to quickly phase PFAS out of their products. While PFAS may enhance the effects or durability of certain cosmetics, there are clearly alternatives capable of achieving similar effects. Even if there were not, given that the performance of cosmetic products does not impact human health or is necessary for important services, a reduction in the quality of cosmetics is reasonable to reduce the health and environmental costs of PFAS exposure.

3) *HFOh no!* The definition of PFAS used in California is quite broad and captures a subset of chemicals that do not have the same environmental persistence and tendency to bioaccumulate as the rest of the broader family. In particular, opponents of this bill have singled out hydrofluoroolefins (HFOs) as deserving exemption from this prohibition. HFOs are a newer class of chemicals that were developed in order to facilitate the phasing out of hydrofluroocarbons (HFCs), due to the extremely high global warming potential of HFCs. Depending on the HFC, every ton of HFC released can be equivalent to releasing over 1,000 tons of carbon dioxide, for the purposes of global warming. Because HFOs are less stable than HFCs they break down

faster and actually have global warming potentials similar to $CO_2$, and so have been touted as a critical technology for reducing greenhouse gas emissions. In cosmetics, HFOs replace HFCs as aerosol propellants in products such as hairspray. The US EPA has identified several HFOs as being acceptable substitutes for refrigerants within a comparative risk framework in the Significant New Alternative Policy Program.

Unfortunately, HFOs carry their own set of environmental problems. Their ready degradation leads to the creation of trifluoroacetic acid (TFA) which can accumulate in marine environments. While research has suggested the current rate of formation of TFA from existing HFOs is small and the impact on human and environmental health is limited, this may not continue to be the case if HFOs become widely used and TFA continues to accumulate. Various groups, including the sponsors of this bill, have expressed concern about building a reliance on a chemical that has a known toxic and persistent degradation product. In particular the German Environmental Agency released a report that found that TFA levels in precipitation are already several times higher than they were 25 years ago and found that HFOs "must be regarded as problematic" and "should be replaced by more sustainable solutions".

The supporters of this bill contend that there are natural alternatives that could be used instead of HFOs that would not have toxic degradation products. The opponents of this bill acknowledge that such alternatives exist but contend that they are not ready for deployment at scale or may not have the same efficacy. Of course, unlike the functioning of heat pumps during a heat wave, performance of cosmetic products is not as critical to human health. Given that California often acts as a leader in environmental protection policy, the usage of HFOs in cosmetics is not critical, and that HFO usage does carry environmental risks, including them in this prohibition seems reasonable.

**Related/Prior Legislation**

AB 1817 (Ting) prohibits, beginning January 1, 2025 any person from manufacturing, distributing, selling, or offering for sale any textile articles that contain intentionally added per- and polyfluoroalkyl substances, except for textiles used for personal protective equipment or certain other regulated products. This the bill was set for hearing in this committee June 15 and was canceled by the author.

AB 2247 (Bloom) Requires, on or before July 1, 2025, a manufacturer of PFAS or a product or product component containing intentionally added PFAS that is sold, offered for sale, or distributed into the state to register the PFAS or the product or product component containing intentionally added PFAS on the publicly accessible

reporting platform. This bill is set to be heard by the Senate Environmental Quality Committee on June 22, 2022.

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.

AB 2762 (Ting, Chaper 314, Statutes of 2020) prohibits the manufacture, sale, delivery, holding, or offering for sale in commerce of any cosmetic product containing specified intentionally added ingredients, including several specific 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.

**SOURCE:** Breast Cancer Prevention Partners, CALPIRG, and Environmental Working Group

**SUPPORT:**

100%pure
Active San Gabriel Valley

Alaska Community Action on Toxics
Alaska Glacial Mud Co.
American College of Obstetricians and Gynecologists District Ix
Black Women for Wellness
Brand Geek
Breast Cancer Action
Breast Cancer Over Time
Breast Cancer Prevention Partners
California Association of Sanitation Agencies
California Environmental Voters (formerly Clcv)
California Product Stewardship Council
California Water Association
Calpirg Students
Calpirg, California Public Interest Research Group
Center for Environmental Health
Clean Label Project
Clean Production Action
Consumer Federation of California
Dr. Bronner's
East Bay Municipal Utility District
Eco Plum Sustainable Swag
Educate. Advocate.
Environment California
Environmental Working Group
Families Advocating for Chemical and Toxics Safety
Friends Committee on Legislation of California
Green Science Policy Institute
Grove Collaborative
Intelligent I-n
Just the Goods
LA Waterkeeper
Los Angeles County Sanitation Districts
Metropolitan Water District of Southern California
Naked Poppy
National Association of Environmental Medicine
National Stewardship Action Council
Natural Resources Defense Council
Osea Malibu
Planning and Conservation League
Regional Water Authority
Republic Services INC.
Samuel Medina, Trustee, San Lorenzo Unified School District
San Francisco Bay Area Chapter Physicians for Social Responsibility
San Francisco Baykeeper

San Francisco Firefighters Cancer Prevention Foundation
Santa Clara Valley Water District
Save Our Shores
Seventh Generation
Sierra Club California
Skin Owl
Sprout San Francisco
The Keep a Breast Foundation
Unilever
Upper San Gabriel Valley Municipal Water District
US Pirg

**OPPOSITION:**

American Chemistry Council
Household and Commercial Products Association
Personal Care Products Council

**ARGUMENTS IN SUPPORT:** According to the sponsors of this bill, "PFAS are among the most persistent toxic compounds in existence. They are found in the blood of virtually everyone on earth, including newborn babies. Very low doses of PFAS chemicals in drinking water have been linked to increased risk of cancer, reproductive and immune system harm and liver and thyroid disease. PFAS exposure is also linked to interference with vaccines, and is associated with an elevated risk of breast cancer, increased cholesterol and other serious health concerns.

"Despite their well-documented risks, PFAS chemicals are added to many consumer products, including beauty and personal care products. In 2018, Environmental Working Group scientists scoured the Skin Deep database, which contains ingredient lists for more than 85,000 cosmetics, and identified 13 different PFAS compounds used in more than 50 brands. PTFE – a PFAS chemical better known as Teflon – was found in more than 200 different products. In 2021, Clearya reviewed its database of 50,000 beauty and personal care products and found 1,000 cosmetic products, made by 120 brands, that contained PFAS. That same year, the University of Notre Dame tested 231 cosmetics and found that more than half of the products tested contained PFAS. According to this study, more than three-quarters of waterproof mascara, nearly two-thirds of foundations and liquid lipsticks, and more than half of eye and lip products had high fluorine concentrations, indicating the likely presence of PFAS.

"Given the serious impact of PFAS chemicals on public health and the environment, we don't believe that these chemicals should be in the beauty and

personal care products millions of Californians use every day. Eliminating intentionally added PFAS from cosmetic products will also reduce the amount of PFAS that flushes down the drain after we bathe or is tossed into landfills."

**ARGUMENTS IN OPPOSITION:** According to the American Chemistry Council, "The safety of consumers is the highest priority for our member companies, and we applaud Assemblymember Friedman's work on behalf of California consumers of cosmetic products. However, the broad application of the bill captures important tools for cosmetic products that do not represent the attributes of Per- and Polyfluoroalkyl Substances (PFAS) as generally understood.

"HFOs have emerged as a next generation of compounds used in aerosols that is safe for humans and the environment. HFOs bring a very low Global Warming Potential (GWP) and reduce ground level ozone formation, giving them an important role in California's climate and environmental goals. As it relates to PFAS, HFOs are not persistent2, bioaccumulative, or toxic. Indeed, after rigorous review, the US Environmental Protection Agency has deemed HFOs acceptable as it relates to human health and the environment. Furthermore, the California Air Resources Board (CARB) has been regulating the volatile organic compound (VOC) content of consumer products for over 30 years. The HFO-1234ze aerosol propellant is vital for aerosol manufacturers and marketers to have available for compliance with upcoming new VOC limits.

"Unfortunately, AB 2771 would remove these compounds from the cosmetics market. HCPA respectfully requests an amendment to allow the use of HFOs given their role in overall climate ambitions and providing safe products to consumers. Specifically, we have requested AB 2771 exempt HFOs approved by the U.S. EPA as exempt VOCs. This is a very limited universe of compounds, and currently only includes four HFOs in total, two of which have cosmetic applications. The US EPA performs a rigorous safety review prior to placing any compound on this list and compounds are only exempted for specific applications."

**-- END --**