Date of Hearing: April 7, 2021

ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS
Bill Quirk, Chair
AB 1200 (Ting) – As Amended March 29, 2021

**SUBJECT**: Plant-based food packaging: cookware: hazardous chemicals

**SUMMARY**: Prohibits, commencing on January 1, 2023, the sale of food packaging that contains intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS); requires, commencing on January 1, 2024, cookware manufacturers to label their product if it contains a chemical on specified lists; and prohibits, commencing on January 1, 2024, a manufacturer from making a claim that cookware is free of a chemical if the chemical belongs to a chemical group or class, as specified. Specifically, **this bill**:

**Plant-Based Food Packaging Containing PFAS**

1) Defines "food packaging" as a nondurable package, packaging component, or food service ware that is intended to contain, serve, store, handle, protect, or market food, foodstuff, or beverages, and is comprised, in substantial part, of paper, paperboard, or other materials originally derived from plant fibers. Clarifies that "food packaging" includes, but is not limited to, food or beverage containers, take-out food containers, unit product boxes, liners, wrappers, serving vessels, eating utensils, food boxes, and disposable plates, bowls, or trays.

2) Defines "intentionally added perfluoroalkyl and polyfluoroalkyl substances or PFAS" as either of the following:

   a) The presence or use of PFAS in a product or product component that has a functional or technical effect in the product or product component; or**,**

   b) The presence of PFAS in a product or product component at or in exceedance of 100 parts per million, as measured in total organic fluorine.

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

4) Prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains intentionally added PFAS.

5) Requires a manufacturer to use the least toxic alternative when replacing PFAS chemicals in products in food packaging.

**Chemical Disclosures for Cookware**

1) Defines "cookware" as durable houseware items that are used in homes and restaurants to prepare, dispense, store, or serve food, foodstuff, or beverages. Clarifies that "cookware" includes, but is not limited to, pots, pans, skillets, grills, baking sheets, baking molds, trays, bowls, kitchen tools, spoons, and spatulas.

2) Defines "designated list" as the list of chemicals identified as candidate chemicals that exhibit a hazard trait or an environmental or toxicological endpoint that meets the criteria specified in regulations adopted by the Department of Toxic Substances Control (DTSC) pursuant to the Safer Consumer Products (Green Chemistry) statute, and is published on DTSC's internet website pursuant to those regulations.

3) Defines "manufacturer" as both a person or entity who manufactures the cookware and whose name appears on the product label; and, a person or entity who the cookware is manufactured for or distributed by, identified by the product label pursuant to the federal Fair Packaging and Labeling Act.

4) Requires, commencing on January 1, 2024, a manufacturer of cookware sold in the state that contains one or more intentionally added chemicals present on the designated list to include on the product label a statement, in both English and Spanish, that reads: "This product contains one or more chemicals of concern for human health or the environment as identified by the State of California. For more ingredient information, visit" followed by an address for an internet website that provides the information specified in this bill.

5) Requires a manufacturer to ensure that the statement required on the product label is visible and legible to the consumer, including on the product listing for online sales.

6) Requires, commencing on January 1, 2023, a manufacturer of cookware sold in the state that contains one or more intentionally added chemicals present on the designated list to post on the internet website for the cookware all of the following:

   a) A list of all chemicals in the cookware that are also present on the designated list;

   b) The names of the authoritative list or lists referenced by DTSC in compiling the designated list on which each chemical in the cookware is present; and,

   c) A link to the internet website for the authoritative list or lists.

7) Prohibits, commencing on January 1, 2024, a manufacturer from making a claim, either on the cookware package or on the internet website for the cookware, that the cookware is free of any specific chemical if the chemical belongs to a chemical group or class identified on the designated list, unless no individual chemical from that chemical group or class is intentionally added to the cookware.

8) Prohibits a person from selling, offering for sale, or distributing in the state a cookware product that does not comply with the labeling and disclosure provisions in this bill.

**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 June 1, 2006, a person from manufacturing, processing, or distributing in commerce a product, or a flame-retarded part of a product, containing more than one-tenth of 1 percent of pentaBDE or octaBDE. (HSC § 108922)

4) Prohibits, commencing January 1, 2009, a person or entity from manufacturing, selling, or distributing in commerce any toy or child care article that contains di-(2-ethylhexyl) phthalate, dibutyl phthalate, or benzyl butyl phthalate. (HSC § 108937 (a))

5) Prohibits, commencing January 1, 2009, a person or entity from manufacturing, selling, or distributing in commerce any toy or child care article intended for use by a child under three years of age if that product can be placed in the child's mouth and contains diisononyl phthalate, diisodecyl phthalate, or di-n-octyl phthalate. (HSC § 108937(b))

6) Prohibits, on and after July 1, 2013, a person from manufacturing, selling, or distributing in commerce any bottle or cup that contains bisphenol A (BPA) if the bottle or cup is designed or intended to be filled with any liquid, food, or beverage intended primarily for consumption from that bottle or cup by children three years of age or younger. (HSC § 108940)

7) States that it is the intent of the Legislature to provide consumers and workers with ingredient information about cleaning products that encourages informed purchasing decisions and reduces public health impacts from exposure to potentially harmful chemicals in cleaning products by requiring product manufacturers to provide a specific list of the chemicals used in their products, and requiring specified employers to provide that information to their employees. (HSC § 108950 (a))

8) Requires a manufacturer of cleaning products sold in the state to disclose on the product label, as specified, whether the product contains any intentionally added ingredients that are included on specified authoritative lists of chemicals that pose risks to human health. (HSC § 108954 (a))

9) Requires a manufacturer of a cleaning products sold in the state to disclose the manufacturer's toll-free telephone number and internet website address on the designated product label. (HSC § 108954 (b)(1))

10) Requires a manufacturer of a cleaning product sold in the state to post on its internet website, in an electronically readable format, specified information, including a list of each intentionally added ingredient contained in the product. (HSC § 108954)

11) 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 of specified intentionally added ingredients. (HSC § 108980 (a))

12) 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) as chemicals known to the state to cause developmental toxicity. (HSC § 25249.8)

Under the Green Chemistry statutes:

1) Requires 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)

    a) Identifies, pursuant to regulation, chemicals that are candidates for the above-described process that exhibit a hazard trait and/or an environmental or toxicological end-point and is included on one of many specified authoritative lists (this is often referred to as the "list of lists"). (22 California Code of Regulations (C.C.R.) § 69502.2)

    b) Requires, pursuant to regulation, DTSC to consider various factors when identifying and implementing regulatory responses for priority products, such as public health and environmental protection. (22 C.C.R. 69506)

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, "AB 1200 would ban the use of intentionally added PFAS from plant-based food packaging, require cookware manufacturers to attach a disclosure label if certain chemicals are found in their cookware, and require truth in advertising when marketing cookware to be free of certain chemicals. Dangerous chemicals should not be wrapped around our food or leaching into our food from our pots and pans at home. By passing AB 1200, California can assess chemicals that our families are ingesting so that they cannot further damage our health and the environment."

**Plant-Based Food Packaging Containing PFAS**

*Perfluoroalkyl and polyfluoroalkyl substances (PFAS):* PFAS are a group of human-made chemicals that do not occur naturally in the environment and have been synthesized for heat, water, and lipid resistance. PFAS are a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom. All PFASs share one common trait – highly stable carbon-fluorine bonds that make them or their final degradation products highly persistent in the environment. These chemicals can be classified as perfluoroalkyl or polyfluoroalkyl substances depending on how many hydrogen atoms have been replaced by fluorine atoms.

PFAS have been used extensively for decades in surface coating and protectant formulations due to their unique ability to reduce the surface tension of liquids, including in consumer products such as carpets, clothing, fabrics for furniture, apparel, paper packaging for food, non-stick cookware, and other products designed to be waterproof or water resistant, grease and stain-resistant, or non-stick. Applications span many sectors of the economy, including aerospace, apparel, automotive, building and construction, chemicals and pharmaceuticals, electronics and semiconductors, energy, oil and gas exploration, first responder safety, and health care. During production, use, and disposal, PFAS can migrate into the soil, water, and air.

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. Of all PFAS compounds, perfluoroalkyl acids (PFAAs), which include perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), are the most extensively studied and are associated with a number of different health hazards, including endocrine disruption, developmental and reproductive toxicity, and immune dysregulation. PFOA, most commonly known as the chemical that had been used to produce Teflon, and PFOS, formerly used in Scotchgard, are known as "long-chain" chemicals, meaning they have six or more carbon molecules. These chemicals are extremely persistent in soil and water due to their resistance to typical environmental degradation processes, and can bioaccumulate and persist in human and animal tissues. According to DTSC, the majority (~85%) of PFAS are PFAA precursors, meaning they can degrade or metabolize into PFAAs in the environment or in living organisms.

While PFOS, PFOA, and other long-chain PFAS have recently declined in use, short-chain PFAS, including short-chain PFAAs, are widely used as alternatives to long-chain PFAS. Emerging data on these newer chemicals indicate that they are also highly persistent in the environment, behave in similar fashion in the human body, particularly at the cellular level, as long-chain PFAS, and are even more mobile in the environment than long-chain PFAS. This means that they travel even more easily, can be harder to clean up, and are more likely to be released from consumer products than are long chain PFAS.

PFAS are ubiquitous, and are found in indoor and outdoor environments; in plants, wildlife, companion animals, production animals, and humans; and, in food and drinking water. Scientists have found PFOA and PFOS in the blood of nearly all people tested. According to the Centers for Disease Control and Prevention (CDC), blood levels of both PFOS and PFOA have steadily decreased in US residents since 1999-2000. However, the 2011−2012 US National Health and Nutrition Examination Survey reported detectable serum PFAS concentrations in 97% of individuals.

*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 used PFAS during food processing. 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. Young children may also experience higher exposure levels than adults due to greater dust ingestion rates and hand-to-mouth transfer from PFAS-treated consumer products. Industrial workers, 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 has also become an intensifying 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, such as food packaging. 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 Green Chemistry Hazard Traits Regulations (22 C.C.R § 69401 et seq.). PFAS are either extremely persistent in the environment, or they degrade into extremely persistent PFAS, leading them to be deemed, "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 there is emerging evidence of toxicity in these substances.

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 where they suffer from adverse health effects. Studies indicate that some PFAS can cause reproductive, developmental, liver and kidney, and immunological effects, as well as tumors in laboratory animals. The most consistent findings from human epidemiology studies are a small increase in serum cholesterol levels among

exposed populations, with more limited findings related to infant birth weights, can affect the immune system and increase the risk of cancer and thyroid hormone disruption. According to the Agency for Toxic Substances and Disease Registry, research suggests that exposure to PFAS may lead to increased cholesterol levels, decreased vaccine response in children, changes in liver enzymes, increased risk of high blood pressure in pregnant women, decreased infant birth weights, and increased risk of kidney or testicular cancer.

Some PFAS have also been linked to phytotoxicity, aquatic toxicity, and terrestrial ecotoxicity.

*Historic US action on PFAS:* Federal interest in PFAS has spanned decades, and manufacturers have been aware of the PFASs' adverse impact potential since the 1970s or 1980s. In 2005, the US EPA's Office of Pollution Prevention and Toxics Science Advisory Board labeled PFOA a 'likely' carcinogen in humans. In 2007, the CDC published the results of two studies of human exposure to 11 PFASs. In both studies, PFOS and PFOA, as well as another PFAS, perfluorohexane sulfonic acid (PFHxS), were detected in approximately 98% of the population.

While research on PFOA was being compiled by federal agencies, in 2004, the US EPA took administrative action against DuPont, a manufacturer of PFOA, for violations consisting of multiple failures to report known information to US EPA about substantial risk of injury to human health or the environment from PFOA from 1981 through 2001. In 2005, the US EPA settled with DuPont for violations related to PFOA exposure for the largest civil administrative penalty US EPA had ever obtained under any federal environmental statute.

Beginning in 2003, the US EPA negotiated with multiple parties to produce missing information on PFOA through enforceable consent agreements, memoranda of understanding, and voluntary commitments. In January 2006, the US EPA and eight prominent companies in the industry, including 3M and DuPont, created the 2010/15 PFOA Stewardship Program. Under the program, the companies committed to voluntarily reduce emissions and product content of PFOA and related chemicals on a global basis by 95 percent by 2010, and to work toward eliminating emissions and product content of these chemicals by 2015.

According to the US EPA's website, all participating companies state that they met the PFOA Stewardship Program goals. Companies reported that to meet the program goals, most stopped the manufacture and import of long-chain PFASs, and then transitioned to alternative chemicals. Many of these alternatives were other PFAS. Other companies exited the PFAS industry altogether.

Unfortunately, according to the February 2021 article, "Regulating PFAS as a Chemical Class under the California Safer Consumer Products Program," in *Environmental Health Perspectives*, the approach of regulating only individual PFAS or a limited subset of PFAS has led to the replacement of those PFAS with other members of the class that have less well-characterized hazard profiles. The article argues that these alternatives may even be worse, in some respects, than the PFAS being replaced, thus constituting a "regrettable substitution." For example, the article points out that since the voluntary phaseout of the longer-chain PFAS in some regions, manufacturers have shifted to PFAS with six or fewer carbons, such as perfluorohexanoic acid (PFHxA) and other shorter-chain PFAS chemistries, which are less studied but have also been documented to display multiple hazard trait.

*Recent US EPA action on PFAS*: In February, 2019, the US EPA published "EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan," which "outlines concrete steps the agency is taking to address PFAS and to protect public health." The action plan noted, among other things, movement toward drinking water standards for PFOA and PFOS, movement toward designating PFOA and PFOS as hazardous materials; the consideration of adding PFAS chemicals to the Toxic Release Inventory, and developing risk communication strategies to address concerns related to PFAS. In December, 2019, the US EPA issued interim recommendations for PFOS and PFOA in groundwater at sites under federal cleanup programs. The 2020 appropriations package passed in December 2019 appropriated funds for the US EPA to establish maximum contaminant levels (MCLs), health-protective drinking water standards to be met by public water systems, under the Safe Drinking Water Act, for PFAS, and to designate PFAS chemicals as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

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

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 was added by the California Environmental Contaminant Biomonitoring Program to its list of priority chemicals.

In February, 2020, DTSC initiated formal rulemaking to list carpets and rugs containing PFAS as priority products under the SCP Program. DTSC expects to finalize the regulation designating carpets and rugs with PFAS as a priority product by October 1, 2021, and the preliminary alternatives analysis reports for carpets and rugs with PFAS are expected to be due roughly 6 months later.

In April 2020, DTSC also initiated the environmental scientific peer review process on its proposal to designate treatments containing PFAS for use on converted textiles or leathers as a priority product under the SCP Program, and expects to issue a notice of proposed rulemaking by July, 2021. DTSC expects to, after a public comment period, finalize the regulation designating converted textiles with PFAS as a priority product by around July 2022, with an effective date likely around October 2022.

DTSC is additionally in the preliminary stages of designating food packaging with PFAS as a priority product under the SCP Program. DTSC's pre-regulatory work on this topic is currently undergoing scientific peer review, which is expected to be completed by the end of April. DTSC anticipates issuing a notice of proposed rulemaking around the end of 2021, initiating a 45-day public comment period. DTSC expects to finalize the regulation around the end of 2022, with an effective date likely to be April 1, 2023.

DTSC has also proposed investigating children's products with PFAS in their Draft Priority Product Work Plan for 2021-2023.

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. At the request of the State Water Board, OEHHA is in the process of establishing public health goals, or concentrations of contaminants in drinking water that pose no significant acute or chronic health

risks, for PFOS and PFOA. The State Water Board has also requested that OEHHA evaluate whether some PFAS chemicals should be grouped together for regulatory purposes.

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 (POTW) that receive PFAS in their influent wastewater flow and then potentially distribute it out of the POTW in the effluent wastewater, biosolids, and reverse osmosis concentrate, to include sampling for 31 PFAS compounds. It also issued a General Order, in August 2020, for public water systems to sample for and report PFAS.

*Regulating PFAS as a class:* DTSC, through its SCP Program 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 authors have also recently 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*.

In opposition to the concept of regulating PFAS as a class, the chemical industry points to a 2018 paper published in *Integrated Environmental Assessment and Management* by industry researchers that argues that fluoropolymers, which are high molecular weight polymers, have unique properties that constitute a distinct class within the PFAS group and that fluoropolymers satisfy widely accepted assessment criteria to be considered as "polymers of low concern" (PLC). The paper contends that fluoropolymers are distinctly different from other polymeric and nonpolymeric PFAS and should be separated from them for hazard assessment or regulatory purposes. DTSC states that they are highly persistent in the environment.

*PFAS exposure via food contact substances:* The US EPA contends that people can be exposed to low levels of PFAS through food, which can become contaminated with PFASs through

contaminated soil and water used to grow the food; food packaging; and, equipment used to process food.

In its July 2020, "Product – Chemical Profile for Food Packaging Containing Perfluoroalkyl or Polyfluoroalkyl Substances" Discussion Draft (Discussion Draft), DTSC contends that, "Plant fiber-based food packaging products treated with PFASs for grease, oil, or water resistance can expose humans and biota to PFASs during their manufacturing, use, and end-of-life. PFASs can migrate from food packaging into the packaged food, with migration rates dependent on the temperature, acidity, storage time, and fat content of the food. Used PFAS-treated paper, paperboard, and molded fiber food packaging products are sometimes composted, releasing PFASs into the compost. When used food packaging is sent to a landfill, the PFASs can migrate into landfill leachate, contaminating surface waters and the surrounding environment. When applied to soil as fertilizers, biosolids from wastewater treatment plants that treat PFAS-contaminated landfill leachate can contaminate drinking water sources with PFASs, as well as crops such as potatoes, grains, and leafy vegetables. Recycled products made from PFAS-treated paper, paperboard, and molded fiber food packaging can also be a source of PFAS exposure. Harmful PFAS combustion products may also be released when these products are incinerated."

The Discussion Draft points to a 2018 policy statement that American Academy of Pediatrics released about the risk that food additives pose to children's health, highlighting the potential adverse effects associated with exposure to PFAS in food packaging. This statement cites support from the Endocrine Society, a joint 2013 report from the World Health Organization and United Nations Environment Program, and a statement from the International Federation of Gynecology and Obstetrics in 2015, indicating broad consensus on protecting children's health from environmental contaminants, including the PFAS used in food packaging.

*Regulation of PFASs in food contact materials*: Federal regulations specify which PFASs are allowed in food contact materials. According to the Discussion Draft, through its Food Contact Notification (FCN) process, the federal Food and Drug Administration (FDA) has approved 17 distinct PFAS formulations for use in plant fiber-based food packaging applications. Fifteen of these PFASs are sidechain fluorinated polymers, and two are perfluoropolyethers (PFPEs). A total of 28 FCNs were filed for these 17 unique PFAS formulations. Additionally, one PFAS (chromium III complex of N- ethyl – N – heptadecylfluoro-octane sulfonyl glycine) is allowed to be used in food packaging pursuant to the Code of Federal Regulations list of indirect additives.

*Other action on PFAS in food packaging:* The State of California is not the only entity looking at taking action on PFAS in food packaging.

New York enacted legislation in December 2020, which prohibits, commencing December 31, 2022, a person from distributing, selling, or offering for sale in New York any food packaging containing PFAS substances as intentionally added chemicals.

Washington state enacted legislation in 2018, which, beginning January 1, 2022, prohibits a person from manufacturing, knowingly selling, offering for sale, distributing for sale, or distributing for use food packaging to which PFAS chemicals have been intentionally added in any amount. The prohibitions in this bill do not take effect until the Washington Department of Ecology identifies that safer alternatives are available, the safer alternative determination is supported by feedback from an external peer review of the Washington Department of Ecology's alternatives assessment; and, publishes findings, as required. On March 8, 2021, Washington

announced that, based on the availability of safer alternatives, PFAS in four types of food packaging (wraps and liners (wax-coated options); plates (clay-coated and reusable options); food boats (clay-coated and reusable options); pizza boxes (uncoated options)) will be banned as of February 2023. Washington is embarking on addressing PFAS in trays, bags and sleeves, clamshells, and interlocking food containers.

Maine enacted legislation similar to Washington's in 2019 that authorizes the Washington State Department of Environmental Protection to, by rule, prohibit a manufacturer, supplier, or distributor from offering for sale or for promotional purposes a food package to which PFAS have been intentionally introduced in any amount greater than an incidental presence once the Washington State Department of Environmental Protection has determined that a safer alternative exists.

The author also points to local California ordinances that have created a patchwork of requirements regarding PFAS in food packaging in our state. He notes that the following California municipalities have adopted local ordinances that require single-use food service ware to be free of all intentionally added fluorinated chemicals: San Francisco, Berkeley, San Anselmo, and the County of San Mateo. He also notes that Carmel, Richmond, and the County of Santa Cruz have all adopted local ordinances that require single-use food ware to be certified compostable by the Biodegradable Products Institute. This certification process requires food packaging to contain no intentionally added fluorinated chemicals and show less than 100 ppm total fluorine.

Several major U.S. food retailers have also shifted, or have committed to shifting, to PFAS-free food packaging. For example, in December 2018, Whole Foods Market removed PFAS-containing food and bakery packaging from its stores. In January 2020, Taco Bell committed to globally phasing out all PFASs in "consumer-facing packaging materials" by 2025. McDonald's has also committed to remove all added fluorinated compounds from their "guest packaging materials" globally by 2025. Albertsons, the second-largest grocery chain in the United States., Panera Bread, and Chipotle have initiated efforts to eliminate PFAS from their food packaging.

Internationally, the European Commission's "EU's Chemicals Strategy for Sustainability Towards a Toxic-Free Environment," published in October 2020, states,

> "Per- and polyfluoroalkyl substances (PFAS) require special attention, considering the large number of cases of contamination of soil and water - including drinking water - in the EU and globally, the number of people affected with a full spectrum of illnesses and the related societal and economic costs. That is why the Commission proposes a comprehensive set of actions to address the use of and contamination with PFAS. Those aim to ensure, in particular, that the use of PFAS is phased out in the [European Union] EU, unless it is proven essential for society. The Commission will:
>
> - ban all PFAS as a group in fire-fighting foams as well as in other uses, allowing their use only where they are essential for society;
> - address PFAS with a group approach, under relevant legislation on water, sustainable products, food, industrial emissions, and waste;
> - address PFAS concerns on a global scale through the relevant international fora and in bilateral policy dialogues with third countries;

- establish an EU-wide approach and provide financial support under research and innovation programmes to identify and develop innovative methodologies for remediating PFAS contamination in the environment and in products; and,
- provide research and innovation funding for safe innovations to substitute PFAS under Horizon Europe."

*Alternatives to PFAS in food packaging:* DTSC's Discussion Draft discusses potential alternatives to PFAS in food packaging. The Discussion Draft notes that, based on well-established business cases, the Nordic Council of Ministers concluded in 2017 that safer and more sustainable alternatives to PFASs in paper and paperboard food packaging products are available for all intended functional uses and food types. The Nordic Council of Ministers also found that, except for natural greaseproof paper, which can be more expensive, alternatives are cost-neutral for retailers.

The Discussion Draft discussed alternatives to PFASs for plant fiber-based food packaging, including physical barriers, alternative processing, alternative chemical barriers or coatings, and alternative materials. Physical barriers can be made of plastic such as polyethylene, polyethylene terephthalate (PET), polyvinyl alcohol, or polylactic acid (PLA), as well as of silicone, aluminum, clay, wax, or biowax. Machine-finished paper uses alternative processing to avoid the use of PFASs. Alternative chemical barriers or coatings include starch, carboxymethyl cellulose, aqueous dispersions of copolymers such as styrene and butadiene, aqueous dispersions of waxes, water-soluble hydroxyethylcellulose, chitosan, alkyl ketene dimer, alkenyl succinic anhydride, silicone, and several proprietary coatings of unknown composition. There are also alternatives to paper, paperboard, and molded fiber materials such as palm leaf, bamboo, and various plastics, and also bio-based plastics, which can be generated from plants, fungi, or organic wastes

While DTSC did not assess the relative safety of these alternatives in their Discussion Draft, and some of these alternatives could have negative environmental or public health impacts, the Washington State Department of Ecology recently did complete an alternatives assessment on PFAS in food packaging. The Washington State Department of Ecology found "safer alternatives" to PFAS in four types of food packaging applications: wraps and liners, plates, food boats, and pizza boxes, but did not find appropriate replacements for other food packaging applications including trays, bags and sleeves, French fry cartons, clamshells, interlocking food containers, and bowls. The Washington State Department of Ecology will further evaluate these categories in the coming months.

*This bill*: This bill prohibits, commencing on January 1, 2023, a person from distributing, selling, or offering for sale in the state any food packaging that contains intentionally added PFAS. It also requires a manufacturer to use the least toxic alternative when replacing PFAS chemicals in products in food packaging.

*Chemical bans and the Safer Consumer Products (SCP) Program:* As noted previously, DTSC is currently proposing to list one or more plant fiber-based food packaging containing PFAS as priority products under the SCP program. In 2008, California enacted AB 1879 (Feuer, 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 SCP 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 was 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 chemicals in every consumer product application. The permutations of product and chemical combinations are virtually limitless. Not only does the SCP Program lack a dedicated funding source to fund DTSC's work, DTSC is currently operating under a structural deficit, leaving further constrained resources for the SCP program.

While DTSC's decisions to designate or consider some chemical/product combinations as priority products have resulted in manufacturers voluntarily removing the chemical from their product, as was the case with children's foam-padded sleeping products containing the flame retardants TDCPP or TCEP. DTSC has only gone through the alternatives analysis process for two other priority products (paint strippers with methylene chloride and spray polyurethane foam with unreacted MDI). DTSC is currently undergoing the regulatory response process for spray polyurethane foam, but this work is currently on hold pending a lawsuit the American Chemistry Council filed regarding the listing.

Further, SCP statute does not preclude the Legislature from taking legislative action on consumer products or 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, including a ban on firefighting foam containing PFAS chemicals (SB 1044, Allen, Chapter 308, Statutes of 2020); a ban on flame retardants in children's products (AB 2998, Bloom, Chapter 924, Statutes of 2018); labeling requirements on upholstered furniture that contains flame retardants (SB 1019, Leno, Chapter 862, Statutes of 2014); 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 [SCP] 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."

State scientists, including those at DTSC, have determined that PFAS in food packaging pose a threat to human health. AB 1200, in recognition of the state's science, is proposing to take action to reduce the public's exposure to PFAS more expeditiously than DTSC is currently able.

**Chemical Disclosures for Cookware**

*Chemicals in cookware*: According to the Minnesota Pollution Control Agency (MPCA), fluoropolymer coatings are commonly applied to cookware to give it an anti-stick surface. The MPCA notes that Teflon is the most well-known of these non-stick chemicals. The main chemical in Teflon currently is the chemical polytetrafluoroethylene (PTFE), which is a polymer form of PFAS. The MCPA says that when heated to high temperatures, PTFE can start to break down and release toxic fumes. According to the MCPA, breathing these fumes can be hazardous to both humans and pets (especially birds). Until 2013, Teflon was produced using PFOA, a chemical that has been linked to a number of health conditions and is now present in most people's blood. The MCPA says that although several non-stick cookware brands currently claim to be PFOA-free or Teflon-free, they may have been made with other fluoropolymers with similar properties, and therefore similar concerns as, PFOA.

The author's office points to a December 2020 report by The Ecology Center titled, "What's Cooking? PFAS and Other Chemical Hazards in Nonstick Cooking and Baking Pans" (cookware report) as justification for the cookware provisions in the bill. The authors of the cookware report found that 79% of tested nonstick cooking pans and 20% of tested nonstick baking pans were coated with the PFAS PTFE. The Ecology Center testing also revealed the presence of BPA in the non-stick coating of some of the cookware and baking pans.

For the cookware report, researchers tested 14 nonstick cooking pans and 10 nonstick baking pans to identify their coatings, choosing cookware that represented a range of brands and prices. The sample drew from 10 popular retailers, including discount "dollar" stores and top cookware brands as identified by Consumer Reports Magazine. Testing by the Ecology Center found that most (11 of 14) tested nonstick cooking pans and some (2 of 10) baking pans are coated with PTFE. The report notes that PTFE pan coatings have been known to release hazardous chemicals into the air when heated to temperatures in exceedance of 400-500 degrees Fahrenheit, which are temperatures that occur when stove burners are set to high.

The same study by the Ecology Center found that some labels on cookware make the marketing claim "PFOA free," which refers to one specific PFAS chemical, despite the fact that the cookware may contain PTFE or other PFAS chemicals. The author's office argues that this sends a false message to the buyer that the product does not contain any PFAS, or other risky chemicals. He argues that consumers cannot make informed purchases if cookware is not accurately labeled as to the presence of toxic chemicals, or if they are misled by deceptive marketing.

In addition to the potential exposure of consumers to chemicals in their cookware, the author points to the life cycle concerns related to PFAS chemicals in cookware as a need for the cookware provisions in the bill. He argues that the production and manufacturing of PFAS chemicals and products with PFAS can expose workers and the environment; that the use of pans with PTFE coatings have been known to release hazardous chemicals into the air when heated; and, that the landfilling, recycling, or incineration of products with PFAS present potential opportunities for entering landfill leachate or gradually seeping into groundwater. He notes that this is particularly concerning because many of these disposal sites are in disadvantaged communities.

*Recent labeling requirements in California*: In an effort to provide consumers with the information they need to make educated decisions about the products they buy, the California legislature has recently passed several bills that require disclosure of chemicals in specific products. These include:

- SB 312 (Leyva, Chapter 315, Statutes of 2020) – Establishes the Cosmetic Fragrance and Flavor Ingredient Right to Know Act of 2020, which requires disclosure of specified flavor and fragrance ingredients that are found in cosmetic products that are on any of the authoritative lists identified in the bill to the Department of Public Health (DPH) and requires DPH to post on its existing database of cosmetic product information a list of those fragrance ingredients and flavor ingredients and their associated health hazards.

- AB 1989 (Garcia, Chapter 272, Statues of 2020) – Establishes the Menstrual Products Right to Know Act of 2020, which requires the disclosure of ingredients in menstrual products on a label on the product and a website starting on January 1, 2023.

- SB 258 (Lara, Chapter 830, Statutes of 2017) – Establishes the Cleaning Product Right to Know Act of 2017, which requires manufacturers of cleaning products to disclose chemical ingredients that are found in any of the authoritative lists identified in the bill on the product label and on the manufacturers website.

- SB 1019 (Leno, Chapter 862, Statutes of 2014) – Requires manufacturers of upholstered furniture to indicate on a label on the furniture whether or not the product contains added flame retardant chemicals.

*This bill*: This bill requires, commencing January 1, 2024 a manufacturer of cookware sold in the state that contains one or more intentionally added chemicals present on DTSC's candidate chemical list to include on the product label a statement, in both English and Spanish, that reads: "This product contains one or more chemicals of concern for human health or the environment as identified by the State of California. For more ingredient information, visit" followed by an address for an internet website that provides the information specified in this bill. DTSC's candidate chemical list was developed under the SCP Program, and is based on established authoritative lists. Candidate chemicals must exhibit a hazard trait and/or an environmental or toxicological endpoint and be found on one or more of the authoritative lists.

This bill also requires, commencing on January 1, 2023, a manufacturer of cookware that contains intentionally added chemicals present on the candidate chemical list to post a list of the chemicals, and specified information about them, on the internet website for the cookware. This bill also prohibits, commencing on January 1, 2024, a manufacturer from making a claim, either on the cookware package or on the internet website for the cookware, that the cookware is free of any specific chemical if the chemical belongs to a chemical group or class identified on the candidate chemical list, unless no individual chemical from that chemical group or class is intentionally added to the cookware.

*Arguments in support:* According to the co-sponsors of the bill,

> "The entire class of PFAS chemicals has been recognized as chemicals of concern by a wide array of scientific experts at both the state and federal level. The California legislature recognized PFAS as a class when it passed SB 1044 (Allen, 2020) to prohibit their use in

firefighting foam. The Department of Toxic Substance Control's (DTSC) Safer Consumer Products Program has extensively reviewed PFAS chemicals in three product categories and has made a convincing case for treating PFAS as a class. The California Biomonitoring Program also includes the entire class of PFAS on the program's priority chemical list. The U.S. Congress adopted a class approach to PFAS when it banned the use of all PFAS in military Meals Ready-to-Eat. The growing and international public, medical, scientific and political concerns about PFAS pollution have risen to unprecedented heights and have recently become even more pointed due to reports that PFAS may reduce the immune system's response to vaccinations, as we cope with a worldwide pandemic… Federal regulation of food packaging and cookware is woefully inadequate, allowing hazardous chemicals to be used in these products. The result of this failure is that people and the environment are exposed to hazardous chemicals when food packaging and cookware products are manufactured, used, and thrown away (or recycled)… Single use paper-based food packaging is often coated by manufacturers with PFAS, which can migrate from the paper packaging into the food… When paper packaging is composted, which is increasingly occurring to reduce landfill waste, the chemicals can re-enter the food chain through compost-treated agricultural soils. Additionally, food packaging contributes to PFAS contamination of our waterways through manufacturing releases, litter and leaching from landfills… With no federal requirements for any disclosure of chemicals in cookware, consumers are left in the dark and face a plethora of confusing claims, some of which are misleading or inaccurate, particularly when it comes to non-stick surfaces… This lack of transparency leaves the public to potentially and unwittingly expose themselves to hazardous chemicals. For example, pans may off-gas chemicals when pans are subject to high heat, or pans may expose a consumer to hazardous coatings that are scratched or peeling. Chemicals of concern in cookware may also contribute to pollution both upstream in the manufacturing process and downstream in the disposal phase… AB 1200 would address these issues in combination."

*Arguments in opposition*: According to the opponents of the bill,

"AB 1200 proposes a blanket prohibition on all PFAS chemistries that may be used in an expansive list of food packaging applications without any examination of safety, consideration of US Food and Drug Administration (FDA) requirements, functionality or assessment of potential alternatives. As you may know, the Department of Toxic Substances Control (DTSC) has proposed to list one or more plant fiber-based food packaging PFAS substances as Priority Products under the Safer Consumer Products (SCP) regulations… To address criticisms that the SCP program is not moving fast enough to assess and regulate chemical/product combinations, Senator Ben Allen has introduced SB 502, legislation that passed the Senate Committee on Environmental Quality on March 15, 2021… Given the amount of work and time already spent by DTSC on this issue, it would be a prudent use of the state's resources to allow for this regulatory process to be completed… Additionally, the Washington State Department of Ecology (Ecology) recently completed an AA on PFAS in food packaging. While the report found "safer alternatives" to PFAS in four types of food packaging applications: wraps and liners, plates, food boats and pizza boxes, Ecology did not find appropriate replacements for other food packaging applications including trays, bags and sleeves, French fry cartons, clamshells, interlocking food containers and bowls. Ecology will be evaluating these categories in the coming months… Imposing a blanket restriction without the benefit of understanding the conclusions of these types of scientific assessments would be premature. We urge you to consider amending the effective date in your legislation

to better correspond with the completion and findings of these regulatory activities… AB 1200 would impose new product labeling and disclosure requirements on manufacturers of cookware. This language is overly broad, lacks credible scientific foundation and inappropriately utilizes a list of chemicals to suggest potential harmful impacts to human health or the environment. We believe this provision should be deleted in its entirety… Finally, since the bill does not authorize any particular state agency or department to enforce these provisions, this legislation opens the door for an increase in 3rd party lawsuits against manufacturers. The business community is already subject to bounty hunter suits under Proposition 65 and AB 1200 could make an already difficult situation worse."

*Related legislation*:

1. AB 1989 (Garcia, Chapter 272, Statutes of 2020). Establishes the Menstrual Products Right to Know Act of 2020, which requires, starting on January 1, 2023, the disclosure of ingredients in menstrual products on a label on the product and on a website.

2. 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.

3. 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.

4. SB 312 (Leyva, Chapter 315, Statutes of 2020). Establishes the Cosmetic Fragrance and Flavor Ingredient Right to Know Act of 2020, which requires disclosure of specified flavor and fragrance ingredients that are found in cosmetic products that are on any of the authoritative lists identified in the bill to the Department of Public Health (DPH) and requires DPH to post on its existing database of cosmetic product information a list of those fragrance ingredients and flavor ingredients and their associated health hazards.

5. 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.

6. 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.

7. 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.

8. SB 258 (Lara, Chapter 830, Statutes of 2017). Establishes the Cleaning Product Right to Know Act of 2017, which requires manufacturers of cleaning products to disclose chemical

ingredients that are found in any of the authoritative lists identified in the bill on the product label and on the manufacturers' website.

9. SB 1019 (Leno, Chapter 862, Statutes of 2014). Requires manufacturers of upholstered furniture to indicate on a label on the furniture whether or not the product contains added flame retardant chemicals.

10. 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**

Breast Cancer Prevention Partners (CO-SPONSOR)
Center for Environmental Health (CO-SPONSOR)
Clean Water Action (CO-SPONSOR)
Environmental Working Group (CO-SPONSOR)
Natural Resources Defense Council (CO-SPONSOR)
Alliance of Nurses for Healthy Environments
American Academy of Pediatrics, California
American College of Obstetricians and Gynecologists District IX
Ban Single Use Plastic (SUP)
Black Women for Wellness Action Project
Breast Cancer Action
Breast Cancer Over Time
California Alliance of Nurses for Healthy Environments
California Association of Sanitation Agencies
California Compost Coalition
California Health Coalition Advocacy
California Healthy Nail Salon Collaborative
California Product Stewardship Council
Californians Against Waste
CALPIRG
Center for Community Action and Environmental Justice
Center for Oceanic Awareness, Research, and Education, the
Center for Public Environmental Oversight
Clean Production Action
Compost Manufacturing Alliance
Consumer Attorneys of California
Consumer Federation of California
Courage California
Defend Our Health (formerly Environmental Health Strategy Center)
Educate. Advocate.
Erin Brockovich Foundation

Facts: Families Advocating for Chemical & Toxins Safety
Families Advocating for Chemical and Toxics Safety
Friends Committee on Legislation of California
Friends of The Earth U.S.
Heal the Bay
Integrated Resource Management
Just Transition Alliance
Keep a Breast
Los Angeles County Sanitation Districts
Made Safe
Marin Sanitary Service
Michael J Fox Foundation
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Resource Recovery Coalition of California
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Safer States
San Francisco Bay Physicians for Social Responsibility
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Save Our Shores
Science and Environmental Health Network
Seventh Generation Advisors
Sierra Club California
The 5 Gyres Institute
Upstream
Wishtoyo Chumash Foundation
Womens Voices for The Earth
Woodland Coalition for Green Schools
Worksafe
Zero Waste USA

**Opposition**

American Chemistry Council
American Forest & Paper Association
California Chamber of Commerce
California Manufacturers & Technology Association
Chemical Industry Council of California

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