

FINAL STATEMENT OF REASONS

April 2021

SAFER CONSUMER PRODUCTS REGULATIONS – Listing Carpets and Rugs Containing Perfluoroalkyl or Polyfluoroalkyl Substances as a Priority Product

Department of Toxic Substances Control reference number: R-2019-02

Office of Administrative Law Notice Reference Number: Z-2020-0218-04

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GENERAL INFORMATION

Update to the Initial Statement of Reasons

As authorized by Government Code section 11346.9, subsection (d), the Department of Toxic Substances Control (DTSC) incorporates by reference the Initial Statement of Reasons prepared for this rulemaking. This regulation was noticed twice for public review and comment on the following dates:

The public notice and comment period for this rulemaking proposal began on February 28, 2020. DTSC published the proposed regulatory text, Initial Statement of Reasons, and Economic and Fiscal Impact Analysis for public review and comment. This public review and comment period was originally scheduled to conclude on April 13, 2020, however, due to the threat of COVID-19, the public hearing for this regulation was postponed and was conducted as a virtual hearing on May 15, 2020. Hence, the comment period for these proposed regulations was extended through May 15, 2020 for a total of 77 days.

This Final Statement of Reasons addresses the regulatory text first proposed on February 28, 2020. Post-hearing changes in the form of an Addendum to the Economic and Fiscal Impact Analysis (STD 399) and Attachment to STD 399 were noticed for 15-day public comment period beginning April 5, 2021. This public review and comment period concluded on April 20, 2021. The substantive changes to the Economic and Fiscal Impact Analysis (STD 399) and Attachment to STD 399 in the form of an Addendum and some non-substantive changes to the reference document titled Product-Chemical Profile for Carpets and Rugs Containing Perfluoroalkyl or Polyfluoroalkyl Substances are summarized under CHANGES MADE TO THE ORIGINAL PROPOSAL section below.

Governor Newsom's Executive Order N-40-20, issued March 30, 2020, extended by 60 calendar days the one-year deadline for expiration of a Notice of Proposed Action (NOPA) and submission of proposed regulatory actions to OAL (Government Code, section 11346.4(b)). Governor Newsom's Executive Order N-71-20, issued June 30, 2020, extended the foregoing deadline by 60 additional days.

Mandates on Local Governments and School Districts

DTSC has determined that this regulatory action will not result in mandates to any local agencies or school districts which are reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code.

Alternatives Considered

For the reasons set forth in the Initial Statement of Reasons, the responses to comments received, and in this Final Statement of Reasons, DTSC determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective and less burdensome to affected private persons, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law than the action taken by DTSC.

Alternative 1: List carpets and rugs containing long-chain perfluoroalkyl acids (PFAAs) and their precursors as a Priority Product.

While they may be present in imported rugs and as impurities in domestic carpets containing recycled content, long-chain PFAAs and their precursors have been phased out from domestic carpet manufacturing following U.S. EPA's 2010/2015 voluntary Stewardship Program. Shorter-chain PFAAs (which form the basis for currently used PFAS treatments in domestic carpets and rugs) show potential for some of the same adverse health hazards as their longer-chain counterparts, including developmental toxicity, endocrine toxicity, hematotoxicity, hepatotoxicity, neurodevelopmental toxicity, and reproductive toxicity. To meaningfully protect California's people and environment, DTSC decided to include carpets and rugs containing any PFASs in its Priority Product designation.

Alternative 2: List carpets and rugs containing perfluoroalkyl acids (PFAAs) and their precursors as a Priority Product.

Side-chain fluorinated polymers, which are PFAA precursors, are the main type of PFAS treatment used in domestic carpets and rugs. However, perfluoropolyethers, which may not be PFAA precursors, can also be used as carpet and rug treatments. DTSC is concerned about perfluoropolyethers because they are persistent, may be manufactured using PFAAs and contain PFAAs as impurities, and may degrade into PFAAs if incinerated. Incineration for energy recovery is a common end-of-life fate for carpets and rugs in California. Given the known hazard traits, replacing currently-used PFASs in carpets and rugs with other members of the PFAS class could constitute a regrettable substitution. Therefore, to adequately protect California's people and environment, DTSC decided to include carpets and rugs containing any PFASs in its Priority Product designation.

Alternative 3: List indoor upholstered furniture containing perfluoroalkyl or polyfluoroalkyl substances as a Priority Product.

In January 2017, DTSC held a workshop on carpets, rugs, indoor upholstered furniture, and their care and treatment products. At that workshop, DTSC learned that the upholstered furniture manufacturers usually receive the textile materials pre-treated with PFASs, even when they do not specify a need for PFASs in those materials. In that case, indoor upholstered furniture manufacturers would be considered an assembler and would not be subject to requirements for manufacturers in the proposed regulations.

Alternative 4: List care and treatment products for carpets, rugs, upholstery, and other textiles containing perfluoroalkyl or polyfluoroalkyl substances as a Priority Product.

In January 2017, DTSC held a workshop on carpets, rugs, indoor upholstered furniture, and their care and treatment products. Because of the widespread use of carpets and rugs in California homes and workplaces, DTSC decided to first list carpets and rugs containing perfluoroalkyl or polyfluoroalkyl substances as a Priority Product, and is pursuing listing leather and textile treatments containing these chemicals as a Priority Product in a separate regulatory proposal.

Small Business Alternatives Considered

DTSC has not identified reasonable alternatives that would lessen any adverse impact on small business.

CHANGES MADE TO THE ORIGINAL PROPOSAL

Substantive Changes

At the request of the Department of Finance, in April 2021 DTSC issued an Addendum to the Economic and Fiscal Impact Analysis (STD 399) and Attachment to STD 399. The Addendum includes clarifications to the text on pages 5 and 7 of the STD 399 Attachment. Additionally, DTSC made the following changes to STD 399:

A.1.g: Unchecked the box. This change was made because the Department of Finance concluded that there will be no impacts to individuals from this rulemaking.

B.1. Updated the years from 2020-2021 to 2021-2023. This change was made because the rulemaking period was extended due to the impacts of COVID-19, hence the effective date of these regulations and associated costs will occur later than originally expected.

D.3. Replaced “N/A” with the following statement: “Costs or savings associated with actions taken after the AA is completed are not calculable because such actions cannot be pre-determined (see attachment).” This change was made to clarify why this item is not applicable.

E.5. Replaced “See attachment” with “A reduction in exposure to PFASs could benefit the health of CA residents & wildlife. See attach & DTSC Profile for Carpets & Rugs containing PFASs.” This change was made to further clarify the benefits of the regulation.

Non-Substantive Changes

Non-substantive changes were made to the reference document titled Product-Chemical Profile for Carpets and Rugs Containing Perfluoroalkyl or Polyfluoroalkyl Substances (some typos in section numbering were fixed).

DOCUMENTS INCORPORATED BY REFERENCE

The regulation incorporates by reference in California Code of Regulations, division 4.5 title 22, section 66260.11 the following document: “Biomonitoring California Priority Chemicals” dated February 2019, available from the California Environmental Contaminant Biomonitoring Program led by the California Department of Public Health, PO Box 997377, MS 0500, Sacramento, CA 95899-7377.

This document was incorporated by reference because it would be impractical to publish it in the California Code of Regulations. The document is freely available on the California Environmental Contaminant Biomonitoring Program website.

SUMMARY OF COMMENTS AND RESPONSE

List of Commenters and their Affiliations

Written comments were received during the previously mentioned comment periods and written and oral comments were presented at the public hearing. We recorded the hearing and uploaded a transcript of the proceedings and testimony to the CalSAFER website. Listed below are the organizations and individuals that provided comments.

The tables below provides a complete list of commenters, their affiliations, and the number DTSC assigned to their correspondence or oral comment. Most of the comment letters and testimony cover more than one theme. To organize the comments, DTSC numbered individual letters and public hearing comments, as shown, then assigned a number to each individual comment. For example, the number “CL13-3” refers to the third comment in the comment letter numbered 13, and “PH2-2” refers to the second oral comment made by the second speaker at the public hearing.

Table 1: List of Commenters during the 45-Day Comment Period (February 28 – May 15, 2020)

#	Commenter	Affiliation
CL1	Greg Hurner	Carpenter Sievers
CL2	Amanda Farber	N/A
CL3	Kimberly Ryan	N/A
CL4	Jen Jackson	San Francisco Department of the Environment
CL5	Diane Nygaard	Preserve Calavera
CL6	John Bottorff	CleanEarth4Kids.org
CL7	John Bottorff	Clean Earth4Kids.org
CL8	Dianne Woelke	N/A
CL9	Christine Gorman	Non-Toxic Neighborhoods
CL10	J Wang	N/A
CL11	Roger S. Bailey	Central Contra Costa Sanitary District
CL12	Autumn Cleave	Bay Area Pollution Prevention Group
CL13	Nikki Leeds	North County Climate Change Alliance
CL14	Jane Marshall	N/A
CL15	Gregory Norby	San Francisco Public Utilities Commission
CL16	Gail Brice	XT Green, Inc.
CL17	Dana Kaasik	N/A
CL18	Erin Dickison	Alliance for Telomer Chemistry Stewardship
CL19	Roya Sohanaki	Orange County Sanitation District
CL20	Barbara Collins	N/A
CL21	Darin Marlow	CleanEarth4Kids.org
CL22	Amelie Catheline	N/A
CL23	Judith Pineda	CleanEarth4Kids.org
CL24	Amanda Farber	Safe Healthy Playing Fields, Inc
CL25	Greg Kester	California Association of Sanitation Agencies
CL26	Eileen White	East Bay Municipal Utility District
CL27	Doug Kobold	California Product Stewardship Council
CL27	Heidi Sanborn	National Stewardship Action Council
CL27	Alicia Culver	Responsible Purchasing Network
CL27	Adam Link	California Association of Sanitation Agencies
CL27	Andria Ventura	Clean Water Action California
CL27	Autumn Cleave	Bay Area Pollution Prevention Group
CL27	Leslie Lukacs	Zero Waste Sonoma
CL27	Colleen Foster	California Resource Recovery Association
CL27	Jennifer Lombardi	Mendo Recycle
CL27	Kevin Bell	Western Placer Waste Management Authority
CL27	Nick Lapis	Californians Against Waste
CL27	Eric Zetz	SWANA CA Legislative Task Force

#	Commenter	Affiliation
CL27	Rachel Mulrenan	Changing Markets Foundation
CL27	Lenny Siegel	Center for Public Environmental Oversight
CL27	Anna Reade	Natural Resources Defense Council
CL27	Liza Grandia	Woodland Green Schools Coalition
CL27	Janet Nudelman	Breast Cancer Prevention Partners
CL27	Alison Sherman	City of Torrance
CL27	Sharon Green	Los Angeles County Sanitation Districts
CL28	Ann Force	N/A
CL29	Tom Bruton	Green Science Policy Institute
CL30	Oyebode Taiwo	The 3M Company
CL31	Anna Reade	National Resources Defense Council
CL31	Avinash Kar	National Resources Defense Council
CL31	Andria Ventura	Clean Water Action
CL31	Doug Kobold	California Product Stewardship Council
CL31	Heidi Sanborn	National Stewardship Action Council
CL31	Nick Lapis	Californians Against Waste
CL31	Lenny Siegel	Center for Public Environmental Oversight
CL31	Sarah Doll	Safer States
CL31	Bill Allayaud	Environmental Working Group
CL31	Katherine O'Dea	Save Our Shores
CL31	Dianna Cohen	Plastic Pollution Coalition
CL31	Christopher Chin	The Center for Oceanic Awareness, Research, and Education (COARE)
CL31	Anna Cummins	The 5 Gyres Institute
CL31	Leslie Mintz Tamminen	Seventh Generation Advisors
CL31	Janet Nudelman	Breast Cancer Prevention Partners
CL31	Sarah Packer	Center for Environmental Health
CL31	Ben Stapleton	U.S. Green Building Chapter – Los Angeles
CL32	Kirstin Barnett	CleanEarth4Kids.org
CL33	Seth Tilley	
CL34	Jenniece Pingley	CleanEarth4Kids.org
CL35	Sarah Packer	Center for Environmental Health
CL36	Leana Cortez	CleanEarth4Kids.org
CL37	George Naugles	California State University Channel Islands
CL38	Mary Anne Viney	Non Toxic Neighborhoods
CL39	Suzanne Hume	CleanEarth4Kids.org
PH1	Melody LaBella	Central Contra Costa Sanitation District

#	Commenter	Affiliation
PH2	Joanna Brasch	California Product Stewardship Council
PH3	Anna Reade	Natural Resources Defense Council
PH4	Greg Kester	California Association of Sanitation Agencies
PH5	Suzanne Hume	CleanEarth4Kids.org
PH6	Dianne Wolkey	
PH7	Gail Brice	XT Green
PH8	John Bottorff	CLeanEarth4Kids.org
PH9	Heidi Sanborn	National Stewardship Action Council

Table 2: List of Commenters during the 15-Day Comment Period (April 5–20, 2021)

#	Commenter	Affiliation
CL40	Doug Kobold	California Product Stewardship Council
CL40	Heidi Sanborn	National Stewardship Action Council
CL40	Andria Ventura	Clean Water Action California
CL40	Autumn Cleave	Bay Area Pollution Prevention Group
CL40	Nick Lapis	Californians Against Waste
CL40	Lenny Siegel	Center for Public Environmental Oversight
CL40	Sharon Green	Los Angeles County Sanitation Districts
CL41	Robert J. Simon	American Chemistry Council

Summary of Objections and Recommendations during the 45-Day Comment Period (February 28 – May 15, 2020)

DTSC received 39 comment letters during the comment period from February 28 through May 15, 2020, and nine oral comments at the public hearing held on May 15, 2020. The comments fall into one of the following categories:

- I. Definition of the Candidate Chemical – comments related to the class of PFASs as the Candidate Chemical;
- II. Definition of the Priority Product – comments asking to expand the definition of the Priority Product;
- III. Prioritization factors – comments related to DTSC’s determination of potential exposures and significant or widespread adverse impacts;
- IV. Safety of PFASs – comments regarding the safety of PFASs in general;
- V. Implementation of the proposed regulation – comments requesting specific considerations for the Alternatives Analysis or Regulatory Responses;

- VI. Existing regulations – comments related to duplication with existing regulations;
- VII. DTSC’s process and methods – comments regarding DTSC’s research, review, and public comment process;
- VIII. Technical or typographical errors – comments regarding errors in DTSC’s technical document;
- IX. Support of the rulemaking – comments supporting the proposed Priority Product listing;
- X. Objection of the rulemaking – comments arguing that the proposed regulation and supporting information are flawed.

DTSC grouped and summarized the comments according to the listed themes, presenting summaries and responses in each section. For responses to specific comments, see the section *Index of Comment Letters and Public Hearing Testimony*.

Comments Regarding the Definition of the Candidate Chemical

Comments: CL4-2, CL15-4, CL20-2, CL29-3, CL31-2, CL35-3

Comment Summary: These comments specifically support DTSC naming the entire class of PFASs as the Candidate Chemical. It is important to include the entire class of PFASs in this proposal, because shorter-chain PFASs are highly mobile in the environment. Regulating the entire class of PFASs in carpets and rugs will prevent further regrettable substitutions. This approach is efficient for industry and protects public health. The class approach is consistent with recommendations by scientific experts and recent action taken by other states and the European Union.

DTSC Response: DTSC agrees with the commenters, therefore the proposal covers carpets and rugs containing any members of the class of PFASs, including the shorter-chain compounds.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comments: CL18-1, CL30-4

Comment Summary: Because of the diversity of properties displayed by PFASs and the remaining unknowns regarding cumulative effects with other chemicals, it is a fundamental flaw to regulate all PFASs as a single class. DTSC should make an individualized determination for each PFAS.

DTSC Response: DTSC acknowledges the diversity of the PFAS class and the remaining unknowns. However, as explained in the technical document, all PFASs are

Candidate Chemicals, and all PFASs or their degradation, metabolism, or reaction products display at least one hazard trait according to the California Code of Regulations, title 22, sections 69401 et seq. It is impractical to regulate such a large class of chemicals individually. The PFASs used in carpets and rugs in the U.S. degrade into other PFASs with hazard traits of concern. Therefore, to meet the goal of the Safer Consumer Products Regulations to identify safer substitutes for hazardous ingredients in consumer products sold in California, DTSC is treating PFASs as a class and encouraging manufacturers to consider non-PFAS alternatives during the Alternatives Analysis process.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL30-11

Comment Summary: DTSC's definition of the class of PFASs is too broad and includes all pharmaceuticals and pesticides having a trifluoromethyl group. DTSC should provide a clear technical description for the PFAS definition.

DTSC Response: DTSC cannot create its own definition of the class of PFASs, but must adopt the definition as written in the California Environmental Contaminant Biomonitoring Program's Priority List, which is one of the 23 authoritative lists that comprise DTSC's Candidate Chemicals list. The definition is incorporated by reference in sections 66260.11(a)(71) and 69511.4(b)(1) of the proposed regulatory text. This definition was developed by PFAS manufacturers in collaboration with other experts (Buck et al. 2011) and is currently considered too narrow and is in the process of being expanded by the Organisation of Economic Cooperation and Development.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-17

Comment Summary: Only a fraction of the chemicals that meet DTSC's definition of PFASs are currently used in carpets and rugs. Industry groups pointed this out during the previous public comment period on this document, however DTSC did not revise the scope of its proposal. Many PFASs such as fluoropolymers are not suitable for carpet protection and should be removed from the scope of this proposal.

DTSC Response: DTSC acknowledges that the majority of PFASs are not used, and cannot be used, to treat carpets and rugs in the U.S. But, as documented in detail in the technical document that accompanies this regulatory proposal, any PFASs present in

carpets and rugs will lead to potential human and ecological exposures to multiple members of this class of compounds, with potential for significant or widespread adverse impacts.

It appears that a fluoropolymer emulsion could be used on carpets and rugs, even though it is uncommon. A patent by Invista, cited in the technical document, stated that any polymeric PFASs, including side-chain fluorinated polymers, perfluoropolyethers, and fluoropolymers, could be used to achieve stain- and soil-resistance in carpets and rugs. Furthermore, while DTSC received information from domestic carpet manufacturers about the types of PFASs they use (i.e., short-chain side-chain fluorinated polymers), it received no specific information about the types of PFASs used in imported carpets and rugs. Thus, in order to protect public and environmental health, DTSC did not limit the Priority Product listing to a subset of the Candidate Chemical.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments Regarding the Definition of the Priority Product

Comment: CL3-1

Comment Summary: DTSC should remove the exclusions in 69511.4(a)(2)(B). These exclusions fail to protect employees and travelers who are regularly exposed inside airplanes, trains, ships, and vehicles, as well as ecological receptors.

DTSC Response: DTSC acknowledges the commenter's concerns. However, DTSC can only designate as Priority Products consumer products that fall under the product categories included in the current Priority Product Work Plan (PPWP). Carpets and rugs intended solely for use inside airplanes, trains, ships, automobiles, light duty trucks, vans, buses, or any other vehicles fall outside the scope of the current PPWP because they are neither "household, school, and workplace furnishings and décor" nor "products or materials used to construct, renovate, or repair any building designed or intended as a commercial, office, industrial, or child-occupied space where people work or learn, or that is designed for human habitation, or that contains a habitable space."¹

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments: CL22-5, CL27-4, PH2-2

¹ https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/10/Final_2018-2020_Priority_Product_Work_Plan.pdf

Comment Summary: DTSC must include outdoor carpets with PFASs in its Priority Product listing.

DTSC Response: DTSC can only designate as Priority Products consumer products that fall under the product categories included in the current Priority Product Work Plan (PPWP). Carpets and rugs intended solely for outdoor use fall outside the scope of the current PPWP because they are neither “household, school, and workplace furnishings and décor” nor “products or materials used to construct, renovate, or repair any building designed or intended as a commercial, office, industrial, or child-occupied space where people work or learn, or that is designed for human habitation, or that contains a habitable space.”²

No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL1-1

Comment Summary: The comment asks for clarification whether all artificial turf is included under the proposed regulation.

DTSC Response: As specified in Section 69511.4(a)(2)(D), the definition of carpets and rugs under the proposed regulation excludes artificial turf. Therefore, no artificial turf products are included under the proposed regulation.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL2-1

Comment Summary: The comment asks why artificial turf is not covered under the proposed regulation.

DTSC Response: Artificial turf products fall outside the scope of this proposed regulation. DTSC can only designate as Priority Products consumer products that fall under the product categories included in the current Priority Product Work Plan (PPWP). Most uses of artificial turf fall outside the scope of the 2017-2020 PPWP, which is limited to “products or materials used to construct, renovate, or repair any building designed or intended as a commercial, office, industrial, or child-occupied

² https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/10/Final_2018-2020_Priority_Product_Work_Plan.pdf

space where people work or learn, or that is designed for human habitation, or that contains a habitable space.”³

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments: CL4-3, CL5-1, CL7-1, CL8-1, CL9-1, CL13-1, CL14-1, CL20-3, CL21-2, CL22-2, CL23-2, CL24-1, CL27-5, CL28-1, CL32-2, CL33-1, CL34-3, CL36-1, CL38-1, CL39-2, PH5-2, PH6-1, PH8-2, PH9-1

Comment Summary: These comments ask DTSC to broaden the proposed regulation to include artificial turf, also known as synthetic turf, synturf, artificial grass, plastic grass, or fake grass; some ask DTSC to ban artificial turf, or to classify artificial turf or PFASs in artificial turf as hazardous to public health. Some of the commenters provided data showing that PFASs were detected in all artificial turf grass fibers recently tested. It's unknown whether they are intentionally added to the fibers or backing, or whether they are manufacturing impurities. The presence of PFASs as manufacturing impurities is likely, since patents and industry literature indicate PFASs are widely used as plastic processing aids. Artificial turf is most commonly installed outdoors, but can also be installed indoors inside homes, daycare settings and schools, and recreational facilities. There are many similarities between carpets and artificial turf, including the potential for PFAS exposures and adverse impacts across the product life cycle. They are both building products, they have a similar composition, using similar materials, and often are made by the same manufacturers in the same manufacturing facilities. The life cycle of artificial turf also leads to PFAS exposures, similar to the life cycle of carpets and rugs. Workers are exposed to PFASs during manufacture, installation, and disposal. Children and adults can be exposed to PFASs while playing on artificial turf. Regular cleaning of artificial turf fields may release PFASs to stormwater and wastewater systems. Artificial turf is difficult to recycle and creates large waste streams, resulting in a persistent source of PFASs to the environment. Artificial turf is made of plastic and adds to plastic ocean pollution. Additionally, artificial turf contains carcinogens in the binders and crumb rubber base, traps heat, causes burns from overheating, and is flammable. Regulating artificial turf aligns perfectly with DTSC's mission, and would lead to greater transparency and accountability of the artificial turf industry with regards to PFASs. DTSC should prioritize eliminating toxic chemicals from products manufactured and discarded at large scale, such as carpet and turf.

DTSC Response: DTSC acknowledges the issues raised by the commenters and appreciates the information received regarding the use of PFASs in artificial turf.

³ https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/10/Final_2018-2020_Priority_Product_Work_Plan.pdf

However, artificial turf products are outside the scope of this proposed regulation. DTSC can only designate as Priority Products consumer products that fall under the product categories included in the current PPWP. Most uses of artificial turf fall outside the scope of the 2017-2020 PPWP, which is limited to “products or materials used to construct, renovate, or repair any building designed or intended as a commercial, office, industrial, or child-occupied space where people work or learn, or that is designed for human habitation, or that contains a habitable space.”⁴ DTSC may consider the information received regarding artificial turf during a subsequent PPWP version.

Addressing other carcinogens contained in the binders and crumb rubber base of artificial turf requires separate research and is beyond the scope of this proposed regulation. Furthermore, DTSC does not have authority to address the other issues related to artificial turf mentioned in the comments received, such as athlete injuries, burns from overheating, bacterial illnesses, and ocean plastic pollution, nor can it list synthetic turf as hazardous to public health.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comments Regarding the Prioritization Factors

Comment: CL10-1

Comment Summary: DTSC has clearly identified the hazards associated with PFASs.

DTSC Response: DTSC acknowledges the support provided by this commenter. No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL18-2

Comment Summary: The decision to list, or not to list, carpets and rugs containing PFASs as a Priority Product should be based on the specific hazard traits and any potential impacts of the PFASs actually used in carpets and rugs in the U.S. It is inappropriate for DTSC to speak in generalities about potential toxicities associated with shorter-chain PFAAs rather than the specific chemistries used in U.S. carpets and rugs. The majority of PFASs used for treating carpets and rugs in the U.S. are short-chain side-chain fluorinated polymers referred to as C6 chemistry, which are large molecules that are not bioavailable and therefore nontoxic. One of their primary degradation products of potential concern is perfluorohexanoic acid (PFHxA), for which there is a

⁴ https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/10/Final_2018-2020_Priority_Product_Work_Plan.pdf

large body of toxicological data supporting the conclusion that PFHxA and other potential degradation products are not carcinogenic, mutagenic, neurotoxic, or reproductive toxins. Furthermore, a study conducted using EPA-approved protocols following EPA-imposed Good Laboratory Practice standards demonstrated that the environmental half-life of C6-based side-chain fluorinated polymers is in the thousands of years. This means potential exposure to theoretical degradation products of the PFASs used in U.S. carpets and rugs will be negligible. This demonstrates that C6-based side-chain polymers, which are the primary carpet treatment products available for use in the U.S., do not present significant or widespread adverse impacts and thus do not meet the criteria for designation as a Priority Product.

DTSC Response: DTSC agrees with the commenters that the decision to list a Priority Product should be based on the specific hazard traits and potential impacts of the Candidate Chemical in the product. However, relevant potential impacts could happen anywhere in the life cycle of the product, not only during the use phase. All PFASs or their degradation, metabolism, or reaction products have one or more hazard traits of concern, according to the California Green Chemistry Regulations, thus human or ecological exposures to any PFASs throughout the life cycle of carpets and rugs can lead to potential significant or widespread adverse impacts.

As the commenter noted, short-chain side-chain fluorinated polymers are used in most carpets and rugs in the U.S. However, DTSC does not know which PFASs are used in the remainder of the carpets and rugs available for sale in California, especially imported ones. Also, those carpets and rugs treated with short-chain side-chain polymers contain other PFASs, including perfluoroalkyl acids (PFAAs) and some of their non-polymeric precursors. This was documented by recent testing of carpets available for sale from major U.S.-based manufacturers and by studies finding higher levels of non-polymeric PFASs in air and dust samples collected in carpet stores and in homes, offices, and child care centers with carpeted floors.

As the commenter noted, PFHxA is one of the primary degradation products of short-chain side-chain fluorinated polymers. Some studies indeed concluded that PFHxA is not carcinogenic, mutagenic, neurotoxic, or reprotoxic, however several other studies have documented adverse toxicological outcomes from exposure to PFHxA. For example, a National Toxicology Program (NTP) 28-day oral toxicity study in rats found evidence of endocrine toxicity, hematotoxicity, hepatotoxicity, immunotoxicity, nephrotoxicity, and reproductive toxicity. Also, PFHxA displays multiple other hazard traits identified in the California Code of Regulations, Chapter 54, Title 22, Division 4.5, including environmental persistence, mobility in environmental media, lactational and transplacental transfer, and bioaccumulation in plants.

Moreover, as the commenter acknowledges, PFHxA is not the only degradation product of concern. For instance, as documented in the technical document accompanying this proposed rulemaking, new research published by U.S. Food and Drug Administration (FDA) scientists found that 6:2 fluorotelomer alcohol (FTOH), which is commonly found in short-chain side-chain fluorinated polymers, is significantly more toxic than PFHxA. FDA researchers also found that one of the intermediate metabolites of 6:2 FTOH known as 5:3 acid has a long half-life in rats, with potential for toxic effects at the cellular level.

The commenter cited a study demonstrating that the environmental half-life of short-chain side-chain fluorinated polymers is on the order of thousands of years. Even if that were the case, DTSC has a duty to protect future generations from potentially harmful chemical exposures. However, U.S. EPA researchers concluded that side-chain fluorinated polymers have much shorter half-lives in soil, on the order of decades to centuries, and might become significant environmental sources of shorter-chain PFASs such as PFHxA. Several studies of landfills throughout the U.S., including in California, found high concentrations of perfluoroalkyl acids (PFAAs) and 5:3 acid in the landfill leachate, presumably from the degradation of side-chain fluorinated polymers from discarded consumer products such as carpets. Wastewater treatment was also found to accelerate the degradation of PFAA precursors, including side-chain fluorinated polymers, resulting in higher concentrations of PFAAs in the wastewater effluent compared to the influent.

Therefore, based on the totality of the available information, DTSC has concluded that carpets and rugs containing perfluoroalkyl or polyfluoroalkyl substances meet the criteria for designation as a Priority Product. No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL18-3

Comment Summary: DTSC's class approach to PFASs is inappropriate and counter to the requirements of the Safer Consumer Product regulations. The majority of PFASs are not used, and cannot be used, to treat carpets and rugs in the United States, so DTSC cannot determine that there is exposure to all PFASs from carpets and rugs. Furthermore, some PFASs do not present a risk of significant or widespread adverse impacts. For example, fluoropolymers are not used in carpets and rugs and they satisfy the OECD criteria for polymers of low concern, being biologically inactive due to their large size. Since the Candidate Chemical is the entire class of PFASs, DTSC cannot determine that there is exposure to the Candidate Chemical from the product, nor that there are potential significant or widespread adverse impacts from the Candidate Chemical, as required under the Safer Consumer Product regulations. Therefore, the

information compiled by DTSC is legally insufficient to support designating all PFASs in carpets and rugs as a Priority Product.

DTSC Response: DTSC received similar comments during the pre-regulatory public comment period on an earlier draft of the technical document, which identified “PFASs in carpets and rugs” as the proposed Priority Product. That phrase was indeed misleading, because it could be interpreted as saying that the entire class of PFASs is found in carpets and rugs. Consequently, DTSC changed the wording in the final technical document and proposed rulemaking to “carpets and rugs containing perfluoroalkyl or polyfluoroalkyl substances” or, similarly, “carpets and rugs containing any member of the class of PFASs.” That is because DTSC acknowledges that the majority of PFASs are not used, and cannot be used, to treat carpets and rugs in the U.S., so carpets and rugs do not lead to exposure to all PFASs. But, as documented in detail in the technical document that accompanies this regulatory proposal, any PFASs present in carpets and rugs will lead to potential human and ecological exposures to multiple members of this class of compounds, with potential for significant or widespread adverse impacts.

DTSC found conflicting information regarding the use of fluoropolymers in carpets and rugs. It appears that a fluoropolymer emulsion could be used on carpets and rugs, even though it is uncommon. A patent by Invista, cited in the technical document, stated that any polymeric PFASs, including side-chain fluorinated polymers, perfluoropolyethers, and fluoropolymers, could be used to achieve stain- and soil-resistance in carpets and rugs. Furthermore, while DTSC received information from domestic carpet manufacturers about the types of PFASs they use (i.e., short-chain side-chain fluorinated polymers), it received no specific information about the types of PFASs used in imported carpets and rugs. Thus, in order to protect public and environmental health, DTSC could not limit the Priority Product listing to a subset of the Candidate Chemical.

DTSC acknowledges that certain polymeric PFASs such as fluoropolymers are biologically inactive due to their large size and meet the OECD criteria for polymers of low concern. However, even fluoropolymers exhibit at least one of the hazard traits identified in the California Green Chemistry Regulations – persistence. Also, the life cycle of fluoropolymers can lead to exposures to other PFASs with documented potential for significant and widespread adverse impacts. Since DTSC’s mandate is to consider the entire life cycle of the product when identifying Priority Products and to take a precautionary approach in the face of incomplete information, naming carpets and rugs containing any member of the class of PFASs as the Priority Product is DTSC’s approach in this case.

DTSC has authority to do so because the entire class of PFASs, as defined by the California Environmental Contaminant Biomonitoring program, is a Candidate Chemical after being added in 2015 to the list of priority chemicals for biomonitoring in California (one of the 23 authoritative lists that make up DTSC's Candidate Chemicals list). In the case where the Candidate Chemical is a class of compounds, such as the 4,000+ PFASs, the Safer Consumer Product regulations do not require DTSC to determine that there is exposure to all members of that class from a consumer product. Evidence of exposure to at least one member of the class in the product with potential for significant or widespread adverse impacts anywhere in the life cycle of that product is sufficient to meet the key prioritization principles in the Safer Consumer Product regulations.

Designating carpets and rugs containing perfluoroalkyl or polyfluoroalkyl as a Priority Product does not mean DTSC has determined that PFASs must be banned from those products. Listing this Priority Product means DTSC is asking manufacturers to consider whether PFASs are necessary in carpets and rugs, and whether there are safer alternatives to PFASs. Any regulatory response that DTSC subsequently takes will be informed by the results of carpet and rug manufacturers' Alternatives Analysis.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments: CL27-2, CL29-2, CL31-3, CL35-2, PH3-2

Comment Summary: DTSC has successfully documented the adverse impacts and exposures associated with the use of PFASs in carpets and rugs, citing a breadth of studies. The evidence presented by DTSC shows carpets and rugs with added PFASs pose human health hazards. The standards for listing this Priority Product have been met, including documenting the large potential for widespread public exposure to PFASs and the potential for adverse health and environmental impacts, especially for sensitive subpopulations. These potential exposures and adverse impacts are exacerbated by end-of-life effects. The technical document shows that a strong body of evidence links PFASs to adverse health and environmental effects.

DTSC Response: DTSC agrees with the comments. No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL30-5

Comment Summary: DTSC's technical document ignores key studies, relies heavily on generalized and highly-qualified statements about PFAS toxicity, and glosses over data gaps. When the available scientific literature is considered as a whole, carpets and rugs containing any PFASs do not meet the regulatory criteria of a Priority Product. DTSC

has failed to demonstrate that exposure to PFASs can be predicted or expected to cause significant or widespread adverse impacts.

DTSC Response: While some of the toxicological information may be inconclusive due to insufficient data, numerous studies have raised concern about potential adverse health impacts from human or ecological exposures to PFASs. Furthermore, all PFASs are persistent or have persistent degradation products, which is a hazard trait identified in the California Code of Regulations and one of the bases for the determination of potential significant or widespread adverse impacts. Also, there are clear pathways for human and ecological exposures to PFASs from the life cycle carpets and rugs. Therefore, carpets and rugs with PFASs unequivocally meet the regulatory criteria for a Priority Product designation.

DTSC's conclusions were corroborated by four external scientific peer reviewers, who determined that DTSC's technical document is "thorough, complete, and comprehensive;" that the proposed regulation "appears to be based upon sound scientific knowledge, methods, and practices;" and that "...the information reviewed herein suggests that continued human and biota exposure to even relatively low concentrations of PFASs results in elevated body burdens that may increase the risk of health effects, and thus supports inclusion of carpets and rugs containing Perfluoroalkyl or Polyfluoroalkyl Substances as a Priority Product."

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-6

Comment Summary: As DTSC acknowledges in the technical document, industry-led improvements have decreased the likelihood of direct consumer exposure to the shorter-chain PFASs currently used in carpets and rugs.

DTSC Response: While industry has indeed made improvements that reduce exposure during product use, those exposures have not been eliminated. Furthermore, exposures may be especially problematic at product end-of-life, for instance due to releases into the aquatic environment from landfill leachate, impacting California's precious water resources. These shorter-chain PFASs are extremely persistent, mobile, and prohibitively expensive to remove from water resources, as explained by California public utilities and sanitation districts in CL11, CL15, CL19, CL25, and CL26.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-7

Comment Summary: DTSC ignored and failed to cite several studies that do not support its conclusions, including several studies that investigate potential reverse causation, i.e., whether the increased PFAS levels are caused by pre-existing conditions. Therefore, DTSC failed in its regulatory duty to consider all “reasonably available” information, thus failed to prove the link between PFASs can be predicted or expected to cause significant or widespread adverse impacts. According to the Safer Consumer Product regulations, section 69503.2(b), DTSC is required to consider all reasonably available information, including the extent and quality of the information, and whether it has been independently confirmed, corroborated, or replicated. The diversity of opinions found in the literature should be reflected in DTSC’s review.

DTSC Response: We thank the commenter for pointing out these studies. DTSC has considered these studies however they do not change the rationale or DTSC’s conclusion regarding the potential significant or widespread adverse impacts associated with PFASs, nor do they invalidate the studies cited in the technical document. However, we will consider adding these studies in our future evaluations.

The Safer Consumer Product regulations, section 69503.2(b)(1)(C) states that DTSC “shall consider the extent and quality of information that is available to substantiate the existence or absence of potential adverse impacts, potential exposures, and potential adverse waste and end-of-life effects.” DTSC staff read and considered over 1,200 references, including all the references listed in the bibliography on the FluoroCouncil’s website, and all the documents provided to DTSC by its stakeholders. The technical document cites over 700 of these references in its bibliography. DTSC chose not to include in the technical document all references reviewed because the majority were not relevant to the proposed rulemaking or to California, were duplicative with other information cited, or had problematic methods (e.g., very small sample size, confounding effects, sacrificing some of the animals too early in the study without explanation, etc.). Appendix 2 of the Product-Chemical Profile for Carpets and Rugs Containing Perfluoroalkyl or Polyfluoroalkyl Substances documents the studies DTSC used in its review of the toxicological hazard traits of PFASs, including positive and negative findings. For instance, Appendix 2 lists 12 studies that found an association between PFASs and various cancers in humans or laboratory animals, and eight studies that found no associations between the PFASs and cancer types studied. DTSC’s thorough review of the literature was confirmed by four external peer reviewers, who only recommended a handful of additional references.

Furthermore, DTSC’s adverse impact factors include considerations of hazard traits such as persistence, bioaccumulation, environmental mobility, lactational and

transplacental transfer. Based on the totality of the available information, DTSC concluded that there is potential for significant and widespread adverse impacts from human or ecological exposures to PFASs in carpets and rugs. DTSC's conclusion matches the scientific consensus and was corroborated by the external scientific peer reviewers.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-8

Comment Summary: DTSC does not cite any studies showing health effects from exposure to short-chain PFASs in humans or primates, only in fish and rodents. This hardly rises to the regulatory standard of demonstrating that short-chain PFASs can be predicted or expected to cause significant or widespread adverse impacts. DTSC must take into consideration that many of the effects cited are rodent-specific.

DTSC Response: That is a correct observation. DTSC is unaware of human epidemiological studies for short-chain PFASs and, for ethical reasons, there are no laboratory studies of human exposure to short-chain PFASs. DTSC is similarly unaware of relevant studies conducted in primates. Fish and rodent data are highly relevant to DTSC's mandate under the Safer Consumer Product regulations to protect not only human health, but also the health of aquatic, avian, and terrestrial animals and plants.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-9

Comment Summary: DTSC provides no toxicological evidence regarding fluorinated polymers. It is difficult to fathom how DTSC believes fluorinated polymer-containing carpets and rugs meet the criteria of a Priority Product.

DTSC Response: As discussed in detail in the technical document, the fluorinated polymers currently used in carpets and rugs in the U.S. degrade into non-polymeric PFASs, with perfluoroalkyl acids (PFAAs) as terminal degradation products. Those PFAAs display multiple hazard traits indicative for potential significant and widespread adverse impacts, including extreme environmental persistence, bioaccumulation in plants, mobility in the environment, lactational and transplacental transfer, plus emerging evidence of health effects from animal and *in vitro* studies. The intermediate degradation products, according to recent research by FDA scientists, may be even more toxic and biopersistent than the PFAAs, thus exacerbating the potential for

significant or widespread adverse impacts to human and environmental health in California.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-12

Comment Summary: Even though humans are exposed to multiple PFASs, due to limited hazard data availability these multiple exposures cannot be combined for the purpose of risk assessment. Data do not support the assumption that all PFASs have the same toxicological effect. DTSC's broad conjecture in its approach to treating PFASs as a class brings into question the appropriateness of its assessment. DTSC needs to acknowledge that hazard traits and risks are distinctly different principles.

DTSC Response: The Safer Consumer Products regulations are not based on a risk assessment, therefore DTSC did not attempt to perform a risk assessment, nor combine exposures to multiple PFASs for the purpose of risk assessment. Also, DTSC did not claim that all PFASs have the same toxicological effect. DTSC is taking a class approach to PFASs because all PFASs or their degradation, metabolism, or reaction products display one or more hazard traits identified in the California Green Chemistry Regulations, thus exposures to any PFASs from the life cycle of carpets and rugs can lead to potential significant or widespread adverse impacts to humans or aquatic, avian, or terrestrial animal or plant organisms.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-13

Comment Summary: 3M disagrees with DTSC's conclusion on exposure to PFASs as a class and the statement that a small increase in serum cholesterol levels among exposed populations is the most consistent finding from human epidemiological studies. It is scientifically indefensible for DTSC to assert its conclusion on human health effects based on statistical correlation. DTSC cannot use such observational epidemiological data for serum cholesterol to reach conclusions about cardiovascular toxicity.

DTSC Response: DTSC is merely stating an observation that a small increase in serum cholesterol is the most consistent finding from the human epidemiological studies available to date. The additional animal study data presented by the commenter does not change this fact.

Cardiovascular toxicity is one of the toxicological hazard traits described in the California Code of Regulations, title 22, division 4.5, chapter 54. According to DTSC staff's professional judgment, data on altered serum cholesterol levels could be indicative of this hazard trait, as described in the regulations.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-19

Comment Summary: DTSC's statement in Section 2.2 that certain PFASs contribute to global warming confuses the PFASs used in carpets and rugs with neutral, volatile molecules such as hydrofluorocarbons (HFCs).

DTSC Response: DTSC explains that statement in Section 4.3.1 of the technical document accompanying this proposed rulemaking. The statement refers to some perfluoropolyethers (PFPEs), to some non-polymeric fluorinated ethers that can be used in the production of PFPEs, and to fluoroform, which is a degradation product of fluorinated polymers from incomplete combustion. According to the information that DTSC gathered during the research and stakeholder engagement period, PFPEs and other fluorinated polymers can be used in carpets and rugs. Other PFASs, including those associated with current and historic uses in carpets and rugs, may contribute to global warming by increasing the concentration of cloud condensation nuclei above the ocean.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments Regarding the Safety of PFASs

Comments: CL6-1, CL8-2, CL10-2, CL11-1, CL12-1, CL15-1, CL17-2, CL19-2, CL25-2, CL26-2, CL27-6, CL33-2, CL34-1, CL36-4, CL37-1, PH1-2, PH8-1

Comment Summary: All uses of PFASs in California must be stopped and all PFAS containing products banned. There is enough information to justify an end to PFAS exposures in public and private spaces. Controlling and regulating the sources of PFASs is critical to limit these compounds from entering and persisting in the environment, and more cost-effective than advanced wastewater treatment. Addressing the true sources of these chemicals requires the phaseout of domestic PFAS manufacturing, regulating the import of PFAS-containing products, and finding safer alternatives to PFASs in consumer products. The disposal of PFASs also needs to be regulated. Decisive action is needed for public and environmental health and safety,

and to stop reinventing the wheel for every PFAS-containing product. DTSC is asked to please stop PFASs and encouraged to continue to work to remove PFASs from all products that can lead to human or environmental exposures, including textiles and clothing. PFASs need to be addressed immediately to achieve a circular economy.

DTSC Response: DTSC agrees with the commenters that the use of PFASs in many consumer products may lead to human and ecological exposures and to adverse impacts. Consequently, DTSC is continuing to work on PFASs in other consumer products, including the treatments for use on converted textiles and leathers, and plant fiber-based food packaging materials. However, these products are beyond the scope of this rulemaking.

Through this rulemaking, DTSC proposes listing carpets and rugs containing any member of the class of PFASs as a Priority Product because of the potential for exposure and significant and widespread adverse impacts. The proposed regulation triggers the requirements for notification and an Alternatives Analysis to identify safer alternatives. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the Safer Consumer Products (SCP) regulations provide a variety of possible regulatory responses in addition to possible sale prohibitions to address the adverse impacts associated with the Priority Product.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL30-2

Comment Summary: The vast body of scientific evidence does not show that PFASs, individually or as a group, cause adverse health effects in humans at current or past exposure levels.

DTSC Response: The commenter specifically refers to a statement found in a 2018 report from the Agency for Toxic Substances and Disease Registry (ATSDR), which says that: "The available human studies have identified some potential targets of toxicity; however, cause and effect relationships have not been established for any of the effects, and the effects have not been consistently found in all studies." This statement is true of most hazardous chemical exposures. It is extremely difficult to prove that a certain adverse health effect is caused by a specific chemical in humans, because we are exposed to hundreds or thousands of chemicals that can have complex interactions. Only in the case of substances like asbestos, which causes a unique adverse health impact (mesothelioma), is it possible to prove causation in humans. For most other chemical exposures, human epidemiologic studies can only indicate associations or correlations between exposure to certain chemicals and certain

diseases, not causations. As for the lack of consistency across studies, ATSDR explains in a factsheet on the Health Effects of Chemical Exposure that “People respond to chemical exposures in different ways. Some people may come into contact with a chemical and never be harmed. Others may be more sensitive and get sick. Sometimes illness happens only if you are exposed to a harmful substance for a long time.”⁵

The Safer Consumer Product regulations do not require DTSC to prove causation, but rather the potential for significant or widespread adverse impacts from exposure to the Candidate Chemical in the product. Also, the regulations mandate DTSC to consider the most vulnerable human and ecological populations in its determination.

For PFASs, even though causation cannot be proven, we have very robust data from one of the largest epidemiologic studies conducted to date. The study was conducted between 2005-2013 by the C8 Science Panel, consisting of three epidemiologists chosen by the parties to the legal settlement between plaintiffs from the Mid-Ohio Valley communities and DuPont. Based on samples from 69,000 study participants, the C8 Science Panel found links between exposure to perfluorooctanoic acid (PFOA, also known as C8) and high cholesterol, ulcerative colitis, thyroid disease, testicular cancer, kidney cancer, and pregnancy-induced hypertension. Subsequent studies in other human populations also found an association between PFAS levels in the blood and reduced response to vaccines. A plethora of other studies indicate potential health impacts to humans and other organisms from PFAS exposure. As a result, a growing number of regulatory agencies around the world, including the U.S. EPA and the European Chemicals Agency (ECHA), as well as several U.S. states and European countries, have taken steps to limit human exposure to PFASs in drinking water and other environmental media.

The commenter also cites a study conducted by the Australian Expert Health Panel, which concluded in March 2018 that there is mostly limited or no evidence of any link with human disease from high levels of PFAS exposure. That report however also concluded that “Although the evidence on health effects associated with PFAS exposure is limited, the current reviews of health and scientific research provide fairly consistent reports of associations with several health outcomes, in particular: increased cholesterol, increased uric acid, reduced kidney function, altered markers of immunological response, levels of thyroid and sex hormone levels, later menarche and earlier menopause, and lower birth weight.”⁶ Furthermore, in a November 2018 report,

⁵<https://www.atsdr.cdc.gov/emes/public/docs/health%20effects%20of%20chemical%20exposure%20fs.pdf>

⁶[https://www1.health.gov.au/internet/main/publishing.nsf/Content/C9734ED6BE238EC0CA2581BD00052C03/\\$File/expert-panel-report.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/C9734ED6BE238EC0CA2581BD00052C03/$File/expert-panel-report.pdf)

the Commonwealth of Australia recommended that “the Australian Government review its existing advice in relation to the human health effects of PFAS exposure, including to acknowledge the potential links to certain medical conditions.”⁷

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-14

Comment Summary: The commenter disagrees with DTSC’s statement in the technical document that “Toxicological and epidemiological data clearly indicating the safety of aggregate, chronic, and low-dose exposures to PFASs found in stain and soil repellents are lacking.” Data from the CDC NHANES study for perfluorobutanoic sulfonate (PFBS) is evidence that the US general population has minimal exposure to PFBS. Furthermore, there are sufficient rodent toxicology data for PFBS available. These data combined should be sufficient to provide sound hazard and risk assessment.

DTSC Response: The CDC NHANES measures chemicals in blood serum. It is well known in the scientific community that short-chain PFASs such as PFBS are not readily detectable in serum. Instead, they are detected in whole blood, urine, hair, nails, and internal organs. Therefore, low levels of PFBS or other short-chain PFASs in serum are not sufficient evidence of low exposure.

Regarding the available toxicological data for PFBS, DTSC agrees that there are numerous studies available. However, many of those studies, as reviewed in the technical document, indicate potential for adverse impacts from exposure to PFBS.

While this comment argues that there are “sufficient rodent toxicology data for PFBS” to indicate safety, on page 9 of the letter the commenter criticizes DTSC for citing “no studies connecting short-chain PFAS and human health effects” and relying only on “fish and rodent studies.” Furthermore, page 35 of the letter states that “rodent may not be the most representative model for human risk assessment when it comes to developmental outcomes.” Thus, other parts of the comment letter appear to contradict this comment.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-18

⁷https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/InquiryintoPFAS/Report_1

Comment Summary: When stating that “Shorter-chain PFASs are marketed as less toxic compared to the longer chains, mainly because they appear to bioaccumulate less and to be more readily eliminated from some organisms,” DTSC confuses toxicity and toxicokinetics.

DTSC Response: In that statement, DTSC is pointing out that the assumption that shorter-chain PFASs are safer is based on a confusion of toxicity and toxicokinetics. As cited in the technical document, when differences in toxicokinetics are considered, some shorter-chains are as toxic, and some are even more toxic, than the longer-chain PFASs they have replaced (Gomis et al. 2015).

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments Regarding the Implementation of the Proposed Regulation

Comment: CL15-3

Comment Summary: The only realistic way to prevent human and ecological PFAS exposures from carpets and rugs is to remove PFASs from these products.

DTSC Response: This proposed regulation would list carpets and rugs containing any member of the class of PFASs as a Priority Product. This would trigger the requirements for notification and an Alternatives Analysis to identify safer alternatives. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the SCP regulations provide a variety of regulatory responses, including product sale restrictions and bans.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL16-2, PH7-1, PH9-3

Comment Summary: The implementation of these regulations should tackle product end-of-life and ensure that carpet recycling, the use of recover recycled content, and the disposal of post-consumer carpet in California are done in a way that protects the health of the general public, carpet recycling workers, and the environment. Carpet manufacturers should be transparent with the recycling industry regarding the long-chain PFAS content of their products. There is a need to focus on the reuse and recycling of carpets rather than landfilling. Carpets should be banned from landfills in California because they are a source of PFASs to the landfill leachate. Carpets and rugs should not be incinerated.

DTSC Response: As detailed in the technical document that forms the basis for this rulemaking, DTSC agrees that there are several issues associated with the end-of-life fate of carpets and rugs containing PFASs. DTSC proposes listing carpets and rugs containing any member of the class of PFASs as a Priority Product because of the potential for exposure and significant and widespread adverse impacts, including at end-of-life. The proposed regulation triggers the requirements for notification and an Alternatives Analysis to identify safer alternatives. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the SCP regulations provide a variety of possible regulatory responses, including end-of-life management requirements. However, the exact nature of the regulatory response depends on the outcome of the Alternatives Analysis process and is beyond the scope of the proposed rulemaking.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL16-3

Comment Summary: The regulatory action should include designating post-consumer carpet as “special waste,” and the California Water Board should phase out and eventually ban the disposal of post-consumer carpet into landfills.

DTSC Response: Action taken by the California Water Board falls beyond the scope of the proposed regulation.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL16-4

Comment Summary: Carpet recycling should be added to the SCP process for evaluating the life cycle impacts of PFASs and their alternatives in carpets and rugs.

DTSC Response: Product end-of-life impacts, including recycling, are already considered during the SCP Alternatives Analysis process.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL16-5

Comment Summary: DTSC’s Regulatory Response for this Priority Product should be expanded to include providing waste characterization and product safety information to those processing and using post-consumer recycled carpet material, and advancing

green chemistry and engineering principles to ensure safe recycling practices and use of recycled content.

DTSC Response: The proposed regulation triggers the requirements for notification and an Alternatives Analysis to identify safer alternatives. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the SCP regulations provide a variety of regulatory responses, including end-of-life management requirements and advancement of green chemistry and green engineering. The regulatory response chosen depends on the results of the Alternatives Analysis and can vary from manufacturer to manufacturer.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL16-6

Comment Summary: Economic analyses should include the impact of PFAS contamination on the carpet recycling industry, including the potential reduced value of the recycled materials.

DTSC Response: The anticipated economic impacts associated with this proposed regulation fall below the threshold set by California law for 'major' regulations. Major regulations produce annual impacts that exceed \$50 million. These regulations trigger a requirement for California State agencies to develop Standardized Regulatory Impact Assessments (SRIAs), which must consider the types of ancillary regulatory costs highlighted in this comment. Since this is a non-major regulation, DTSC's economic analysis for this proposed regulation emphasized direct cost impacts to manufacturers of carpets and rugs containing PFASs.

Section 69505.6(a)(3)(A) of the SCP regulations, however, defines the economic impacts that shall be considered during the Alternatives Analysis following a Priority Product listing: (1) public and environmental costs, and (2) costs to governmental agencies and non-profit organizations that manage waste, oversees environmental cleanup and restoration efforts, and/or are charged with protecting natural resources, water quality, and wildlife.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments: CL17-1, CL39-4

Comment Summary: DTSC should classify PFASs as hazardous in California.

DTSC Response: Classifying PFASs as hazardous is beyond the scope of this regulatory proposal, and beyond SCP's authority. PFASs are Candidate Chemicals for the Safer Consumer Products program due to their designation as Priority Chemicals for biomonitoring in California.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comments: CL21-1, CL22-1, CL23-1, CL28-2, CL32-1, CL36-2, CL39-1, PH5-1

Comment Summary: California should classify PFASs in carpets, including artificial turf, as hazardous, to protect human and environmental health.

DTSC Response: DTSC is proposing to regulate carpets and rugs containing any member of the class of PFASs as a Priority Product. PFASs are Candidate Chemicals for the Safer Consumer Products program due to their designation as Priority Chemicals for biomonitoring in California. Classifying PFASs in these products as hazardous is beyond the scope of this regulatory proposal, and beyond SCP's authority.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comments: CL22-3, CL23-3, CL27-3, CL32-3

Comment Summary: DTSC should inform carpet manufacturing workers about the hazardous materials so they can take precautions. The outcome of DTSC's regulatory process should include guidelines for safe handling of carpets and rugs containing PFASs, for worker safety.

DTSC Response: The proposed regulation triggers the requirements for notification and an Alternatives Analysis to identify safer alternatives. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the SCP regulations provide a variety of regulatory responses, including administrative controls that limit exposure to the Candidate Chemical. The regulatory response chosen depends on the results of the Alternatives Analysis and can vary from manufacturer to manufacturer.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comments: CL21-3, CL22-4, CL23-4, CL32-4, CL36-3, CL37-2

Comment Summary: The members of the public should be informed about the hazardous effects of PFASs so that they can take the necessary precautions.

DTSC Response: The proposed regulation triggers the requirements for notification and an Alternatives Analysis to identify safer alternatives. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the SCP regulations provide a variety of regulatory responses, including product information for consumers. The regulatory response chosen depends on the results of the Alternatives Analysis and can vary from manufacturer to manufacturer.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL38-2

Comment Summary: DTSC should prioritize children's health by preventing regrettable substitution of one PFAS with another.

DTSC Response: The SCP regulations are designed to help avoid regrettable substitutions. The proposed regulation triggers the requirements for notification and an Alternatives Analysis to identify safer alternatives. DTSC is proposing to name carpets and rug containing any PFAS as the Priority Product in order to ask manufacturers to consider non-PFAS alternatives.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: PH5-3

Comment Summary: DTSC should classify PFASs as a Priority Product.

DTSC Response: According to the SCP regulations, DTSC can only list product-chemical combinations as a Priority Product. DTSC proposes to list carpets and rugs containing PFASs as a Priority Product, but cannot list PFASs as a Priority Product.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments Regarding Existing Regulations

Comment: CL18-4

Comment Summary: The PFASs used to treat carpets and rugs in the U.S. are already regulated by EPA under Section 5(e) of the Toxic Substances Control Act (TSCA). Under the SCP regulations DTSC is required to ascertain whether the proposed rulemaking meaningfully enhances protection beyond that afforded by TSCA Section

5(e) consent orders that apply to the PFASs used to treat carpets and rugs, however DTSC does not appear to have done so.

DTSC Response: Section 5 of the Toxic Substances Control Act (TSCA), and pursuant consent orders, do not provide the same level of public health and environmental protection that would be provided by designating carpets and rugs containing perfluoroalkyl or polyfluoroalkyl substances as a Priority Product. TSCA is based on a risk assessment approach. To regulate a chemical under TSCA, the U.S. EPA Administrator must find that a new chemical use presents an unreasonable risk of injury to health or the environment, the chemical will enter the environment in substantial quantities, there may be significant or substantial human exposure to the chemical, or there is not enough information to make a determination. SCP, however, considers the potential human and ecological exposures and the potential for significant or widespread adverse impacts, which provides a greater level of protection.

TSCA's focus is solely on prohibiting or limiting the manufacture, processing, distribution in commerce, use, or disposal of a substance. It does not address the creation of safer products. By listing this Priority Product DTSC is asking manufacturers to consider whether PFASs are necessary in carpets and rugs, and whether there are safer alternatives to PFASs. The proposed regulation triggers the requirements for notification and an Alternatives Analysis. If the outcome of the Alternatives Analysis does not reveal safer alternatives, the SCP regulations provide a variety of regulatory responses, including administrative controls that limit exposure to the chemical of concern. The regulatory response chosen depends on the results of the Alternatives Analysis and can vary from manufacturer to manufacturer. By focusing on safer products, the SCP regulations provide a higher level of protection, as well as aim for a different goal, than TSCA.

Comment: CL30-3

Comment Summary: Long-chain PFASs, on which the technical document accompanying this proposed rulemaking focuses most strongly, have already been voluntarily phased out by industry, resulting in decreased levels of these chemicals in human serum.

DTSC Response: DTSC is aware of this voluntary action, and this does not impact the scope of the proposed regulation. Even though long-chain PFASs have been voluntarily phased out, they were still recently found as impurities in carpets and rugs sold in the U.S., including in California, as well as in the environment, humans, and animals around the world. The information on long-chain compounds is relevant to the technical document because the shorter-chain alternatives were found to display many of the same hazard traits and environmental fate and transport characteristics.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL31-4

Comment Summary: No other state or federal regulatory programs provide adequate protection against the potential hazard traits and exposures associated with the proposed Priority Product. Federal EPA has initiated voluntary agreements to phase out certain PFASs, but those agreements do not apply to all manufacturers. Applicable international treaties cover only a couple PFASs.

DTSC Response: DTSC agrees with the commenters.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments Regarding DTSC's Process and Methods

Comment: CL18-5

Comment Summary: DTSC failed to provide an explanation as to why it did not address all comments received during the pre-regulatory public comment period and did not allow stakeholder input into the peer review process.

DTSC Response: DTSC thoroughly considered all comments received during the pre-regulatory public comment period. Because some of the comments were contradictory or conflicted with information in the publicly available scientific literature, DTSC was unable to incorporate all the recommendations received prior to the external scientific peer review (ESPR) process. The ESPR is a peer review performed by scientists outside of state government selected and hired through a contract with the University of California. The ESPR evaluation focuses on the research and conclusions presented in the technical document that forms the basis for rulemaking. The ESPR process is completely blind to DTSC and does not include public input. DTSC sends the request for ESPR to the California State Water Resources Water Board, who acts as a liaison to the University of California for CalEPA's ESPR requests. More information about the ESPR process can be found at:

https://www.waterboards.ca.gov/water_issues/programs/peer_review/.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-10

Comment Summary: DTSC provides no information on how the literature was searched, such as time frames and key words searched.

DTSC Response: DTSC did not perform a Systematic Review of the literature, therefore staff did not track time frames and key words searched. DTSC staff began their research by reading authoritative reports and review papers about PFASs and their use in consumer products, then referred to other studies cited in those reports and papers. Further searches were performed using available search engines such as PubMed and Google Scholar. Additional citations were provided to DTSC by its stakeholders during the public engagement period and by the external scientific peer reviewers.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments Regarding Technical or Typographical Errors

Comment: CL30-15

Comment Summary: Some of the information presented in the technical document regarding perfluorobutane sulfonate (PFBS) is unclear or incorrectly cited.

DTSC Response: The commenter misunderstood the statement. The references do not refer to PFBS, but to short-chain PFASs in general, which is the topic of that paragraph. The references in question refer to a short-chain PFAS called perfluorobutanoic acid (PFBA) or its salts.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL30-16

Comment Summary: The technical document refers to Section 2.3, but there is no such section in the document.

DTSC Response: When implementing the new accessibility requirements, DTSC staff revised the section numbering in the technical document but failed to update all the references to some of those sections. This typographical error does not impede one's ability to understand DTSC's rationale for proposing this Priority Product, nor does it impact the meaning of the proposed regulation. Nevertheless, DTSC corrected the typographical error in the final version of the technical document.

Comments in Support of the Rulemaking

Comments: CL4-1, CL11-2, CL12-2, CL15-2, CL16-1, CL19-1, CL20-1, CL25-1, CL26-1, CL27-1, CL29-1, CL31-1, CL34-2, CL35-1, CL39-3, PH1-1, PH2-1, PH3-1, PH4-1, PH9-2

Comment Summary: These comments express general support for DTSC’s proposal to regulate carpets and rugs containing perfluoroalkyl or polyfluoroalkyl substances as a Priority Product. Carpets have been shown to be the primary source of PFASs in indoor environments. The evidence assembled by DTSC supports the conclusion that carpets and rugs with added PFASs meet the criteria for regulation as a Priority Product, documenting the potential exposures and adverse impacts and end-of-life effects. Source control measures are preferable to imposing a burden on public sewer systems. DTSC’s proposal to list carpets and rugs containing perfluoroalkyl or polyfluoroalkyl as Priority Product aligns with the East Bay Municipal Utility District (EBMUD)’s mission to protect human health and the environment. This Priority Product listing would support those carpet and rug manufacturers’ who have already transitioned to safer alternatives and compel the others to do so as well. DTSC’s leadership will protect Californians from the adverse effects of PFASs. No other regulatory programs adequately protect against the potential adverse impacts, potential exposure pathways, and adverse waste and end-of-life effects under consideration.

DTSC Response: DTSC acknowledges the support offered by these comments.

No changes were made to the proposed regulation or supporting documents based on these comments.

Comment: CL30-1

Comment Summary: The commenter supports the policy objectives of the SCP program.

DTSC Response: DTSC acknowledges the support offered by this comment.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comments in Objection of the Rulemaking

Comment: CL18-6

Comment Summary: Because of the many serious flaws highlighted in CL18, DTSC should withdraw the proposed rule and instead develop a rule that complies with the requirements of the Safer Consumer Product regulations.

DTSC Response: DTSC and many other commenters believe that the burden of proof under the Safer Consumer Product regulations to list this Priority Product has been met.

No changes were made to the proposed regulation or supporting documents based on this comment.

Summary of Objections and Recommendations during the 15-Day Comment Period (April 5–20, 2021)

DTSC received no comments that addressed the Addendum to the Economic and Fiscal Impact Analysis (STD 399) and Attachment to STD 399, or the changes made to STD 399.

Comment: CL40-1

Comment Summary: This is a letter of support for listing carpets and rugs containing perfluoroalkyl or polyfluoroalkyl substances as a Priority Product under the SCP regulations, citing information about the health hazards of PFASs and action by local jurisdictions and retailers. The commenters state their hopes that the outcome of the SCP process will lead to a swift removal of PFASs from all new carpet entering California, guidelines for safe handling of PFAS-containing legacy carpets and rugs, and assurances that there will be no regrettable substitutions.

DTSC Response: This comment is outside the scope of the 15-day public comment period.

No changes were made to the proposed regulation or supporting documents based on this comment.

Comment: CL41-1

Comment Summary: This comment letter objects to the rulemaking, reiterating the comments made in CL18: it is a fundamental flaw to regulate all PFASs as a single class; the primary carpet treatment products available for use in the U.S. do not present significant or widespread adverse impacts and thus do not meet the criteria for designation as a Priority Product; the information compiled by DTSC is legally insufficient to support designating all PFASs in carpets and rugs as a Priority Product; the PFASs used to treat carpets and rugs in the U.S. are already regulated by U.S. EPA; DTSC failed to provide an explanation as to why it did not address all comments received during the pre-regulatory public comment period and did not allow stakeholder input into the peer review process; DTSC should withdraw the proposed rule and instead develop a rule that complies with the requirements of the Safer Consumer Product regulations.

DTSC Response: This comment is outside the scope of the 15-day public comment period.

No changes were made to the proposed regulation or supporting documents based on this comment.

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PEER REVIEW

Health and Safety Code section 57004 sets forth requirements for peer review of identified portions of rulemakings proposed by entities within the California Environmental Protection Agency, including DTSC. Specifically, the scientific basis or scientific portion of a proposed rule may be subject to the peer review process.

On July 2, 2019, DTSC received feedback on the scientific basis of this rulemaking from four external scientific peer reviewers. All peer reviewers determined that DTSC’s main conclusions are based on sound scientific knowledge, methods, and practices. The reviewers recommended some editorial changes and additions to the technical document that forms the basis for the regulation, which DTSC implemented in the final version of that document. The external scientific peer review comments are available on the DTSC Rulemaking webpage: <https://dtsc.ca.gov/regs/proposed-regulation-carpets-and-rugs-with-pfass/>

APPENDICES

- A. Final Regulatory Text
- B. Updated Informative Digest
- C. Peer Review Materials