



Three Year Priority Product Work Plan 2018-2020

MAY 1, 2018

SAFER CONSUMER PRODUCTS BRANCH

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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Foreword and Response to Public Comment

The Department of Toxic Substances Control (DTSC) is pleased to present its final 2018-2020 Priority Product Work Plan. This Work Plan describes seven product categories that DTSC intends to evaluate during the covered three-year period. DTSC began the process of creating this Work Plan in the fall of 2017. DTSC held a comment period from October 6, 2017, until November 6, 2017, and invited stakeholders and the public to make recommendations regarding the product categories that DTSC should consider for the Work Plan. DTSC received a total of 15 comments during the public comment period, as well as input from other California boards, departments, offices, and agencies and the U.S. EPA. DTSC also used its discretion to develop a set of policy priorities that helped guide the selection of product categories.

Based on the recommendations received during the initial comment period, the policy priorities established by DTSC, and consideration of a variety of other factors, including continuity with DTSC's 2015-2017 Priority Product Work Plan, DTSC identified the seven product categories described in this Work Plan. Five of these product categories were carried over from the 2015-2017 Work Plan. A new product category, Food Packaging, was added to the Work Plan in response to stakeholder comments. The seventh product category, Lead-Acid Batteries, was added to the Work Plan by order of the Governor and the Legislature. DTSC released its initial draft Work Plan on February 12, 2018.

DTSC presented the initial draft Work Plan to the Green Ribbon Science Panel on February 13, 2018. The Green Ribbon Science Panel is a group of experts who provide advice to DTSC on scientific and technical matters related to developing green chemistry and chemical policy recommendations and implementation strategies. DTSC also hosted a public workshop on February 26, 2018, and held a stakeholder and public comment period regarding the draft Work Plan from February 12, 2018, until March 9, 2018. Based on input received from the Green Ribbon Science Panel and stakeholder comments, DTSC revised the initial draft Work Plan to create this final Work Plan.

The Green Ribbon Science Panel generally voiced support for DTSC's draft Work Plan and its clear explanations about why the various product categories were chosen. Several Green Ribbon Science Panel members recommended that DTSC include a statement in the Work Plan to indicate that DTSC would consider potential adverse impacts to workers from chemicals in consumer products. A number of stakeholders also requested that DTSC include workers as a sensitive subpopulation when implementing the Work Plan. In response, we have added an



The Work Plan does not create any legal obligations or make any safety judgment regarding consumer products.

additional policy priority to the Work Plan stating DTSC's intent to protect California workers from the potential adverse impacts of chemicals in consumer products.

Stakeholders requested that the Work Plan clearly articulate that it does not designate Priority Products or create any regulatory obligations, and that the Work Plan does not represent a safety evaluation for any consumer products. This statement was originally in the concluding sections at the end of the initial draft Work Plan. In response to the concerns of stakeholders, we have moved the statement indicating that the Work Plan does not create any legal obligations or make any safety judgment regarding consumer products to the Introduction of the Final Work Plan, and further highlighted these statements. We also moved the notes on terminology from Section 5.0 of the initial draft Work Plan to the Introduction, and added the definition of "consumer product" to the terminology section.

Some stakeholders expressed concern over the mention of chemical classes and certain chemicals in tables that were contained in the initial draft Work Plan. After careful consideration, we have decided that these tables might imply that DTSC is focused on certain chemicals or classes of chemicals. DTSC does not conduct detailed analyses of individual chemicals or products when developing the Work Plan. Such evaluations are only undertaken when implementing the final Work Plan. We have therefore deleted those tables. DTSC would like to remind all stakeholders that all of the chemicals in DTSC's Candidate Chemical database are eligible for consideration as Chemicals of Concern with respect to any product that may be included in any of the product categories listed in the Work Plan.

Some stakeholders also expressed concern that DTSC may attempt to regulate products and chemicals that are already subject to regulation by other authoritative bodies. DTSC acknowledges that many products may be subject to existing statutory or regulatory requirements. It is not DTSC's intent to create conflict with those existing requirements. If a product is already subject to existing state or federal regulatory requirements, DTSC would carefully evaluate and consider those requirements, and would engage stakeholders and the respective authoritative body that regulates that product. As required by the Safer Consumer Products regulations, DTSC would only consider listing such a product as a Priority Product if DTSC made the determination that the listing would meaningfully enhance protection of public health or the environment with respect to the potential adverse impacts, exposure pathways, or adverse waste or end-of-life impacts that are the basis for the listing.

DTSC would only consider a Priority Product listing if it would meaningfully enhance protection of public health or the environment with respect to the potential adverse impacts, exposure pathways, or waste or end-of-life impacts.

Finally, a few stakeholders expressed concern that the Work Plan calls out specific products such as composite wood products and linoleum flooring. DTSC would like to point out that this final Work Plan does not make any mention of composite wood products, and should not be interpreted as suggesting that DTSC is focused on such products. DTSC has removed the word "linoleum" from the Work Plan.

DTSC would like to thank the Green Ribbon Science Panel and all stakeholders who contributed comments regarding this Work Plan. As DTSC moves to implement this Work Plan, we will continue to actively engage stakeholders and the public.

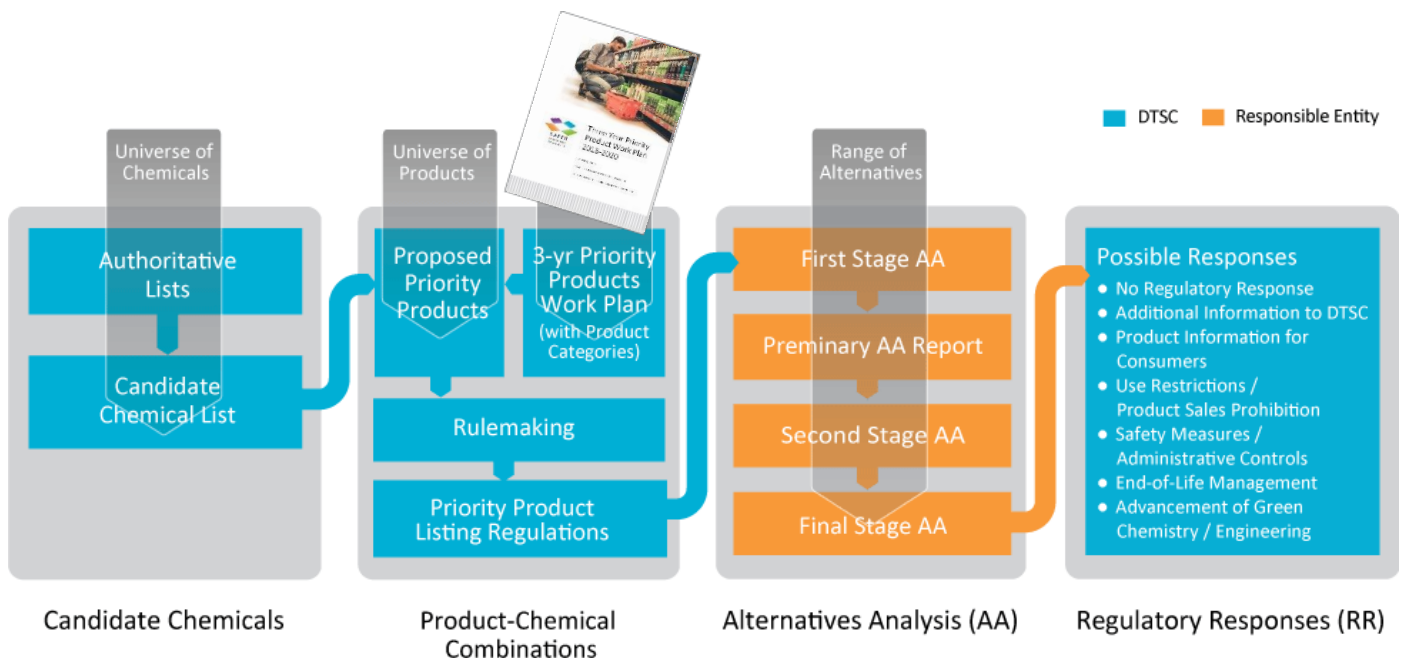
1. Introduction and Background

The mission of DTSC's Safer Consumer Products (SCP) Program is to advance the design, development, and use of products that are chemically safer for people and the environment.

The SCP Program is charged with accelerating the quest for safer chemicals in consumer products. Through a rigorous and transparent process, the SCP regulations aim to reduce toxic chemicals in consumer products, create new business opportunities in the emerging green chemistry industry, and help consumers and businesses identify what chemicals are in the products they buy.

To accomplish these goals, the regulations establish a four-step process:

1. Identifying potential harmful chemicals and designating them as Candidate Chemicals;
2. Evaluating the safety of these chemicals in specific products and listing potentially harmful product-chemical combinations in regulation as Priority Products;
3. Requiring manufacturers to assess potentially safer alternatives for listed Priority Products through a robust Alternatives Analysis process; and then
4. Determining how best to minimize the potential for adverse impacts to human health and the environment through appropriate regulatory responses.



This Work Plan initiates a process that gives stakeholders an opportunity to participate in the prioritization planning process, provides DTSC with information to make sound prioritization decisions, and provides predictability regarding potential regulatory actions DTSC may take in the future. DTSC's SCP regulations require that the Work Plan include two elements:

1. A description of the product categories that DTSC will evaluate to identify product-chemical combinations to be added to the Priority Products list during the subsequent three years; and
2. A general explanation of the decision to select the identified product categories for evaluation.

After DTSC published the first Priority Product Work Plan in April 2015, the SCP Program facilitated stakeholder engagement through workshops and webinars on Work Plan chemicals and product groups under evaluation and met directly with many interested stakeholders. Engagement with stakeholders on the 2015-2017 Work Plan included:

- Opportunities for public input on the Draft Work Plan
- A webinar providing an overview of DTSC's progress toward Priority Product selection and outlining opportunities for input (November 15, 2016)
- A webinar, "Stakeholder Discussion of Aquatic Monitoring and Hazard Traits of NPEs and Triclosan" (January 11, 2017)
- A public workshop, "Perfluoroalkyl and Polyfluoroalkyl Substances in Carpets, Rugs, Indoor Upholstered Furniture, and Their Care and Treatment Products" (January 31, 2017)
- A public workshop, "Potential Aquatic Impacts and Continued Uses of Nonylphenol Ethoxylates and Triclosan" (February 8, 2017)
- A public workshop, "Potential Health and Safety Impacts of Chemicals in Nail Products" (March 2, 2017)
- A public workshop and webinar on lead-acid batteries and alternatives on November 6, 2017
- A public workshop on the scientific basis for proposing perfluoroalkyl and polyfluoroalkyl substances in carpets, rugs, and indoor upholstered furniture as a Priority Product (March 20, 2018)

We will continue to engage stakeholders in a variety of forums throughout implementation of the 2018-2020 Work Plan.

Extensive stakeholder feedback shaped this Work Plan, which builds on our first Work Plan. This Work Plan provides a measure of continuity by maintaining similar policy priorities and carrying over several product categories. This will allow DTSC to continue active product research and to build on the knowledge gained about the chemicals and products in the prior Work Plan.

The listing of a product category in this Work Plan means only that DTSC intends to evaluate products within that category. It does not subject products in the category to regulation, and does not create any new legal obligations. The listing of a product category in the Work Plan does not mean that DTSC intends to prohibit or restrict the sale of any specific product. Similarly, the identification of a product category is not meant to imply that we have made any determinations regarding the safety of any products within that category. Only after stakeholder engagement and completion of formal rulemaking to list a Priority Product will a specific Priority Product be subject to any regulatory requirements. Any listing of a product as a Priority Product simply begins a process where manufacturers of that

product are asked to determine if the product can be made safer through the Alternatives Analysis process. No outcome is predetermined when listing a Priority Product; rather, the outcome is determined in response to the alternatives that manufacturers evaluate and propose.

NOTES ON TERMINOLOGY

Safer Consumer Products regulations – References to the SCP regulations in this document are to Chapter 55 of Division 4.5 of Title 22 of the California Code of Regulations.

Consumer Product – According to Section 25251 of the California Health and Safety Code, “Consumer Product” means a product or part of the product that is used, brought, or leased for use by a person for any purposes. “Consumer Product” *does not include*:

- (1) A dangerous drug or dangerous device as defined in Section 4022 of the Business and Professions Code.
- (2) Dental restorative materials as defined in subdivision (b) of Section 1648.20 of the Business and Professions Code.
- (3) A device as defined in Section 4023 of the Business and Professions Code (e.g., medical/veterinary devices).¹
- (4) A food as defined in subdivision (a) of Section 109935.
- (5) The packaging associated with any of the items specified in items (1), (2), or (3) above.
- (6) A pesticide as defined in Section 12753 of the Food and Agricultural Code or the Federal Insecticide, Fungicide and Rodenticide Act (7 United States Code Sections 136 and following).

Priority Product – The SCP regulations define a Priority Product as “a product-chemical combination identified and listed as a Priority Product by [DTSC] under Section 69503.5 [of Title 22 of the California Code of Regulations].” While a product-chemical combination does not formally become a Priority Product until DTSC regulations designating it as such take effect, this document sometimes refers to a “proposed” or “potential” Priority Product. The word “proposed” should be interpreted broadly here to apply to a product-chemical combination that is under consideration by DTSC prior to adoption in regulation. A proposal could be an informal announcement made by releasing a draft document, a statement at a public workshop, or publication of a Notice of Proposed Rulemaking.

¹ “Device” means any instrument, apparatus, machine, implant, in vitro reagent, or contrivance, including its components, parts, products, or the byproducts of a device, and accessories that are used or intended for either of the following:

- (a) Use in the diagnosis, cure, mitigation, treatment, or prevention of disease in a human or any other animal.
- (b) To affect the structure or any function of the body of a human or any other animal.

For purposes of this chapter, “device” does not include contact lenses, or any prosthetic or orthopedic device that does not require a prescription.

The listing of a product category in this Work Plan does not subject products in the category to regulation or create new legal obligations, nor imply that we have made any determinations regarding the safety of any products within that category.

Candidate Chemical – The SCP regulations identify a set of authoritative lists.² Any chemical on one or more of these authoritative lists is a Candidate Chemical. DTSC has established a searchable informational Candidate Chemical database.³ However, it should be noted that the database requires updating from time to time because the authoritative lists can, and do, change. Any time an authoritative list identified in the SCP regulations is updated to add new chemicals, those chemicals automatically become Candidate Chemicals, regardless of whether the Candidate Chemical database has been updated to include them.

HOW DID DTSC CHOOSE PRODUCT CATEGORIES?

The SCP regulations outline a wide variety of factors to consider and give DTSC a great deal of discretion about which categories to select. In addition to the regulatory factors, we considered information and input provided by stakeholders, our goals, and our policy priorities.

DTSC invited any interested stakeholders to submit Work Plan product category recommendations from October 6, 2017, through November 6, 2017. All information received during that comment period, as well as the more than three hundred public comments received regarding the 2015-2017 Work Plan, were carefully considered in choosing the product categories for this Work Plan. A variety of stakeholders submitted comments, including industry trade associations, the public, nongovernmental organizations, other California state boards, departments, offices, and agencies, the U.S. Environmental Protection Agency (U.S. EPA), and academic researchers.

² CAL. CODE REGS. tit. 22, § 69502.2.

³ <https://calsafer.dtsc.ca.gov/chemical/search.aspx>

2. Goals and Policy Statements

DTSC has established the following goals for the 2018-2020 Work Plan:

- To protect children from exposures to harmful chemicals from consumer products, especially carcinogens, mutagens, reproductive toxicants, neurotoxicants, developmental toxicants, and endocrine disruptors.
- To protect workers from exposures to harmful chemicals from consumer products.
- To protect California's valuable and limited water resources and aquatic ecosystems from consumer product-derived chemical contamination.
- To protect Californians from exposure to harmful chemicals from consumer products that may be found in the indoor environment.
- To protect Californians from chemicals that migrate into food from food packaging.

To help achieve these goals, DTSC adopted the following policy statements:

1. DTSC will strive to protect children, women of childbearing age, and pregnant women from exposures to harmful chemicals, especially carcinogens, mutagens, reproductive toxicants, neurotoxicants, developmental toxicants, and endocrine disruptors.

Children are especially vulnerable to chemicals that can interfere with their development, including carcinogens, mutagens, reproductive toxicants, developmental toxicants, neurotoxicants, and endocrine disruptors. Because they are still growing and developing, children are more susceptible to harm from genetic damage and developmental toxins than adults. At the same time, certain exposure pathways are unique to children and can increase the amount of chemicals to which they may be exposed. Chemical exposures may occur even before birth *in utero*. Increased vulnerability coupled with increased exposures drives concern about this sensitive subpopulation.

2. DTSC will strive to protect California's workers and their families from exposures to harmful chemicals.

Workers often experience longer-duration and higher-level exposures than the public. They may work in close proximity to relatively high concentrations of chemicals over the course of a work day, making them especially susceptible to adverse impacts from chemical exposures. Workers may also carry chemicals home on their skin, hair, clothes, and shoes, placing other family members, including children, at risk of exposure.

3. DTSC will strive to protect California's valuable and limited water resources and aquatic ecosystems from consumer product-derived chemical contamination.

Many chemicals in consumer products are washed down the drain or transported in runoff to contaminate aquatic ecosystems. Some of these chemicals may not be removed by wastewater treatment plants. Untreated chemicals may be discharged from treatment plants to surface waters, where they may adversely impact fish and other wildlife or end up in drinking water. Further, storm water typically flows directly to water bodies without treatment, carrying any pollutants with it.

4. DTSC will strive to protect Californians from chemicals found in the indoor environment.

People spend much of their time indoors – in their homes, places of employment, and schools. Chemicals released from products found indoors may accumulate in the indoor environment and present a cumulative exposure risk. The chemical content of durable goods found in the indoor environment may be especially impactful because of the long-term implications for exposures.

5. DTSC will strive to protect Californians from chemicals that migrate into food from food packaging.

Several studies have shown that chemicals can migrate directly into food from some consumer products. Because some chemicals can move from product packaging into food, potential exposures to Californians may be significant and widespread. Numerous stakeholders identified food packaging as an important category and requested that DTSC address it.

As DTSC evaluates product categories through the lens of these policy goals, we will take steps to consider especially vulnerable populations and all of California's citizens. Note that a variety of other factors may also be considered depending on the nature of specific products. These factors may include, for example, whether products in the category may disproportionately affect people who live or work in environmental justice communities, the availability of biomonitoring data, or the potential for long-term or repeated exposures to Candidate Chemicals.

3. Product Categories

DTSC selected seven product categories that align with the Work Plan goals and policy statements. Five categories have been carried over from the 2015-2017 Work Plan:

- Beauty, Personal Care, and Hygiene Products
- Cleaning Products
- Household, School, and Workplace Furnishings and Décor
- Building Products and Materials Used in Construction and Renovation
- Consumable Office, School, and Business Supplies

Note that the names and definitions for some of these carry-over categories have been modified from the 2015-2017 Work Plan to provide additional clarity, for consistency with industry or regulatory naming conventions, or to change the category scope.



DTSC has also added two additional categories – Food Packaging and Lead-Acid Batteries. Clothing products and fishing and angling equipment will not be evaluated under this Work Plan. DTSC acknowledges that there are many other product categories that could have been included in this Work Plan, and other categories will be considered for subsequent Work Plans.

DTSC has endeavored to describe each product category in clear and concise terms. Where possible, we have relied on existing statutory or regulatory definitions to help describe product categories and provide clarity to the regulated community. As DTSC evaluates these product categories, we will engage product manufacturers and other stakeholders to gather additional information that will help identify and evaluate specific products within each category.

The Work Plan does not identify any product-chemical combinations as Priority Products, but only identifies categories from which we will propose future Priority Products. According to the SCP regulations, we may only designate a product as a Priority Product if that product falls within one of these categories, unless we are otherwise instructed to take action through a legislative mandate or executive order, or unless we grant a petition to add a product-chemical combination to the Priority Product list.⁴

To identify specific product-chemical combinations from the product categories listed in this Work Plan, we may solicit information from manufacturers and their supply chain partners, as well as trade associations and others with relevant expertise. We may also make targeted information requests to specific industry sectors, gather information through public workshops and comment periods, or issue “information call-ins” as described in the SCP regulations.⁵

⁴ The petition process is set forth in CAL. CODE REGS. tit. 22, §§ 69504-69504.1.

⁵ CAL. CODE REGS. tit. 22, § 69501.4(b)(2).

In keeping with our commitment to transparency, we will make as much of this information publicly available as possible consistent with the protections for trade secrets outlined in our regulations. We expect to engage in discussion with industry experts about product formulations, supply chain considerations, industrial toxicology studies, and other topics that can expand and refine our knowledge for the purposes of selecting Priority Products.

Beauty, Personal Care, and Hygiene Products

This category includes products that contact, or are intended to be rubbed, poured, sprinkled, sprayed on, or otherwise applied to the body for the purpose of maintaining hygiene, cleansing, beautifying, or altering the appearance.⁶ Examples include cosmetics, hair care products, personal care products, and skin care products such as soaps, lotions, and cleansers. Many of these products are commonly found in the health and beauty sections of drug and department stores or are used in spas and salons. This category was included in the 2015-2017 Work Plan.



Californians use products in this category on a regular basis and many contain Candidate Chemicals. These chemicals perform certain functions such as acting as a surfactant, solvent, preservative, or coloring agent, or providing protection against ultraviolet irradiation. According to surveys, the average person uses between six and 12 personal care products each day. A 2010 study of California households found that personal care products are widely and frequently used by all ages, sexes, and socioeconomic groups (Wu et al. 2010). Many products in that study were used daily, and many were used multiple times a day. Higher use of these products among women may be especially important for women of childbearing age. Concurrent use of different products containing the same chemicals may contribute to aggregate exposures to those chemicals. Exposure to multiple chemicals in personal care products raises questions about chemical interactions and the effects of chemical mixtures.

There is potential for prolonged and continuous exposures to the Candidate Chemicals contained in personal care products because of repeated use and because some are designed to remain on the hair or skin for long periods of time. Products in this category may release volatile chemicals, vapors, or mists that increase the potential risk of inhalation exposures. According to data collected through the California Safe Cosmetics Program, between 2009 and 2015 over 57,000 cosmetic products sold in California from nearly 500 manufacturers contained one or more of 77 unique chemicals identified as a carcinogen or a reproductive or developmental toxicant.

Biomonitoring data demonstrate human exposures to some of the Candidate Chemicals that may be found in these products (Department of Health and Human Services 2009; Harley et al. 2016). Additionally, the health of workers,

⁶ Part of this description was taken from the definition of “Cosmetics” in Section 321, paragraph (i) of the federal Food, Drug and Cosmetics Act: <https://www.gpo.gov/fdsys/pkg/USCODE-2010-title21/pdf/USCODE-2010-title21-chap9-subchapII-sec321.pdf>. Although the beauty, personal care, and hygiene products categories in this Work Plan may contain products that aren’t normally considered “cosmetics,” the federal definition provides a good description of many types of products that may be included in this category.

including workers who live or work in environmental justice communities, may be adversely impacted by exposure to Candidate Chemicals in beauty, personal care, and hygiene products.

The Candidate Chemicals in these products may also impact the aquatic environment and drinking water. Some personal care products are designed to be rinsed off after they are applied; others are washed down the drain when people wash their hands or bathe. Products that are washed down the drain could be transported to surface waters, where the Candidate Chemicals may adversely impact fish and other wildlife or drinking water. The U.S. Geological Survey has detected personal care products in effluent from wastewater treatment plants, which generally are not designed to remove chemical contaminants (Barber et al. 2013).

DTSC will continue research on this category with a focus on chemicals and endpoints related to children, women of childbearing age, and aquatic impacts. We may also give special consideration to workers who use or work with these products in their jobs and may have an increased potential for exposure.

Some product-chemical combinations in this category may be regulated by other authoritative bodies, such as the U.S. Food and Drug Administration and the California Department of Public Health. It is not DTSC's intent to duplicate or conflict with any existing statutory or regulatory requirements. Where a product-chemical combination is already regulated by another authoritative body, DTSC will carefully consider the scope of all existing regulatory requirements. DTSC would only consider listing such a product-chemical combination as a Priority Product if DTSC were able to determine that the listing would meaningfully enhance the protection of public health or the environment with respect to the potential adverse impacts and exposure pathways under consideration as a basis for the listing.

Between 2009 and 2015 over 57,000 cosmetic products sold in California from nearly 500 manufacturers contained one or more of 77 unique chemicals identified as a carcinogen or a reproductive or developmental toxicant.

Cleaning Products

This product category includes air care products, automotive products, general cleaning products, and polish or floor maintenance products used primarily for janitorial, domestic, or institutional cleaning purposes. This conforms to the definition of “Designated Products” in the California Cleaning Product Right to Know Act of 2017.⁷ These subcategories are further defined in the Act:

- “Air care product” means a chemically formulated consumer product labeled to indicate that the purpose of the product is to enhance or condition the indoor environment by eliminating unpleasant odors or freshening the air. Air fresheners are an example.
- “Automotive product” means a chemically formulated consumer product labeled to indicate that the purpose of the product is to maintain the appearance of a motor vehicle, as defined in Section 670 of the Vehicle Code, including products for washing, waxing, polishing, cleaning, or treating the exterior or interior surfaces of motor vehicles. “Automotive product” does not include automotive paint or paint repair products.
- “General cleaning product” means a soap, detergent, or other chemically formulated consumer product labeled to indicate that the purpose of the product is to clean, disinfect, or otherwise care for fabric, dishes, or other wares; surfaces include, but are not limited to, floors, furniture, countertops, showers and baths, or other hard surfaces such as stovetops, microwaves, and other appliances.
- “Polish or floor maintenance product” means a chemically formulated consumer product, such as polish, wax, or a restorer, labeled to indicate that the purpose of the product is to polish, protect, buff, condition, temporarily seal, or maintain furniture, floors, metal, leather, or other surfaces.



This product category was also included in DTSC’s 2015-2017 Work Plan.

Cleaning products are ubiquitous – used on a regular basis for a wide variety of applications – and many contain one or more Candidate Chemicals. Chemical ingredients in cleaning products may act as surfactants, solvents, degreasers, fragrances, preservatives, and more. People may be exposed to one or more of the Candidate Chemicals in these products both during and after use. People may get cleaning products directly on their skin or in their eyes. They may inhale vapors from volatile Candidate Chemicals emitted by cleaning products. Inhalation exposures may be especially problematic when cleaning products are used indoors where ventilation may not be adequate.

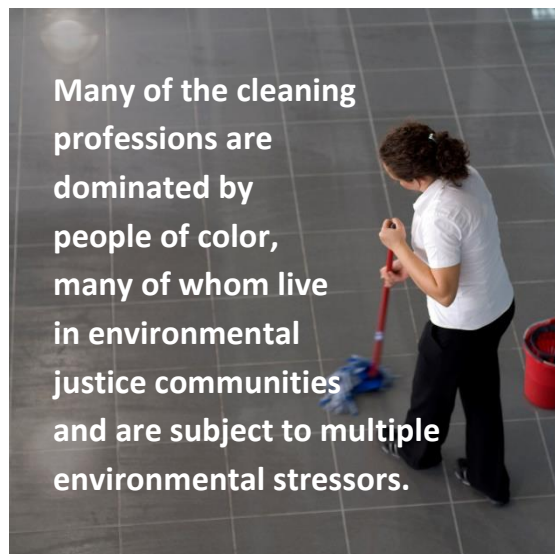
⁷ CAL. HEALTH & SAF. CODE §§ 108952(a), (b), (f) and (n).

According to the National Institute of Occupational Safety and Health, 2.3 million people work in building custodial service occupations in the U.S., and another 1.4 million are employed as maids in hotels or in health care facilities.⁸ These workers can be at higher risk for exposure to Candidate Chemicals in cleaning products than the public because of the amount of time they spend using these products on the job. A 2004 study estimated that the inhalation exposure to chemicals in cleaning products is significant in Californians (Nazaroff and Weschler 2004).

There are studies suggesting that chemicals in cleaning products may adversely impact worker health (Rosenman et al. 2003).⁹ The California Department of Public Health has published several reports and fact sheets on work-related asthma among workers exposed to cleaning products.^{10,11} Epidemiological studies of cleaning workers and janitors have found that respiratory and dermatological diseases are the most common work-related health maladies affecting these workers, and the occurrence of some of these adverse impacts is associated with the use of cleaning agents (Charles et al. 2009).

DTSC is concerned about additional factors that may make workers in this sector and their children especially vulnerable. We are especially concerned that Candidate Chemicals contained in cleaning products may disproportionately adversely impact the health of lower-income workers. Many of the cleaning professions are dominated by people of color, many of whom live in environmental justice communities and are subject to multiple environmental stressors. Hispanic and Asian women, respectively, comprise 47.3 percent and 17.3 percent of the work force in the “maids and housekeeping services” sector.¹² The cleaning work force and related occupations are predominantly female, and many of those workers are of childbearing age or may be pregnant. This raises concerns about *in utero* chemical exposures.

In addition to the potential impacts on human health from chemicals in cleaning products, DTSC is concerned about the impacts to aquatic ecosystems of cleaning products washed down the drain during or after use. In studies of contaminants in streams across the country, the U.S. Geological Survey found persistent detergent degradation products in 69 percent of streams tested and disinfectants in 66 percent of streams tested.¹³ The Cleaning Products category strongly aligns with DTSC’s policy concerns about women, children, workers, and the aquatic environment.



⁸ <https://www.cdc.gov/niosh/topics/cleaners/default.html>

⁹ https://www.osha.gov/Publications/OSHA_3569.pdf

¹⁰ <https://www.cdph.ca.gov/Programs/CCDCPHP/DEODC/EHLB/IAQ/Pages/Cleaning-Products.aspx>

¹¹ <https://www.cdph.ca.gov/Programs/CCDCPHP/DEODC/OHB/WRAPP/Pages/CLASS-Materials.aspx>

¹² <https://www.bls.gov/cps/cpsaat11.htm>

¹³ <https://toxics.usgs.gov/highlights/mixtures/index.html>

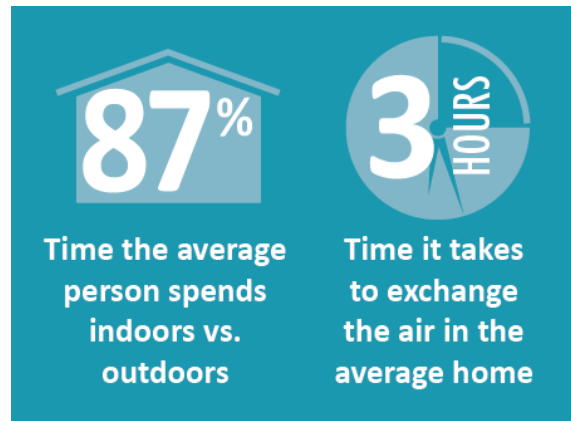
Household, School, and Workplace Furnishings and Décor

This product category description was, in part, adapted from the definition of “furniture article” in the federal Consumer Product Safety Act regulations.¹⁴ “Furniture article” means functional or decorative furniture articles including products such as beds, bookcases, chairs, chests, tables, dressers, desks, pianos, drapes, blinds, and sofas. This category also includes items that may be described as décor or decorative products, including wall hangings or any other objects intended to beautify or add visual interest or utility to the interior space of a building. This category may also include items such as throw rugs and carpets, but does not include wall-to-wall carpets or other floor coverings that are permanently or semi-permanently affixed to the building by use of tack strips, adhesives, mortar, masonry, or glues. This product category also does not include electronic appliances or fixtures that are permanently affixed to the building as part of the building’s construction or renovation.



A more limited version of this product category was included in DTSC’s 2015-2017 Work Plan, and multiple commenters support continued inclusion of this category in the Work Plan. The category has been expanded in two ways. First, we included school furnishings and décor to be consistent with the Consumer Product Safety Act definition. Secondly, all Candidate Chemicals may now be considered, rather than the previous restriction to perfluoroalkyl and polyfluoroalkyl substances (PFASs) and flame retardants.

The Candidate Chemicals used in these products may act as flame retardants, adhesives, plasticizers, preservatives, stain and soil repellants, waterproofing agents, and more. Candidate Chemicals released from these products may concentrate in indoor air and dust, increasing the potential for exposure (Logue et al. 2011). The average home takes up to three hours to fully exchange the indoor air.¹⁵ As a result, volatile chemicals released from furnishing and décor products may accumulate in indoor air to levels much higher than those found in outdoor air. The more time people spend indoors, the greater their potential for long-



¹⁴ 16 C.F.R. § 1303.2(b)(4).

¹⁵ <https://www.cpsc.gov/Safety-Education/Safety-Guides/Home/The-Inside-Story-A-Guide-to-Indoor-Air-Quality/>

term exposure to any volatile Candidate Chemicals released from these products.

Some Candidate Chemicals may be transferred from these products directly to the skin or released into household dust, thereby increasing the potential for dermal or ingestion exposures – particularly for children. Numerous Candidate Chemicals have been detected in indoor dust (Mitro et al. 2016). Children have certain behaviors and resultant exposure pathways that increase their uptake of these chemicals. For instance, hand-to-mouth behavior in young children may result in the direct ingestion of chemicals released from furnishings and décor to indoor dust. In fact, human biomonitoring studies in California have shown that the chemicals found in indoor dust can be found in the blood of children (Windham et al. 2010). Many of the Candidate Chemicals found in furnishings may be especially harmful to children because of their potential for endocrine disruption, neurotoxicity, and reproductive and developmental toxicity. Further, Candidate Chemicals that persist in the environment for a long period of time are of particular concern because of the high potential for ongoing exposures.



**Hand-to-mouth
behavior in young
children may result
in the direct
ingestion of
chemicals released
from furnishings and
décor to indoor dust.**

Building Products and Materials Used in Construction and Renovation

This product category includes 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. Building products are permanent or semi-permanent materials or components that are typically affixed to, or comprise an integral part of, a building. Examples include products such as cabinets, countertops, wall-to-wall carpets, laminates, and wood that are permanently or semi-permanently fixed in place by adhesives, tack strips, or by other means, or that are designed to remain in place once installed. This category does not include appliances such as ranges, refrigerators, dishwashers, clothes washers and dryers, air conditioners, humidifiers, and dehumidifiers.



DTSC is concerned about the potential for products in this category to adversely impact the indoor environment. Many of these products may contain one or more Candidate Chemicals that fulfill a variety of functional uses including, but not limited to, active ingredients in flame retardants, plasticizers, lubricants, adhesives, protective coatings, waterproofing, and stain and soil repellants. A strong desire to develop more energy-conserving buildings in North America has led to the development and use of more synthetic building materials. At the same time, improved energy conservation has been achieved mainly by reducing exchanges between outdoor and indoor air. The combination of lower ventilation rates and the increased use of synthetic building materials has resulted in elevated levels of certain chemicals in the indoor environment, including some Candidate Chemicals (Zhang and Smith 2003). When considered in concert with the increased time people spend indoors, there is potential for long-term exposure to any Candidate Chemicals found in building products.

The release of Candidate Chemicals from building products raises many of the same concerns identified in the previous section regarding furnishings and décor. Products in both categories have the potential for similar exposures and adverse impacts for both children and the aquatic environment. Biomonitoring studies confirm that people are exposed to some of the Candidate Chemicals in these products and that human exposure is widespread. Candidate Chemicals have been detected in indoor air and house dust. In the case of children, concerns arise about the potential for endocrine disruption, neurotoxicity, and reproductive and developmental toxicity. In aquatic environments, Candidate Chemicals released from both categories of products can have similar exposure pathways and adverse impacts on biota. As mentioned previously, Candidate Chemicals that persist in the environment for a long period of time are of particular concern, and some of the Candidate Chemicals found in these products do

persist in the environment. For example, PFASs are persistent, bioaccumulative chemicals that are ubiquitous in the aquatic environment and are found in the tissues of wildlife all over the world (Ahrens 2011).

The Building Products category in this Work Plan is broader in scope than the one in the 2015-2017 Work Plan, which included only painting products, adhesives, sealants, and flooring. Stakeholders recommended retaining building products because of ongoing concerns about flame retardants, adhesives, insulation, and coatings. Since this category has been broadened from the prior Work Plan, DTSC will have a broader menu of potential Priority Products to consider. Despite this, we believe there is ample opportunity to streamline decision-making by leveraging reductions in harmful chemical content in the built environment already made by manufacturers, retailers, large institutional buyers (hospitals, universities, and large corporations), and nongovernmental agencies. Safer products have been developed in response to initiatives in this sector – the U.S. Green Building Council’s Building Health Initiative, for example. The building industry has also worked to collect extensive information about chemical content in building products through tools such as the Healthy Building Network’s Pharos Building Product Library and the Health Product Declaration® public repository.¹⁶

PFASs are persistent, bioaccumulative chemicals that are ubiquitous in the aquatic environment and are found in the tissues of wildlife all over the world.

Products in this category may be subject to complex regulatory requirements implemented by several authoritative bodies, including the U.S. EPA, the California Air Resources Board, the California Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation, the California Building Standards Commission, various federal, state and local building codes, and others. Some chemicals found in these products are on California’s list of chemicals known to cause cancer or reproductive toxicity (the Prop. 65 list).¹⁷ It is not DTSC’s intent to duplicate or conflict with any existing statutory or regulatory requirements. Where a product in this category may already be regulated by another authoritative body, DTSC will carefully consider the scope of the existing regulation. DTSC would only consider listing such a product-chemical combination as a Priority Product if DTSC were able to determine that the listing would meaningfully enhance the protection of public health or the environment with respect to the potential adverse impacts and exposure pathways under consideration as a basis for the listing.

¹⁶ <https://www.triplepundit.com/podium/buyers-club-flexes-market-muscle-favor-healthier-building-materials/>

¹⁷ https://oehha.ca.gov/media/downloads/proposition-65/p65122917_0.pdf

This category includes any item or material that may be described as a consumable product that is used regularly within an office, place of business, home office, or school classroom during normal business or learning operations, and that is replaced on a regular, periodic basis. Consumables are used recurrently and depleted in the process of use. Examples include sales receipt tape and thermal paper products, markers, pencils, pens, tapes, glues, adhesives, 3-D printer feedstocks, and ink and toner cartridges. This product category does not include durable goods¹⁸ such as printers, fax machines, other business machines, or furnishings.



A similar product category was included in the 2015-2017 Work Plan, but that product category was restricted to consumables for office machinery. DTSC is expanding the scope of this category to include all consumable office and business supplies based on stakeholder concerns regarding the potential for exposure to Candidate Chemicals from these products. DTSC is also expanding the scope to include consumable school supplies, which in many cases are identical to consumable office supplies. DTSC chose to include consumable school supplies because children who use these products in school may be at risk of exposure. There is evidence that handling some of these products may lead to prolonged human exposures, and that some of these products emit potentially harmful chemicals to the indoor environment (Azimi et al. 2016; Bjornsdotter et al. 2017; Stephens et al. 2013).

SAFER CONSUMER PRODUCTS BRANCH

Food Packaging

Food packaging is any product that is used to package hot, cold, frozen, or room-temperature food or beverage items for sale to restaurants and grocery stores or for retail sale to consumers. Food packaging may be used for a variety of reasons including food preservation, transport and delivery to points of retail sale, to make a food product more attractive to consumers, to provide tampering resistance, or to provide a convenient means of transport by the consumer (e.g., cups for liquids or wrappers for fast-food items). The principal functions of food packaging are to protect food from external damage and contamination, contain the food to allow for transportation, and provide information to the consumer. Food packaging may be made from a variety of materials including, but not limited to, paper, ceramic, plastic, glass, and metals.



DTSC included this product category in the Work Plan due to concerns regarding exposure to the Candidate Chemicals that are contained in food packaging. Some Candidate Chemicals found in food packaging have been detected in foods. Numerous studies have demonstrated that chemicals can migrate directly from food packaging into foods – becoming what are known as “indirect food additives.” The migration of food package ingredients into foods provides a clear pathway for human dietary exposure, and numerous studies have shown that people are exposed to the chemical ingredients used in food packaging (Pocas and Hogg 2007). The Candidate Chemicals that may be found in food packaging fulfill a number of functions including greaseproofing and waterproofing or as a plasticizer for food can liners. A number of studies have demonstrated a correlation between the ingestion of packaged foods and exposure to certain Candidate Chemicals (Hartle et al. 2016; Kubwabo et al. 2013; Quiros-Alcala et al. 2013; Zota et al. 2016). A recent study reported that 175 chemicals with known hazard properties are used in food contact packaging in Europe and the United States, and some of these have been classified as carcinogens, mutagens, or reproductive toxins (Gueke et al. 2014).

DTSC is concerned that individuals who live and work in environmental justice communities may be at especially high risk for dietary exposure to certain Candidate Chemicals found in food packaging products. A report by the U.S. Department of Agriculture concluded that canned and packaged prepared food represents the largest food expenditure for the lowest-income households.¹⁹ DTSC is also concerned about potential adverse impacts to children from Candidate Chemical exposure from food packaging. Some Candidate Chemicals found in food packaging may be especially harmful to children due to the potential for endocrine disruption, neurotoxicity, and reproductive and developmental toxicity.

¹⁹ <https://www.ers.usda.gov/publications/pub-details/?pubid=44191>

DTSC is also concerned about the potential impact of some food packaging ingredients on the environment throughout the product life cycle. Some food packaging may be recycled, while other food packaging – especially fast-food packaging – is typically discarded after use (Marsh and Bugusu 2007). Hazardous chemicals found in food packaging may be incorporated into recycled products, potentially exposing downstream users. Candidate Chemicals from discarded food packaging may end up in municipal waste landfills or compostable wastes that may eventually be applied to land, resulting in additional potential exposures. Food packaging may also become litter, leaching its chemical ingredients directly into the environment.

Stakeholders have expressed concerns about food packaging. DTSC received a petition for listing BPA in food cans as a Priority Product. While DTSC denied the petition, the petitioner provided strong evidence suggesting that this product category may warrant further investigation. Note that the state of Washington recently enacted a law (ESHB 2658) preventing the use of perfluoroalkyl and polyfluoroalkyl substances (PFASs) in food contact materials starting in 2022.

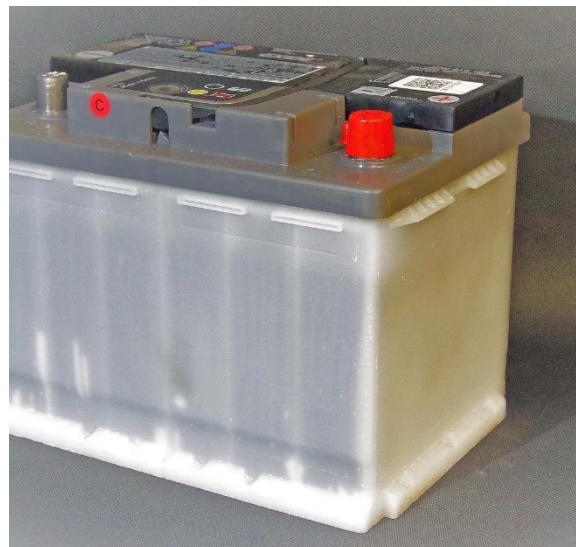
In researching this category, DTSC will take special care to consider other regulatory authorities and whether they provide adequate protections to people and the environment. DTSC recognizes that products in this category may already be subject to complex regulatory requirements implemented by a number of authoritative bodies, including local governments, the U.S. Food and Drug Administration, the U.S. Department of Agriculture, the California Department of Public Health, CalRecycle, and others. Some of the chemicals found in food packaging are on California's list of chemicals known to cause cancer or reproductive toxicity (the Prop. 65 list).²⁰ It is not DTSC's intent to duplicate or conflict with any existing statutory or regulatory requirements. Where a product in this category may already be regulated by another authoritative body, DTSC will carefully consider the scope of that regulation. As for all product categories listed in this Work Plan, DTSC would only consider listing a product-chemical combination from this category as a Priority Product if DTSC were able to determine that the listing would meaningfully enhance the protection of public health or the environment with respect to any existing regulatory requirements.

²⁰ https://oehha.ca.gov/media/downloads/proposition-65/p65122917_0.pdf

Lead-Acid Batteries

In 2016, Governor Brown and the California Legislature required that DTSC include lead-acid batteries in its 2015-2017 Work Plan for consideration as a potential Priority Product.^{21,22} DTSC began research on exposures and hazards associated with lead-acid batteries in 2017 and will continue that work under this Work Plan. As part of its preliminary research, DTSC held a public workshop to gather stakeholder input on November 6, 2017. DTSC continues to actively evaluate whether lead-acid batteries should be designated a Priority Product.

Lead-acid batteries are found in a wide variety of forms and functions (see Table 1), the most common being 12-volt car batteries. Lead-acid batteries contain three Candidate Chemicals: lead, arsenic, and sulfuric acid. Lead exposures to workers and neighboring areas may occur during recycling and manufacturing operations. Lead exposures are known to cause neurological as well as other effects, and arsenic is a carcinogen. Lead exposure to children is especially of concern since there is no known threshold concentration for neurological effects.



Inclusion of this category in the Work Plan allows DTSC to finalize evaluation of lead-acid batteries as a potential Priority Product.

Table 1. Types of lead-acid batteries

Category	Examples
Vehicle starting, lighting, and ignition	Cars, motorcycles, trucks, buses, recreational vehicles
Small, sealed forms	Consumer electronics, mining lanterns
Mobility applications	Scooters, golf carts, forklifts
Uninterruptible power supply	Emergency lighting, cellphone towers, hospitals, computer centers
Utility-scale energy storage	Wind farms, solar installations

²¹ February 17, 2016: <https://www.gov.ca.gov/news.php?id=19317>

²² CAL. HEALTH & SAF. CODE § 25253.5.

4. Implementation of the Work Plan

Publication of this Work Plan is only the beginning of the process for evaluating products over the next three years. Initial information will be gathered about potential Priority Products via extensive research, information call-ins, and public workshops. Priority Products will be identified from the product categories after robust scientific review and information exchange with all stakeholders, including industry experts, government agencies, academic researchers, and nongovernmental organizations. Multiple iterations of research and stakeholder engagement may be necessary to properly identify and define potential Priority Products in advance of rulemaking or to eliminate a product from consideration. DTSC will continue to seek and welcome input from a wide variety of sources. Engagement with all stakeholders has been, and will continue to be, critical for us to successfully implement this Work Plan.



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