DTSC GREEN RIBBON SCIENCE PANEL MEETING

December 13-14, 2023

1. BACKGROUND DOCUMENT

This document provides a brief background on the topics to be discussed at the Department of Toxic Substance Control's (DTSC's) Green Ribbon Science Panel (GRSP) meeting on December 13th and 14th, 2023.

2. GRSP TOPIC 1: REFLECTING A DECADE OF PROGRESS AND CHARTING THE PATH FORWARD

2.1. Topic Summary

DTSC's Safer Consumer Products (SCP) Program recently published its Anniversary Report, which highlights the program's key accomplishments in four areas: implementing the SCP Regulations and legislative mandates; going above and beyond regulatory responsibilities; building capacity for the future; and ongoing activities and expected contributions. The program has gained international recognition since its establishment in October 2013 for its pioneering efforts to reduce the use of hazardous chemicals in consumer products by shifting the focus from cleanup and waste management to prevention. The SCP Program's precautionary approach aims to safeguard California's environment and protect its most vulnerable and historically marginalized populations. The program has successfully changed the paradigm for addressing hazardous chemicals by emphasizing prevention and responsible management.

The Anniversary Report delves into the program's implementation of the SCP Regulations and other legislative mandates. It showcases the program's efforts to inform the national and international dialogue on safer products and chemistries, extending its influence beyond day-to-day regulatory activities. Additionally, the report emphasizes the program's commitment to building a strong regulatory program that is well-resourced, agile, and capable of meeting future challenges. It highlights the program's dedication to advancing safer products and chemistries, laying the groundwork for a circular economy. Lastly, the report provides an overview of the program's ongoing activities and expected contributions in the coming years, offering insights into its continued efforts to ensure consumer products are chemically safer for both people and the planet.

2.1.1. Supporting Documents

- SCP's Anniversary Report - DTSC Safer Consumer Products Program at Age 10: A Decade of Progress
- Other Media: brief video, one-pager, and digital story map.

2.2. Questions to GRSP

2.2.1. Part I: Discussion – "Looking Back"

1. Can you highlight some specific accomplishments or success stories from the SCP program's first decade that have had a significant positive impact?
2. In your opinion, what are the key areas or initiatives within the SCP program that have demonstrated the most promising results in terms of reducing hazardous chemicals in consumer products and promoting safer alternatives?
3. From your perspective, what are some of the most significant lessons learned from the SCP program's first decade that can inform future strategies and approaches in addressing hazardous chemicals in consumer products?
4. Looking back, what do you think were the most effective strategies or tactics we've deployed? What wasn't effective and why?

2.2.2. Part II: Discussion - "Looking Ahead"

1. What key areas or initiatives could the SCP Program prioritize to further strengthen its impact in the coming years?
2. In what areas could the SCP Program enhance its scientific methodologies and approaches to better assess and address the potential adverse impacts of hazardous chemicals on human health and the environment?
3. What is some key research or data gaps in understanding the long-term effects of hazardous chemicals and emerging ingredients in consumer products, for example nanomaterials, and how might the SCP Program collaborate with the scientific community to fill these gaps?
4. How might the SCP Program expand its outreach and education efforts beyond product manufacturers to ensure that consumers and businesses are well-informed about our program and the importance of safer alternatives?
5. What measures can the SCP Program take to ensure that its regulatory framework remains adaptable and responsive to emerging scientific evidence and evolving knowledge on chemical hazards?
6. What approaches the SCP Program could use to address emerging contaminants and new classes of hazardous chemicals that may not yet be adequately researched and regulated—for example microplastics and PPDs?
7. What changes to our statutory authority or regulatory framework could help us more effectively move the market toward safer chemicals in products? (e.g., how we prioritize, how we combine products and chemicals, how the regulations and law address Alternatives Analysis considering the very comprehensive requirements sometimes acts as a disincentive to conduct an Alternatives Analysis)
8. What internal process changes should the SCP Program consider in order to improve our throughput?
9. What research or policy topics should the SCP Program prioritize for future publications to ensure that they reach a wider audience and have a greater impact on policy discussions and decision-making?

3. GRSP TOPIC 2: 2024-2026 PRIORITY PRODUCT WORK PLAN

3.1. Problem Statement

A draft of the 2024-2026 Priority Product Work Plan (Work Plan) will be released soon. The Work Plan provides transparency about the SCP Program's work by informing consumer product manufacturers and other stakeholders of which product categories it intends to evaluate for possible regulation over the three years it is in effect. It differs from a traditional work plan in that it does not provide specific information on the scope, timelines, and deliverables for these evaluations; instead, it offers a menu of product categories and list of policy priorities that DTSC will consider in selecting future Priority Products.

3.2. GRSP Input

We invite GRSP to provide input on the 2024-2026 Work Plan. We also welcome the panel's perspectives on the most effective elements of prior Work Plans and areas where they could have been improved. The input provided by GRSP will be very timely, as we will be working to maximize the effectiveness of the Work Plan as we finalize it over the next few months.

3.3. Topic Summary

SCP's PPWP is guided by our framework regulations, which require that it:

1. Identify and describe the product categories to be evaluated to identify Priority Products over the next three years.
2. Provide a general explanation of SCP's rationale for selecting these product categories.

SCP is currently considering thirteen consumer product categories to evaluate from 2024 through 2026. Four of these product categories would be carried over, unchanged, from the 2021-2023 Work Plan:

- Beauty, Personal Care, and Hygiene Products
- Cleaning Products
- Building Products and Materials Used in Construction and Renovation
- Children's Products

SCP is also considering including two new consumer product categories in the 2024-2026 Work Plan:

- Paints (carved out of the Building Products and Materials Used in Construction and Renovation category)
- Products that Contain or Generate Microplastics

The product categories listed above would be included in a section titled *Product Categories Currently Under Evaluation*. The product categories listed under this heading would be most likely to lead to one or more proposed Priority Products during the 2024-2026 cycle.

We are considering carrying over and expanding two consumer product categories from the 2021-2023 work plan. These categories, and several others, would be moved under *Product Categories Intended for Evaluation*:

- Food Packaging (expanded to Food Contact Articles)
- Motor Vehicle Tires (expanded to Motor Vehicle Parts, Accessories, Maintenance, and Repair Materials)

Product Categories Intended for Evaluation identifies several additional product categories that the program plans to begin evaluating during the 2024-2026 cycle but that are unlikely to result in Priority Product proposals until the subsequent Work Plan cycles. due to other priorities and resource constraints. However, it is possible that products in these categories could proceed to workshop or be proposed as Priority Products during the 2024-2026 cycle if priorities shift, additional resources become available, or new information comes to light. In addition to the two product categories mentioned above, the following new consumer product categories would also be included in this section:

- Disposable Face Coverings
- Electronics
- Products Used or Produced by Metal Plating and Finishing Facilities
- Pet Care Products
- Sporting and Athletic Equipment

3.4. Definitions and Rationales for New and Expanded Product Categories

3.4.1. Paints

Paints are a diverse group of products that are widely used and can expose workers, children, and the public to Candidate Chemicals during different life-cycle stages. Candidate Chemicals in paints may also be released into the environment, where aquatic and terrestrial organisms can be exposed. Among these chemicals are carcinogens, reproductive toxicants, developmental toxicants, neurotoxicants, endocrine disruptors, respiratory toxicants, and dermatotoxicants. Additionally, paints may release microplastics to the environment.

3.4.2. Products that Contain or Generate Microplastics

This is a new product category included to capture any consumer product that may contain or generate microplastics during its life cycle. Microplastics are ubiquitous, persistent, and mobile in the environment and may cause or contribute to adverse human health and ecological impacts. Given the concerns about human exposures and environmental release of microplastics, we have initiated preliminary screening research on products that can release microplastics concurrently with our work to add them to our Candidate Chemicals List.

The following lists product categories which we are proposing to include in the *Product Categories Intended for Evaluation* section of the Work Plan.

3.4.3. Motor Vehicle Parts, Accessories, Maintenance, and Repair Materials

We are considering expanding the Motor Vehicle Tires category to include any component of, or for, a motor vehicle, in addition to its interior accessories and materials. This includes coatings, elastomers, adhesives, and other materials for holding together interior accessories, as well as maintenance and repair materials. Motor vehicles are complicated products that contain many different chemicals with

many potential routes of exposure. Some of these exposures have the potential to cause or contribute to harm to humans and the environment.

3.4.4. Food Contact Articles

Based on stakeholder feedback we previously received related to our work on ortho-phthalates, bisphenol A, and per- and polyfluoroalkyl substances in food packaging, we are considering expanding the food packaging category. The expanded category would include any product (1) intended to be used with food or (2) that comes into contact with a food product at any stage of its life cycle, including processing, packaging, preparation, cooking, serving, and transport. This definition is similar to the U.S. Food and Drug Administration's definition of food contact articles. Many of the products in this category contain Candidate Chemicals that have been observed to leach into food.

3.4.5. Disposable Face Coverings

This category includes products that are designed for single use to protect the wearer, or others around the wearer, by limiting the spread of airborne pathogens through inhalation and exhalation and/or to protect the wearer from particulate matter. Products in this category are more commonly referred to as "masks." We are proposing to include this product category due to increased mask wearing over the course of the COVID-19 pandemic.

3.4.6. Electronics

This category includes computer and peripheral equipment, communications equipment, audio and video equipment, semiconductors, and household appliances. The external components of many electronic products contain Candidate Chemicals which may come into direct contact with users or may migrate into indoor air during product use. Additionally, semiconductor manufacturing may be a source of occupational and environmental exposure to Candidate Chemicals.

3.4.7. Products Used or Produced by Metal Plating and Finishing Facilities

Metal plating and finishing are manufacturing techniques used to apply an exterior coating to metal to improve an object's surface properties, including corrosion resistance, wear resistance, thermal protection, and aesthetic improvement. These techniques—which include galvanizing, anodizing,

thermal spraying, and electroplating—use various surface treatment products and aids to impart the desired properties to the metal surface. Many substances used in metal plating and finishing can pose risks to people's health and the environment, since they require direct handling by employees in manufacturing facilities and can potentially be released into the surrounding environment.

3.4.8. Pet Care Products

Pet care products are used to maintain the health and well-being of household animals. Pet care products contain Candidate Chemicals that may impact the health of pets or humans that reside in proximity, including young children.

3.4.9. Sporting and Athletic Equipment

These are products used by athletes, recreational indoor users, and wildlife sportspeople (e.g., those engaged in fishing, hunting, camping, or hiking). These products may remain stationary, require direct handling by users, or be cast/discharged into the surrounding environment. Since sportswear is typically in direct contact with the body during use, there is potential for dermal exposure of consumers to certain Candidate Chemicals, especially among children and professional athletes.

3.5. Policy Priorities

For 2024-2026, we have identified the following priorities and considerations for implementation:

- The potential for Candidate Chemicals contained in the product to adversely impact the health of children and workers.
- The potential for the product to release Candidate Chemicals to indoor air and dust and to adversely impact the indoor environment.
- The extent to which Candidate Chemicals in certain products may adversely and disproportionally impact vulnerable communities, including communities near manufacturing facilities.
- The potential for consumer products to release microplastics to the environment during all stages of their life cycle, including manufacturing, use, and end-of-life.

- The extent to which listing a product as a Priority Product would leverage the work of other boards, departments, and offices within the California Environmental Protection Agency (CalEPA) and other state agencies.

Another new element of the 2024-2026 Work Plan is an expanded discussion of SCP's commitment to consider environmental justice (EJ) when evaluating products and chemicals during the 2024-2026 Work Plan cycle.

Beginning with the 2024-2026 edition, Work Plans must now include information specified in Health and Safety Code 25253.9 (Chapter 701, Statutes of 2022 (SB 502)):

- Information DTSC has on the chemicals that may be of concern within each product category or subcategory;
- Any additional ingredient information needed to evaluate the safety of those consumer products;
- Information on how DTSC plans to fill data gaps;
- Timelines for collecting the information;
- Timelines for completing actions such as listing a Priority Product and completing an Alternatives Analysis; and
- Timelines for finalizing regulatory response determinations for a minimum of five of the Work Plan's product categories or subcategories.

Previously, the only consequence for manufacturers who did not provide the requested information was to be placed on a "failure to comply" list on DTSC's website. The 2022 law strengthens DTSC's call-in authority by providing for administrative or civil penalties for non-responsive companies.

Additionally, Chapter 701, statutes of 2022 (SB 502) also provide the SCP Program with new authority to impose regulatory responses on manufacturers of Priority Products with Chemicals of Concern without a formal Alternatives Analysis. We intend to actively explore opportunities to use this new authority during the 2024-2026 Work Plan cycle, in consultation with stakeholders including industry experts, non-governmental organizations, and government agencies.

3.5.1. Supporting Documents

- DTSC SCP Program Three Year Priority Product Work Plan (2021-2023)
- Health and Safety Code section 25253.9 and 25253.(d) (Chapter 701, Statutes of 2022 (SB 502))

3.6. Questions to GRSP

1) What are the panel's thoughts on the consumer product categories we are considering for the 2024-2026 Priority Product Work Plan? Do panelists have suggestions for adding, removing, or modifying any product categories?
2) Are the definitions of the product categories and the rationales for including them clear and compelling? If not, how might they be improved?
3) Are there any specific products in any of these categories, especially for the Paints or Microplastic categories, that SCP should prioritize in its evaluation?
4) What are your thoughts on the new "Product Categories Intended for Evaluation" section introduced in this Work Plan? It aims to enhance transparency and provide early market signals. Does the panel feel that including a list of categories that may not lead to a Priority Product proposal during the coming Work Plan cycle is helpful?
    a) Could it be confusing to manufacturers or other stakeholders or dilute the impact of naming the other product categories?
5) This Work Plan highlights environmental justice as an SCP policy priority over the coming three years.
    a) Does the panel have thoughts or suggestions on ways to effectively identify and prioritize consumer products in our Work Plan's categories that may have a disproportionate impact on EJ communities?
    b) Does the panel have suggestions on when and how to effectively engage—and form partnerships—with EJ community members and organizations as we evaluate these products for possible regulation?
6) Health and Safety Code section 25253.9 (Chapter 701, Statutes of 2022 (SB 502)) provides DTSC with new, enforceable authority to conduct information call-ins. We have learned that we must be

very specific in our requests to obtain useful data and manage the significant workload that can be associated with conducting a call-in.

a) Based on the consumer product categories under consideration for our 2024-2026 Work Plan, does the panel have suggestions for the types of data we might request (e.g., specific chemicals, classes, or functional use categories)?

b) Are there specific industries or sectors the panel would like to recommend for future information call-ins?

7) Are there existing alternatives assessments or other publicly available information that the SCP Program would support bypassing the Alternatives Analysis step and proceeding directly to regulatory response using the authority in Health and Safety Code section 25253.(d) (Chapter 701, Statutes of 2022 (SB 502))?

4. GRSP TOPIC 3: THE GREEN CHEMISTRY REGULATORY RESPONSE

4.1. Topic Summary

The SCP Program proposes three regulatory responses, to address potential adverse impacts posed by the Priority Product, Spray Polyurethane Foam Systems with Unreacted Methylene Diphenyl Diisocyanate (SPF Systems). Through these regulatory responses, we aim to protect workers and DIYers from exposure to Methylene Diphenyl Diisocyanate (MDI), which is a respiratory sensitizer that can cause asthma. In addition, we hope to spark green chemistry and engineering innovations toward safer alternatives to SPF Systems.

Manufacturers of SPF Systems are responsible for implementing the regulatory responses. Briefly, the proposed regulatory responses consist of:

- Providing information to users about the hazards of the product;
- Collectively, investing $8 million in green chemistry and engineering research to develop safer alternatives to SPF Systems; and
- Ensuring users receive safety training before using the product.

The first two regulatory responses are required when a safer alternative is not identified, and manufacturers propose to continue selling the Priority Product in California.

4.2. GRSP Input

We would like to gather GRSP comments on the most effective ways to implement regulatory responses, with a particular emphasis on designing the Green Chemistry RR to promote green chemistry and engineering for SPF systems. Our goal is to mitigate the adverse impacts and accelerate the research and adoption of safer alternatives.

4.2.1. Supporting Documents

- DTSC Notice of Proposed Determination: Regulatory Responses for Spray Polyurethane Foam Systems Containing Unreacted Methylene Diphenyl Diisocyanate
- Investment in Green Chemistry Innovation Fund for SPF Systems
- SCP Regulatory Response Website: https://dtsc.ca.gov/scp/regulatory-response/

4.2.2. Optional Additional Documents

- SPF Systems Summary of Technical Information
- SPF Systems Abridged Alternatives Analysis Report

4.3. Questions to GRSP

4.3.1. Part I: Discussion on Green Chemistry Innovation Fund

1. The SCP Regulations express no preference for whether manufacturers initiate an R&D project on their own or fund grants related to green chemistry and engineering projects.
    a. Do the panelists feel that funding an external R&D project would appeal to manufacturers or are they likely prefer doing all R&D internally?
    b. What conditions would encourage manufacturers to participate in a grant program? For example, we propose limiting the scope of the grant program to reactive, sprayable, polymer-based insulation and the spray systems. Would that be effective, or would it prevent manufacturers of some of the chemically safer insulations from applying for

grant money to improve performance, market penetration, or cost relative to SPF Systems?

2. How can SCP set up the grant program to maximize its efficiency and effectiveness?
3. We have highlighted principles that should be considered in choosing a research path: impact and significance, potential and proximity of commercialization, transparency, and measurable achievement.
    a. What other criteria should be included?
    b. How can SCP help to ensure that manufacturers' internal research is fruitful and makes meaningful progress towards safer alternatives, as defined by the SCP regulations? Are these likely to guide REs' research efforts?
    c. If an RE opts to do internal research, what elements should DTSC require in the RE's progress reports to provide transparency on how resources are allocated for the project?
4. We based our justification for funding allocated into the Green Chemistry Innovation Fund (GCIF) on various factors, including the REs' own estimates, the cost of academic research, funding levels for Small Business Innovation Research grants, and more.
    a. Does the allocated amount and the rationale appear appropriate?
    b. What other information should we evaluate to determine the proposed funding amount?
    c. What strategies can be employed in the future to encourage the REs to provide good estimates of the cost of R&D for safer alternatives?
5. How can this regulatory response encourage commercialization?
    a. For example, a non-isocyanate alternative to SPF systems was initially advertised, but it no longer seems to be on the market. It still contained a sensitizer, so it wasn't perfect, but there's no indication of why it is not on the market. How can SCP help to ensure safer products emerging from the GCRR make it to market?
6. We had a brief discussion on intellectual property (IP) back in 2019. What is your vision for how IP would work in the grant scenario? Is there any way to encourage sharing IP if this research or internal research makes progress toward a safer alternative?

4.4. Part II: Discussion on information requirement for consumers and use restrictions

1. The SCP Regulations are very prescriptive regarding the information that must be provided to consumers or users, including hazard traits, safe handling procedures, and disposal instructions. For the low-pressure SPF Systems, which are commonly used by do-it-yourselfers, the SCP Program has gone a step further by requiring the use of simple graphics and clear statements to communicate hazard traits, safe handling procedures, and disposal instructions. Do you think this approach effectively communicates the safety concerns to users? What ways can we improve it?
2. What measures can be taken to ensure successful implementation of the mandatory training program for both professional and do-it-yourself users of SPF Systems? How can the training program be effectively promoted and made accessible to users?