CPSC
California Product Stewardship Council SM

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SUBJECT: ADDRESSING MICROFIBER POLLUTION AND LEVERAGING CALIFORNIA'S EPR PROGRAMS FOR PRIORITY PRODUCTS

Dear Safer Consumer Products Program Staff,

The **California Product Stewardship Council (CPSC)** is a nonprofit with nearly twenty years of experience advancing sustainable product management in California. CPSC engages in legislative, regulatory, and programmatic efforts to ensure the effectiveness of California's Product Stewardship and Extended Producer Responsibility (EPR) programs. We have supported the Safer Consumer Product (SCP) program's science-led process and appreciate the dedicated efforts of the Department of Toxic Substances and Control's (DTSC) scientists and advisors to advance products with microplastics to the Priority Products list.

We are writing to urge DTSC to immediately include synthetic textiles used in clothing, fabric, furniture, vehicles, and geotextiles used in construction on the Priority Products list, which will trigger synergies with SB 707: The Responsible Textile Recovery Act.

Importance of Linking SCP with SB 707 (Newman, 2024)

Senate Bill 707 (Newman, 2024), sponsored by CPSC, creates a textile extended producer responsibility program with provisions to address harmful chemicals listed on the candidate chemical list. If microplastics are officially listed as SCP Priority Products or chemicals, the program will need to describe in the needs assessment, Plan, and annual report, the actions and investments needed and taken to avoid contamination related to recycling.

SB 707 distinguishes microplastics and microfibers as separate concerns based on research and evidence. Microplastics from synthetic textiles are a persistent pollutant, and one of the most common found in oceans and waterways, and one of the most ingested by children in a domestic environment.

- A 2017 study published in the Journal of Environmental Pollution found that 33% of indoor textile fibers contain petrochemicals and have deposition rates ranging from 1,586 to 11,130 fibers per day per square meter. The study also identified dust ingestion as a significant exposure pathway for young children.

- Boucher and Friot (2017) estimate that approximately 35% of microplastics released to oceans globally originate from washing synthetic textiles, while the United Nations Environment Programme (UNEP) places this figure at around 16% (UNEP, 2018).

- Synthetic fibers, making up over 65% of global textile production, carry hazardous additives such as PFAS, phthalates, azo dyes, and heavy metals. Studies have identified their presence in human blood, feces, and urine, and linked exposure to cellular toxicity and DNA damage (McCay & Mehta, 2024; Rovira et al., 2025).

Existing Research and Leadership on Alternative Materials to Avoid Microplastics

Research and solutions to address microfiber pollution already exist. Regarding solutions, research and leadership from trusted organizations such as 5 Gyres, Natural Resources Defense Council (NRDC), the Biomimicry Institute, and Fibershed make one thing clear: nature-based systems can effectively prevent microfiber and microplastic pollution. Solutions must reject incremental improvements to synthetic, fossil-based materials. Textiles must be designed to work within ecological cycles and return safely to soil, water, and biological systems, eliminating persistent pollution.

Organization	Key Findings
5Gyres	Recognizing textiles as a major contributor to the plastics crisis, the 5 Gyres Institute has led scientific research and industry collaboration to drive action, including a 2023 textiles-focused expedition and the WOVEN symposium, which brought together brands, innovators, and nonprofits to develop coordinated strategies to reduce fiber shedding. 5 Gyres and The Nature Conservancy also produced *Reducing Microfiber Pollution: An Industry Playbook*, which emphasizes that brands do not need to wait for perfect data or new regulations. Proven design, material, and process changes already exist to reduce fiber loss and improve product quality.
NRDC	NRDC publishes research and consumer guides that highlight the pervasive human and environmental risks of microplastics and steps to avoid them, such as choosing natural fibers over synthetic textiles, eliminating single-use plastics, and avoiding products with intentionally added microplastics. They further advocate for greater transparency about chemical contents in plastics, government investment in sustainable materials and reuse infrastructure, and legal limits on microplastics in water and waste streams.
Biomimicry	The Biomimicry Institute is tackling microplastic pollution by applying nature's design principles to rethink how materials are made, used, and returned to the Earth. Through initiatives like the Microfiber Innovation Challenge, they support innovators developing nature-inspired alternatives to synthetic textiles and plastics. Their Ray of Hope Accelerator fosters startups creating practical solutions, including companies that produce biobased, biodegradable ingredients and materials to reduce microplastic pollution, and technologies. long-term collaborative efforts such as Design for Decomposition seek to transform textile waste into biocompatible raw materials by mimicking natural decomposition processes, helping ensure that post-consumer products break down into harmless components rather than persisting as microplastics.
Fibershed	Fibershed is tackling root causes of microplastic pollution by shifting textile systems away from fossil-based synthetics and toward natural, biodegradable materials and truly circular soil-to-soil strategies. They conduct textile composting trials at the Fibershed Learning Center. They organize design-focused initiatives like the "Borrowed from the Soil" Design Exhibition and provide public education through resources like the Fibershed Clothing Guide that encourages wearing natural fibers and avoiding plastic textiles. In California, Fibershed is rebuilding regional natural fiber systems, from farms and ranches to mills and makers, to reduce community exposure to plastic-based chemicals and microplastics, protect air and water quality, and strengthen climate-resilient, healthy local economies rooted in non-toxic materials.

Recommend Synchronization with California's EPR Frameworks

Given the overlap between products identified in DTSC's preliminary research and those addressed by California's EPR programs, DTSC can leverage the expertise embedded in these programs and consult their associated Producer Responsibility Organizations or PROs. These programs offer well-established definitions, reporting frameworks, and practical guidance that can inform efficient, targeted action. Moreover, the PROs possess current knowledge of trends and technologies within their respective product categories and can offer insight into potential unintended consequences of broad policy measures, such as switching to compostable materials. To accelerate industry transitions away from hazardous microplastics, DTSC should coordinate efforts with EPR policies and program teams.

- **Packaging:** California's SB 54 sets a definition for "biodegradable" and "compostable": full breakdown into natural elements, certified by rigorous testing, and zero plastic residues. Most "biodegradable plastics" which do not qualify are treated as contaminants, subjecting them to penalties. The policy intent is clear: don't count on biodegradable plastics, prioritize nature-based, soil-safe materials, and reuse systems.

- **Textiles:** The Safer Consumer Products (SCP) program should explicitly recognize and build synergies with the implementation of SB 707's textile EPR framework, aligning efforts to address synthetic fibers as a major source of microplastics and to drive upstream design and material changes that prevent microfiber and microplastic pollution at the source.

- **Paint**: PaintCare, California's Paint Producer Responsibility Organization, can provide guidance on the feasibility of formulating water-based interior wall paints with non-plastic alternatives to primary microplastics, or on identifying paint types that can transition to non-microplastic formulations while maintaining required performance standards.

- **Artificial turf**: Questions regarding industry trends in artificial turf, such as plans to phase out plastic infill, the effectiveness of natural materials, and related economic and functional considerations, may be directed to the Carpet America Recovery Effort (CARE).

Synthetic textiles are a top, preventable source of microplastics. We urge DTSC to immediately add them to the Safer Consumer Products Priority Products list. This move will trigger regulatory action, align with SB 707 and other EPR legislation, and will push California toward real, nature-based solutions to the problem of persistent plastic pollution.

Moreover, the proposed Priority Product categories in this research report overlap with sectors already covered by California's assortment of EPR legislation. These bills already include producer rules, research, reporting, and funding. You can leverage these EPR programs, especially the expertise provided by their PROs, to streamline efforts, avoid conflicts and duplication of effort, and tackle microplastics and hazardous additives as one coordinated front.

Sincerely,

Joanne Brasch
Director of Advocacy and Outreach