american cleaning institute®

August 4, 2025

California Department of Toxic Substances Control
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814-2828

Re: Proposal to add Microplastics to the Candidate Chemicals List

Dear DTSC:

The American Cleaning Institute (ACI) appreciates the opportunity to provide comments on the Department of Toxic Substances Control (DTSC) Safer Consumer Products (SCP) program proposal to add microplastics to the Candidate Chemicals List. In these comments, we highlight that: (1) DTSC's current definition of "microplastics" is overly inclusive, overlooking key scientific nuances, (2) primary and secondary microplastics should be regulated separately, (3) by adding vital exclusions to the definition, international regulators have shown it is possible to simultaneously prevent releases and allow innovation, (4) microchemistries uniquely enhance the experience and effectiveness of cleaning, a critical health measure, and (5) if an overly inclusive definition is maintained, then the SCP timeline would leave insufficient time for reformulation.

ACI is the home of the U.S. Cleaning Products Industry® and represents the $60 billion U.S. cleaning product supply chain. ACI members include the manufacturers and formulators of soaps, detergents, and general cleaning products used in household, commercial, industrial and institutional settings; companies that supply ingredients and finished packaging for these products; and chemical distributors. ACI promotes industry growth, stewardship, and innovation; to this end, ACI's members conduct extensive research to ensure that the products they market are safe and effective.

Best Regards,

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Introduction
Following a similar rulemaking in 2023, DTSC is proposing to add microplastics to its Candidate Chemicals List (CCL). Currently, DTSC defines "microplastics" as "plastics that are less than 5 millimeters (mm) in their longest dimension, inclusive of those materials that are intentionally manufactured at those dimensions or are generated by the fragmentation of larger plastics."

ACI shares DTSC's goal of protecting human health and the environment. Because of this, we are concerned that an overly broad definition of "microplastics" could negatively impact consumers by removing safe and effective products from the market. Therefore, we urge DTSC to consider the scientific nuances of microchemistries and implement exclusions to the definition for safety and sustainability-driven innovations. By adding these exclusions, international regulations on microplastics – such as those in the European Union (EU) – have demonstrated that it is possible to protect health and safety *and* promote innovation of effective products. This is particularly important because these chemistries play important roles within products that are critical for personal and public health. For more information, please see the comments below.

1. **DTSC's current definition of "microplastics" is overly inclusive, overlooking key scientific nuances.**

Although all plastics are polymers, *not all polymers are plastic*s. There are biodegradable and/or water-soluble polymers that do not contribute to plastic pollution. For example, silk, wool and cellulose are polymers, but are not characterized as plastics nor persistent (defined by DTSC as "remaining in the environment for a long time subsequent to its release by resisting chemical and biological degradation").

SCP Regulations define "Candidate Chemical" as "a chemical that exhibits a *hazard trait and/or an environmental or toxicological endpoint*." DTSC's current proposed definition of "microplastics" inadvertently captures polymers like silk or wool that are not associated with any such hazards, leaving it far too broad to be appropriate for entry on the CCL. Therefore, "microplastics" *must* be more precisely defined to limit its characterization to chemistries that actually exhibit hazard traits and/or environmental or toxicological endpoints. Otherwise, there will be inappropriate conflation of microplastics demonstrating hazards with other polymeric-based particles (natural and synthetic).

In the EU, where the Synthetic Polymer Microparticle (SPM) restriction is in force, clear exemptions are in place. Powders that transform from a solid particle to liquid in formulation qualify for exemption because "solid" is a required characteristic for a microplastic. Powders with <1% polymer content by weight are also exempt. We seek to avoid any regrettable substitutions if polymers are unduly regulated in California. For example, solid-form products with polymer content <1% by weight would be captured in DTSC's current definition. Manufacturers may thus be incentivized to move away from solid-form products like powdered detergents, which offer significant transportation benefits and use less water compared to corresponding liquid formulations. ACI asks that the definition of "microplastics" be amended to add several critical exclusions and to create uniformity with the existing framework that has been established by the EU, as discussed below. Specifically:

A) ***Add an Exclusion for Biodegradable Polymers***

Technologies that enable a polymer to biodegrade quickly and effectively in the relevant environment are key factors in preventing a polymer from being persistent in that environment and maintaining any mobility in environmental media. Our industry is experienced in manufacturing chemicals that rapidly degrade, thereby passing widely accepted tests[1] such as OECD 301, 302, 306, and 310, and ISO 14851, 14852, and 19697, which are all validated methods to measure whether a material is readily or inherently biodegradable. It is important to note that these test methods are conservative to provide ample assurance of degradability in real-world environments. Specifically, the US Environmental Protection Agency (EPA) has underscored that environmental samples used in these tests have microorganism cell densities up to 10,000 times less concentrated than in actual wastewater facilities[2]. Thus, the EPA and the European Chemicals Agency (ECHA) utilize these tests as a method to evaluate environmental persistence[3,4]. Our members continue to manufacture more formulations with readily biodegradable chemicals to achieve important sustainability goals. Many cleaning products are designed to go down the drain and undergo treatment at wastewater treatment plants. Thus, intentionally added polymers in these products are not persistent and do not contribute to plastic pollution. To that end, we ask that DTSC add an exclusion for biodegradability to its definition of "microplastics" in the CCL proposal. Excluding biodegradable polymers that meet widely accepted biodegradation standards will encourage the market to move to more sustainable chemistries. The SCP sends strong signals to the market even without initiating an official Priority Product listing. A refined and nuanced definition would likely result in more environmental and human health gains than a broad definition.

B) ***Add an Exclusion for Water Soluble Polymers***

Polymers that are water soluble gradually lose their particulate form during exposure to water. Similarly to biodegradability, standardized methodologies are needed to measure solubility, and a threshold is needed to address the existing concern; OECD Guidelines 120 and 105 have been recognized as valid test methods for this purpose. Furthermore, the ECHA dossier provided a derogation for polymers with water solubility >2g/L, corresponding with the maximum test material concentrations under optimal conditions specified in test methods for assessing biodegradation of polymers in aqueous environments (ISO 14851 and 14852). This is consistent with a proposal

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[1] Strotmann U, et al. (2023). Toward the future of OECD/ISO biodegradability testing-new approaches and developments. Applied Microbiology and Biotechnology, 107: 2073-2095. https://doi.org/10.1007/s00253-023-12406-6

[2] Environmental Protection Agency, Federal Register, Vol. 88, No 81, 25590, Polyvinyl Alcohol (PVA); TSCA Section 21 Petition for Rulemaking; Reasons for Agency Response; Denial of Requested Rulemaking, April 27, 2023

[3] United States Environmental Protection Agency, Fate, Transport, and Transformation Test Guidelines OPPTS 835.3110 Ready Biodegradability, January 1998

[4] European Chemicals Agency, Annex XV 7Restriction Report Proposal for a Restriction, intentionally added microplastics, Version Number 1.2, Table 21, August 22, 2019

that such polymers would be unlikely to contribute to microplastic pollution[5]. Like polymers that are biodegradable, we ask that DTSC add an exclusion for polymers that are water-soluble, which are distinct from microplastics, to its definition.

C) ***Add a Lower Size Limit***

Any policy based on scientific rigor must allow for repeatable and reliable testing for compliance and enforcement purposes. Current analytical methods (i.e. spectroscopy, microscopy) are severely limited in their ability to reliably measure particles smaller than 100 nanometers (0.1μm)[6,7,8]. Additionally, in some cases, it is impossible to distinguish between chemical elements at this level, which could lead to the misidentification of a polymer. At such microscopic levels, even naturally occurring substances like xanthan gums silica, clays, and starches could all be misidentified as microplastics. Without a lower limit, DTSC's definition of microplastics could be interpreted to include small numbers of carbon-carbon chains, oligomers, monomers, and other chemistries. Given that DTSC has created very specific ranges for identifying specific microplastics, it should be contingent for this proposal to focus on polymers that can be accurately and reliably measured. We ask that DTSC add a lower size limit to ensure that: (1) particle sizes of chemistries within the scope of the definition can be reliably measured, and (2) microplastics and non-microplastics of similar sizes can be reliably distinguished.

D) Maintain Distinction Between Natural and Synthetic

As stated earlier, all plastics are polymers but not all polymers are plastic. Further, many polymers are naturally occurring (e.g., rubber, cellulose). SPMs are often engineered for very specific performance characteristics, but sometimes these same characteristics can be obtained through the utilization of naturally occurring polymers. Therefore, "polymers that are the result of a polymerization process that has taken place in nature, independently of the process through which they have been extracted, which are not chemically modified substances" as referenced by the EU, should not be considered a Candidate Chemical. Previous documentation provided by DTSC had included this exclusion in the definition ("Polymers derived in nature that have not been chemically modified (other than by hydrolysis) are excluded", pg. 2), but in the June 2025 Technical Document, it was removed. We ask that DTSC reinstate the exclusion of natural polymers from its definition of microplastics.

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[5] Opinion on Annex XV dossier proposing restrictions on intentionally-added microplastics. European Chemicals Agency. Committee for Risk Assessment and Committee for Socio-economic Analysis. December 10, 2020. ECHA/RAC/RES-O-0000006790-71-01/F. ECHA/SEAC/RES-O-0000006901-74-01/F.

[6] Ośko J, et al. (2025). Nanoplastics: From Separations to Analysis—Challenges and Limitations. *Separations*, 12(7): 185. https://doi.org/10.3390/separations12070185

[7] Nanotechnology Blog: What Are the Limitations of Scanning Electron Microscopy? | Measuring Less Than 100 Nanometers

[8] Elert A et al. (2017). Comparison of different methods for MP detection: What can we learn from them, and why asking the right question before measurements matters? Environmental Pollution, 231(2):1256-1264. doi: 10.1016/j.envpol.2017.08.074

2. **Primary and secondary microplastics should be regulated separately.**

Primary microplastics are those that are intentionally manufactured and added to products. Secondary microplastics are those that are not intentionally added, but rather result from the breakdown of larger plastic items (like packaging) due to environmental exposure. The scope of the SCP program is only intended for ingredients *within* products, which in this case would be limited to primary microplastics. Thus, DTSC's current definition should be narrowed to focus exclusively on primary sources.

Because primary microplastics are intentionally added, it is much more feasible for manufacturers to be intentional about regulatory compliance – they can directly control the quantity used, and can also track and measure environmental release. This is much more difficult with secondary microplastics. Therefore, the EU has elected to regulate these two types separately. The microplastics regulations that we have discussed address primary microplastics, while the secondary microplastics will be addressed through the EU Plastics Strategy and the Circular Economy Action Plan. Similarly, CalRecycle is currently developing regulations for the implementation of the Plastic Pollution Prevention and Packaging Producer Responsibility Act, which will intrinsically address secondary microplastics based on the performance requirements of the extended producer responsibility program. We recommend that DTSC keep the scope of this proposal to primary microplastics, with regulations tailored to the distinct sourcing scenario of primary microplastic contributors.

3. **By adding the above exclusions, international regulators have shown it is possible to simultaneously prevent releases *and* allow innovation.**

The European Chemicals Agency (ECHA) has conducted comprehensive research with stakeholders in the development of proposed regulations[9,10,11] for products containing microplastics. The adopted framework addresses the concerns of consumers, government, and industry by regulating microplastics while excluding polymers that do not contribute to plastic pollution. ACI's members have been actively involved in these discussions and applaud the EU's leadership in the collaborative process for developing and implementing regulations of microplastics that include the above exclusions, which are vital to avoiding conflation with biodegradable and water-soluble polymers. ACI recommends that DTSC pursue alignment with the EU on the definition of "microplastics" by adding the same exclusions. This will benefit Californians by reinforcing harmonious trade relationships that are not impeded by unnecessary and unscientific regulatory barriers.

4. **Microchemistries uniquely enhance the experience and effectiveness of cleaning, a critical health measure.**

Internationally, regulators and stakeholders have come together to produce sound scientific regulations around microplastics and other polymers for a reason – there are key

[9] Commission Regulation (EU) 2023/2055 - Restriction of microplastics intentionally added to products - European Commission

[10] https://echa.europa.eu/hot-topics/microplastics

[11] Microplastics - European Commission

microchemistries that fulfill important roles in essential products. For example, SPM technology is employed to help cleaning products cling to surfaces that need to be cleaned, increase mixture thickness, and inhibit scaling of unwanted substances – all very important elements of effective cleaning and disinfecting practices.

5. **If an overly inclusive definition is maintained, then DTSC's SCP timeline would leave insufficient time for reformulation.**

If all formulations that use chemistries falling within DTSC's sweeping definition of "microplastics" are to be regulated as Priority Products, then it is unlikely that the current SCP timeline for manufacturers to innovate and reformulate would be sufficient. As written: once the Candidate Chemical listing is effective, Priority Products would be proposed 180 days after. The listing of these Priority Products would then be finalized within a year, with a notification being issued 60 days later. A preliminary Alternatives Analysis (AA) report would be due to DTSC 180 days after the listing, and a final AA report would be due a year after the notice of compliance for the preliminary AA report.

We have emphasized that polymers within safe and effective products will be unduly affected by these regulations if exclusions are not added for biodegradability and water solubility. If manufacturers are forced into reformulation away from the entire polymer chemical class, this will realistically take much longer than DTSC's estimated timeline. Even with the exemptions, the EU has implemented a staggered, gradual phase out to ensure a successful transitional period.

Conclusion

We reiterate that ACI members support efforts to protect the health of people and the planet. We hope DTSC will consider ACI's input on this proposal. ACI would happily continue the conversation with DTSC to reach a scientifically judicious solution.