Via E-Mail and Overnight Mail
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Re: Request of the Governors of New Jersey, Delaware, Illinois, Maryland, Michigan, Wisconsin, and Connecticut under 42 U.S.C. § 300j-4(a)(2)(B)(ii) that EPA Include Microplastics in the Forthcoming Unregulated Contaminant Monitoring Rule 6 List

November 26, 2025

Dear Administrator Zeldin:

Governors from New Jersey, Delaware, Illinois, Maryland, Michigan, Wisconsin, and Connecticut submit this petition to the United States Environmental Protection Agency (EPA), on behalf of their collective constituents, to include microplastics in the 2027 renewal of EPA's Unregulated Contaminant Monitoring Rule 6 (UCMR 6). EPA should include this contaminant in the upcoming UCMR 6 due to its suspected widespread presence in drinking water nationwide, its potential significant negative health impacts, and the important public health contribution EPA can make by establishing a definition of microplastics, developing and approving analytical methods, requiring monitoring, and laying the groundwork for ultimately promulgating appropriate standards for microplastics in drinking water.

Not only is listing microplastics warranted on policy grounds, but, as a result of this petition, the Safe Drinking Water Act (SDWA) mandates that EPA must list microplastics in UCMR 6. Under 42 U.S.C. § 300j-4(a)(2)(B)(ii), EPA must include in the UCMR any contaminant(s) recommended by a petition of at least seven States' Governors (i.e., the Governors' Petition) unless, in light of the statutory maximum of 30 contaminants, EPA's Administrator "determines the action would prevent the listing of other contaminants of a higher public health concern." Ibid.; see also 40 CFR 141.40(b) (identifying factors that such a petition must address). This petition is signed by [TK] Governors. Microplastics satisfy the statutory definition of "contaminant." As both a physical and chemical substance, they plainly qualify as "any physical, chemical, biological, or radiological substance or matter in water." 42 U.S.C. § 300f(6). And as explained below, listing microplastics in UCMR 6 would not displace any contaminant of higher concern. Indeed, the potential risks to public health posed by this contaminant, its expected prevalence, the need for a nationwide testing standard in order to better understand the foregoing, and the great public interest in this contaminant together warrant monitoring under the UCMR for future regulation under SDWA. See 40 CFR 141.40(b).

Microplastics are Suspected to Be Widely Prevalent in the Environment and Potentially Have Concerning Health Effects

Plastics are made from raw material that can come from either fossil fuels or plants and animals. These materials are combined to create different types of plastics polymers with various properties, including polyethylene terephthalate (used in bottles), high density polyethylene (used in containers), polyvinyl chloride (used in pipes), low density polyethylene (used in bags), polypropylene (used in packaging), and polystyrene (used in disposal cups). Plastics can also include additives such as plasticizers, flame retardants, antioxidants, and pigments to improve function, resilience, and appearance (CalSPEC, 2023).

Microplastics are generally described as tiny plastic particles less than 5mm in diameter, while nanoplastics, a subset of microplastics, are smaller than 1,000nm. They are composed of polymers and various chemical additives, which were either originally part of the plastic product or were adsorbed from the surrounding environment (Vethaak and Legler, 2021).

Expected Occurrence, Persistence, and Mobility

Microplastics originate from both primary and secondary sources. Primary microplastics are manufactured in small sizes, such as microbeads in cosmetics and plastic pellets used for making plastic products. Secondary microplastics result from the wear and fragmentation of larger plastic items such as textiles and tires, during use or from environmental exposure (Hale et al., 2020). Other sources include paints, plastic-coated fertilizers, and mulch films used in agriculture, plastic film from food packaging, rubber from shoes, nylon thread from fishing nets and clothes made from synthetic fibers, polystyrene from food containers and packaging materials, and polypropylene from plastic bottles and food wrappers (CalSPEC 2023). The widespread occurrence underscores the substantial environmental challenge they pose.

Microplastics enter the environment through a variety of point and non-point sources, contributing to their extensive global distribution. Point sources include direct discharges from industrial processes and wastewater treatment plants, where microplastics can enter aquatic systems due to the potential ineffectiveness of current filtration systems to remove these tiny particles. Non-point sources are more diffuse and include the runoff from urban areas, agricultural lands, and roadways, carrying microplastic particles like tire wear and synthetic fibers into water bodies. These particles are transported by water currents in ocean, rivers, lakes, and streams, where they can be suspended in the water column, deposited in sediments, or washed ashore (Hale et al., 2020).

Additionally, atmospheric transport plays a significant role with microplastics being carried by wind and deposited through atmospheric fallout, reaching even remote and pristine regions like the Arctic and Mount Everest. The diverse shapes, sizes, and densities of microplastic influence their behavior and fate, making it challenging to predict their exact pathways and accumulation zones (Amobonye et al., 2021).

Microplastics are widespread in both raw and treated drinking water, with particle sizes predominantly ranging from 1 to 10 µm, and polymers such as PET, PP, and PE being commonly detected (Pivokonsky et al., 2018). On a global scale, microplastics are found in both tap and bottled water, exhibiting a variety of particle sizes and polymers (Gambino et al., 2022; Kosuth et al., 2017; Mason et al., 2018). In the USA, tap water has been shown to contain microplastics with an average concentration of 4.34 particles per liter, with particle sizes exceeding 100 µm (Kosuth et al., 2017). Additionally, surface water samples have been collected from the Raritan River and Passaic River watersheds in New Jersey with microplastic concentrations ranging from approximately 28,000 to over 3,000,000 particles per square kilometer, with particle sizes between 0.355 mm and greater than 4.75 mm (Ravit et al., 2017).

Microplastics are of special concern due to their suspected overall prevalence and their ability to accumulate and persist in the environment. Under current practices, the concentration of microplastics in our waters is predicted to double by 2040 (Lau et al., 2020). We do not know whether our current drinking water and wastewater treatment plants and distribution systems are able to filter out the majority of microplastics. Various environmental factors such as wind and wave energy and particle characteristics further complicate efforts to model transport and predict distribution accurately. Unlike dissolved contaminants, microplastics can accumulate in locations such as deep seas, deep lakes, swamps, or fine grain sediments rather than becoming diluted, presenting challenges for understanding their environmental impact (Hale et al. 2020).

Analytical Methods For Testing

Variability in methodologies for detecting microplastics poses challenges to data consistency and comparability across studies. Techniques for isolation, such as density separation and enzymatic digestion, differ widely, affecting the accuracy of results. Analytical tools like Fourier transform infrared spectroscopy and Pyrolysis-gas chromatography mass spectroscopy vary in their capacity to detect different particle sizes and materials. This variability complicates efforts to standardize findings, underscoring the need for harmonized protocols to ensure reliable data collection and analysis (Rochman et al., 2017). It remains our understanding that EPA continues to develop a method for microplastic analyses in drinking water using spectroscopic instrumentation. Finalizing testing and analytical methods would enable EPA to develop definitions and protocols before sampling begins, providing labs time to build necessary capacity and be prepared to offer testing.

Potential Risk to Public Health, Particularly Disproportional Risks to the Health and Safety of Children

The potential risks these tiny particles pose to human health are currently the subject of extensive research, focusing on the harmful effects of both the plastic components and the chemical additives used in their production (CalSPEC, 2020). These particles can act as vectors for various toxic chemicals to attach to, posing significant risk to human and environmental health due to their presence in aquatic, terrestrial, and atmospheric environments. They can accumulate and transport harmful substances like bisphenol A (BPA), phthalates, PFAS, PCBs, vinyl chloride, styrene, pesticides, and heavy metals. Some toxicants are added during the manufacturing process, while others are absorbed as microplastics degrade. The risk of microplastics to human health is multifaceted, involving both physical and chemical effects. Physically, their size and shape can lead to cellular and tissue damage, while chemically, they may carry hazardous additives that can leach into the human body during exposure. These toxicants may bioaccumulate in cells, tissues, and organs, with potential exposure through ingestion, inhalation, and skin contact. They are most often ingested through drinking water, breathing air, consuming food, including seafood, table salt, honey, sugar, and drinking beverages such as beer and tea. Microplastics have been found in all human organ systems in addition to blood, liver, testes, placenta, colon, and lungs. Nanoplastics are able to travel to more remote organs such as the brain and to cross the gut barrier (Damaj et al., 2024). However, the full scope of the impact of microplastics on human health remains under investigation, and more research is needed to fully understand the risks and implications.

Microplastics may pose particular risks to the health of children. Studies in mammalian models have found microplastics translocate from the maternal uterine circulation into fetal circulation via the placenta (Fournier et al., 2020). Further, the occurrence of microplastics in infants may indicate significantly higher exposure levels than in adults (Zhang et al., 2021). At least some research has shown that exposure to microplastics during the early development stage of fetuses can lead to pre-mature puberty (Amran et al., 2022), and may also be a cause of male infertility (Zhang et al., 2022). As the EPA has previously cited its interest in protecting children's health (see e.g., 64 F.R. 50602), this potential disproportional risk to the health or safety of children warrants the inclusion of microplastics in the UCMR. See also 40 C.F.R. § 141.40(b)(1) (a governors' petition should include the potential risk to public health, "particularly any information that might be available regarding disproportional risks to the health and safety of children").

Traditional environmental monitoring often focuses on dissolved contaminants in water or air, rather than those adsorbed onto particulate matter. Therefore, contaminants bound to microplastics may not be fully captured or accounted for by standard analytical methods.

Microplastics Meet Regulatory Definitions of a Contaminant Causing High Public Health Concern

Microplastics satisfy EPA's core concerns in adding contaminants to the UCMR. In determining what items to include in each new UCMR, EPA compares potential candidates based on a number of factors, including but not limited to (1) availability of information on the candidate, including potential risk to public health, especially disproportional risks to children, (2) stakeholder and public interest, (3) overall use and expected occurrence of the candidate including persistence and mobility, and (4) monitoring and implementation factors, including analytical methods for testing for the candidate. See generally USEPA, Monitoring Unregulated Drinking Water Contaminants, About the UCMR, https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule; 42 U.S.C. § 300g-1(b) (standards for listing a contaminant for monitoring); 40 C.F.R. § 141.40(b)(1).

Here, microplastics satisfy a number of factors EPA considers when including items in the UCMR. Microplastics are not currently regulated under federal law. As noted above, they are suspected to be widely prevalent in the environment, and they very potentially have an adverse impact on the public's health. Recent articles in the popular press have noted the risk of plastic particles in tea bags, seafood, meat, and bottled water. Studies suggest that the public perceives microplastics as a serious environmental and health risk. Approximately one hundred seventy organizations signed a petition in November 2024 to EPA asking that microplastics be added to UCMR 6. There is proportionate public interest in and alarm about these topics, and public interest in removing plastics from our drinking water and the food chain.

But information on prevalence, health impact, and public interest is ahead of other aspects of the scientific and policy state of play, especially consistent definitions and testing methodologies. By including microplastics in UCMR 6, EPA can provide leadership to the scientific and regulatory community on consistent definitions and testing methodologies that lag behind.

Additionally, without federal oversight and regulation, the burden will be put onto the states to monitor, research, and regulate this contaminant. This will likely lead to states choosing inconsistent or contradictory definitions and methodologies, delaying scientific progress and regulatory consensus.

Federal Regulation of Microplastics Will Meaningfully Reduce Risk to Public Health

Given the lack of consistent scientific and regulatory definitions of microplastics it is essential to establish a clear and universal definition for consistent analysis and policy formulation across different regions and sectors. Further, given the widespread occurrence of microplastics and the substantial environmental challenge they pose, it is imperative to develop strategies to reduce and mitigate the impacts of microplastics in our environment. Finally, as it is unclear whether our current filtration system will be effective in reducing environmental impacts of microplastics, it is vital there is policy ensuring effective implementation and monitoring to evaluate current systems and determine what if any upgrades are necessary to protect the environmental and public health.

Consequently, given the significant health risks microplastics may raise, and the lack of consensus on how microplastics should be defined and regulated, this is the optimal time for EPA to lead the conceptualization and data collection efforts nationwide to begin protecting the people of the United

States from microplastics. Doing so will lead to meaningful methods of reducing the risk to the public's health.

Therefore, the Governors from New Jersey, Delaware, Illinois, Maryland, Michigan, Wisconsin, and Connecticut petition EPA, per 42 U.S.C. § 300j-4(a)(2)(B)(ii), to include microplastics in the upcoming UCMR 6, develop and approve analytical methods, require monitoring, and ultimately promulgate appropriate standards for microplastics in drinking water.

Governor Phil Murphy
State of New Jersey

Governor Matt Meyer
State of Delaware

Governor Ned Lamont
State of Connecticut

Governor JB Pritzker
State of Illinois

Governor Wes Moore
State of Maryland

Governor Tony Evers
State of Wisconsin

Governor Gretchen Whitmer
State of Michigan

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