



**Written Testimony of Molly Flanagan, Vice President of Policy,
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Examining Microbeads in Cosmetic Products

**Committee on Energy and Commerce
Subcommittee on Health
Hon. Joe Pitts, Chairman
Hon. Gene Green, Ranking Member**

May 1, 2015

Introduction

Chairman Pitts and Ranking Member Green, thank you for inviting me to appear before this subcommittee to address the threat posed to the Great Lakes by plastic microbeads. My name is Molly Flanagan, and I am the Vice President of Policy for the Alliance for the Great Lakes. For more than 40 years, the Alliance has worked to protect and restore the world's largest source of surface freshwater with our network of more than 15,000 supporters and volunteers. We are also a member of the governance board of the Healing Our Waters – Great Lakes Coalition, a coalition of more than 120 organizations that share a common goal of restoring our tremendous freshwater asset.

I am here today to support efforts to remove plastic microbeads from consumer products. The Alliance has front line experience with the impacts of debris on our Great Lakes. Over 14,000 of our volunteers are located in the Great Lakes region, working each year to clean up beaches and natural habitats through our Adopt-a-Beach™ program. Further, we have partnered with the National Oceanic and Atmospheric Administration on the creation and implementation of a regional marine debris reduction strategy for the Great Lakes. In 2014 alone, the Alliance for the

Great Lakes' Adopt-a-Beach™ program collected over 50,000 pounds of trash and marine debris from the shores of the lakes. Research from the University of Waterloo and our own estimates based on the data collected by volunteers concludes that over 75% of the items collected are partially or fully comprised of plastic.

There is only so much we can do on the land to eliminate debris and pollution. A true solution to the plastic pollution problem must focus on the sources of plastic pollution. Recent research has shown that microplastics, including plastic microbeads, from personal care and cosmetic products, are present in high concentrations in the Great Lakes. You have the opportunity to stop this needless source of pollution by passing a federal ban on use of plastic microbeads.

Microplastics in the Great Lakes

Microplastics are plastic pieces smaller than 5 millimeters that are either intentionally manufactured to be small or a result of the fragmentation of larger plastic productsⁱ. Their presence is well documented in the world's oceans, but recent research on the Great Lakes shows concentrations that rival or surpass those found in the marine environment. In 2012, Dr. Sherri Mason of the State University of New York at Fredonia and Marcus Eriksen of the 5 Gyres Institute found microplastic fragments numbering more than 460,000 per square kilometer in Lake Erieⁱⁱ and in 2013, as many as 1.1 million per square kilometer in Lake Ontario.ⁱⁱⁱ In a separate study, researchers on the St. Lawrence River found high levels of microplastics present in sediment samples from the bottom of the St. Lawrence River, indicating that these tiny pieces of plastic move through the entire Great Lakes system and the entire water column.^{iv}

Further analysis concluded that fifty-eight percent of all microplastics smaller than 1 mm collected in the Great Lakes were spherical.^v These items were manufactured^{vi} for cosmetic and personal care products that use microbeads as abrasive or aesthetic additives. These products can contain up to 350,000 plastic microbeads per package.^{vii}

The threat of plastic microbeads

Too small to be easily spotted and removed, plastic microbeads smaller than 5 mm in size do not appear to clutter beaches and foul shorelines as plastic bottles, cigarette butts or derelict fishing gear do, but they pose a pernicious problem. Plastic microbeads are composed of polypropylene (PP), polyethylene (PE), polyethylene terephthalate (PET), nylon or Poly(methyl) methacrylate (PMMA). These forms of plastic attract and accumulate hydrophobic toxic chemicals, such polychlorinated biphenyls (PCBs), DDT, and polycyclic aromatic hydrocarbons (PAHs), which are unfortunately present in bodies of waters, including the Great Lakes. Plastic microbeads can be perceived as food and ingested by wildlife. An on-going study of fish within the Great Lakes has shown plastic contamination within all 25 species analyzed to-date. Not only does plastic ingested by wildlife directly impact nutritional intake by replacing food sources, it can also leach toxins accumulated on the plastic from the environment.^{viii}

The extremely small size of plastic microbeads allows them to easily wash down drains, through sewer systems, and directly into waterways. A study by the New York State Office of the Attorney General released in April 2015 detected microbeads in the effluent samples of 74% of the wastewater treatment plants participating in the study.^{ix} At a time of limited funding for wastewater treatment plants and other water infrastructure, the potential cost and time necessary to upgrade wastewater treatment plants with yet-to-be-developed technologies that could filter these plastic microbeads far outweighs the cost of preventing their introduction in the system by banning their use in cosmetic and personal care products.

The Great Lakes Cannot Absorb More Damage

Continuing to allow plastic microbeads to enter the Great Lakes when a solution is at hand runs counter to current protection efforts. Adding new sources of stress to the lakes undermines the \$1.9 billion in federal investments made to restore them over the last five years through the bipartisan Great Lakes Restoration Initiative. Congressional action and regional collaboration

have helped a healthier Great Lakes support recreational fisheries for perch, black bass, walleye, lake trout, salmon, pike, steelhead, and others for millions of anglers that spent an estimated \$1.2 billion during Great Lakes fishing trips and \$1.3 billion on equipment for activities related to Great Lakes fishing.^x When you combine these direct expenditures with the more than 58,000 jobs they create, with salaries totaling \$2.1 billion, it adds up to a total impact of slightly more than \$7 billion in the entire U.S. economy.^{xi} The health of the Great Lakes is not immune to threats, new and old, including invasive species like Asian carp, harmful algal blooms caused by excessive nutrient runoff from farms and cities and habitat destruction. Needlessly sending billions of plastic microbeads into waters we are spending so much time, energy, and money restoring is simply irresponsible – we do not need to add a new threat to the Great Lakes.

Alternatives Are Available – We Can Solve This Problem

Plastic microbeads were patented in the early 1970s, but were not regularly used commercially until the 1990s. Today microbeads are found in over 100 products including facial wash, body wash, toothpaste and some over the counter drugs.^{xii} Prior to the use of plastic microbeads, many cosmetic and personal care products used abrasive beads derived from materials such as ground almonds, ground walnuts, cocoa beans, oatmeal and sea salt. These products exist in the same market as products that contain plastic microbeads at a similar price point and do not result in plastic particles polluting the Great Lakes.

A number of large companies in the cosmetic and personal care industry have voluntarily pledged to remove plastic microbeads from their products. We applaud these efforts as examples of good corporate stewardship. We also note that these voluntary efforts have a variety of timelines for phase out, may not have a timeline at all, and do not consistently indicate what the company will use to replace microbeads. For example, the concept of marine biodegradable plastic microbeads sounds encouraging at first take. Unfortunately, the only existing standard for marine biodegradability never applied to freshwater and has since been withdrawn for additional review since April 2014. There are no national or international

standards for the biodegradability of plastics in ambient water environments. The industry's first job as good stewards of the Great Lakes must be to demonstrate that alternatives to plastic microbeads can truly and completely biodegrade, or mineralize, in the naturally occurring conditions of the Great Lakes and other water bodies. This should occur rapidly without creating harmful byproducts. Until peer-reviewed scientific research or testing by the American Society for Testing and Materials can provide standards for the biodegradability of plastics that confirm real biodegradability in Great Lakes water conditions, biodegradable plastics should not be exempt from a ban.

Recommendations

We are encouraged that several states, including Illinois, New Jersey, and Maine, have banned plastic microbeads in cosmetic and personal care products. Other states, including Indiana, Wisconsin, Michigan, New York and others, are currently working on bans. The Alliance believes that the right federal regulatory approach can solve this problem. To completely protect the Great Lakes and other water bodies in the United States from plastic microbeads, we urge Congress to pass a federal ban on all forms of plastic microbeads in cosmetic and personal care products that:

- 1. Charges the Food and Drug Administration [\(FDA\)](#) with clearly defining -plastic microbeads based on current scientific research and standards testing by authorities such as the American Society for Testing and Materials;*
- 2. If terms such as "synthetic" and "biodegradable" are used in statute and regulation with regard to microbeads, these terms should also be clearly defined by FDA to ensure that substances such as bioplastics are not excluded from biodegradability requirements, and that biodegradability occurs to mineralization in freshwater and marine environments;*

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3. *Sets a realistic and achievable timeline to phase out cosmetic and personal care products that contain plastic microbeads, beginning one year from the passage of this legislation; and*
4. *Ensures that any products marketed and labeled as biodegradable meet Federal Trade Commission standards as articulated in FTC “Green Guides” for environmental marketing claims.*

Conclusion

You have a great opportunity before you. We know that an unnecessary ingredient in some cosmetic and personal care products - plastic microbeads - is entering our waterways every day. We have a private sector that understands that the public demands products that do not pollute the Great Lakes and has the tools and knowledge in hand to replace plastic microbeads in products and avoid undermining our work to protect and restore the lakes.

The Alliance for the Great Lakes and our supporters urge the United States Congress to pass a ban on the manufacture and sale of cosmetic and personal care products that contain all forms of plastic microbeads. The Alliance thanks Congressmen Upton and Pallone for introducing this legislation and considering our comments. Representative Pitts and Ranking Member Green, thank you for holding this hearing. I look forward to assisting on any actions this subcommittee can take to support this effort.

References

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