

ONE HUNDRED FOURTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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MEMORANDUM

April 29, 2015

To: Subcommittee on Health Democratic Members and Staff
Fr: Committee on Energy and Commerce Democratic Staff
Re: Hearing on “Examining Microbeads in Cosmetic Products”

On Friday, May 1, 2015, at 9:15 a.m. in room 2123 of the Rayburn House Office Building, the Subcommittee on Health will hold a legislative hearing entitled “Examining Microbeads in Cosmetic Products.”

I. BACKGROUND

In recent years, a number of personal care products, most notably face washes and scrubs, have utilized microplastic particles, or microbeads, as exfoliants.

While there is no evidence of negative health effects on users of these products, research has shown environmental impacts on water bodies from their increased use. When microbeads are added to these products, they travel through wastewater systems. Due to their small size they are less likely to escape capture by preliminary treatment screens at wastewater plants and home water treatment than larger particles.¹

Numerous natural, biodegradable alternatives to synthetic plastic microbeads already exist in commerce and product supply chains, including apricot seeds, walnut shells, and pecan shell powder. Several personal care product companies have already announced plans to phase

¹ Lisa S. Fendall and Mary A. Sewell. *Contributing to Marine Pollution by Washing your Face: Microplastics in Facial Cleansers*, Marine Pollution Bulletin 58, no. 8, 1225-1228 (2009).

out the use of synthetic plastic microbeads in their products in favor of natural exfoliants, including Proctor & Gamble and Johnson & Johnson.²

II. LEGISLATION

On March 6, 2015, Ranking Member Frank Pallone, Jr. and Chairman Fred Upton introduced H.R. 1321, the Microbead-Free Waters Act of 2015. The bill requires the Food and Drug Administration (FDA) to prohibit sale or distribution of cosmetics containing synthetic plastic microbeads beginning January 1, 2018. This outcome would be accomplished by adding synthetic plastic microbeads to the list of adulterated cosmetics in Section 601 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 361).

III. ENVIRONMENTAL & POTENTIAL HEALTH IMPACTS

The use of plastic microbeads in consumer products may impact the environment and human health through multiple pathways.

A. Microbeads and Environmental Health

Microbeads are plastic fragments which are designed and formulated into personal care products for their abrasive properties, and then washed down the drain. Microplastics do not decompose and fail to be captured, due to their miniscule size, by wastewater systems and public and home water treatment facilities.

Furthermore, these plastics leach toxic chemicals into the surrounding environment, which is accelerated by their exposure to UV rays and the elements.³ Additionally, the United Nations has noted that microplastics can act as vectors for potentially hazardous microbes: “Communities of microbes have been discovered thriving on microplastics at multiple locations in the North Atlantic. This ‘plastisphere’ can facilitate the transport of harmful microbes, pathogens and algal species.”⁴ Microplastics can also attract hydrophobic pollutants that collect on the water’s surface,⁵ including brominated flame retardants, DDT, and polychlorinated biphenyls (PCBs).

In addition to contributing to the buildup of plastic pollution in waterways, researchers have found microbeads in important food supply waterways including the Great Lakes—the

² *Johnson & Johnson, P&G to Phase Out Microbeads*, Environmental Leader (Aug. 1, 2013) (online at www.environmentalleader.com/2013/08/01/johnson-johnson-pg-to-phase-out-microbeads/).

³ Lisa Fendall and Mary A. Sewell, *Contributing to Marine Pollution by Washing your Face: Microplastics in Facial Cleansers*, *Marine Pollution Bulletin* 58, no. 8 (2009): 1225-1228.

⁴ T. Govere, *UNEP Year Book 2013: Emerging Issues in our Global Environment*, United Nations Environment Programme (2013).

⁵ Lorena M. Rios, *unpublished data*, University of Wisconsin Superior.

nation's largest fresh water source.⁶ Microbeads in the Great Lakes and in other waterways can be mistaken by fish and other organisms as food. If consumed, the chemicals found in synthetic plastic microbeads—as well as those toxins attracted to the plastic's surface—can then be passed on to other wildlife, causing documented adverse health impacts.⁷ As with the bioaccumulation of other toxins in aquatic wildlife, researchers suggest that humans may come into contact with these toxins through the consumption of these fish and other animals.

B. Microbeads and Oral Health

Additional health and safety concerns have been raised that microbeads in over-the-counter (OTC) dental products may endanger oral health.⁸ Though no comprehensive clinical study has been conducted to investigate this risk, anecdotal evidence from dental professionals suggests that microbeads may get trapped in the gingival sulcus—the area where the tooth and gum meet, trapping bacteria and causing gingivitis. Because microbeads are not biodegradable, bacteria buildup over time can ultimately lead to periodontal disease, affecting the surrounding soft tissue and bone.

Due to concerns that dental professionals and consumers have voiced, several major manufacturers of over-the-counter dental products have voluntarily chosen to phase out the use of plastic microbeads, though industry maintains that these products remain safe. Proctor and Gamble, the manufacturer of Crest, will phase out the use of plastic microbeads in the majority of its products by March 2016 and Colgate-Palmolive phased out their use in 2014.⁹

In the wake of this growing concern, the American Dental Association reviewed the available scientific literature and found no clinical evidence to suggest the removal of the ADA Seal of Acceptance on oral health products containing polyethylene microbeads.

The bill in its current form defers to FDA regulations and guidance on the matter and does not impact the regulation of dental or other OTC products.

IV. STATE EFFORTS

Beginning with Illinois¹⁰ in July 2014, five states—Colorado, Illinois, Indiana, Maine, and New Jersey—have enacted state legislation banning the manufacture and sale of personal

⁶ Marcus Eriksen et al., *Microplastic Pollution in the Surface Waters of the Laurentian Great Lakes*, *Marine Pollution Bulletin* 77, no. 1, 177-182 (2013).

⁷ Chelsea Rochman et al., *Ingested Plastic Transfers Hazardous Chemicals to Fish and Induces Hepatic Stress*, *Scientific Reports* 3 (2013).

⁸ *Why Dentists Are Speaking Out About the Plastic Beads in Your Toothpaste*, *The Washington Post* (Sept. 18, 2014) (online at www.washingtonpost.com/news/to-your-health/wp/2014/09/18/why-dentists-are-speaking-out-about-the-plastic-beads-in-your-toothpaste/).

¹⁰ Center for Effective Government, *Illinois Bans Microbeads in Consumer Products; Congressman Introduces National Legislation* (June 12, 2014) (online at

care products containing microbeads. The Maryland and Wisconsin state legislatures have passed similar legislation, which currently awaits their governors' approval before being enacted as state law. And, 15 more state legislatures are currently considering similar legislation: Alaska, Arizona, California, Connecticut, Hawaii, Iowa, Massachusetts, Michigan, Minnesota, New York, Oregon, Vermont, Virginia, Washington and Wyoming.

State efforts have built on the Illinois legislation, which bans the manufacture of cosmetics containing microbeads by January 1, 2018, and the sale of these products by January 1, 2019. The ban on the manufacture of over-the-counter products containing microbeads would take effect January 1, 2019, and the sale of these products would be banned on January 1, 2020.

State legislation has been supported largely by partnerships between environmental groups and industry, both of which largely support migration away from the use of synthetic plastic microbeads and toward alternative materials.

Under the FDA monograph, alterations in the formulation of OTCs must be accompanied by a mandatory stabilization period. This period would allow manufacturers attempting to substitute plastic microbeads with other materials, such as organic materials like nut fragments, to see how these new materials interact with other ingredients, ensuring the safety of the new formulation. In addition, state legislation impacting OTC products would afford the time necessary for companies to implement the requisite processes in making these modifications.

V. WITNESSES

Mr. Dan Wyant

Director

Michigan Department of Environmental Quality

Senator Linda R. Greenstein

New Jersey Legislature

Ms. Molly Flannigan

Alliance for the Great Lakes

Mr. John Hurson

Executive Vice President of Government Relations

Personal Care Products Council

www.foreffectivegov.org/blog/illinois-bans-microbeads-consumer-products-congressman-introduces-national-legislation).