CASE STUDY

Microfiber Filtration: California AB 1628

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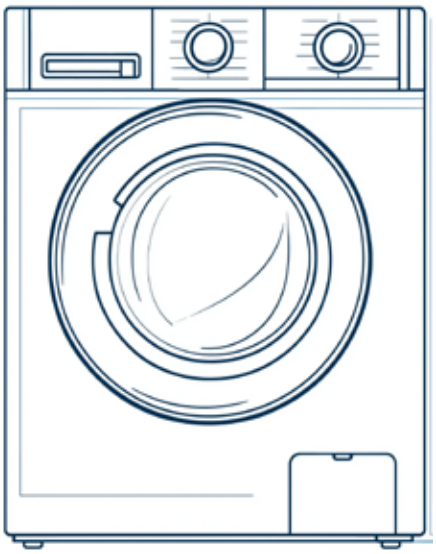

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Introduction

"AB-1628 Microfiber filtration" was introduced on February 17, 2023 in the California State Assembly by Assembly Member Tina McKinnor (1). The legislative intent for AB 1628 was "…helping to reduce the amount of microfibers from ending up in our freshwater systems, oceans, and agricultural lands" (2). The bill required that new washing machines sold or offered for sale for state or residential use in California to have a built-in or in-filter of <100 micrometers for microfiber filtration with an identifying label by January 1, 2029 (3). AB 1628 was the eighth Assembly Bill introduced addressing microfiber pollution since 2019, and the only bill that passed both the California State Assembly and Senate (4). The bill was vetoed by Governor Gavin Newsom on October 8, 2023 (5).

This Case Study summarizes AB 1628's legislative intent and existing legislation; committee concerns, amendments, and comments; and arguments of support, opposition, and veto rational.

Microfiber Pollution

The Interagency Marine Debris Coordinating Committee, a federal multi-agency body, published a Report on Microfiber Pollution in 2024. The Report defines microfiber pollution as "…tiny strands of plastic and non-plastic fibers that are shed during product life cycles and eventually end up polluting the environment" (6). Microfibers are "…solid, polymeric, fibrous materials that include plastic and non-plastic fibers less than 5 millimeters in all dimensions" (7). Microfiber sources include textiles, carpets, nonwovens, and non-textile sources such as tires, cigarette filters, aquaculture, and fishing equipment (8). The Report states, "Microfibers have been found nearly everywhere, including oceans, rivers, lakes, sea ice, soils, and in drinking water and food" (9). On health impacts it states, "Though the toxicological hazards associated with microfibers, particularly the impacts to humans, remain largely unknown, their persistence, prevalence in the environment, and the lack of feasible cleanup options are reasons for concern" (10).

Microfiber Regulation Efforts in California

In 2018, the California State Legislature passed SB 1263 to create a Statewide Microplastic Strategy to address microplastics in California water (11). According to the Statewide Microplastic Strategy, "…microplastics have been observed in Monterey Bay, San Francisco Bay, the Greater Farallones National Marine Sanctuary, Lake Tahoe, and in Southern California waterways" (12). The Strategy is divided into a "two-track approach," of "solutions" and "science to inform future action," focusing on immediate action and research (13).

As part of this research, in 2021, the California Ocean Science Trust identified microfibers "as a highest priority [and] most prevalent components of microplastic pollution" in the study Microplastic Pollution in California: A Precautionary Framework and Scientific Guidance to Assess and Address Risk to the Marine Environment (14). The Strategy seeks to mitigate microfiber pollution as an economic strategy in the solution track as stated below (15):

"Objective 2A.1.8 Promote, or otherwise require, the sale and use of ENERGY STAR condenser dryers and washing machines with filtration rates of 100 microns or smaller and develop a program to incentivize post-market retrofits or purchases through rebates and other mechanisms by 2024" (16).

This objective is utilized as part of the legislative intent of AB 1628 (17).

Existing and Supporting Legislation

At committee hearings, federal laws listed in support of AB 1628 were the Marine Plastic Pollution Research and Control Act of 1987 and the Microbead Free Waters Act of 2015 (18).

The Marine Plastic Pollution Research and Control Act of 1987 "…[prohibits] the at-sea disposal of plastic and other solid materials for all navigable waters within the United States" (19).

The Microbead Free Waters Act of 2015 "…prohibits the manufacturing, packaging, and distribution of rinse-off cosmetics containing plastic microbeads" (20).

AB 1629 proponents listed a total of eight California laws on plastic pollution concerning water quality, waste management, and research, including Public Resources Code § 42355, which "declares that "littered plastic products have caused and continue to cause significant environmental harm" and Health & Safety Code § 116376, which requires the State Water Board "to adopt a definition of microplastics in drinking water…a standard methodology to test drinking water for microplastics… [and] testing and reporting requirements (21).

Fiscal Effects

Table 1: Potential fiscal effects of AB 1628 identified by California State Assembly and Senate Committees (22).

Committee
Assembly Committee on Environmental Safety and Toxic Materials

Anticipated Fiscal Effects or Concerns
A potential increase of state procurement costs estimated to be over $150,000

Committee
Assembly Committee on Appropriations

Anticipated Fiscal Effects or Concerns
A potential increase of state procurement costs estimated to be over $150,000

Committee
Senate Committee on Appropriations

Anticipated Fiscal Effects or Concerns
- "Additional staff time to change filters and remove waste"
- "Increased workload"
- Funding the State Water Resources Control Board (SWRCB) report
- Increases in revenue from civil penalties " …may increase state procurement costs by an unknown amount, potentially in the hundreds of thousands of dollars in the aggregate."

Amendments

There were several amendments to AB 1628 that included filtration details, types of washing machines affected, penalties, and inclusion of state reports. Amendments to the code text included:

Table 2: Amendments to AB 1628 that featured changes to the Chapter 11 code (23)

Assembly Amendments

Amendment Date
March 22, 2023
Amendment Changes
- Added filter size – 100 micrometers
- Bill applies only to "new" washing machines
- Must include either a "built-in filter" or "in-line filter"

Senate Amendments

Amendment Date
June 28, 2023
Amendment Changes
- Added instruction label
- Added civil penalties
- Added definition of a washing machine

Senate Amendments

Amendment Date
July 13, 2023
Amendment Changes
- Added certificate of compliance
- Removed civil penalties

Senate Amendments

Amendment Date
September 6, 2023
Amendment Changes
- Removed certificate of compliance
- Removed for commercial use
- Reapplied civil penalties
- Added State Water Resources Control Board report on commercial technology for microfiber filtration

Senate Amendments

Amendment Date
September 8, 2023
Amendment Changes
- Removed State Water Resources Control Board report

Amendments (continued)

The amendment changes from March 2023 – September 2023 reflected concerns about enforcement and compliance. The initial concerns for civil penalties were that enforcement would affect retailers and the amount of civil penalties may be ineffective (24). The Senate Committee on Environmental Quality recommended a certificate of compliance to enforce filter compliance at the manufacturing level instead of at the time of sale (25). However, by September 1, 2023, the Senate Committee on Appropriations reinstated the original civil penalties, and removed the certificate of compliance (26).

Similarly, committee amendments during the Senate Committee on Appropriations removed commercial use from the bill, and instead required the "…SWRCB to report on the best available control technologies to remove microfibers generated during commercial laundry operations" (27).

In the Third Reading during the Senate Floor Analyses, comment #5 expanded on the differences between residential and commercial washing machines that could affect filter efficiency (28). Some of the differences listed included size, usage, and operating hours (29). Additionally, the comments addressed arguments made by laundromat operators concerned with using filters at a "facility level" versus individually in each machine (30).

Comments

Below are some of the comments published by the Assembly Committee on Environmental Safety And Toxic Materials, Senate Committee on Environmental Quality, and Office of the Senate Floor Analyses for AB 1628. The comments explain the need for microfiber filtration from microfiber research in California, efficacy of filters, enforcement questions, and considerations from each committee.

Table 3: AB 1628 comments listed by theme (31).

Economic

Comments

- Filters are effective
- Economical solution

Considerations

- Consumer role and education
- Business information and training materials
- Differences in commercial versus residential washing machines
- Laundromat operators concerns about efficiency of individual filters
- Burden of civil penalties

Environmental

Comments

- Definitions of microplastics and filters
- Microplastics in California water
- Research studies
- Difficulty to remedy microfiber pollution once in wastewater

Considerations

- Public awareness
- Lack of environmental label information
- Plastic use in filter design cited in National Sanitation Foundation International study

Policy

Comments

- Legislative intent
- OPC Statewide Microplastics Strategy
- Easy enforcement
- No additional expertise needed
- California State Water Board should develop a report on filtration capability for commercial laundry

Considerations

- State role
- Effectiveness of civil penalties
- Alternate enforcement

Arguments of Support and Opposition

There were over 60 organizations and professionals listed in support and two organizations in opposition for AB 1628 (32). Below are the arguments of support and opposition for AB 1628.

Table 4: Arguments of support and opposition listed for AB 1628 (33).

Arguments of Support	Arguments of Opposition
• Current microfiber levels in California • Projected microfiber pollution by washing machines • Filters are a: • "near term solution" • "effective at a community scale" • affordable • Adheres to Ocean Protection Council's Statewide Microplastics Strategy • Global microfiber legislation (France, 2020) • Current washing machines with filters on the market	• Clogging of the filter • Potential for not capturing fibers due to clogging • Flooding from clogged filters • Filters cannot capture "fine particles" • Increased energy and water usage • Potential for increased shedding • Maintenance of in-line filters • Filter design that utilizes plastics • Microfiber pollution prevalence in other pathways • Current lack of "standardized test procedure" for filtration • Solutions other than a microfiber filter • Limitations on technology and innovation • Performance focus • Lack of regulation • Differences in commercial use • Potential for filters in building infrastructure

Veto Information

In vetoing AB 1628, Governor Newsom cited ongoing research by the California State Water Resources Control Board that is still determining the impacts of microplastic pollution on aquatic ecosystems and drinking water (34). The Governor cited two concerns of implementing AB 1628:

- Increased consumer cost, and
- The public policy rationale for "new residential requirements" (35).

The Governor advised incentivizing microfiber filtration rather than mandating filter use (36).

Next Steps

Following the veto of AB 1628, Assembly Members Rebecca Bauer-Kahan and McKinnor introduced "AB-2214 Ocean Protection Council: microplastics" in February 2024 (37). This bill seeks to create "…an interagency coordination group to recommend statutory changes and adopt a workplan to implement recommendations from the Statewide Microplastics Strategy," including microfiber filtration systems (38). The authors state that a key goal of AB 2214 is to address "washer/dryer microfiber filtration systems," and that the "…recommendations for achieving this goal outlined by Governor Newsom will likely come out of this advisory group" (39).

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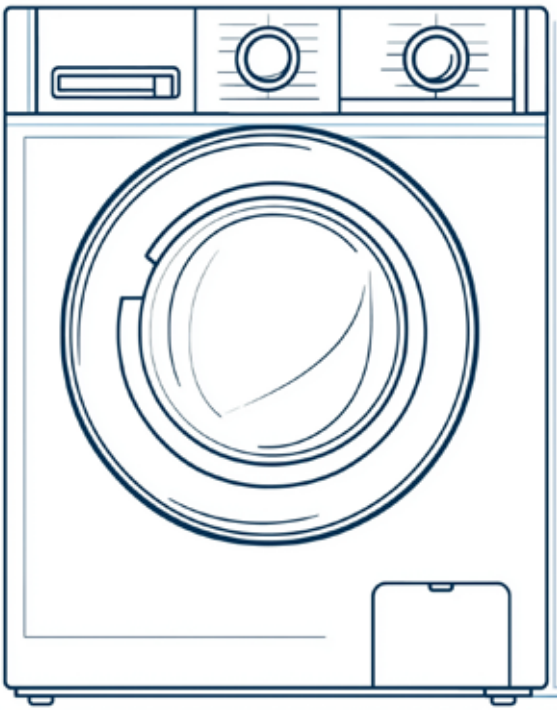

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