

Town of Brookline

PFAS Moderator's Committee

DRAFT Report

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Brookline, MA

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Background

Warrant Article 22 of Brookline's Spring 2022 Town Meeting proposed a ban on the sale of those products that contain fluorinated hydrocarbons (PFAS) within certain categories of goods (personal care and cosmetics, foods packaged in bulk, non-stick cookware and fabric treatments, as well as any other PFAS-containing products identified by the Town's Select Board, to be specified in regulations. The warrant article was intended to mirror what many states are now doing to restrict PFAS, and to provide support for any legislation being considered at the state level in Massachusetts, with the overarching purpose of reducing the risk of exposure to people and the environment of this harmful chemical.

Each of the PFAS product categories encompasses many different products and product lines, and there is no requirement that the product labels identify whether a product contains PFAS. More frequently than not, the product packaging carries little or no information; and manufacturers, when contacted, do not always provide accurate information. Thus, Brookline's retailers, and particularly the smaller stores, would lack the ability to identify which of the many items for sale within these categories contain the prohibited chemicals. Moreover, Brookline's Department of Public Health and Human Services has limited staffing, which makes enforcement difficult to do properly, given the range of potentially banned products and the challenges in identifying them.

Sigalle Reiss, the Director of the Department of Public Health and Human Services, recommended that a first step might be to narrowly target products or businesses that expose people to the highest concentrations of fluorinated hydrocarbons. Another approach suggested by Reiss is to educate the public about the dangers of fluorinated hydrocarbons prior to implementing restrictions on the sale of products that include them.

Given the concerns about compliance and enforceability of the Warrant Article and the option of other approaches, Town Meeting voted to establish a Moderator's Committee to evaluate whether and if so, what types of restrictions are feasible to implement and enforce at the Town level. See the next section to read the Charge by the Moderator to the Moderator's Committee on PFAS. The 2022 Warrant Article 22 can be found in Appendix 1.

This preliminary report, which is being submitted to the Spring 2023 Town Meeting, is to be followed by a final report and possibly also a warrant article for the 2023 Fall Town Meeting.

Moderator's Charge

Article 22 of Brookline's May 2022 Annual Town Meeting sought to amend Article 8 of Brookline's Health and Public Safety By-Laws to restrict the sale and distribution of products containing fluorinated hydrocarbons or PFAS (Per- and Polyfluorinated Alkyl Substances) in Brookline, including:

- Over-the-counter cosmetic or personal care products
- Bulk packaged items, including food ware products
- New non-stick cookware
- Fabric-treatment products

Article 22 was referred to a Moderator's Committee (hereinafter the "PFAS Moderator's Committee") to determine whether it is possible to develop a workable and effective by-law restricting the sale and distribution of PFAS products in Brookline.

Issues to be considered by the PFAS Moderator's Committee shall include, but are not limited to, the following:

1. Given that product packaging does not always identify whether a product contains fluorinated hydrocarbons, what reasonable measures can be taken to identify non-labelled products?
2. Who should be responsible for identifying non-labelled products containing fluorinated hydrocarbons?
3. If restrictions on the sale and distribution of products containing fluorinated hydrocarbons are imposed, how should these restrictions be enforced and by whom?
4. Should penalties be imposed on entities that violate a Town bylaw restricting the sale or distribution of products containing fluorinated hydrocarbons? Who will monitor compliance and enforce penalties? How will this be funded?
5. What exemptions should be applied (e.g., for the food service industry) to any restrictions on the sale and distribution of products containing fluorinated hydrocarbons?

The PFAS Moderator's Committee shall prepare a Preliminary Report to Brookline Town Meeting by the May Annual 2023 Meeting summarizing its preliminary conclusions relating to possible restrictions on the sale and distribution of products

containing fluorinated hydrocarbons. It shall submit a Final Report to Town Meeting by the November 2023 Special Town Meeting containing its final conclusions and recommendations regarding possible restrictions on the sale and distribution of products containing fluorinated hydrocarbons in Brookline. In addition, if the Final Report recommends amendments to Town bylaws, the Final Report shall include one or more proposed warrant articles relating to these recommended amendments.

Kate Poverman
Brookline Town Moderator
August 28, 2022

What are PFAS chemicals?

Per- and poly-Fluoroalkyl Substances (PFAS), a class of thousands of human-made substances, contain at least one fully fluorinated methyl or methylene carbon atom (NIH, 2023). These substances were first created in the 1930s and commercialized in the 1940s and 1950s. PFAS are often used to manufacture a broad spectrum of products to make them non-stick, water- and stain-resistant, and fire-retardant. According to the Agency for Toxic Substances and Disease Registry, PFAS are in a variety of consumer products including firefighting foam; fast food containers/wrappers; nonstick cookware; fabrics with stain resistant coatings that are often in carpeting and furniture; water resistant clothing; cleaning products; personal care; cosmetics; and paints (2021).

PFAS can enter the environment through production, waste streams and the air, and are very persistent in the environment. Because these chemicals persist and are water soluble, they can be found in contaminated drinking water and soil. Not only can PFAS enter the body by drinking contaminated water, but also by eating fish from contaminated bodies of water. They can also enter the body by inhalation and dermal exposure to products that contain PFAS (United States Environmental Protection Agency, 2021). Another area of exposure is to workers who manufacture or work with products containing PFAS (e.g., chemical manufacturers (Heydebreck, et al., 2016), firefighters (Rotander et al., 2015), and ski wax technicians (Freberg et al., 2010)).

Due to the strong bonds between the carbon and fluorine atoms within PFAS chemicals, they break down very slowly, and it is this attribute that has made them so useful. But these strong bonds also result in their accumulation and persistence in the body and in our environment. For this reason, PFAS are often referred to as “forever chemicals.”

Bioaccumulation of PFAS within the human bloodstream has been associated with a number of adverse chronic health outcomes. Current research evidence suggests a high certainty of the association between PFAS exposure and delayed mammary gland development, reduced response to vaccines, low birth weights, thyroid disease, increased cholesterol levels or metabolic disease, liver damage, kidney cancer, and testicular cancer (CDC, 2023). Additionally, there is developing but inconclusive evidence that shows potential for PFAS exposure to be linked to obesity, early puberty onset, low sperm count and mobility, breast cancer, irritable bowel syndrome and ulcerative colitis (IBS), increased time to pregnancy, and pregnancy induced hypertension or preeclampsia (ATSDR, 2021).

Previously it was thought that only “long-chain” PFAS (those with higher numbers of carbon atoms) were harmful to the body. The most common of these, PFOA and PFOS, are no longer used in manufacturing in the United States – though they are still used in some other countries - and often replaced with “short-chain” PFAS, i.e., those with fewer carbon atoms. These PFAS compounds, termed “PFAS-light,” were thought to

be less harmful. Current research has shown, however, that these forms of PFAS are also harmful.

PFAS Products

There are a wide range of products on the market that contain organofluorine chemicals, also known as fluorinated hydrocarbons, a large subclass of which are known as PFAS. Example of fluorinated chemicals that are not generally considered a PFAS:

- Aerosol spray propellants (such as 1,1-Difluoroethane also known as hydrofluorocarbon-152a);
- Refrigerants used in refrigerators or air conditioners (such as Difluoromethane and Pentafluoroethane).

Fluorochemical products are used by all types of customers such as industrial, commercial/institutional, and consumer. There are two ways that PFAS chemicals end up in final products: either intentionally added, such as when waterproofing is desired; or unintentionally, such as contamination from manufacturing or packaging.

The Town departments, such as Schools Food Services, Public Buildings, and Public Works, are commercial product customers. Our charge has been for products available to individual consumers, especially those items that are sold by Brookline retailers. Consumer product categories that may use organofluorines include air conditioners, cosmetics, non-stick cookware, apparel treatments, lubricants, and sealants.

Whether or not PFAS is an ingredient of a product may or may not be provided by a manufacturer. When the information is provided, it would be in one of the following three forms:

- The ingredient list on the package.
- Safety data sheet (SDS - formerly MSDS). This applies mainly to potentially hazardous materials, usually liquids or sprays, that might be exposed to humans when applied or spilled.
- The PFAS is in the product name (for example, "Thread Sealant With PTFE").

A PFAS chemical may be listed as an ingredient in either of two ways on the package or an SDS:

- a specific chemical (such as perfluorodecalin, PTFE or PCBTF).
- a chemical category is listed (usually with the prefix "fluoro-" as in "fluoro-resin").

However, many if not most products that intentionally contain PFAS do not list it as an ingredient because the manufacturer wants to protect trade secrets or because the amounts are a very small percentage of the product's ingredients. Paints and paper products, for example, do not appear to list any fluorocarbons as an ingredient.

Identifying PFAS products will become easier as Maine implements its new statute that requires suppliers to publicly disclose all PFAS products. Maine intends to use a public database to list these products.

Products with intentionally added fluorinated chemicals can be used or sold by a variety of retail businesses. Stores and services providers that *use* PFAS products include food establishments and nail salons. Stores that *sell* products containing fluorinated chemicals include hardware stores, pharmacies, beauty salons, and locksmiths.

Appendix 2 lists some representative retail products that are available in Brookline stores or online.

DPH Initiatives

The Town of Brookline Department of Public Health and Human Services aims to limit resident's PFAS exposure through community education and consumer awareness. The Department is currently focused on making information on PFAS easily accessible in order to provide residents with the knowledge they need to make informed decisions about their health and how to limit their exposure. As part of its efforts, DPH has done the following:

- DPH has created a series of education content pieces that include flyers, videos, and social media infographics that are aimed to engage and educate a broad audience.
- DPH has launched a webpage on the Town website that contains PFAS information and resources, which is continuously developing.
- DPB is collaborating with local organizations and public health professionals to participate in information session webinars discussing PFAS and its potential harms. This allows for a more in-depth PFAS presentation where attendees are provided with expert answers to questions and concerns regarding PFAS, exposure, and health outcomes.
- DPH plans to work with the Economic Development Department to conduct a business survey. The findings will inform future PFAS education and outreach efforts through flyers and webinars cohosted by DPH and Economic Development.

Discussions with Town Departments

The Committee decided that it would be useful to address PFAS exposure in products used by the Town and whether there are actions that can be taken to lower such exposure in the future. We compiled a list of departments that would most likely have products that contain PFAS and we met with the following department heads and the Town Chief Procurement Officer, whose division does purchasing for several departments.

- John Sullivan, Chief, Fire Department
- Sasha Palmer, Director, School Food Services
- Charlie Simmons, Director, Public Buildings
- David Geanakakis, Chief Procurement Officer, Purchasing Division

The Committee hope to meet with some other departments, but these will not occur prior to submission of this Preliminary Report.

Presented below are some of the findings from our meetings, as well as information learned from a tour of some of the kitchens and storage areas used by the School Food Services. Appendix 4 provides the general list of questions we discussed. Recommendations derived from the discussions are presented in the Recommendations section of this report.

Fire Department

The products containing PFAS that have been most frequently regulated in other states are those used by fire departments. There are two major classes of products that use PFAS:

- Fire-fighting foam; and
- Personal protective gear.

Fire-fighting foam has included PFAS, as has the personal protective gear worn by firefighters. There are two types of foam – Class A and Class B. Class A foam is used to fight most fires that occur in Brookline. It contains a detergent-like substance that makes water better able to penetrate combustible material. This foam has not contained PFAS. Class B foam is used for hydrocarbon fires, which are combustible liquid fires,

such as those involving flammable petroleum products, and are most frequently used at highway and airport fires. These products do not mix with water and so require a different mechanism to extinguish the fire. For this reason, Class B foam has had PFAS as an ingredient, allowing the foam to smother a fire. Since the early 2000's, fire departments have switched from PFOA and PFOS to different types of PFAS (sometimes called "PFAS-light" foams), but recent research indicates that these PFAS foams are also harmful.

Massachusetts has not provided any regulatory or statutory restriction on the use of PFAS, either in foams or in personal protective gear, and to date there is no personal protective gear without PFAS that meets standards for safe use in fire-fighting situations, although non-PFAS Class B foams are available.

The firefighting industry has been working hard to create alternative protective clothing, and as soon as they become available, Chief Sullivan will work to replace the current PFAS-containing gear. To do so, however, will be costly – the estimated to cost is \$7,000 per firefighter. In the meantime, modifications have been implemented to reduce the possible exposure to PFAS. Firefighters no longer wear their PFAS-containing gear when they are responding to EMT calls, and when firefighters return from a fire, their gear is washed in an extractor, whereas in the past, such gear would not have been washed. Firefighters then take long showers to remove the hazardous contaminants from their bodies, of which PFAS is only one. The showers in the current fire stations, however, have porous floors in which PFAS molecules can be trapped. This will no longer be the case in the new stations. An additional problem from the perspective of overall contamination is that the contaminated water from the extractors and showers goes directly into the sewer system.

The Class B foam used by the department has contained PFAS. It is very infrequent, however, that firefighters will be called to a Class B fire. In the past 30 years, there were apparently only two such fires. PFAS-containing foam had been used for training purposes on a regular basis, but this is no longer the case. Although it has not been used for training for several years, it is possible that the soil near the training facility may be contaminated. The soil has not been tested to determine whether this is the case.

Following the Committee's meeting with Chief Sullivan, he was able to locate some funding in his budget to enable the purchase of Class B foam that is PFAS-free. This means that firefighters will no longer use PFAS-containing foams for any purpose. The legacy PFAS foam nonetheless must still be stored by the fire department, the cost of disposing of it is expensive. Moreover, according to Chief Sullivan, the only facility to which PFAS foam can be sent to have it destroyed is located in Canada, and there is

huge demand for its services. The Town, like others in Massachusetts, is hoping that the federal government will enact legislation to again fund disposal by municipalities.

Brookline Public Schools Food Services

Food preparation, storage and serving all can benefit from the attributes of PFAS that have made the chemical so popular, in particular, flame retardance, water and grease resistance, and surfactant qualities. This has meant that many products used in food services contain PFAS. BPS Food Services (FS) has worked hard to minimize the use of such products for such purposes, working together with both Mothers Out Front and environmental student organizations. FS has also recently obtained a one-year grant for a sustainability coordinator to implement sustainability goals, including maximizing the use of compostable and reusable products.

All baking and cooking, apart from pizza provided to one of our schools, is done in-house, and the cookware is almost all made of stainless steel or aluminum. This has meant that we do not have to be concerned with the packaging of food prepared elsewhere, apart from the one school's pizza delivery containers. Pan liners made of parchment are used for cooking and baking, and the Director thinks that they are PFAS-free, but she will have to confirm this.

During the period when COVID forced the Town to take extraordinary sanitary measures, reusable dishware and silverware were not used by FS. More recently, FS has been working hard to use only reusable dishes and silverware for food eaten in the cafeterias. To be able to use reusable dishware and silverware requires the availability of adequate dishwashers and the employment of enough kitchen staff to operate the dishwashers. FS obtained a grant to help purchase dishwashers, though Pierce still does not have a functioning one. The biggest challenge continues to be the hiring of staff to man the dishwashers.

In addition to serving meals that are eaten in the cafeterias, PBS FS offers "Grab and Go" food items. These are provided in recyclable or compostable containers. The Director has worked with Mothers Out Front to locate trays and dishes that are compostable. Many of them are certified compostable by the Biodegradable Products Institute (BPI), which is the premier organization to certify compostability; but only those products that underwent the certification process starting on January 1, 2020 are also certified to be PFAS-free. We do not know which of the items currently in stock were certified after that date.

Most food storage containers are made of aluminum, though there are still some plastic storage containers being used. Some of these are recyclable and some are BPI-certified compostable, but as with Grab and Go products, we do not know which of those currently in stock were certified after January 1, 2020 and so certified PFAS-free. In addition, some storage containers are neither recyclable or compostable.

Cleaning products used by FS should all be PFAS-free, since all Town departments are required to purchase only those cleaning products that are Green Seal certified. Prior to June 2022, Green Seal standards prohibited all long-chain PFAS to be certified, but starting at that time, certified products have had to be free of all forms of PFAS, whether long or short chain.

The biggest obstacle for the Director in ensuring that all FS products are PFAS-free, as well as either reusable or compostable is the restriction on sourcing options. Brookline is in a consortium with 300 other school systems – the “Massachusetts Buying Group” and we must purchase products from vendors with which the consortium has contracts. Brookline appears to be ahead of many of the other municipalities in the consortium when it comes to seeking out sustainable products. With less demand by others for such products, finding such products is difficult and purchasing is costly. The Director is working to get more municipalities interested in obtaining such products.

The Director has identified a potential vendor in western Massachusetts who, she was informed, would be able to provide whatever types and quantities of BPI-certified products that our FS would request. The company is providing a demonstration of their work for Brookline, and the Director is inviting other school systems to attend.

Public Buildings Division of the Building Department

Public Buildings is responsible for the construction and maintenance of many of the Town’s buildings, using products that likely have PFAS. The issue of PFAS, however, is a relatively new concern for the department, and has also not been a topic of discussion in the Director’s meetings with corresponding departments in other municipalities. The Director contacted his colleagues in Wellesley and Newton, and neither have taken specific measures regarding PFAS.

The Town had been purchasing hand soap that contained PFAS. It was discovered from the Safety Data Sheet (SDS) form on the packaging of the soap, and so that soap has now been replaced by a non-PFAS containing soap.

In preparation for the meeting with the Committee, the Director contacted numerous suppliers to determine the extent to which PFAS is used in the construction and maintenance of our buildings. Cleanco, the cleaning supplies company used by the Town, may not yet be providing cleaning supplies that have up-to-date Green Seal certification and so may not necessarily be PFAS-free. This must still be determined, and if the certification for a product is not up to date and it does contain PFAS, replacements should be pursued. Floor wax and floor strippers have contained PFAS.

According to our paint supplier, none of the paint the Department purchases contain PFAS, including those paints from Sherwin Williams and Benjamin Moore. The supplier is based in California and so is aware of PFAS because of that State's recent legislation to ban many products that contain PFAS.

Some of the carpeting and flooring does contain PFAS, and our supplier will investigate the possibilities for PFAS-free carpeting.

Fire extinguishers are purchased for new buildings and replaced every 6-12 years. The Director reached out to Keene Fire and Safety, the company that provides the fire extinguishers for the Town to see whether any of the fire extinguishers provided to the Town, use PFAS-containing foams. At the time of the meeting, the information was not yet available, but subsequently the Director learned that none of the Town's fire extinguishers – whether in buildings or in garages – contain PFAS.

A variety of other construction and maintenance products may also have PFAS, for example, roofing and window coatings, about which the Committee does not yet have information.

The Department is starting to do some masonry work at Lincoln School. The Director will investigate whether the sealant used contains PFAS. He also will also inquire as to whether any of the flooring or carpeting being used for the Driscoll project contains PFAS. If so, we could use different products for new school projects. It was noted that the Town, in general, is using less carpeting and more hard flooring.

Harvard University has recently implemented a policy to prohibit the use of products containing PFAS as part of the construction and maintenance of the university's buildings. To comply with this new policy, Harvard's Building Department is purchasing custom-made products. The Director will find out which of the products Harvard is now purchasing and the associated cost, which will presumably be high for those products that are custom-made.

Purchasing Department

According to Dave Geanakakis, the Town's Chief Procurement Officer, in all likelihood, every one of the Town's departments is purchasing components containing PFAS, given the many purposes for which PFAS are useful, for example, in waterproofing. The biggest challenge to procuring products that are PFAS-free is the lack of information available to be able to identify which products do and do not contain PFAS. At the time of our meeting, Mr. Geanakakis had only discussed this issue with the Fire Chief. He pointed out that it is easy to find out information on whether firefighting foam and other fire-fighting equipment has PFAS, but this is not the case for other areas of purchasing.

To his knowledge, no municipality in the State has passed legislation to restrict the use of PFAS.

Mr. Geanakakis is aware of pending legislation at the State level to restrict the use of PFAS, and he, like other procurement officers in the State, are looking to this legislation to lead the way on the PFAS issue.

In the meantime, it was suggested that for those products that have an attached Safety Data Sheet (SDS), these could be examined to try to ascertain whether PFAS is an ingredient. It may not be obvious from the ingredients list on a product's SDS whether the product contains PFAS, but if certain components are listed, they likely would be PFAS. For example, any ingredient with "fluoro" as part of the name is most likely a PFAS chemical.

While Driscoll furniture purchases have already been done, Mr. Geanakakis suggested that he could contact WB Mason, the Town's local supplier of furniture to obtain some basic information and use that information to make purchasing decisions for Pierce School furniture, assuming the new Pierce School is approved.

Mr. Geanakakis has informed all the Town's suppliers of cleaning materials that they must be Green Seal certified to comply with our Town's by-laws. And now any company contracting with the State is no longer allowed to provide non-Green Seal certified products if they are available. Because Green Seal certified products need not have been PFAS-free until only recently, the Town would have to ask suppliers whether the Green Seal certification for individual products is a recent one.

Brookline purchases products in bulk together with other of the State's municipalities. If Brookline works together with other towns to request PFAS-free products, or if the State does so, that will encourage a change in production by manufacturers. With volume comes more power to ask for change in the types of components used. Mr. Geanakakis said he would bring this up in his quarterly meeting with other procurement officers.

The Committee learned that the town of Barnstable uses RFPs that ask for information about the inclusion of PFAS in its products. It was suggested that Brookline's procurement process incorporate the same practice when issuing RFPs.

Survey of Legislative Activities across the US

Awareness of the dangers of PFAS exposure have spurred many states over the last several years to enact legislation to reduce PFAS in products. Massachusetts has not yet passed any legislation in this area although bills have been submitted. There is a submitted bill in the 2023 legislative session that addresses PFAS exposure and management.

One of the most active states in addressing the PFAS exposure issue is Maine. The following paragraph is from the [Maine Department of Environmental Protection](https://www.maine.gov/dep/spills/topics/pfas/PFAS-products/) (<https://www.maine.gov/dep/spills/topics/pfas/PFAS-products/>):

In July 2021, Public Law c. 477, An Act To Stop Perfluoroalkyl and Polyfluoroalkyl Substances Pollution (LD 1503, 130th Legislature) was enacted by the Maine Legislature. This new law requires manufacturers of products with intentionally added PFAS to report the intentionally added presence of PFAS in those products to the Department beginning January 1, 2023. The law also prohibits the sale of carpets or rugs, as well as the sale of fabric treatments that contain intentionally added PFAS beginning on January 1, 2023. Effective January 1, 2030, any product containing intentionally added PFAS may not be sold in Maine unless the use of PFAS in the product is specifically designated as a currently unavoidable use by the Department.

Among the key drivers in the PFAS effort in Maine are levels of these substances in drinking water, surface waters, agricultural sites, and landfills.

Among the sources of PFAS that many states, including Maine, have identified are firefighting foam, fabric and rug treatments, and some cosmetic and personal care products.

Although the Maine legislation was to have become effective on January 1, 2023, one-thousand nine-hundred (1,900) companies received an extension in December 2022. More information about the extension (and the full list of companies) is provided [here](https://www.mainepublic.org/environment-and-outdoors/2023-01-03/maine-has-given-hundreds-of-companies-more-time-to-report-pfas-in-products) (<https://www.mainepublic.org/environment-and-outdoors/2023-01-03/maine-has-given-hundreds-of-companies-more-time-to-report-pfas-in-products>).

The US Environmental Protection Agency maintains a listing of what states are doing to manage and mitigate the effects of PFAS. The informational link is provided [here](https://www.epa.gov/pfas/us-state-resources-about-pfas) (<https://www.epa.gov/pfas/us-state-resources-about-pfas>). At the current time, there are twenty (20) states listed that have passed PFAS legislation of some type.

A website provided by UL Solutions (formerly Underwriter's Laboratories) provides a [list](#) of twenty-two (22) states with some PFAS legislation (Massachusetts is absent). The table lists progress in these states in three (3) areas:

- Use of Class B firefighting foam for training or testing
- Use of Class B firefighting foam for real use
- Food packaging

Note: Class B firefighting foam is used for ignitable liquids including gasoline, oil, and other petroleum-based spills. The [Michigan PFAS Action Response Team](https://www.michigan.gov/pfasresponse/investigations/firefighting-foam) (<https://www.michigan.gov/pfasresponse/investigations/firefighting-foam>) provides an excellent resource on PFAS and firefighting foams.

The states with legislation passed for all three areas include CO, HI, MD, NY, VT, and WA. The earliest legislation (for Class B firefighting foam used for training) became effective in 2018 in WA.

A summary of PFAS legislation across the United States:

California

Effective January 1, 2023, restricts the distribution, sale, or offer for sale of PFAS-containing food packaging ([Assembly Bill 1200](https://legiscan.com/CA/text/AB1200/id/2435956) - <https://legiscan.com/CA/text/AB1200/id/2435956>). The bill would require a manufacturer to use the least toxic alternative when replacing regulated perfluoroalkyl and polyfluoroalkyl substances or PFAS in food packaging to comply with this requirement. The bill would define "food packaging," in part, to mean a nondurable package, packaging component, or food service ware that is composed, in substantial part, of paper, paperboard, or other materials originally derived from plant fibers. "Food packaging" means a nondurable package, packaging component, or food service ware that is intended to contain, serve, store, handle, protect, or market food, foodstuffs, or beverages, and is comprised, in substantial part, of paper, paperboard, or other materials originally derived from plant fibers. "Food packaging" includes food or beverage containers, take-out food containers, unit product boxes, liners, wrappers,

serving vessels, eating utensils, straws, food boxes, and disposable plates, bowls, or trays.

This bill would require, beginning January 1, 2024, a manufacturer, as defined, of cookware, as defined, sold in the state that contains one or more intentionally added chemicals, as defined, present on a designated list, as defined, in the handle of the product or in any product surface that comes into contact with food, foodstuffs, or beverages to list the presence of those chemicals on the product label, as defined, and include a statement on the product label and on the product listing for online sales, in both English and Spanish, regarding how a consumer can obtain more information about the chemicals in the cookware, as provided.

Further, as of January 1, 2025, the manufacture, sale, delivery, hold, or offer for sale of any cosmetic product that contains intentionally-added PFAS ingredients will be prohibited (except under specified circumstances).

Colorado

[House Bill 22-1345](https://leg.colorado.gov/bills/hb22-1345) (<https://leg.colorado.gov/bills/hb22-1345>) deals with the distribution, sale, or offer for sale of food packaging and juvenile products (the legislation lists 25 product categories), oil and gas products, carpets or rugs, and fabric treatments containing intentionally-added PFAS ingredients. These restrictions become effective as of January 1, 2024.

Further, as of January 1, 2025, cosmetics, indoor textile furnishings, and indoors upholstered furniture with intentionally-added PFAS chemicals become prohibited. An exception for medical offices was included for the indoor upholstered furniture. Outdoor textile furnishings and outdoor upholstered furniture become prohibited as of January 1, 2027.

Connecticut

Based upon Public Act 21-191, effective December 21, 2023, no food packaging to which PFAS has been intentionally introduced during manufacturing or distribution shall be offered for sale or used for promotional purposes.

Hawaii

Based upon BH 1644 and effective July 1, 2022, the bill bans the manufacture, sale, or distribution for sale of certain food containers (wraps and liners, plates, food boats,

pizza boxes) and firefighting foams that contain perfluoroalkyl and polyfluoroalkyl substances, in certain circumstances.

Maryland

Effective January 1, 2024, based upon House Bill 275, prohibits a person from manufacturing, selling, or distributing rugs or carpets that contain intentionally added PFAS; a manufacturer or distributor from manufacturing, selling, or distributing food packaging that contain intentionally added PFA intended and that will have direct food contact, and Personal Protective Equipment (PPE) containing PFAS that is sold in the state, the seller must provide written notice to the purchaser at the time of the sale that the personal protective equipment contains pfas chemicals; and the reason for the PFAS being contained in the equipment.

House Bill 642, effective January 1, 2025, would prohibit a person from knowingly manufacturing, selling, delivering, holding a cosmetic product that contains itemized types of PFAS; providing that a person is not in violation of the Act if the cosmetic includes a technically unavoidable trace quantity of a prohibited chemical. The Act is to be construed in a manner that is consistent with the prohibition of the same intentionally added ingredients in cosmetics enacted by the European Union under European Parliament and Council Regulation No. 1223/2009.

Minnesota

Law S.F. 73 would prohibit packaging for cannabis flower, cannabinoid products, and hemp-derived consumer products from containing or being coated with any PFAS.

Law H.F. 359, enacted in 2019, would ban the manufacture and sale of halogenated, phosphorus-based, nitrogen-based, and nanoscale flame retardants in residential upholstered furniture, children's products, and residential and business textiles. The legislation also prohibits the manufacture and sale of PFAS-containing firefighting foam.

On May 9, 2023, AP News reported that Minnesota is preparing for a near-total ban on non-essential uses of “forever chemicals”. Amara’s Law” (named for a young woman who developed liver cancer (partly due to toxic drinking water and died just shy of her 21st birthday) will “allow only limited exceptions to the ban, such as firefighting foam used at airports and oil refineries and in protective clothing for firefighters. It also will require companies to disclose if the products they sell in Minnesota contain the chemicals. The ban would take effect in 2025 for a long list of products including carpets, cleaning products, cookware, cosmetics, dental floss, fabrics and fabric

treatments, furniture, products for children, menstruation products and ski wax.”
(<https://apnews.com/article/minnesota-legislature-environment-pfas-cancer-7a194069979e3b91a45afd37849a5521>)

Nevada

Assembly Bill #97, as amended by Amendment 497 and effective as of July 1, 2022, prohibits , with certain exceptions, the knowing manufacture, sale, or distribution for use of the following products containing any flame-retardant organohalogenated chemical in any product component in amounts greater than 1,000 parts per million:

- Children’s products
- Upholstered residential furniture
- Residential or business textiles
- Mattresses

New Hampshire

Legislations including rulemaking Nos. He-P 2101.01, He-P 2102.02, He-P 2102.5, He-P 2107.01 would require bottled water manufacturers to report PFAS levels, among other chemicals, in water when applying for or renewing beverage licenses, based on standards under federal regulations.

New York

Based upon the following legislation: Food Packaging (12/31/2022) - Senate Bill S8817, this bill would ban the entire class of PFAS chemicals from food packaging containers used in New York. Washington State signed similar legislation into law in April 2018. Further, no person shall distribute, sell or offer for sale in this state food packaging containing perfluoroalkyl and polyfluoroalkyl (pfas) substances as intentionally added chemicals.

Rhode Island

Based upon S.2044/H.7438, the sale or promotional distribution of any food package containing perfluoroalkyl and polyfluoroalkyl substances (PFAS) is prohibited effective January 1, 2024. Further, effective January 1, 2024, no food package to which PFAS have been intentionally introduced during manufacturing or distribution in any amount shall be offered for sale or for promotional purposes by its manufacturer or distributor in the state. There shall be no detectable PFAS in any food package or food packaging component.

Vermont

Effective October 1, 2023, based upon Chapter 33B and 33C of Act Number 36, a manufacturer, supplier, or distributor shall not manufacture, sell, offer for sale, distribute for sale, or distribute for use in this State a food package to which PFAS chemicals have been intentionally added and are present in any amount: Chapter 33b. PFAS in rugs, carpets, and aftermarket stain and water resistant treatments, Chapter 33c. PFAS in ski wax.

Washington

Food packaging, based upon Law 70A.222.070, effective January 1, 2022 would initiate the prohibition to control the manufacture, sale, or distribution of certain food packaging. The planned process is for the Department of Ecology to research safer alternatives followed by publication of findings, followed by a Report to the legislature that would then lead to the development of prohibition effective dates contingent on findings.

Legislation under Consideration in Massachusetts

Senator Julian Cyr (D-Cape and Islands) and Representative Kate Hogan (D-3rd Middlesex - Bolton, Hudson, Maynard, Stow) co-chaired a state PFAS Task Force (<https://budget.digital.mass.gov/summary/fy21/outside-section/section-98-pfas-task-force>). In 2022, the PFAS Interagency Task Force released a report with 30 recommendations in the areas of:

- funding PFAS detection and remediation,
- supporting environmental justice communities,
- phasing out PFAS from consumer goods,
- expanding the regulation of PFAS,
- encouraging private well PFAS testing and remediation,
- supporting firefighters and fire departments,
- addressing accountability for PFAS contamination, and
- enhancing public awareness of PFAS (2022).

Senator Cyr and Representative Hogan are sponsoring a bill: An Act to Protect Massachusetts Public Health from PFAS, [S. 1356](#) / [H.2197](#), that is based in part on the work of the PFAS Task Force. The bill is summarized by the Massachusetts Breast Cancer Coalition (<https://mbcc.org/pfas-an-act-to-protect-massachusetts-public-health-from-pfas/>) as follows:

“Toxic per- and polyfluoroalkyl substances (PFAS) are widely used in consumer products and industrial applications. These substances are in the blood of almost every American tested and are in Massachusetts water, soil, and wildlife. This bill:

- Phases out PFAS in all products by 2030,
- Sets an earlier deadline (January 1, 2026) for the elimination of PFAS in food packaging, children’s products, fabric treatments, carpets and rugs, upholstered furniture, personal care products, cookware, and firefighters’ personal protective equipment,
- Establishes a PFAS Remediation Trust Fund to help communities address PFAS contamination in soil, groundwater, and drinking water,
- Directs the Department of Environmental Protection (DEP) to restrict industrial releases of PFAS,
- Limits certain uses of PFAS-containing firefighting foam.”

The bill has been referred to the Joint Committee on Public Health and is awaiting a hearing (as of May 15, 2023).

Some other states also have proposed legislation, and the remainder may be waiting for federal guidelines or legislation.

Recommendations

The Town can consider addressing PFAS reduction through the following methods:

- Town Purchasing
- Education and Outreach
- Town regulation of Sales

Purchasing by Town Departments

Fire Department

- Monitor for approval of PFAS-free firefighting gear. Once approved, funding will be needed to replace the old gear containing PFAS.
- Monitor for state-funded programs to remove old PFAS-contaminated foam currently stored by our fire department; and/or monitor for more reasonably priced options for the Town itself to eliminate this stored foam than is currently available.
- Evaluate soil near the training site on Hammond Street to determine the current extent of PFAS contamination, and if warranted, remove the contaminated soil. (Such a project would not necessarily be under Fire Department purview.)

Schools Food Services

- Check to what extent the BPI-certified compostable products currently used by FS were certified after 2019, which is when BPI started requiring products to be PFAS-free to qualify for certification.
- Ensure that the still-to-be-hired Sustainability Coordinator is well-informed about PFAS and include as part of their responsibilities the review all products used by FS to determine which might have PFAS and could be replaced by PFAS-free products and the research regarding sources that can provide such products.
- Continue to work with FS in other communities within our consortium to use vendors that can provide compostable and PFAS-free products.

- Determine which of the plastic storage containers contain PFAS and whether the parchment used as pan liners and the paper trays used by FS are PFAS-free.
- Determine whether the uniforms worn by kitchen staff have PFAS as an ingredient, and if so whether it is possible to obtain PFAS-free uniforms that meet safety requirements from the perspective of fire-retardancy.
- Replace any black plastic serving spoons with stainless steel.

Public Buildings

- Follow up on Harvard University's implementation of its PFAS-free policy for the construction and maintenance of its buildings.
- Follow-up with CleanCo, which supplies cleaning products to the Building Department, to determine which products have been Green-Seal certified under the more recent certification standards, and if not, to provide alternative Green Seal certified products if they are available.
- Work with the Purchasing Division, the BPS Buildings director, and the Director of the Town's Sustainability Office to determine which products used in the construction and maintenance of buildings and furniture contain PFAS (e.g., flooring types, furniture, cleaning supplies, sealants, wax, roofing, window coatings, etc.) and investigate alternatives. Consider the use of non-fluorinated refrigerants where available.

Purchasing Division

- Meet with other departments to educate them about PFAS and work together to find ways to minimize the purchasing of products containing PFAS.
- Follow up on contacting suppliers of furniture purchased recently by the Town to ascertain which have PFAS and whether there are PFAS-free alternatives for future purchases.
- Follow up on discussing PFAS-free purchasing with other municipalities at the quarterly meetings of municipal Procurement Officers, and work with colleagues

in those communities that are also interested in PFAS-free purchasing, such as Newton, Cambridge, and Somerville.

- Include language in municipal purchasing documents to request PFAS-free products.

Education and Outreach

Department of Public Health

- Provide training to Town Department staff regarding PFAS chemicals, their possible use in products currently used by different departments, and options for alternative products.
- Support other town departments in identifying PFAS-free products.
- Provide training, possibly in coordination with the Planning Department, to sellers and service providers on PFAS, including the means of identifying products containing PFAS and resources for the wholesale purchase of PFAS-free equivalent products (e.g., toxicfreefuture.org, which provides guidance for retailers).
- Continue to share updated factsheets for consumers that provide resources (e.g., websites such as greensciencepolicy.org) to help consumers in their purchasing decisions.

Restrictions on Sales of Consumer Products that Contain PFAS

To provide guidance on the most appropriate proposal for a future Warrant Article that restricts sales of consumer products containing PFAS in Brookline, the Committee researched what other states have done. The Committee was interested in surveying what other communities have done, but to date we have not found any activity underway at the local level. The Committee also has looked at websites and databases that could help identify which products might be sensible to ban, and we have asked for recommendations from others, including the Office of State Representative Kate Hogan, which has filed the current state legislation that would require a broad restriction on products that contain PFAS. The Committee is still deciding, based on its research, whether to recommend a Warrant Article, and if so, which restrictions should be included.

Appendices

Appendix 1 - Warrant Article 22 of the Spring 2022 Town Meeting

ARTICLE 22 TWENTY-SECOND ARTICLE

Submitted by: Clint Richmond TMM6, Claire Stampfer, Deane Coady

To see if the Town will amend the General Bylaws by adding the following Article:

ARTICLE 8.X FLUORINATED CHEMICALS REDUCTION BY-LAW

ARTICLE 8.X.1 DEFINITIONS

Bulk packaging: Packages of more than one of the same item.

Fabric treatment: a substance usually liquid applied by a consumer to fabric, carpets, rugs, shoes or textiles to impart characteristics, including, but not limited to, stain resistance or water resistance.

Fluorinated hydrocarbons: chemicals that contain fluorine and carbon. These include certain propellants (such as 1,1-Difluoroethane also known as hydrofluorocarbon-152a) and PFAS.

PFAS: Per- and Polyfluorinated Alkyl Substances, a large class of synthetic industrial chemicals defined as containing at least one fully fluorinated carbon atom. PFAS are a subset of fluorinated hydrocarbons.

ARTICLE 8.X.2 RESTRICTIONS

(a) No retailer shall sell or distribute:

(1) Over-the-counter cosmetic or personal care products to which fluorinated hydrocarbons have been intentionally added in any amount.

(2) Food ware products packaged in bulk to which fluorinated hydrocarbons have been intentionally added in any amount. Any fiber or plastic product marketed as Compostable must be certified by the Biodegradable Product Institute.

(3) New non-stick cookware that contain fluorinated hydrocarbons.

(4) Fabric treatment products that contain fluorinated hydrocarbons.

(b) No retailer shall sell or distribute any products containing fluorinated hydrocarbons as may be identified in regulations promulgated by the Select Board to further the purposes of this Bylaw, following a duly noticed public hearing.

ARTICLE 8.X.3 EXCLUSIONS

(a) This by-law does not regulate prescription products. May 24, 2022 Annual Town Meeting 22-2

(b) This by-law does not apply to businesses that are primarily service businesses such as restaurants, medical and dental offices, and hair and nail salons.

ARTICLE 8.X.4 ENFORCEMENT

The Brookline Department of Public Health shall be responsible for enforcement and any regulation. This by-law shall not be enforced prior to January 1, 2023.

ARTICLE 8.X.5 SEVERABILITY

If any provision(s) of this article is held to be invalid, such provision(s) shall be severable and the remaining sections shall be valid. And amend section 10.2 PROSECUTIONS AND ENFORCEMENT as follows:

DIRECTOR OF HEALTH & HUMAN SERVICES

Part VIII-Public Health & Safety

Articles 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 8.10,8.11, 8.12,8.13, 8.14, 8.15, 8.16, 8.22, 8.23, 8.32, 8.37, 8.38

By adding this article number to the list of Articles following "8.38".

And amend section 10.3 NON-CRIMINAL DISPOSITION to include the following enforcement schedule:

ARTICLE 8.X FLUORINATED CHEMICALS REDUCTION BY-LAW

Per product:

Initial Violation Warning
First Offense \$50.00
Second and Subsequent \$100.00

or act on anything relative thereto.

[For more information and analyses, refer to [Spring 2022 Town Meeting Combined Reports.](#)]

Appendix 2 - Consumer Products with PFAS Identified by the Committee

Manufacturer	Product Name	Fluorinated ingredient	Retailer
SC Johnson	<i>Kiwi/Meltonian Suede & Nubuck Cleaner Aerosol-US</i>	PCBTF (1-Chloro-4 (Trifluoromethyl)-Benzene)	Walgreens
SC Johnson	<i>KIWI® SHOE POLISH</i>	PCTBF	
Swift Response	<i>FLEX SEAL CLEAR</i>	PCTBF	CVS
KEEPDRY	<i>Water + Stain Repellent Spray</i>	Fluoro-resin	
3M	<i>Fabric Water Shield</i>	Fluorochemical Urethane	
Finish Line	<i>Extreme Fluoro Grease Syringe</i>	"Mixture" of DuPont fluorinated ingredients including PFPAE (perfluoropolyalkylether)	
DuPont	<i>Easy Entry Lock Lubricant with Teflon Fluoropolymer with Rust Protection</i>	Teflon	Brookline Lock
Sandstrom Products	<i>Poxylube CP-200</i>	Fluorotelomer	
Permatex	<i>THREAD SEALANT WITH PTFE</i>	PTFE	O'Reilly's Auto Parts (Watertown)

LOCTITE	<i>PTFE Thread Sealing Tape</i>	PTFE	
Scott's Liquid Gold Inc.	<i>Scott's Liquid Gold Floor Restore</i>	Fluorosurfactant	Amazon, Walmart
Zep, Inc.	<i>Zep Stain Resistant Floor Sealer</i>	Fluorosurfactant	
Betco	<i>Hard As Nails® Floor Finish</i>	Partially fluorinated alcohol surfactant	Amazon, Lowes, Office Depot
Pixi	<i>Pixi Endless Silky Eye Pen</i>	Perfluorononyl Dimethicone	Walgreens
Crema	<i>Concentrated Shave Cream</i>	Perfluorodecalin	Walgreens, CVS
Thriving Brands	<i>Right Guard FRESH</i>	Difluoroethane (Hydrofluorocarbon 152A)	CVS

Appendix 3 - General Questions regarding PFAS Usage Shared and Discussed with Town Department Heads

- Which products or product categories purchased by the Department may contain PFAS?
- Are you aware of any products used in the Department that do contain PFAS?
- Have any changes been made in the Department's purchasing to reduce PFAS-containing products?
- If so, have you found any tools to identify alternative products?
- Has there been any discussion within the Department or with other departments re how to reduce purchases of PFAS-containing products?
- Are you aware of any steps taken in other communities to reduce the use of PFAS-containing products for the purposes they are used in Brookline?
- Has the issue come up in your discussions with your colleagues in other communities?

Appendix 4 - Department of Public Health Fact Sheet on PFAS



Sigalle Reiss, MPH, RS/REHS
Director of Public Health
& Human Services

TOWN OF BROOKLINE DEPARTMENT OF PUBLIC HEALTH

11 Pierce Street, Brookline, Massachusetts, 02445
 Telephone: (617) 730-2300 Facsimile: (617) 730-2296
 Website: www.brooklinema.gov/health

PFAS FACT SHEET



BACKGROUND

Per- and polyfluoroalkyl substances (PFAS) are a group of extremely persistent human-made chemical substances. Due to their inability to easily break down in the environment, they are often referred to as "forever chemicals". As a result, levels of PFAS are commonly found in our water and our bloodstreams. Exposure to PFAS may occur through a variety of consumer products and have been associated with several adverse health outcomes.



EXPOSURE

It is possible to be exposed to PFAS through a variety of everyday PFAS containing consumer products. Some common sources of exposure are:

- Cosmetic and personal care products (makeup, shampoo, soaps, dental floss etc.)
- Non-stick cookware (Teflon)
- Grease resistant food packaging (to-go containers, fast food wrappers, pizza boxes, etc.)
- Waterproof and stain resistant fabrics
- Paints
- **Water supplies**—PFAS easily enters and accumulates in our water supplies when we rinse our faces of PFAS containing cosmetics, wash PFAS containing non-stick cookware, or wash PFAS containing fabrics. Because of this, exposure to PFAS through water ingestion is extremely common.



HEALTH RISKS

There is no proven safe level of PFAS. Laboratory testing has provided evidence for several negative health outcomes associated with PFAS exposure including:

- Decreased liver function
- Increased cholesterol levels
- Altered immune function
- Interference with the body's natural hormones
- Hypertension during pregnancy
- Decrease response to vaccines among children
- Delayed puberty



WHAT YOU CAN DO

Some alternatives and suggestions for limiting everyday PFAS exposure include:

- Bringing your own reusable to-go containers (limit PFAS exposure while limiting your single-use waste!)
- Avoid Teflon-based nonstick cookware
- Pop your own popcorn over the stove or pop loose kernels in a covered bowl or paper bag in the microwave (PFAS coats the inside of popcorn bags!)
- Look for PFAS free brands for household items such as dental floss, cleaning products, shampoo, cosmetics, cookware, and kitchen appliances

Source DPH Fact Sheet:

<https://www.brooklinema.gov/DocumentCenter/View/34221/Brookline-DPH-PFAS-fact-sheet-2022>