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# 2022 PFAS TOOLKIT

DECEMBER 2021

**PREPARED BY**  
SAFER STATES



# ABOUT SAFER STATES

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Safer States is a network of diverse environmental health coalitions and organizations in states around the country that share a bold and urgent vision.

We believe families, communities, and the environment should be protected from the devastating impacts of our society's heavy use of chemicals. We believe that new state and national chemical policies will contribute to the formation of a cleaner, greener economy.

# ABOUT THIS TOOLKIT

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This toolkit is meant for state legislators seeking to regulate PFAS in their state. It contains information on PFAS, policy recommendations for how best to address its use broadly as well as in textiles, firefighting foam, food packaging, juvenile products, ski wax and cosmetics as well as a comprehensive model requiring disclosure and authorizing the ban of PFAS in all products.

Each section contains resources that can be used to educate fellow legislators and advocates about solutions to the PFAS crisis as well as recommendations for best practices in PFAS regulation.

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## INFORMATION ABOUT PFAS AND FAQs

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### What is PFAS?

PFAS is an acronym for a class of more than 9,000 chemicals called per- and polyfluoroalkyl substances. These chemicals share the common trait of having multiple carbon-fluorine bonds, one of the strongest covalent bonds in organic chemistry, making them incredibly persistent. In fact, PFAS chemicals can persist in the environment for such a long time that some scientists call them “virtually indestructible.”

PFAS are used to impart stain, grease and water resistance to consumer products such as food packaging, carpet, upholstery, outdoor apparel, and to make nonstick pans. They are also used in firefighting foam, industrial processes, and specialty products like ski wax. PFAS can easily move out of products resulting in contamination of our food, air and water.

### What are the health and environmental impacts associated with PFAS?

PFAS are persistent in the environment, are highly mobile and some bioaccumulate in humans. PFAS have [no known degradation pathways](#) in the environment meaning that they stay in [surface water](#), [groundwater](#), [wildlife](#) and [people](#) and are passed down through generations from mother to child through [umbilical cord blood](#) and [breastfeeding](#). These chemicals move throughout the globe as a result of human use and end up in areas such as the [Arctic](#), [remote wildlife areas](#), and the [open oceans](#).

[The Agency for Toxic Substances and Disease Registry](#) at the CDC suggest that PFAS have been linked to:

- Pregnancy-induced hypertension/ pre-eclampsia
- Liver damage
- Increased cholesterol
- Increased risk of thyroid disease
- Decreased antibody response to vaccines
- Increased risk of asthma
- Decreased fertility
- Decreased birth weight

People who are exposed to PFAS may be more vulnerable to [COVID-19](#) and its complications. PFAS can harm the immune system which has broad implications ranging from reduced ability to fight off viral infections to increasing the number of people who remain unprotected from a disease after they've received a vaccination. Although we don't have conclusive science on the impact of PFAS and other toxic chemicals on the incidence and severity of COVID-19, scientists are concerned that chemical exposures weaken a person's body and may make the disease more severe.

Evidence of harm led to the phase out of two forms (PFOA and PFOS) but thousands remain and science indicates that other PFAS chemicals should not be considered safe substitutes. The new generation PFAS are showing up in [human organs](#) and [breastmilk](#). New laboratory research also indicates that commonly used PFAS bioaccumulate. Additionally, all PFAS are [persistent](#) (i.e. they do not break down) in the environment. Laboratory research links exposure to current-use PFAS to health concerns including hormone disruption, liver and kidney damage, and developmental and reproductive effects. One recent study showed that exposure to certain PFAS can lead to [endocrine disruption](#) in pregnant women and their fetuses and other research shows that there is [disproportionate transfer of certain PFAS](#) through umbilical cord blood to newborns. In 2019, the National Institute of Environmental Health Sciences conducted a [28-day Toxicity Study](#) comparing 7 different PFAS chemicals. These studies showed that the current-use PFAS induced similar toxicity as the phased-out PFAS.

### **How are we exposed?**

PFAS are found in a wide variety of consumer products including non-stick pans, paper food packaging, waterproof and stain-proof clothing and textiles, and firefighting foam. As these products are used and disposed of, the PFAS migrate into groundwater, compost and sewage sludge. PFAS is also used in the manufacturing process for certain kinds of products, which can also lead to environmental contamination. Research shows that food crops can take up PFAS from soil that has been treated with contaminated sludge and compost. As a result of the widespread use of PFAS, [millions of Americans](#) are drinking water containing PFAS.

### **Why should we treat PFAS as a class rather than deal with each individually?**

Much like families that share DNA, these chemicals share a common trait: chains of carbon surrounded by fluorine that makes them difficult to impossible to break down. The former director of the National Institute of Environmental Sciences, Linda Birnbaum, stated in testimony before Congress that "approaching PFAS as a

class for assessing exposure and biological impact is the most prudent approach to protect public health.”

Laws in multiple states and at the federal level as well as corporate policies acknowledge the class-based approach and define PFAS broadly to include all forms, including polymers. In addition to the persistence of these chemicals, the concern is that at all stages--manufacturing, use, disposal--PFAS have the ability to contaminate people and the planet. Having a consistent definition, which is already being used widely by governments and companies, is very important.

### **Resources on regulating PFAS as a class**

[Scientific Basis for Managing PFAS as a Class](#)

[Linda Birnbaum Interview Re: PFAS Toxicity](#)

[Regulating PFAS as a Class under the CA Safer Consumer Products Program](#)

### **What are some climate and justice impacts of PFAS manufacturing?**

PFAS production is generating hundreds of thousands of pounds of potent greenhouse gas emissions each year, as detailed in a 2021 report that can be found [here](#). Just one PFAS-producing facility in Alabama reported releasing over 240,000 pounds of the chemical HCFC-22, a potent greenhouse gas and ozone-depleting chemical. The emissions from this facility is the equivalent of driving 125,000 cars. The chemical HCFC-22 is also released from other PFAS-producing plants in Kentucky and West Virginia. As the world struggles to fight climate change, the production and use of PFAS is contributing to the acceleration of global warming, in addition to the damage it is causing to human health, water, soil and air quality.

### **Should states step aside and let the federal government solve the problem?**

No. When it comes to toxic chemicals in products, our federal laws are extremely lax. Consumer products are largely unregulated leaving states with significant problems to deal with when it comes to contamination of drinking water, lakes, rivers, wildlife and people. States have a tremendous opportunity and obligation to get ahead of this problem with prevention. If PFAS aren't used in products whether it is firefighting foam, food packaging or clothing, the contamination will end. This is a smart strategy that costs very little compared to cleaning up drinking water.

EPA has developed a Roadmap that lays out plans the agency has for regulating PFAS in limited ways. While it recognizes the serious threat of PFAS pollution, the Roadmap falls far short of identifying the actions needed to truly solve the PFAS crisis. The plan makes commitments for adding only the two most well-known PFAS (PFOA and PFOS), voluntarily phased out in the United States, to the nation's

list of Superfund chemicals, and lays out timelines to set enforceable drinking water limits for these same two PFAS. It also identifies conducting a risk assessment for PFAS in sewage sludge, among certain other actions. While the plan makes some very minor moves towards addressing PFAS as a class, it does not ban or even address the use of PFAS in consumer products or in manufacturing; nor does it address how to dispose of PFAS safely. More is desperately needed to turn off the tap on these chemicals. States have been taking the lead on regulating these chemicals and they are still in the best position to fill in the gaps on EPA's Roadmap.

In fact, EPA Administrator Michael Regan stated that "Every level of government – from local, to state, to Tribal, to federal will need to exercise increased and sustained leadership to truly make progress on PFAS."

### What has been done to regulate PFAS?

- **State Product Restrictions:** States have been taking the lead on regulating PFAS.
  - **Broad policies:** In 2021, Maine enacted a law to [require disclosure of PFAS in all consumer products and a ban on PFAS in all products by 2030](#) unless alternatives are currently unavailable and the use is necessary for public health or functioning of society. In 2020 [Washington](#) state adopted a [Safer Products law](#) allowing their environmental agency to regulate PFAS and other classes of chemicals in products and packaging.
  - **Food packaging:** In 2018, [Washington](#) state banned the use of PFAS in food packaging. In 2019 [Maine](#) banned the use of PFAS in food packaging, along with phthalates. (Maine's law also allowed their state agency to add other classes of chemicals to the list of banned substances from packaging.) In 2020 New York banned PFAS use in [food packaging](#) and in 2021 Connecticut, Minnesota, California and Vermont followed suit. Vermont's policy mirrored Maine's banning PFAS, phthalates and intent to ban bisphenols. In 2021 California also required labeling of foodware.
  - **Firefighting Foam:** In 2018 Washington state banned PFAS in firefighting foam and [strengthened the foam law in 2020](#). In 2019, [Colorado](#), [New Hampshire](#) and [New York](#) banned the use of PFAS in firefighting foam and [California](#) followed in 2020. In 2021, [Connecticut](#), [Illinois](#), [Maine](#), and [Vermont](#) became the latest states to ban the use of PFAS in firefighting foam.

- **Textiles:** In 2021 Maine and Vermont banned PFAS in carpets, rugs and aftermarket treatments. Washington [has identified PFAS in carpets, rug, leather and textile furnishings, and aftermarket treatments as priority products](#) under its new Safer Products law in order to pursue restrictions. California [has proposed that PFAS in carpets, rugs, treatments for textiles and leathers, and food packaging become priority products](#) under its Safer Consumer Products law.
- **Cosmetics:** In 2020, [California](#) and [Maryland](#) banned several individual PFAS from cosmetics.
- **Other products:** Vermont has also banned PFAS in ski wax. In 2021, California banned the use of PFAS in [juvenile products](#) (including some textiles). Also in 2021, California passed a bill that does not allow the use of PFAS in any product marketed as or claiming to be “[recyclable](#)” or “[compostable](#).”
- **State Water Restrictions:** States are adopting water quality standards regulating PFAS in drinking water, surface water and groundwater. Some states like [Vermont](#) and [New Hampshire](#) are adopting these standards through legislation while others are adopting standards through their regulatory process. States with adopted limits include CA, CT, CO, ME, MN, NC, NH, NJ, WA and VT; and states with proposed limits include IL, MA, MI, and NY. For a more thorough rundown of adopted and proposed state drinking water standards, visit the [Association of State Drinking Water Administrators](#) site on PFAS.
- **State Disposal restrictions:** In 2020 New York [banned the incineration of PFAS in one town](#). Illinois was able to get a ban on all PFAS incineration to the Governor’s desk, although it was unfortunately vetoed.
- **Attorney General actions:** Thirteen states have sued or begun proceedings to sue the manufacturers of PFAS chemicals and firefighting foam for contaminating water supplies and other natural resources. These include AK, DE (settled), ME, MI, MN (settled), NC, NH, NJ, NM, NY, OH, VT, and WI. We anticipate these lawsuits to become more numerous as PFAS damages continue to wreak havoc on state and local budgets.



- **Federal Restrictions:** In October 2021 the Environmental Protection Agency announced its [“PFAS Roadmap”](#) which includes commitments for adding the two most well-known PFAS to the nation’s list of Superfund chemicals while also setting a timeline to set enforceable drinking water limits as well as setting a risk assessment for PFAS in sludge. The 2020 National Defense Authorization Act (NDAA) included restrictions on PFAS in firefighting foam; the proposed 2021 NDAA has provisions that would clean up contaminated Department of Defense sites as well as ban incineration of PFAS-based firefighting foams. The bipartisan infrastructure law has \$10 billion in funding allocated to clean up PFAS contaminated water and the Build Back Better bill (as of November 2021) has funding to help fire departments transition away from PFAS-based foams and firefighter gear.
- **International Restrictions:** The European Union has also taken various actions to restrict the manufacture and use of various PFAS—actions with regulatory influence that extends well beyond Europe. [By July 2022 Denmark, Germany, the Netherlands, Norway, and Sweden](#) are expected to submit a proposal to the European Chemicals Agency (ECHA) that would restrict the manufacture, use and sale of PFAS. [China](#) has banned the use of two PFAS chemicals and is setting targets to minimize the use of PFAS as a class.

### **What has the marketplace done to reduce exposure to PFAS?**

Retailers and manufacturers have taken broad actions to eliminate PFAS from their products. To see the full spectrum of actions, see a full list [here](#).

- **Food packaging:** Grocery chains including [Albertsons](#), [Amazon](#), [Whole Foods](#), [Trader Joes](#), and [Ahold Delhaize](#) (owner of grocery chains Food Lion, Giant, Stop&Shop, and Hannaford’s), have all committed to eliminating PFAS from food packaging in their stores. A number of restaurants including [Panera](#), [Taco Bell](#), [Sweetgreens](#), [Burger King](#), [Wendy’s](#) and [Chipotle](#) have all committed to removing PFAS from their food packaging. As of November 2021, [18 retailers selling food or food packaging](#) have announced steps to reduce or eliminate PFAS in food packaging at their more than 77,000 stores.
- **Textiles:** [Home Depot](#) and Lowe’s have announced their commitment to remove PFAS from carpeting sold in their stores. Lowe’s has also banned PFAS in fabric protector spray. And [Staples](#) has announced a new chemical policy to eliminate several chemicals, including PFAS, from stores. Ikea also banned PFAS from all textiles in 2016.

- **Apparel:** Clothing companies like Levi's and H&M have banned PFAS in apparel, some big outdoor brands like Jack Wolfskin have as well, and some retailers like Target are in the process of implementing their commitments. In 2021 Polartec announced it would eliminate PFAS from its Durable Water Repellent (DWR) treatments. Other companies such as Patagonia, North Face, Columbia, and Marmot have not yet committed to banning all PFAS but have some products that are PFAS-free. More information on manufacturers who have removed PFAS from products can be found [here](#).
- **Compost Certifications:** Compost certification bodies such as the [Biodegradable Products Institute](#) and the [Compost Manufacturers Alliance](#) have adopted certification criteria banning the use of PFAS in any product that they certify as compostable. As a result of this and state policy mandates, manufacturers of compostable foodware are moving away from PFAS. In 2021, [California](#) also passed a bill prohibiting any product from claiming it is "compostable" if it contains PFAS.

## MODEL POLICY EXAMPLES

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The model policies presented in this toolkit can be used as stand alone bills or be incorporated into a larger and more comprehensive policy. Several states have passed restrictions on PFAS in various consumer products and some states, like Maine and Washington, have gone further and given their agencies authority to ban PFAS from all products.

Below are some resources to make the case for PFAS restrictions that are not specific to a target sector.

### **Business Arguments in support of regulating PFAS products**

- [American Sustainable Business Council's Case for Removing PFAS from Products](#)

### **General Information on PFAS**

- University of Washington, Indiana University & [Toxic-Free Future's Peer-Reviewed Study on PFAS in Breastmilk](#). Short [video](#) featuring Dr. Sathyanarayana, Pediatrician, University of Washington
- [PFAS and Climate Change](#)
- [Green Science Policy Institute Myths and Facts About PFAS](#)
- [PFAS Toxicity Database](#)
- [An Overview of PFAS Uses](#)
- [Map Documenting the Extent of PFAS Contamination in the US](#)

### **Case for regulating PFAS as a class**

- [Scientific Basis for Managing PFAS as a Class](#)
- [Linda Birnbaum Interview Re: PFAS Toxicity](#)

### **Broad ongoing series on dangers of PFAS**

- [The Intercept Series on PFAS](#)

### **Cost of Pollution to Taxpayers**

- [NY Times Article on How Chemical Industry Avoids Paying for Pollution](#)
- [Safer States and Toxic-Free Future's Make them Pay website, which makes the case for why polluters must pay to clean up PFAS](#)

## COMPREHENSIVE PFAS MODEL POLICY FOR PRODUCTS: DISCLOSURE AND REGULATION

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**Context:** Banning PFAS in individual product categories is valuable and can make significant inroads in curbing PFAS exposures and pollution. However, given widespread use and the lack of transparency about where PFAS is used and in what products, we are likely just scratching the surface of the problem. A [study](#) released in 2020 shows that our understanding of where PFAS is used is limited and that it is far more widespread than previously thought. In order to properly tackle the PFAS problem, we must know where it is being used, ban its unnecessary use by a date certain and give states the authority to ban its use in all products.

**State Action:** In 2021, Maine [passed](#) a comprehensive bill requiring manufacturers of products containing PFAS to report this information to the state. The bill requires product manufacturers to disclose to the state their use of PFAS in products, gives the state the authority to ban the use of PFAS in consumer products and imposes a deadline of banning PFAS in all consumer products by 2030 unless a manufacturer qualifies for a waiver for uses that are shown to be “currently unavoidable.” The Interstate Chemicals Clearinghouse will house the data received so as to save the state money and avoid duplication. In addition, the state has given dedicated funding to support the program. Maine’s bill also banned PFAS in carpets, rugs and aftermarket treatments and set up other PFAS reduction programs as part of the legislation.

In 2019, [Washington](#) passed legislation giving broad authority to the state's Department of Ecology to require disclosure and potential regulation of classes of chemicals of concern, including PFAS in consumer products. The state can ban PFAS in products when safer, feasible and available alternatives have been identified by the agency. This program also has a dedicated funding source to ensure proper implementation.

**Model Bill:** The Safer States model is based on approaches taken in other states, including Maine and Washington. It is important for adequate resources be designated for this approach, as it will require it. There are two important sections, one that allows the state to obtain important information about where PFAS are used in products and the other section gives the state the ability to ban PFAS in products, unless the use is “currently unavoidable”. The model can be found [here](#).

## Policy Elements

A comprehensive disclosure and regulation bill MUST:

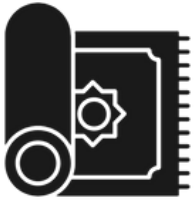
- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws being implemented. There is no valid scientific reason to adopt a different definition.
- Require written notification from manufactures on the use of PFAS in products.
- Contain clear criteria for what can and cannot be considered a currently unavoidable use of PFAS.

A comprehensive disclosure and regulation bill SHOULD include:

- Provisions that give the state the option to participate in the Interstate Chemicals Clearinghouse.
- A definition of “currently avoidable use” that exempts only products from regulation that are necessary for the protection of human health or functioning of society.
- An exemption process that expires after a certain length of time (the model bill suggests 5 years).
- A fee structure to assist the state in paying for this new program.

## Resources

- [Testimony delivered in Maine in support of disclosure and regulation of PFAS](#)
- [Maine Fact sheet in support of disclosure and regulation of PFAS](#)
- [Maine Comprehensive Legislation](#)



## PFAS IN RUGS, CARPETS, UPHOLSTERY, TEXTILE FURNISHINGS AND AFTERMARKET TREATMENTS

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**Context:** In 2018, the Ecology Center found PFAS in [half of the carpet samples](#) they tested. Since that time, Shaw Industries, the largest carpet manufacturer in the world and [Interface](#), the largest commercial carpet manufacturer in the world, both stopped using PFAS. [Lowe's](#) has stopped selling residential carpets containing PFAS, and [Home Depot](#) has stopped selling both residential and commercial wall-to-wall carpets that contain PFAS chemicals. Indications are that much of the carpet and rug industry has moved away from PFAS, though some is still found. Green Science Policy Institute has published a [list of carpet manufacturers that are PFAS-free](#).

In the last year, significant progress has been made on aftermarket treatments as well as upholstery. California's Department of Toxic Substances Control has found that aftermarket treatments are "[significant sources of human and ecological PFAS exposures](#)," and has done some work on identifying [safer alternatives](#).

**State action:** In 2021, [Vermont](#) and [Maine](#) banned the use of PFAS in carpets, rugs and aftermarket treatments. California and Washington are also taking steps to restrict PFAS in carpets, rugs, and aftermarket treatments. Under its Safer Products for Washington Act, Washington is also considering restrictions on PFAS in leather and textile furnishings (including upholstered furniture, draperies and other textile items) and aftermarket treatments for these applications. California has officially declared carpets and rugs containing PFAS as [priority products](#) under their Safer Consumer Products Act.

**Model Policy:** Safer States has created model policy for rugs, carpets, upholstery and aftermarket treatments which can be found [here](#).

### Policy Elements

Any bill addressing PFAS in rugs, carpets, aftermarket treatments and furnishings MUST contain:

- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.
- A ban on PFAS in all carpets used in residential settings.
- Language banning the use of PFAS in aftermarket treatments in residential settings.

Any bill addressing PFAS in rugs, carpets, upholstery and aftermarket treatments SHOULD contain:

- A ban on PFAS in commercial carpets.
- Language banning the use of PFAS in aftermarket treatments used in commercial settings.
- Language banning the entire class of PFAS in leather and textile furnishings (including upholstered furniture, draperies and other textile items).

## **Resources for Rugs, Carpets, Aftermarket Treatment and Furnishings**

### **Legislation**

- [Toxic-Free Future comments urging the Safer Products for Washington program to prioritize PFAS in upholstery and other textiles](#)
- [Washington State Department of Ecology report to legislature detailing rationale for prioritizing PFAS in carpets, aftermarket treatments and textile furnishings in the Safer Products program](#)
- [California Product-Chemical Profile PFASs in Carpets and Rugs](#)
- [Global Alliance for Incinerator Alternatives comments on the proposed listing of PFAS in carpets as a priority product under California's Safer Consumer Products Program](#)
- [Environmental Working Group's comments on the proposed listing of PFAS in carpets as a priority product under California's Safer Consumer Products Program](#)
- [Joint NGO sign on letter in support of the proposed listing of PFAS in carpets as a priority product under California's Safer Consumer Products Program](#)
- [San Francisco Department of Environment comments on DTSC Proposed Listing of Carpets and Rugs Containing PFAS as a Priority Product](#)
- [California Product-Chemical Profile on PFAS carpet and textile treatments](#)
- [Joint NGO comments on the Safer Consumer Products Product-Chemical Profile for PFAS carpet and textile treatments](#)
- [California Association of Sanitation Agencies letter in support of regulating PFAS containing textile treatments](#)
- [Dr. Gina Solomon comments on the acute respiratory toxicity of waterproofing sprays that contain fluoro-telomers; use has resulted in hospitalizations and chronic disability](#)
- [Green Science Policy Institute has lists of products that are PFAS-free, including some textiles, carpets, and furniture](#)
- [Study: carpets are a significant source of PFAS exposure for children](#)
- [Maine Fact Sheet on Carpets and Upholstery treatments that don't use PFAS](#)



## PFAS AND APPAREL INCLUDING OUTDOORWEAR

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**Context:** PFAS are used in many different kinds of clothing. While the most well known applications are in outdoor gear, PFAS have been used in [daily wear clothing](#) as well as in [uniforms](#). Often, clothes that are labeled as antimicrobial or anti-odor may contain PFAS. Fortunately, several leading companies including [Levi's](#), [H&M](#) and [Zara](#) have committed to removing PFAS from their clothing. In addition, several outdoor apparel brands including [Columbia](#), Marmot and [Gore](#) have also made commitments to go PFAS-free, though some of those commitments only relate to certain PFAS. These efforts must be backed by legislative action in order to move the entire market to truly safer clothing.

**State Action:** In 2021 New York introduced a policy to ban PFAS from daily wear but exempted uniforms and outdoor clothing. This was the first state legislative action on PFAS and clothing.

**Model Policy:** Safer States has created a model policy that would ban the use of PFAS in daily wear, outdoor apparel and uniforms that are not used to protect the wearer from health or environmental hazards. The implementation dates have been staggered to reflect the current trends in the sector and give manufacturers time to comply. The bill can be found [here](#).

### Policy Elements

A bill addressing PFAS in clothing MUST include:

- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.

A bill addressing PFAS in clothing SHOULD include:

- Staggered implementation times for different types of clothing.
- At a minimum, a labeling requirement at the point of purchase to alert consumers and wearers that the item contains PFAS.

A bill addressing PFAS in clothing MUST NOT include:

- Distinctions between different types of PFAS.



**Clothing Specific-Resources:**

- [TFF sign-on letter to WA Department of Ecology asking for PFAS in apparel to be prioritized under the Safer Products law](#)
- [A list of manufacturers who have removed PFAS from their clothing products](#)
- [Statement from VF Corporation \(owner of multiple brands including North Face and Timberland\) announcing plans to remove PFAS from products](#)
- [Letter to CEO to REI asking for phaseout of PFAS in clothing sold at REI](#)
- [NRDC Blog outlining problems with PFAS in apparel](#)
- [NRDC memorandum of support for New York apparel legislation](#)
- [Just Green partnership memorandum of support for New York apparel legislation](#)
- [Parson's School guide on healthier textiles](#)





## PFAS IN COSMETICS

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**Context:** A recent [study](#) found that many cosmetic products contain PFAS, but confounding advocates is the fact that PFAS did not appear on the label of most of the products studied. The [products](#) that most often contained PFAS were lipsticks, mascara and foundation.

A closer look at the products containing PFAS showed that 88% did not list PFAS on their ingredient label. It is unclear if the PFAS detected were intentionally added but missing from the product label because manufacturers chose not to disclose them or if background contamination is responsible for the PFAS detected in the products studied, finding their way into the cosmetics from air, water, machinery, packaging or other sources.

The law governing beauty and personal care products has not been updated in over 80 years, despite a growing and vocal movement that has been demanding change. Under current federal regulations, companies can use virtually any raw material to formulate a cosmetic product without Food and Drug Administration (FDA) pre-market safety testing or review. Additionally, the FDA cannot issue a mandatory recall of cosmetic products, even if a product has generated thousands of complaints from consumers and direct harm from use of the product has been established.

The Campaign for Safe Cosmetics has resources and background information about the problem of toxic chemicals in cosmetics. Visit their website [here](#).

**State action:** While no state has banned the use of the entire class of PFAS in cosmetics, [Maryland](#) and [California](#) have prohibited the use of 13 PFAS chemicals, currently banned by the European Union. Additionally, [California](#) has led the way in passing other strong cosmetic safety measures over the last 15 years.

**Model Policy:** Safer States' has created model legislation for states wanting to ban the entire class of PFAS chemicals from beauty and personal care products sold in their state. It can be found [here](#).

## Policy Elements

A bill addressing PFAS in cosmetics must include:

- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.

A bill for addressing PFAS in cosmetics MUST NOT include:

- Provisions that allow for certain types of PFAS while banning others.
- Provisions that exempt fragrance or flavorings.

## Resources

- [Healthline article on PFAS in cosmetics](#)
- [Campaign for Safe Cosmetics webpage](#)
- [Press release on federal legislation banning PFAS from cosmetics](#)
- [Fact sheet on the lack of FDA regulation of cosmetic safety](#)
- [PFAS Chemicals in Cosmetics Fact Sheet](#)





## PFAS IN SKI WAX

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**Context:** PFAS are added to wax to decrease resistance to water and dirt as well as to increase speeds particularly in Nordic skiing races. Of the water systems tested in Vermont, several that came back with [high levels of PFAS](#) are near ski resorts. [Research](#) shows PFAS can be found in the soil underneath ski tracks once snow has melted, and a [study](#) in Maine published December 2020 showed PFAS from ski wax attaches to snow and contaminates the soil and groundwater beneath it.

There is also a direct threat to human health. A 2010 [Scandinavian study](#) showed that World Cup ski technicians had on average 45 times as many fluorocarbons in their blood as nonskiers. Fortunately, ski associations have recognized this threat to their community and have started moving away from PFAS. [The International Federation of Skiing](#), the governing body that organizes the Nordic Skiing World Cup, as well as the U.S. Ski and Snowboard and Canadian Nordic Ski Associations have banned PFAS in wax.

In the last few years, there has been movement in the market as well. The major ski brand, [Swix](#), and its subsidiary, Toko, are moving away from selling PFAS-containing wax. There's a burgeoning market for environmentally friendly and/or PFAS free wax. The [U.S. Ski & Snowboard Association](#) lists at least 10 different PFAS-free waxes on their website for supply. Despite the positive movement by ski associations and brands, as long as these products are on store shelves, it will be purchased and used – potentially by those hoping to cheat the rules of the ban, or by those who are simply unaware of the danger of this wax. Banning it is the only way to ensure it doesn't continue to put human and environmental health at risk.

**State Action:** In 2021, [Vermont](#) became the first state in the nation to ban the use of PFAS in ski wax. The model legislation found [here](#) is based on Vermont's law.

### Policy Elements

A bill addressing PFAS in ski wax MUST include:

- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.

A bill for addressing PFAS in ski wax MUST NOT include:

- Provisions that allow for certain types of PFAS while banning others.

### **Resources**

- [International Federation of Skiing Statement on PFAS ban in waxes](#)
- [US Ski and Snowboard and Canadian Nordic Ski Association statement on PFAS ban in waxes](#)
- [Vermont law banning the use of PFAS in ski wax](#)





## PFAS IN JUVENILE PRODUCTS

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**Context:** Much attention has been given to PFAS in firefighting foam, carpets and food packaging but PFAS are also used in bibs, nursing pillows and other products intended for children. There is also data showing that PFAS are especially harmful for children including new information on PFAS being linked to [endocrine disruption](#) and interference with [vaccines](#).

**State Action:** In 2021, the state of [California](#) banned the use of PFAS in juvenile products.

**Model Policy:** Safer States has created a model policy banning PFAS from juvenile products based on the California law. It can be found [here](#).

### Policy Elements

A bill addressing PFAS in juvenile products MUST include:

- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.

A bill addressing PFAS in juvenile products SHOULD include:

- Exemptions for electronics and medical devices.

### Resources

- [Report on PFAS in Baby Bibs](#)
- [Report on PFAS in Car Seats](#)
- [Report on PFAS in mattresses and coverings](#)
- [Study on PFAS in Car Seats](#)
- [Epidemiological study of impacts on PFAS in Children](#)
- [Press release on California juvenile products ban](#)
- [NIEHS podcast on PFAS and children's health](#)
- [New York Times article on PFAS effects on pregnant women and children](#)



## PFAS, PHTHALATES AND BISPHENOLS AND FOOD PACKAGING

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**Context:** A 2017 [study](#) found grease-proof PFAS coatings on 46% of food-contact papers (such as hamburger wrappers) and 20% of paperboard samples (such as french fry boxes) collected from fast food restaurants throughout the United States. Another [study](#) found widespread use of phthalates, a popular plasticizer, in fast food. And as the market starts to move away from certain plasticizers like bisphenol-A, it is moving on to similar chemicals like [bisphenol-S](#). There is significant movement in the market and at the state level to move away from PFAS, phthalates and bisphenols in food packaging, but in order for these unnecessary and dangerous use to end, more policies at the state level are needed.

**Model Legislation:** Safer States has created model legislation to address PFAS in food packaging as well as phthalates and bisphenols. The 2022 model bill also bans PFAS in cookware, building on the success of California's bill requiring disclosure of PFAS in cookware. You can find the model legislation [here](#).

### Policy Elements

Any bill addressing chemicals in food packaging MUST include:

- A ban on the entire class of PFAS in food packaging.
- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.

Any bill addressing chemicals in food packaging SHOULD include:

- A ban on the entire class of phthalates. Maine and Vermont's food packaging laws include bans on phthalates. Additionally, the [Toxics In Packaging](#) Clearinghouse which is a network of states with toxics in packaging laws, recommended adding PFAS and phthalates to their model legislation.
- Authorization for the state to enact a ban on the entire class of bisphenols. The model found here acknowledges that there are many compounds in this class and allows the state to exempt bisphenols that may not be harmful based on scientific evidence. The 2022 model legislation is based on Vermont's legislation which can be found [here](#).

- A ban on the entire class of PFAS in cookware. If a ban is not achievable, this portion can be removed or it can be amended to mirror the [California law](#) requiring the presence of designated chemicals to be reported to the consumer at the time of purchase.

Your bill SHOULD NOT include:

- Bans on individual PFAS, phthalates or bisphenols. Regulating chemicals one at a time is an ineffective and problematic approach to protecting public health.

### **Resources for Food Packaging Legislation**

- [Food Additives and Children's Health Article in Pediatrics](#)
- [Comments to Toxic in Packaging Clearinghouse from industry opposing inclusion of phthalates and PFAS in model legislation ban](#)
- [Sample Op-Ed from Vermont](#)
- [TFF fact sheet on PFAS-free alternatives](#)
- [CEH Food Packaging Resources](#)
- [CEH Purchaser's Guide to Safer Foodware](#)

#### *Bisphenols*

- [ChemTrust Page on Bisphenols](#)
- [Endocrine Society Statement on Endocrine Disrupting Chemicals including Phthalates and Bisphenols](#)
- [Science Magazine Article on Bisphenols as a Class](#)
- [Healthline Article on BPA Replacements](#)
- [Food Packaging Forum Dossier on BPA](#)
- [Food Packaging Forum Dossier on BPS](#)

#### *Phthalates*

- [Safer Alternatives to Phthalates with Footnotes](#)
- [Current Uses of Phthalates](#)
- [Food Packaging Forum Information on Phthalates](#)
- [George Washington University Article on Phthalates](#)
- [CBS News Article on Phthalates and Impacts on Boys](#)
- [Study linking phthalates to 100,000 premature deaths](#)
- [Study indicating regulatory levels of phthalates to be unsafe](#)



## PFAS

- [American Chemistry Council Opposition Memo Rhode Island](#)
- [American Sustainable Business Council's Case for Removing PFAS from Products](#)
- [Biodegradable Products Institute PFAS Policy](#)
- [California Cookware Legislation Fact Sheet](#)
- [California Food Packaging Fact Sheet](#)
- [Food Packaging Forum Information on PFAS](#)
- [Green Science Policy Institute Myths and Facts About PFAS](#)
- [The Intercept Series on PFAS](#)
- [Linda Birnbaum Interview Re: PFAS Toxicity](#)
- [Paper Mills as a Source of PFAS Contamination](#)
- [PFAS as part of Compost](#)
- [PFAS in Food Packaging Life Cycle Impacts](#)
- [PFAS In Food Packaging Report](#)
- [PFAS in Cookware Report](#)
- [Safer States' Guide to PFAS and COVID-19](#)
- [Scientific Basis for Managing PFAS As A Class](#)
- [NY Sustainable Business Council letter supporting NY ban on PFAS in food packaging](#)
- [NY Senate debate on PFAS in food packaging bill](#)

## *Retailer Commitments on Chemicals in Food Packaging*

- [Ahold Delhaize Commitment to Remove Phthalates, BPA and PFAS](#)
- [Grocery Outlet Commitments on PFAS](#)
- [Ranking Retailers on Toxic Chemicals](#)

## **FAQs on Food Packaging Legislation**

### ***Won't the FDA take care of the issue of chemicals in food packaging?***

If history is any indication, it is unlikely. Given the current regulations governing food packaging and food contact materials, it is unlikely that the Food and Drug Administration will move to ban PFAS as a class. These regulations are outdated and lack the modern scientific rigor necessary to adequately protect the public from harmful chemicals.

### ***How are chemicals regulated at the FDA?***

There are two main ways that chemicals have been approved for use by the FDA. When the agency was first given authority to regulate chemicals in food contact materials in 1958, a huge [loophole](#) was created whereby manufacturers of chemicals could self-certify that ingredients' uses were safe. These chemicals were regarded as "[Generally Recognized as Safe](#)" or GRAS. The GRAS exemption was designed for common food ingredients like vinegar or vegetable oils but quickly morphed into the loophole that has allowed untested ingredients [and ingredients known to cause harm](#) to be used in food and food packaging.

The law was updated in the late 1990s under the Food Contact Notification Program (FCN). Most of the [PFAS](#) used in food packaging have been approved using this new regulatory framework. Under this program, the manufacturer must submit information about a particular chemical, including a safety determination, after which the FDA has 120 days to review the material and respond. If there is no response, the company may start using the chemical, even if the FDA has not completed its review. In addition, the FCN program defines safety as "reasonable certainty of no harm in the minds of competent scientists." It does not state threshold levels for carcinogenicity or reproductive toxicity. It does not require studies looking at organ damage, bioaccumulation, persistence, endocrine disruption or a number of other health effects other than carcinogenicity or reproductive toxicity. Finally, the entire process is closed to the public. There is no public review and comment period and the studies submitted to FDA are not public. All of the studies are produced by chemical manufacturers who have a vested interest in FDA approval and they can select what to submit and what to hold back. The entire program is riddled with potential for abuse due to conflicts of interest. When food packaging manufacturers state that they follow all regulations, that may be true, but the regulations themselves are lax and do not adequately protect public health.

Moreover, the FDA has a long history of taking no action on harmful chemicals until individuals, organizations, states or market pressure forces them off the market. For example, the FDA had evidence of harm of two PFAS chemicals (PFOA and PFOS) for years and did nothing. It was only after industry stopped manufacturing PFOA and PFOS after mounting public pressure did [FDA](#) finally enter into agreements with manufacturers to stop the use of these two chemicals.

Additionally, [three separate petitions](#) have been filed to eliminate the use of all phthalates from use in food packaging but thus far, FDA has taken no action.

FDA also [dragged its feet](#) when it came to bisphenol-A. Only after states had banned BPA from baby bottles forcing a market transformation did FDA finally take action- and the action was prompted by a [chemical industry petition](#), not by FDA itself.

***Didn't the FDA already ban all PFAS in July 2020?***

No. The FDA entered into a [voluntary agreement](#) with manufacturers to stop using certain PFAS for use in food packaging. This agreement does not cover all PFAS. There is nothing in this agreement to ban the use of all PFAS in food packaging or food contact substances. The agreement comes after several NGOs pressured the FDA to look at the replacements for PFOA and PFOS as well as after states like Washington and Maine as well as several retailers adopted policies banning the use of PFAS in food packaging.

***What about BPA? Hasn't the FDA banned its use in food packaging?***

No. While FDA has taken limited action to rescind its approval for use in baby bottles and powdered infant formula, it is still widely used in other polycarbonate plastic and in the linings of food cans. Additionally, products that claim to be BPA-free often contain other [highly problematic chemicals](#) that are part of the [bisphenol class](#) including [bisphenol-S and bisphenol-E](#). Banning the class of bisphenols that are harmful to human health is the only way to ensure that our packaging is free from these types of chemicals.



## PFAS AND FIREFIGHTING FOAM

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**Context:** PFAS are found in firefighting foam used by the military, airports and fire departments to extinguish fires caused by flammable liquids and in training exercises. The use of this foam has been linked to significant soil, groundwater and drinking water contamination across the country. The US Defense Department has estimated that it will cost more than \$3 billion to clean up just the military sites where the foam was used.

**Model Legislation:** Safer States has created a model policy to address PFAS in firefighting foam and require disclosure of PFAS to purchasers of personal protective equipment. The model can be found [here](#).

**States that have adopted solid firefighting foam policy:** Washington, California, Colorado, New Hampshire, New York and Vermont. In addition, states including Colorado, Connecticut, Illinois, Michigan, New Hampshire and New Jersey have established take-back programs to responsibly dispose of PFAS-based foams.

### Policy Elements

Any bill addressing PFAS in firefighting foam MUST contain:

- A ban on the sale, importation and use of PFAS in Class B firefighting foam.
- Define PFAS as a class as noted in the model legislation. Numerous states and Congress have defined PFAS as a class in laws that are currently being implemented. There is no valid scientific reason to adopt a different definition and could set a bad precedent.
- Requirements for disclosure of PFAS in firefighter personal protective equipment.

Any bill addressing PFAS in firefighting foam SHOULD contain:

- Provisions on proper disposal of PFAS-containing foam. The current model adopts language from California's law which requires manufacturers of PFAS-containing foam to recall (after the ban goes into effect) and store the foam until a state agency identifies a safe disposal technique. Another model could be to ban the incineration of PFAS-containing foam.

- Exemptions for facilities that must use PFAS-based foams due to federal requirements (currently airports of a certain size) with the exemptions expiring once federal requirements change.

Any bill addressing PFAS in firefighting foam MUST NOT contain:

- A ban on training with PFAS-based foam that allows for the use of the foam as long as containment measures are in place. These bills have proliferated and while they look like good first steps, they transfer liability for discharging of foams from manufacturers on to fire departments. These bills are being advanced by the chemical foam manufacturers as solutions to the PFAS problem.
- Blanket exemptions for airports without removal of those exemptions based on changes to federal regulations on Class-B firefighting foams.
- Specific language that does not allow for bans and restrictions on PFAS foam.

### **Resources for PFAS in Firefighting Foam Legislation**

- [American Sustainable Business Council's Case for Removing PFAS from Products](#)
- [Dupont Announcement Phasing out PFAS-based Foams by 2021](#)
- [Erika Schreder Testimony in Washington State January 2020](#)
- [NRDC testimony in California on Fire Fighting Foam bill passed in 2020](#)
- [Green Screen Certified Fire Fighting Foam](#)
- [IAFF Fact Sheet on PFAS \(they call it PFCs\)](#)
- [IAFF Testimony on PFAS Crisis](#)
- [IPEN Paper on PFAS Alternatives](#)
- [Last Fire PFAS Alternative Press Release](#)
- [Linda Birnbaum Interview Re: PFAS Toxicity](#)
- [Scientific Basis for Managing PFAS as a Class](#)
- [NYTimes article on PFAS in turnout gear](#)
- [Firefighter gear contain high levels of PFAS](#)
- [PFAS from Firefighter gear migrates into dust in firehouses](#)
- [Firefighters Face New Possible Risk From Toxic PFAS: Their Gear \(Bloomberg news\)](#)

## **FAQs on PFAS in Firefighting Foam**

### ***Are there alternatives already in use for PFAS-based firefighting foams?***

Yes. Safer effective alternatives to PFAS foams are in use all around the world.

Industrial facilities, military bases, and airports [around the globe](#) have made the switch to safer, effective alternatives to PFAS firefighting foams. For example, the Danish Royal Airforce moved to fluorine-free foams several years ago, and reports [“fluorine-free foam works flawlessly.”](#) Major airports around the world have switched, including Charles de Gaulle (Paris), Copenhagen, Dubai, Heathrow (London), Stuttgart, Brussels, and others. Heathrow’s fire chief reports: “Since purchasing our fluorine-free foam, we have used it on two separate aircraft fires (an A321 and a 787) and it worked perfectly.

In addition, [DuPont](#), former manufacturer of PFAS, has announced their phase out of PFAS-based foams at their chemical refineries.

### ***Why are bills banning PFAS-based foams from training not enough to handle this problem?***

In response to state activity that bans the use of PFAS in firefighting foam, the [Firefighting Foam Coalition](#) (an alliance of foam manufacturers that make both PFAS-based and PFAS-free foams) have gotten bills introduced in a number of states that may look like reform but actually are meant to protect the largest markets for PFAS foams, which are airports, oil refineries and the military. These bills are passing unanimously in legislatures because of the national attention on PFAS and water contamination. States need to guard against these types of bills that do not ban the use of PFAS in foam but rather only aim to contain it. As history has shown us, PFAS cannot be contained and firefighters should not bear the burden of trying to contain PFAS-containing foams. These foams can and should be phased out in favor of safer alternatives.

Weaker bills like this have passed in Arizona, Arkansas, Georgia, Indiana, Maryland, Nevada, Wisconsin, Michigan, Kentucky, Minnesota, and West Virginia.

These bills are problematic because:

- Washington, Colorado, New York, California, Vermont and New Hampshire have already set a precedent banning the use of PFAS-based foams with limited exceptions. Merely banning it in training is a half-measure at best.

- Several of the training-only bills actually allow PFAS to be used in training if there are technologies to capture it and dispose of it. Disposal is not defined clearly and this exemption places a huge burden on firefighters, first responders, and other governmental agencies rather than on foam or PFAS manufacturers.
- Banning the use of PFAS-based foams in training is a good first start but many of the bills that have passed have provisions that explicitly state that the bill does NOT ban PFAS in firefighting foam in the state. Going any further in the future would force legislatures to reverse this provision soon after passing which is politically difficult. If a state can only enact a ban on PFAS-based foams in training, it is critical to leave the door open for the state to enact a ban on all uses of PFAS-based foams.
- These bills place the burden of containing PFAS in water on firefighters, rather than on manufacturers of foam or the makers of PFAS. Putting responsibility for use of the foam on firefighters rather than on the manufacture of these foams or chemicals is a convenient way to deflect responsibility and liability away from manufacturers of foam and PFAS.
- Additionally, many of the bills define PFAS in a way that is much narrower than the Washington, Colorado, California, New York, and New Hampshire bills. Here is WA's definition: "Perfluoroalkyl and polyfluoroalkyl substances" or "PFAS chemicals" means, for the purposes of firefighting agents and firefighting equipment, a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom." Georgia's definition includes this definition plus a provision saying "and designed to be fully functional in Class B firefighting foam formulations" Having the definition contain this last provision could significantly narrow the definition of PFAS in foam.
- These measures emphasizing containment really amount to a get-out-of-jail-free card for the industry. There has been a lot of national attention on PFAS and many activists are calling for industry to pay for the damage they have caused to communities. By shifting the burden of responsibility to fire departments, it absolves the industry of wrongdoing and places it squarely on firefighters.
- With alternatives already on the market and being used successfully around the world, we need bold action to remove PFAS from foam entirely rather than half measures.

***Why hasn't the federal government acted?***

The federal government has taken some steps to phase out PFAS fire fighting foam, but they aren't enough. The final 2020 National Defense Authorization Act (NDAA) included [key provisions](#) to phase out the military's use of firefighting foam containing PFAS chemicals. The Act requires a phase-out of the military's use of PFAS-based firefighting foam beginning in 2024, a ban on military training exercises with PFAS-based foam, and greater information and guidance on destruction and disposal of the foam. However, neither Congress nor the EPA has taken action to ban the use of PFAS-based firefighting foam more broadly, making it important for states to also act to stop its use.

***How should our states deal with existing PFAS-based foams?***

Unfortunately, there is no good answer to how to properly dispose of PFAS or PFAS based foams. Current strategies involve incineration which harms communities living near the incinerator and ultimately moves the PFAS into the air where it is transported around the globe. The New York legislature has adopted [policy](#) to ban [incineration in one facility](#). The model firefighting foam policy contains a provision based on California's law requiring manufacturers to store it until a safe disposal solution is available.

The model legislation also contains language banning incineration which states are encouraged to adopt.

The state of Washington proposed incinerating its foam but NGOs have requested safe storage pending safer technologies. Here are links to letters sent by NGOs requesting no- incineration:

- [Toxic Free Future and Sierra Club](#)
- [Sierra Club and Earthjustice](#)