



# PFAS IN PACKAGING: WHAT THE FOOD INDUSTRY NEEDS TO KNOW

As PFAS risks become more understood, regulations more robust across jurisdictions, and litigation more common, it is critical that food and beverage companies understand their specific PFAS risks

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Per- and poly-fluoroalkyl substances, known as PFAS, are a group of thousands of synthetic chemicals that have been used for decades in consumer and industrial applications. As more is learned about their resistance to degradation and links to health concerns, lawmakers and regulators across the country are taking action to ban certain uses of PFAS and require responsible parties to clean up contaminated properties and public drinking water supplies. This article explores the legal and business risks PFAS poses to the food and beverage sector, specifically in connection with food packaging, and presents operational and transactional strategies to manage such risks.

## **What is All the “PFUSS?”**

According to a database maintained by the U.S. Environmental Protection Agency (EPA), there are nearly 15,000 PFAS. Some have been in production and used in diverse commercial and industrial applications worldwide since the 1940s. PFAS were initially known as “wonder chemicals” and praised for their durability. Their unique properties made PFAS commonly used in food packaging, nonstick cookware, cosmetics, waterproof/stain-resistant fabrics, and other consumer products. In industrial settings, PFAS are common additives in the manufacturing of semiconductors, coatings, electronics, and firefighting foams.

However, PFAS are now known as “forever chemicals” because they do not readily break down in the environment and will contaminate soil, water, air, and waste streams during production, use, and disposal. PFAS also bioaccumulate in humans, leading to potential

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adverse health effects including low infant birth weight, cancer, immune system impacts, and thyroid hormone disruption. They can be found in humans, food, livestock and wildlife, remote areas of the planet, and even rainwater.

Whether it is toxicological, legal, or operational, there is risk—and then there is risk that matters. When it comes to PFAS, however, the distinction is not yet clear. So much is still unknown, including how to accurately and consistently sample various environmental media for PFAS, institute reliable laboratory analytical methodologies to measure them, determine background levels, replace them with safer alternatives, and cost-effectively remediate them.

Nevertheless, thanks in part to growing media coverage and awareness, including high-profile features in the news, at least one gripping Hollywood drama, and numerous documentaries, PFAS and other similar compounds are now part of a group of emerging contaminants coming under increasing scrutiny. The legal landscape and regulatory thicket surrounding PFAS continues to evolve, seemingly daily, as various states and the federal government take action.

Unlike traditional contaminants measured in the parts per million (ppm) and parts per billion (ppb) levels, regulatory thresholds for permissible PFAS levels in various environmental media are now consistently being established in the parts per trillion (ppt) range, the equivalent to a drop or two in an Olympic-sized swimming pool, meaning even minor applications or uses of PFAS can have lasting effects.

In many respects, the food and beverage sector is a key player in recent legal and regulatory developments as farms grapple with the devastating effects of PFAS-contaminated fertilizers, anglers and hunters adjust to local “do not eat” orders for fish and game taken from hot spot areas, and the U.S. Food and Drug Administration (FDA) continues to test the general food supply as part of its Total Diet Study and regulate the importation of food products with detectable levels of PFAS.

### **PFAS in Food Packaging**

FDA first began authorizing specific types of PFAS-containing substances for use in food contact applications, including nonstick coatings and grease- and waterproof agents, in the 1960s. To be authorized, FDA must initially review and approve data demonstrating a reasonable certainty of no harm from the intended use, and then the agency continues to review data throughout the use of the approved substance.

With FDA approval, as with many other consumer and industrial applications, PFAS became ubiquitous in food packaging. Nonstick cookware was often marketed as containing PTFE, and paper, paperboard, and other plant-based food packaging products were treated with PFAS-containing substances to improve their ability to contain hot, wet, greasy, and oily foods. Common examples include fast food containers, pizza boxes, and microwave popcorn bags. In 2022, Consumer Reports tested 118 food packaging products from various fast food, fast casual, and grocery chains and found elevated levels of total organic fluorine, often used as a proxy for PFAS, in at least one food packaging product from every retailer studied, some of which had already claimed to have phased out PFAS.<sup>1</sup>

It is also possible that PFAS can be found in food packaging to which a PFAS-containing substance is not intentionally added. As noted, PFAS are commonly used in a variety of manufacturing processes, for example, to assist in the extrusion of a plastic or film or as

a mold-release agent. PFAS may also be present in raw materials, especially recycled paper and cardboard. As discussed below, whether PFAS has been intentionally added to packaging is now a key question for regulators and the regulated community alike.

In recent years, researchers began examining whether and to what extent PFAS-containing food packaging poses a risk to our food supply and consumers. Recent studies have confirmed the potential for PFAS to migrate from PFAS-containing food contact surfaces into the food product. Among the most recent is a 2023 report finding that, over a seven-day period, PFAS leached from high-density polyethylene plastic packaging into the water or food contained within.

It is important to note that PFAS-containing substances are also approved for use in equipment utilized during various stages of certain food manufacturing processes, for example, in gasket sealants. However, the speed of manufacturing and relatively limited surface contact with the food makes the manufacturing process a comparatively small source of potential PFAS exposure risk.

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### **States Take Action**

As the potential risks become more generally known, we have seen growing public demand to phase out or ban certain PFAS or their applications. New laws and regulations have recently affected the food and beverage sector, in particular. The rapidly evolving patchwork of state-by-state requirements has led to inconsistencies among jurisdictions and presents significant risk management hurdles for companies with operations in multiple jurisdictions.

On December 31, 2022, New York became the first state to ban the manufacture, distribution, and sale of certain types of food packaging with intentionally added PFAS. California’s ban, which has certain similarities and significant differences, took effect the following day. As of the date of this publication, bans are effective in nine states: California, Colorado, Connecticut, Hawaii, Maryland, Minnesota, New York, Vermont, and Washington. Soon, Rhode Island (July 2024), Oregon (January 2025), and Maine (May 2026) will join the list, with many others considering their own bans.

Given the state-by-state variability, there are five factors to consider in evaluating the extent of these bans:

- First, the term food packaging is generally defined to include products used to contain, handle, transport, store, serve, protect, and market food and beverage products. This includes bags, containers, wrappers, tubes, and cups, as well as their packaging components (e.g., blocking, seals, liners, inks, and labels).
- Second, most states limit food packaging to material intended for direct contact with a

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food or beverage, while two—California and Minnesota—define food packaging more broadly to potentially include shipping boxes and crates.

- Third, material matters, and the states are evenly split. Six apply their bans only to food packaging made from paper, paperboard, or materials derived from plant fibers, while the remaining six regulate food packaging regardless of its material composition.
- Fourth, all states ban intentionally added PFAS, meaning PFAS that are added to the food packaging to serve a specific function or provide a specific characteristic, such as nonstick or grease-resistant. In addition, California's law also bans the presence of total organic fluorine in a package or package component at or above 100 ppm.
- Fifth, look for carve-outs and additions. For example, Connecticut's ban does not restrict the presence of PFAS due to the use of recycled materials, but it prohibits PFAS alternatives or replacements if such chemicals create an equal or greater hazard.

The state-by-state patchwork approach makes it critically important for manufacturers and distributors with multi-state footprints to be aware of, and understand, each ban and their differences to ensure compliance with all applicable requirements. As discussed below, there have been some high-profile voluntary recalls of food products implemented by companies in several states as a result of the evolving state laws.

### **Federal Requirements Lag Behind**

At the federal level, food packaging-specific legislation and regulation continue to lag behind the states, despite the introduction of state bans on intentionally added PFAS in food packaging. As of this publication, there is currently no federal ban of PFAS in food packaging intended for consumer use, although there is a narrow ban on PFAS in certain food packaging provided to the military.

That does not mean there has not been progress, however. Earlier this year, FDA announced the successful voluntary phase-out of grease-proofing agents containing PFAS that had historically been applied to paper and paperboard packaging. The FDA touts this as the culmination of a decade-long effort to remove PFAS from food packaging formulations in the supply chain. In the 2010s, due to increased health concerns, authorizations for certain long-chain PFAS (e.g., PFOA and PFOS) used as grease-proofing agents were either withdrawn or revoked and the industry shifted to short-chain PFAS, which were supported by data indicating a reasonable certainty of no harm. In the years since, as other data came available, FDA began discouraging the use of any PFAS in food packaging and initiated a voluntary phase-out program for certain PFAS in 2021. By 2023, this program had expanded to include all authorized grease-proofing substances containing PFAS.

In parallel, EPA continues to work through the various initiatives announced as part of its Strategic PFAS Roadmap in 2021. The most impactful may be the new maximum contaminant levels (MCLs) and MCL Goals (MCLGs) for six PFAS pursuant to the Safe Drinking Water Act (SDWA). The individual MCLs for PFOA and PFOS in drinking water are 4 ppt, which is the lowest concentration at which laboratories can somewhat reliably measure these substances. The MCLGs for PFOA and PFOS in drinking water are zero, as the EPA maintains there is no safe level of consumption for these chemicals. If an MCL is exceeded, then certain response actions would be required, such as installing filtration or treatment systems. These abatement steps are likely to be a major financial and practical hurdle in the years to come.

Under the SDWA, the rule applies to certain types of Public Water Systems, which is generally defined as water systems serving at least 25 people or having 15 or more service connections. Many commercial facilities in suburban and rural communities serviced by their own wells meet the definition of Public Water Systems. Regardless of whether a food and beverage manufacturing facility qualifies as a Public Water System or is a public water utility customer, the potential risks associated with PFAS in drinking water—either as an ingredient or a processing input—can be significant.

Additionally, EPA recently designated PFOA and PFOS as Hazardous Substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or “Superfund”). This designation will be impactful for PFAS releases to soil and/or groundwater and, by extension, transactional due diligence to understand such risks.

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### **Aftermath: Recalls and Litigation**

Since state bans on intentionally added PFAS in food packaging have continued to roll out since the end of 2022, and as public awareness of the potential effects of PFAS on the food supply has increased generally, several food and beverage businesses have been put in challenging positions, often in a high-profile way.

After New York’s and California’s bans went into effect last year, a well-known butter brand was temporarily pulled from store shelves. The voluntary recall lasted about two months until the company could confirm compliance with the applicable state packaging laws. Despite the recall, or perhaps because of it, the company became the subject to a class action lawsuit alleging it falsely marketed its butter as pure, even though it may have contained synthetic PFAS.

In recent years, concerned citizens and consumer protection groups have taken action against fast food chains, grocery stores, and consumer packaged goods companies, filing lawsuits alleging false or misleading advertising, product liability, product safety, failure to warn, and more.

After the 2022 Consumer Reports study<sup>1</sup> was published, many of the companies were hit with separate class actions alleging they misled customers by failing to disclose the potential presence of PFAS in its food packaging, making the food unfit for consumption, with one plaintiff even relying on filings with the U.S. Securities and Exchange Commission highlighting the defendant company’s efforts regarding food safety.

The growing threat of litigation is not just a problem for fast food companies. A class action against a national fast casual chain alleged that the company uses paper-based packaging

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containing PFAS and its grain and salad bowls are unfit for consumption, while another class action against one of the nation's largest grocery chains alleged that the company's disposable plates and bowls are falsely marketed as compostable when they actually contain synthetic PFAS that cannot break down.

Some lawsuits are targeting ingredient lists, as well. Relying on the potential for PFAS to leach from food packaging into the food, plaintiffs have brought class actions against a microwave popcorn company alleging that labeling the products as "natural" is false or misleading marketing. Several beverage manufacturers are also facing separate lawsuits for allegedly falsely marketing drinks as natural, organic, or 100 percent fruit juice because PFAS have been detected in the beverage but not listed on its label.

These cases highlight the risk of overclaiming or greenwashing the product's purity on a label where the product does, in fact, contain detectable levels of PFAS, be it from the ingredients themselves or the packaging material.

### **"PFail" to Plan, Plan to "PFail"**

Food and beverage businesses of any size and their suppliers, especially those with multi-state footprints, should be aggressively proactive in identifying and assessing the potential risks and liabilities PFAS may pose to their past, current, and future operations. In light of the ever-evolving legal maze and scientific uncertainty, companies would benefit from engaging a coordinated legal and technical advisory team to develop a PFAS risk management plan to guide a path forward to avoid likely pitfalls.

A risk management plan could involve the following best practices:

- Monitor federal and state legal, regulatory, and technical PFAS developments.
- Conduct a "farm-to-fridge" product lifecycle assessment to identify potential avenues through which PFAS may enter the production process, including water supplies and processing materials. Assess supply chains and food packaging by gathering more information on what types of PFAS and to what extent PFAS may be present by reviewing Material Safety Data Sheets.
- Request formal compliance assurance letters from upstream packaging suppliers to confirm whether their packaging contains intentionally added PFAS, which can provide access to "Safe Harbor" provisions under some state laws. Expect to be asked for similar assurances from downstream customers, vendors, and retailers.
- Given the haphazard landscape of PFAS regulation and nascent analytical methods, coordinate with experienced environmental consultants and seek the protection of attorney-client privilege when considering voluntarily testing products, packaging, or properties for PFAS.
- Evaluate non-PFAS alternative supplies and develop phase-out timelines, as necessary.
- Coordinate with an experienced broker and legal team to negotiate tailored insurance that may provide coverage for PFAS-related damages, and conduct an archeological dig on historical insurance policies to determine what coverage may be available for actual or potential PFAS claims associated with prior operations or properties.
- Prepare communications holding statements to stakeholders such as suppliers, distributors, and customers for potential PFAS public relations issues.

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As PFAS risks become more understood, regulations more robust across jurisdictions, and litigation more common, it is critical that food and beverage companies proactively evaluate their operations and supply chains to understand their specific PFAS risks, including in the ingredients, food packaging, or even waste streams. They should also engage proactive and coordinated legal and technical advisors and develop a thoughtful risk management plan to identify, mitigate, and manage PFAS risks associated with past, present, and future operations. To take poetic license with an old axiom, the bottom line for PFAS is: "If you PFail to plan, plan to PFail." ■

### References

1. Loria, K. "Dangerous PFAS Chemicals Are in Your Food Packaging." Consumer Reports. March 24, 2022. <https://www.consumerreports.org/health/food-contaminants/dangerous-pfas-chemicals-are-in-your-food-packaging-a3786252074/>.

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