PFAS in Food & Beverage Water

What You Need to Know — and What You Can Do Today
A NORIT Technical FAQ for Food & Beverage Manufacturers

Per- and polyfluoroalkyl substances (PFAS) are one of the most discussed emerging water quality challenges facing the food and beverage industry today. While regulations and public awareness are evolving rapidly, effective, proven treatment solutions already exist, and manufacturers can take practical, defensible steps now to manage both risk and cost.

This FAQ addresses common PFAS questions and highlights how activated carbon based treatment remains a cornerstone of successful PFAS management programs worldwide.

What Are PFAS and Why Do They Matter to Food & Beverage Manufacturers?

PFAS are a large family (12,000+ compounds) of synthetic chemicals characterized by strong carbon–fluorine bonds that make them highly resistant to degradation. Because of this persistence, they are often referred to as "forever chemicals." PFAS matter to food and beverage manufacturers because they can enter operations through:

- Ingredient water
- Certain raw materials and processing aids
- Wastewater recycling or reuse
- Food contact packaging materials

Regulatory scrutiny, customer expectations, and brand risk are driving heightened attention to PFAS across the F&B value chain, particularly for ingredient water quality.

The good news: PFAS behavior in water is well understood, and treatment technologies, especially activated carbon, are already widely deployed and effective.

Which PFAS Are Regulated and What Is the Timing?

In 2024, the U.S. Environmental Protection Agency (EPA) finalized its first federal drinking water standards for PFAS. As of mid-2026, the regulatory landscape is actively shifting:

Confirmed and Retained:

- PFOA: 4 ng/L (ppt)
- PFOS: 4 ng/L (ppt)

The EPA has affirmed it will keep and defend these MCLs. PFOA and PFOS are also now designated as CERCLA hazardous substances (effective July 2024), increasing the importance of documented treatment and waste management practices.

Proposed for Rescission (May 2026):

- PFHxS: 10 ng/L (ppt)
- PFNA: 10 ng/L (ppt)
- HFPO-DA (GenX): 10 ng/L (ppt)
- Hazard Index (HI) approach for mixtures containing two or more of PFHxS, PFNA, HFPO-DA (GenX), and PFBS

In May 2026, the EPA formally proposed to rescind the MCLs for PFHxS, PFNA, and HFPO-DA (GenX), along with the Hazard Index standard. The EPA's stated rationale is that the prior administration did not properly follow the Safe Drinking Water Act's sequential regulatory determination process.

These standards remain technically in effect until the rescission is finalized, but their long-term status is uncertain. A public comment period is open through July 20, 2026. The date for the announcement of a final ruling is TBD.

Compliance Timeline: Public water systems must comply with the PFOA and PFOS MCLs by 2029. However, the EPA has also proposed allowing systems to apply for a two-year extension to 2031. Systems with PFOA or PFOS detections at 12 ppt or higher must still conduct public notification by 2029, regardless of extension status.

Many food and beverage companies are acting now to stay ahead of:

- State-level regulations (which are often more stringent and remain unaffected by federal changes)
- Customer and retailer expectations
- Potential future FDA actions on PFAS in food

Important Note: Even if the federal rescission of the four additional PFAS MCLs is finalized, the EPA has indicated these compounds could be re-regulated under a corrected SDWA process, and the resulting limits could potentially be more stringent. Proactive management remains the safest course.

Do I Have PFAS in My Water — and Is My Current System Effective?

PFAS have been detected in many U.S. water systems, including areas without obvious industrial sources. Testing is the only way to know your exposure. For many food and beverage facilities, existing treatment systems already provide strong protection:

- Granular Activated Carbon (GAC) is highly effective for long-chain PFAS (e.g., PFOA, PFOS)
- Reverse osmosis (RO) provides broad PFAS rejection (>95%)
- GAC + RO together form a robust, industry-standard multi-barrier approach

What matters most is the system condition and management:

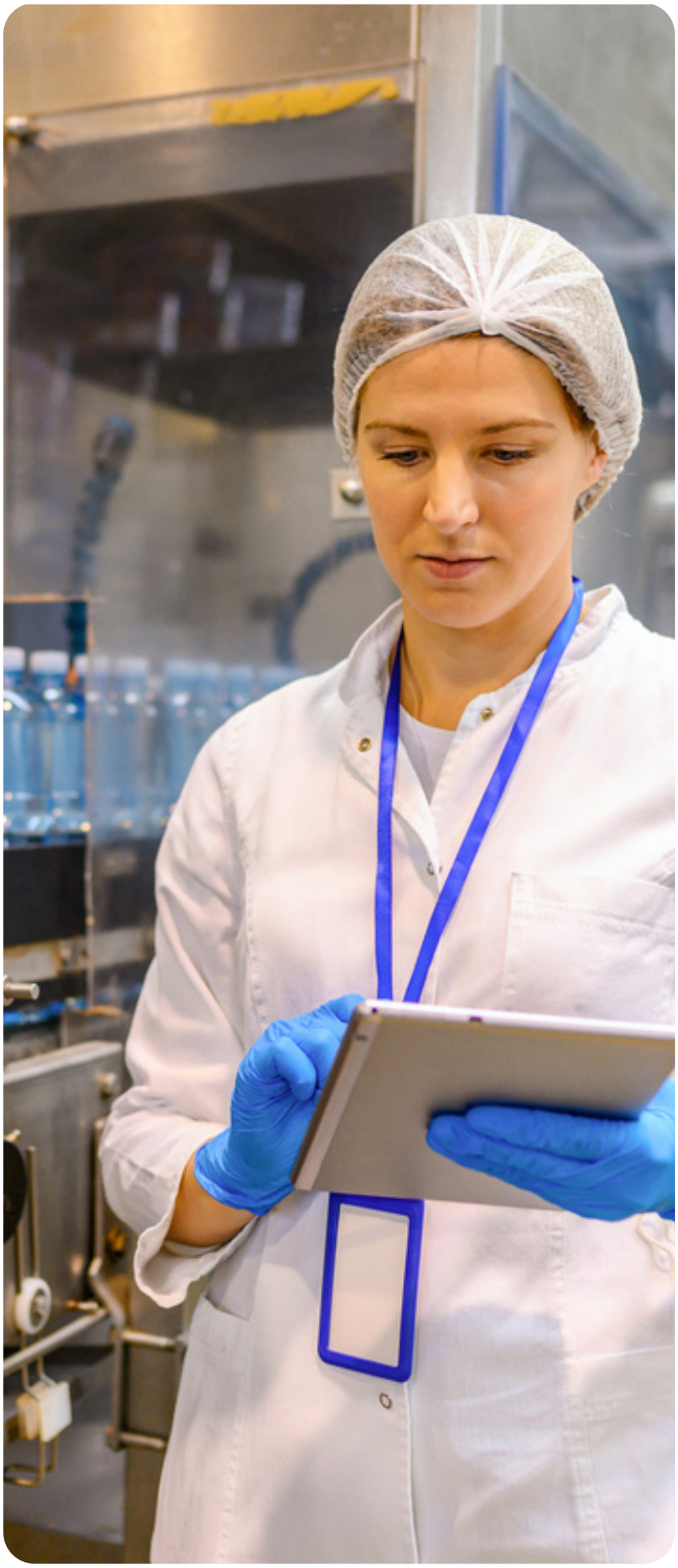
- Carbon bed loading and change out schedules
- Membrane integrity and fouling control
- Proper monitoring and validation

With appropriate design and maintenance, activated carbon based systems reliably meet today's strict PFAS targets.

What Treatment Options Are Available?

Technology	Strengths	Considerations
Granular Activated Carbon (GAC)	Highly effective for long chain PFAS; including PFOA and PFOS; proven at full scale; cost effective	Less effective for some short chain PFAS when used alone
Ion Exchange (IX)	Strong performance across many PFAS compounds	Sensitive to organics; resin disposal costs
Reverse Osmosis (RO)	Broad PFAS rejection (>95%)	Produces a concentrated reject stream
Thermal Destruction	PFAS destruction for concentrated residuals under properly controlled high temperature conditions	Applies to concentrated waste, not raw water
Emerging Technologies	Promising long term options	Limited commercial readiness today

Key Perspective:
Most PFAS treatment technologies separate and concentrate contaminants. What matters is how responsibly and permanently those concentrated streams are managed, an area where activated carbon with high-temperature reactivation excels.



Can PFAS Be Permanently Destroyed?

Yes. Certain PFAS compounds can be permanently destroyed by high-temperature thermal treatment, provided sufficiently high temperatures and appropriate residence times are achieved.

NORIT Reactivation and PFAS Destruction

NORIT operates a dedicated activated carbon reactivation facility in Oklahoma that is designed and operated to achieve the extreme thermal conditions required for PFAS destruction. This facility has played a key role in demonstrating that PFAS adsorbed onto activated carbon can be destroyed during properly controlled thermal reactivation, rather than simply transferred to another waste stream.

Key elements of NORIT's approach include:

- Sustained reactivation temperatures exceeding 1,750 °F, which are widely recognized as necessary for PFAS molecular breakdown
- Controlled furnace design and residence time, ensuring that adsorbed PFAS compounds are exposed to destructive thermal conditions
- Validated operating protocols specifically developed for PFAS bearing carbons
- Analytical verification (e.g., inlet/outlet and emissions testing, as applicable) is used to confirm performance and help document that PFAS are not re-emitted or carried over

Through this combination of high-temperature operation, process control, and post-process verification, NORIT has shown that spent activated carbon containing PFAS can be responsibly regenerated while achieving destructive treatment of the adsorbed PFAS.

Why This Matters for Food & Beverage Manufacturers

This capability is important because most PFAS water treatment technologies (GAC, ion exchange, RO) remove and concentrate PFAS but do not destroy them. Without a verified destruction pathway, companies may face:

- Long-term liability for stored PFAS containing waste
- Higher disposal costs
- Increased regulatory and reputational risk

By coupling proven PFAS adsorption with high-temperature reactivation and destruction, activated carbon becomes not only an effective treatment solution but also a sustainable and defensible long-term management strategy.

Can Activated Carbon That Has Adsorbed PFAS Be Reactivated?

Yes — and this is a critical advantage of activated carbon in the removal of harmful contaminants like PFAS. When properly reactivated:

- PFAS can be destroyed under properly controlled high-temperature reactivation conditions (rather than simply transferred to another waste stream)
- Carbon is restored for reuse, reducing waste and cost
- The overall environmental footprint of PFAS treatment is reduced

It is important that reactivation is performed in facilities capable of sustaining sufficiently high temperatures. NORIT works with reactivation processes designed to meet these requirements, supporting a circular, responsible PFAS management approach.

What Will This Cost — and What Is the Risk of Doing Nothing?

Costs are often manageable, especially for facilities with existing treatment:

- Incremental expenses may include testing, monitoring, and optimized carbon management
- New equipment for GAC or GAC + RO systems typically ranges from hundreds of thousands to several million dollars, depending on scale

The cost of inaction can be far higher, including:

- Regulatory non-compliance
- Product recalls or customer rejection
- Supply chain disruptions
- Legal and reputational risk

Importantly, public funding opportunities exist at the federal and state levels to support PFAS water treatment investments.

How Does PFAS Affect My Business Beyond Water Treatment?

PFAS considerations extend across operations:

- **Finished Products**: Ingredient water quality directly impacts product integrity
- **Packaging:** State bans on PFAS in food contact materials are expanding
- **Wastewater:** Concentrated PFAS streams require proper documentation and disposal
- **Supply Chain:** Customers increasingly expect PFAS transparency and controls

A proactive approach helps protect both compliance and brand trust.

What Should We Be Doing Right Now?

Recommended Next Steps:

1. Test your water using the EPA Methods 537.1 or 533 at a qualified laboratory
2. Review current treatment performance, focusing on carbon loading, change out, and monitoring
3. Identify regulatory exposure at the local, state, and federal levels
4. Establish a PFAS management plan that covers monitoring, treatment, waste handling, and communication
5. Set internal action/decision thresholds (i.e., concentrations that trigger treatment changes, engineering review, or supplier/customer communication)
6. Confirm the sampling plan (raw vs. treated water locations, frequency, method reporting limits, and chain of custody) before baselining results

PFAS management is no longer experimental — it is a mature, manageable water quality challenge when addressed with proven technologies.

NORIT Perspective

Activated carbon is not just a stopgap; it is a central, long-term solution for PFAS management when properly designed, monitored, and regenerated.

NORIT supports food and beverage manufacturers with:

- PFAS optimized carbon products
- System design and performance expertise
- High-temperature reactivation pathways
- A practical, defensible approach to compliance and sustainability

Quick Reference: Key PFAS Numbers

Parameter	Value
EPA MCL — PFOA	4 ng/L (ppt) — Confirmed, retained
EPA MCL — PFOS	4 ng/L (ppt) — Confirmed, retained
EPA MCL — PFHxS, PFNA, GenX	10 ng/L (ppt) each — Proposed for rescission (May 2026)
Hazard Index (HI) for mixtures	Proposed for rescission (May 2026)
Public water compliance deadline	2029 (extension to 2031 proposed)
CERCLA hazardous substance designation	PFOA and PFOS — Confirmed (effective July 2024)
Typical RO PFAS rejection	>95%
Recommended test methods	EPA 537.1 / EPA 533
Federal PFAS compounds with confirmed MCLs	2 (PFOA, PFOS)
Federal PFAS compounds with MCLs proposed for rescission	3+HI (PFHxS, PFNA, GenX, + Hazard Index)