MUNICIPALITY'S GUIDE TO PFAS CONTAMINATION AND TESTING

THE PROBLEM WITH PFAS

PFAS are a diverse group of compounds, which are resistant to heat, water, and oil. These properties have made PFAS ideal for use in many industrial applications and consumer products, including grease- and water-resistant food packaging, fire-fighting foams, carpeting, apparel, and upholstery.

However, PFAS do not readily biodegrade and they are bioaccumulative, meaning they can build up in the bloodstream and organic tissues. Both of these characteristics can be problematic for human health and the environment. Certain PFAS have been shown to cause adverse health issues, such as low birth weight, hormonal imbalances, and certain types of cancers. Under NPDWA (National Primary Drinking Water Regulations), EPA has proposed federally enforceable MCLs (Maximum Contaminant Levels) for 6 PFAS in the nation's water systems, including PFOA, PFOS, PFNA, PFBS, PFHxS, and GenX (HFPO-DA).

Some states have already set their own guidelines and MCLs for PFAS compounds, most commonly in drinking water. Once EPA MCLs are finalized, states may continue to set their own limits but they may not exceed EPA limits. In addition, many states have begun rulemaking for PFAS contamination across a variety of other matrices, including AFFF, soil, and groundwater.

In this guide, we provide municipalities (including local officials, public water system operators, wastewater treatment plant superintendents, and others) with the information they need to know to assess their situation and take proactive steps. Here's what you'll find in these pages:

COMMON ACRONYMS

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COMMON ACRONYMS

AFFF – Aqueous Film-Forming Foam (fire-fighting foam)

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

CWA – Clean Water Act

DOD – Department of Defense

EPA – Environmental Protection Agency

FRB – Field Reagent Blank, synonymous with Field Blank (FB)

ITRC – Interstate Technology Regulatory Council

MCL – Maximum Contaminant Level

NPDES – National Pollutant Discharge Elimination System

NPDWR – National Primary Drinking Water Regulations

PFAS – Per- and Polyfluoroalkyl Substances

PFAA – Perfluoroalkyl Acids

PFOA – Perfluorooctanoic Acid

PFOS – Perfluorooctane Sulfonate

PWS – Public Water System

RCRA – Resource Conservation and Recovery Act

SDWA – Safe Drinking Water Act

UCMR – Unregulated Contaminant Monitoring Rule

HOW DO I KNOW IF I HAVE A PFAS PROBLEM?

To understand the potential for PFAS contamination, it's important to understand the sources of PFAS.

INDUSTRY is one of the most common sources of PFAS contamination for most municipalities. At the top of the cycle (Figure 1) are the chemical producers of the PFAS compounds themselves. In the next level down are the many manufacturers who use those compounds in production of their industrial and consumer products.

While chemical companies have voluntarily stopped production of several PFAS in the U.S., such as PFOA and PFOS, thousands of others are still in production. Because PFAS do not break down naturally, contamination can persist in the surrounding area for decades after a plant closes.

AQUEOUS FILM-FORMING FOAM (AFFF) is used to fight chemical fires on ships and in airports, refineries, and other industrial sites. This makes many military installations and commercial airports a common source of PFAS contamination. These sources can also impact downstream vectors such as groundwater.

MUNICIPAL LANDFILLS can be a source of contamination. Since PFAS are unregulated, companies producing PFAS chemicals and manufacturers using them in their production environment have been disposing of contaminated waste from their facilities into municipal landfills for decades. The same is true for consumers who have been using and disposing of products containing PFAS.

Thankfully, most municipal landfills are lined and have leachate collection systems, so they are unlikely to contaminate local groundwater and drinking water sources. However, their leachate is a source of PFAS contamination that is frequently sent to municipal wastewater treatment plants. In addition, municipalities searching for the source of PFAS contamination should look closely at unlined construction and demolition landfills with no leachate collection systems.

WASTEWATER TREATMENT does not typically remove or destroy PFAS and can actually convert PFAS precursors into PFOA and PFOS. If it receives industrial discharge containing PFAS, a treatment plant not equipped with specialized PFAS treatment technology will pass that contamination through the plant and into its receiving water. In addition, this is especially an issue if the sludge/biosolids produced by these plants are applied for agricultural purposes as fertilizer since PFAS are bioaccumulative.

If your area is or has been home to any of the numerous types of manufacturers that produce or use PFAS, chances are you have some level of contamination in your soil and water supply.

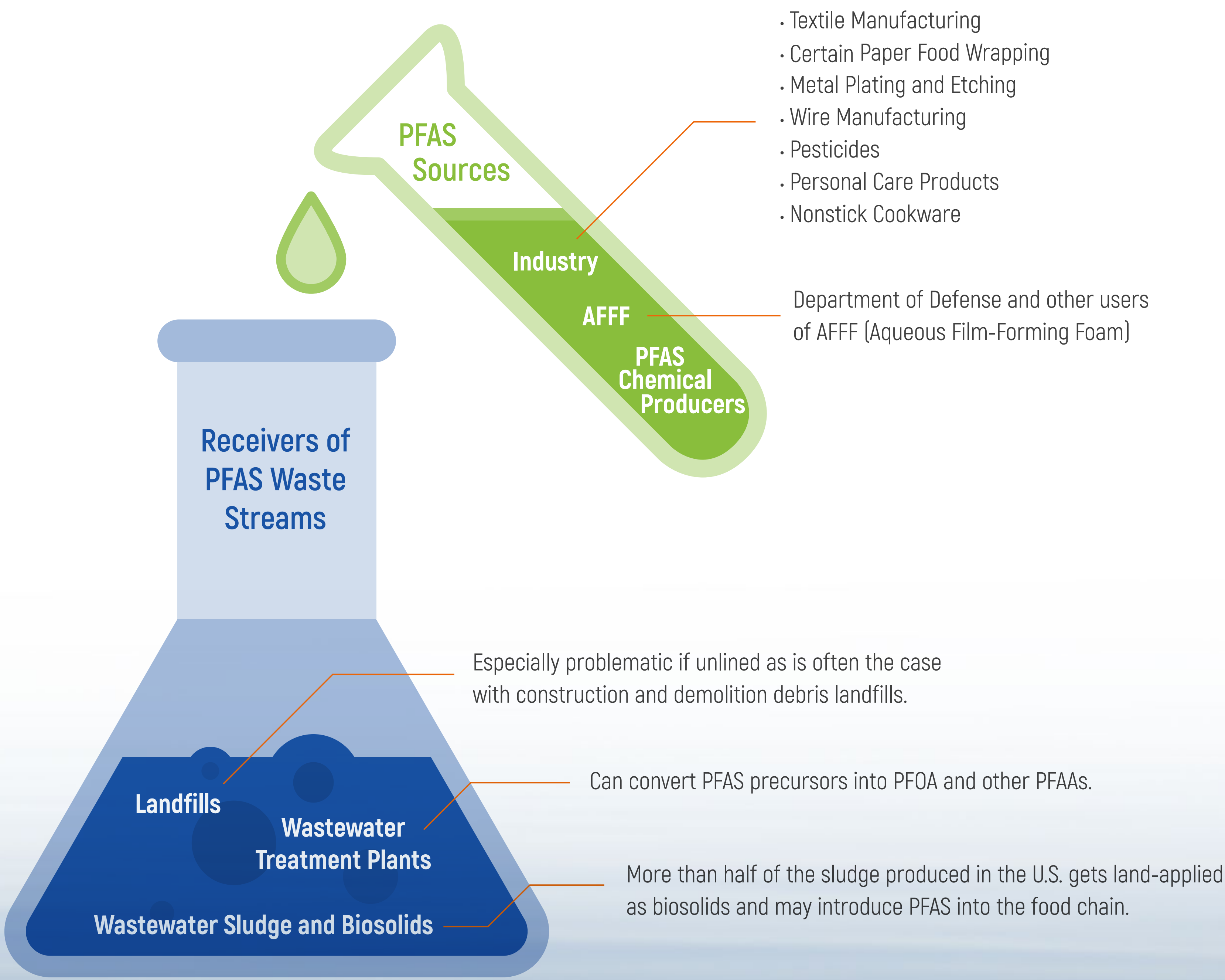


Figure 1 Sources of PFAS Contamination

PFAS RULEMAKING AND REGULATIONS IMPACTING MUNICIPALITIES

The EPA's 2021-2024 PFAS Strategic Roadmap makes it clear that the agency has priorities addressing PFAS contamination. Two programs impacting municipalities are EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) and the proposed National Primary Drinking Water Regulations (NPDWR). We have also included a few more programs municipalities should know about.

UCMR 5

UCMR 5 requires all Public Water Systems (PWS) serving 3300 customers or more, as well as 800 randomly selected smaller systems, to begin testing for 29 PFAS plus lithium in 2023. This more than doubles the number of water systems required to participate compared to previous UCMR requirements. Sampling schedules are based on the number of people served and the source water used. All impacted PWS should have received sampling schedules from EPA.

EPA Test Methods 537.1 and 533 will be required to analyze for all 29 PFAS. See the Test Methods section of this guide for more information on these methods. Pace® is an EPA-approved lab for UCMR 5.

National Primary Drinking Water Regulations (NPDWR)

On March 14, 2023, EPA proposed the first-ever NPDWR limits on six PFAS in the nation's public drinking water systems. Unlike previously issued health advisories, NPDWR limits are legally enforceable. The compounds covered by the proposal include PFOA, PFOS, PFNA, PFBS, PFHxS, and GenX (HFPO-DA). Proposed MCLs for PFOA and PFOS are 4 ppt (parts per trillion) individually. Proposed PFNA, PFBS, PFHxS, and GenX levels are assessed using a Hazard Index (HI) calculation that considers the relative toxicities of the various compounds and their combined concentration.

In the graphic below, the water drop represents the concentration of each PFAS in the sample. If the total of all the fractions is equal to or greater than one, the water system exceeds the Hazard Index value. To be considered in violation, the running average of all samples taken in the past twelve months must also be equal to or greater than one.

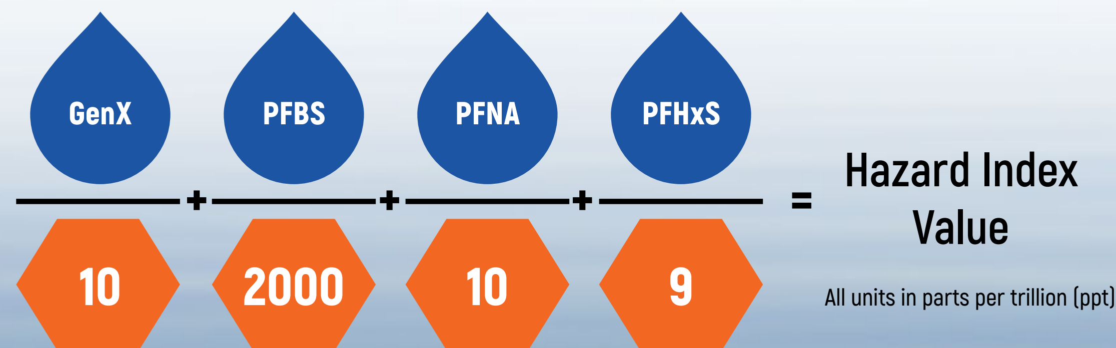
EPA's Proposed Action for the PFAS NPWDR

<table>
<tr><th>Compound</th><th>Proposed MCLG</th><th>Proposed MCL (enforceable levels)</th></tr>
<tr><td>PFOA</td><td>zero</td><td>4.0 ppt*</td></tr>
<tr><td>PFOS</td><td>zero</td><td>4.0 ppt*</td></tr>
<tr><td>PFNA</td><td rowspan="4">1.0 (unitless) Hazard Index</td><td rowspan="4">1.0 (unitless) Hazard Index</td></tr>
<tr><td>PFHxS</td></tr>
<tr><td>PFBS</td></tr>
<tr><td>HFPO-DA (commonly referred to as GenX Chemicals)</td></tr>
</table>

The Hazard Index is a tool used to evaluate potential health risks from exposure to chemical mixtures.

*ppt = parts per trillion (also expressed as ng/L)

Source: EPA General Overview Webinar, March 2023



Source: EPA General Overview Webinar, March 2023

Other Rulemaking Impacting Communities Nationwide
EPA also has a number of other programs focused on PFAS that have the potential to impact communities across the country. A summary of some of the primary actions is provided here, but more details may be found on PFAS.com/resources/.

CERCLA
EPA has announced plans to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. Once this happens, EPA will have the authority to respond directly, e.g., issue cleanup orders, in the event of a release. CERCLA also grants EPA the power to address existing contamination.

On April 13, 2023, EPA published an Advance Notice of Proposed Rulemaking (ANPRM) in the Federal Register requesting public input and data to assist in the potential development of future regulations of CERCLA pertaining to PFAS. The agency requested comments on adding seven specific PFAS to CERCLA including PFBS, PFNA, GenX, PFBA, PFHxA, and PFDA. The EPA also addresses the addition of PFAS precursors of those seven PFAS as well as precursors of PFOA and PFOS. A precursor is a chemical that is transformed into another compound through the course of a degradation process.

In public "listening sessions," EPA spokespeople have said the agency intends to hold the originators of the PFAS contamination responsible, i.e., industry. They do not intend to target secondary users of PFAS, such as farmers, or property owners of previously contaminated sites.

Effluent Guidelines Program
In EPA Effluent Guidelines Program Plan 15, the agency announced its intention to set PFAS ELGs (Effluent Limitation Guidelines) for landfill leachate. Plan 15 also calls for a detailed study of PFAS discharge associated with textile mills and on industrial discharges sent to publicly owned treatment works (POTW).

NPDES Permitting
The National Pollutant Discharge Elimination System is designed to monitor and control pollutants discharged in the nation's waterways. The majority of states are authorized by EPA to administer their own NPDES permitting program. EPA guidance issued to the states encourages the inclusion of PFAS in wastewater discharge and biosolids in NPDES permitting.

SAMPLE MATRICES

While drinking water has long been the focus of state and federal regulatory action, other matrices are receiving increased attention. Pace® provides testing services for a wide variety of matrices to help its customers assess and mitigate risks as well as remain compliant with new rules and regulations.

- Drinking water
- Surface and storm water
- Groundwater
- Treated and untreated wastewater
- Biosolids/wastewater sludge
- Leachate
- Solid waste
- Soil & sediment
- Ash
- Stack emissions
- AFFF
- Industrial and consumer products

PFAS TEST METHODS

There are numerous PFAS test methods available from various agencies and organizations. Here are some of the most common methods used for compliance as well as forensic studies.

AOF/EPA Draft Method 1621

MATRICES: AQUEOUS

Compounds: Absorbable Organic Fluorine (AOF)

AOF measures adsorbable organic fluorine in a liquid matrix. Similar to other organofluorine-based methods, AOF utilizes CIC instrumentation. For example, AOF can be used as a screening tool to assess organic fluorine concentrations in non-potable water, which often contains many PFAS compounds not detectable by targeted methods such as Draft Method 1633. The U.S. EPA is in the process of validating a test method for AOF as Draft Method 1621. The EPA Office of Water describes Draft Method 1621 as a "Screening Method for the Determination of Adsorbable Organic Fluorine (AOF) in Aqueous Matrices by Combustion Ion Chromatography (CIC)." As drafted, this method can quantify total organic fluorine at the parts-per-billion level in all aqueous matrices. Pace® was chosen to perform the single-lab validation for Draft Method 1621.

ASTM D8421/EPA 8327

MATRICES: GROUND & SURFACE WATERS, WASTEWATER, LEACHATE, BIOSOLIDS, SOIL & SEDIMENT

Compounds: Up to 44

ASTM D8421 is a PFAS method developed by the American Society for Testing and Materials (ASTM) to provide the industry with a quick, easy, and robust method for PFAS analyses in aqueous matrices. ASTM D8421 utilizes Liquid Chromatography/ Tandem Mass Spectrometry (LC/MS/MS), with optional uses of Isotope Dilution (ID) to minimize the impacts of sample matrix interference on quantification and thus improve data quality. Pace® has also successfully used this method for PFAS soil analysis.

Technically similar to EPA 8327, Pace® can cite either method. However, ASTM D8421/ EPA 8327 has several advantages over other methods. Turnaround time (TAT) is faster than other published methods that are more procedurally challenging. With optimized procedural requirements, ASTM D8421/EPA 8327 can also be delivered at a much lower price point than other PFAS methods. Finally, ASTM D8421/EPA 8327 only requires a 5 mL of water volume to be collected. This will save significant field collection time and shipping costs compared to other methods, such as Draft Method 1633, which require higher sample volumes.

Consumer and Industrial Products

MATRICES: FLUOROPOLYMERS, TEXTILES, FOOD CONTACT MATERIALS, AND MANY OTHER CONSUMER AND INDUSTRIAL PRODUCTS

Compounds: Up to 33

PFAS is often an ingredient in fluoropolymers and other materials used for packaging and in many commercial and industrial applications. It is also a concern in the container industry and chemical formulation. Pace® has developed a procedure capable of analyzing for 33 common PFAS compounds in consumer and industrial products to support our clients' efforts to monitor production and manufacturing operations to control the spread of PFAS and comply with the rapidly evolving domestic and International PFAS bans.

DOD QSM 5.4 (TABLE B-15)

MATRICES: GROUND & SURFACE WATERS, WASTEWATER, LEACHATE, WASTEWATER SLUDGE & BIOSOLIDS, SOIL & OTHER SOLIDS, BIOTA, AFFF

Compounds: Up to 25

The DOD QSM (Quality Systems Manual) is not a test method per se. Instead, it is a set of quality control requirements to be used for DOD projects and other state requirements that require DOD QSM compliance.

QSM v5.3 Table B-15 lists the specific requirements for analyzing PFAS in matrices other than drinking water. QSM v5.4 was published in late 2021, adding Table B-24 to include quality control requirements for EPA Draft Method 1633 for DOD projects. Both QSM v5.3 and v5.4 are currently valid, but it's anticipated that these versions will be superseded by QSM v6.0 when it is finalized.

EPA Draft Method 1633

MATRICES: WASTEWATER, SURFACE WATER, GROUND WATER, SOILS, BIOSOLIDS, TISSUES, LANDFILL LEACHATE, SEDIMENT, AND TISSUE

Compounds: Up to 40

Originally published in August of 2021, Draft Method 1633 closely resembles PFAS by Isotope Dilution and can quantitate 40 compounds across a wide range of solid and aqueous matrices. Method 1633 will likely replace all laboratory-specific SOPs as well as state and DOD-specific guidance and methods. Method 1633 will also play a vital role in the EPA's efforts to study, monitor, and regulate PFAS in nearly all matrices and regulatory programs except drinking water. Pace® participated in the multi-lab validation of this method. This method will be adopted into SW-846 for the RCRA program and will soon be promulgated in 40 CFR Part 136.

EPA 537.1

MATRIX: DRINKING WATER

Compounds: Up to 18

An EPA validated method, EPA 537.1 was developed to replace EPA 537 and is commonly used for drinking water compliance. In addition to analyzing for the 14 compounds covered by the original EPA 537, EPA 537.1 also analyzes for four replacement PFAS: 11Cl-PF3OUdS, 9Cl-PF3ONS, ADONA, and HFPO-DA (also known as Gen X).

EPA 533

MATRIX: DRINKING WATER

Compounds: Up to 25

EPA 533 expanded the number of PFAS compounds that can be analyzed in drinking water samples. Unlike the 537 series, this method utilizes isotope dilution, providing additional quality control for accuracy of reporting, especially at ppt (parts per trillion) levels. EPA 533 does not replace EPA 537.1, but together, the tests can be used to analyze for 29 PFAS compounds. EPA 533 is also commonly used for drinking water compliance, and both EPA 533 and EPA 537.1 are required for UCMR 5 compliance.

PFAS by Isotope Dilution

MATRICES: GROUND & SURFACE WATERS, WASTEWATER, LANDFILL LEACHATE, WASTEWATER SLUDGE & BIOSOLIDS, SOIL & OTHER SOLIDS, BIOTA, AFFF

Compounds: Up to 40

Like many commercial labs, Pace® developed and validated an isotope dilution method based on EPA 537 to apply for non-drinking water matrices such as non-potable water, solids, biota, and biosolids. Able to quantitate 40 PFAS compounds, this method is widely applicable to both DOD and commercial/industrial applications. Furthermore, Pace® has been audited and certified to the accreditation standards of DOD, TNI NELAC, and state accreditation bodies for this method.

TOP Assay

MATRICES: AQUEOUS AND SOLIDS

Compounds: Up To 40, Including PFAS Precursors

PFAS precursors, both known and unknown, are a class of PFAS compounds that can degrade to terminal PFAS compounds (i.e., perfluoroalkyl substances) under the right environmental circumstances. TOP Assay oxidizes PFAS precursors, most of which are compounds not currently measured by targeted techniques, converting them into their terminal PFAS compounds that can then be measured. The increase in PFAS measured after the TOP Assay oxidation relative to pre-oxidation levels is a gross estimate of the total concentration of PFAS precursors present in a sample. PFAS analysis by TOP Assay is particularly useful in forensic studies designed to identify the source of elevated PFAS levels in all matrices. TOP Assay is commonly used on complex sample matrices such as landfill leachate, wastewater, biosolids, and AFFF.

Total Fluorine

MATRICES: SOLIDS

Compounds: Total Fluorine

Two tests are commonly used for analyzing total fluorine in a wide range of solids, such as cosmetics, personal care products, textiles, etc. Cryomilling combined with CIC provides a complete profile of organic and inorganic fluorine content in a sample. Pace® has also partnered with the University of Notre Dame, to offer PIGE (Particle-Induced Gamma-Ray Emission).

Total Organic Fluorine (TOF)

MATRICES: AQUEOUS

Compounds: Total Organic Fluorine

Total organic fluorine in a liquid sample can also be measured without extraction to a carbon media, eliminating extraction efficiency concerns. The technology used for this method is combustion-ion chromatography (CIC) using a novel system where both the inorganic fluoride and total fluorine can be quantitated. A low volume test, this method only requires 10 mL of liquid matrix.

WHAT ARE REPLACEMENT PFAS?

The production of PFOA and PFOS was voluntarily phased out in the United States years ago. However, there are other PFAS that have been developed to replace them. GenX, for example, is a trade name for a PFAS chemical used to make high performance fluoropolymers (e.g., some nonstick coatings) without the use of perfluorooctanoic acid (PFOA). GenX has been found in surface water, groundwater, finished drinking water, rainwater, and air emissions in some areas. Although questions about the toxicity of these compounds remain, some states have begun to collect data on their prevalence in local drinking water sources as well as all other matrices.

CASE STUDY

FLORIDA KEYS AQUEDUCT AUTHORITY REMOVES PFAS COMPOUNDS IN ITS RAW WATER SUPPLY

Recently, there has been more attention paid to the potential impacts of trace per- and polyfluoroalkyl substances (PFAS) in drinking water due to studies suggesting adverse health effects. PFAS chemicals have useful properties not found in other substances. However, they are persistent in the environment and not easily removed by conventional water treatment technologies. To solve this problem, some municipalities have decided to add PFAS removal processes to their water treatment plants. Two common methods of treatment are granular activated carbon (GAC) and reverse osmosis (RO).

The primary water supply for the Florida Keys is freshwater from the Biscayne Aquifer. The location of the wellfield near Everglades National Park, along with restrictions enforced by state and local regulatory agencies, contribute to the unusually high quality of the raw water. Even though this wellfield contains some of the highest quality groundwater in the country, the Florida Keys Aqueduct Authority (FKAA) detected PFAS compounds in the Biscayne groundwater. The measured values for combined PFOS and PFOA ranged between 45 and 54 ppt, which is below the current health advisory limit (70 ppt combined) but higher than the proposed limits being considered by some states.

The FKAA originally planned to use finished water for the pilot study but decided to use its raw water source because the water treatment plant adds chlorine upstream of the gravity filters. The FKAA did not want to dechlorinate the water entering the pilot unit but was concerned that the chlorine would interfere with the efficacy of the GAC. The pilot unit was designed with (3) three feet of Calgon's Filtrasorb 400 GAC to provide 15 minutes of empty bed contact time (EBCT) at a flow rate of 0.86 gpm. The water leaving the pilot unit was measured using both an ultrasonic flow meter for observations/adjustments and a water meter to measure the total volume of water through the filter. The pilot was made of a 12-inch diameter schedule 40 clear PVC pipe so the water level could be observed.

Since August 2019 the FKAA has been collecting influent and effluent samples every month. Based on the results of the first two months of data collection, the pilot unit has removed all PFAS compounds and total organic carbon (TOC) to non-detectable levels. The FKAA plans to continue to run the pilot until the GAC is no longer effective.

PFAS FAQs

ARE WE REQUIRED TO INCLUDE FIELD QC SAMPLES IN OUR SAMPLING PROGRAM FOR PFAS?

Due to the potential for cross-contamination during sampling for PFAS the inclusion of Field Reagent Blanks (FRBs) or Field Blanks (FBs) and other field QC samples are written into every available PFAS sampling SOP issued by various states and other organizations, such as the ITRC. The inclusion of appropriate field QC samples is advisable due to the prevalence of PFAS-containing materials used in sampling and very low laboratory PFAS detection levels.

SHOULD WE TEST OUR FIREFIGHTING FOAMS FOR PFAS?

Many municipalities and businesses are switching to fluorine-free firefighting foams (FFF). However, while the FAA allows FFF to be used for training purposes, it has not yet been approved for actual aviation emergencies. Aqueous film-forming foam (AFFF) also has a long shelf life, and the ingredients are not always clearly marked. Furthermore, tests performed on some fluorine-free foams have shown that, although the foams do not contain PFOA or PFOS, they may not be completely fluorine-free. Pace® offers testing services for FFF that can determine which PFAS compounds are present, and if so, at what level. We also offer testing services for legacy AFFF. This data can be used to inform your disposal strategies.

SHOULD WE TEST BOTH WASTEWATER INFLUENT AND EFFLUENT?

This is a common question we get from industry and wastewater professionals. Testing effluent is clearly vital if it is being directly released into the environment and impacting drinking water sources. However, if effluent levels are elevated, testing influent can provide a clearer picture as to the source of the PFAS. For example, TOP Assay can detect PFAS precursors that may degrade into terminal PFAS during treatment.

WHY SHOULD WE CONSIDER TESTING FOR TOTAL ORGANIC FLUORINE?

There are ongoing discussions in the scientific and regulatory communities about regulating PFAS as a class of chemicals. Testing for total organic fluorine (TOF) can give you a clearer picture of total PFAS contamination as it enables detection of the total of all PFAS present as a single number versus the total level of individual PFAS compounds. For businesses concerned about future legal liabilities, testing for TOF can also inform your risk mitigation strategies.

SHOULD PFAS TESTING BE INCLUDED IN OUR SITE ASSESSMENT BEFORE WE ACQUIRE A BUSINESS OR PROPERTY?

With PFOA and PFOS on track to be declared hazardous substances under CERCLA, including PFAS in your pre-acquisition Environmental Site Assessments (ESAs) is more important than ever. PFAS compounds do not break down naturally, so contamination that occurred on a site decades ago may still remain and can create liability issues for a new owner. If the site history shows that the land was used by a business that manufactured PFAS or used PFAS in its processes, testing of soil, groundwater, and surface waters may be warranted. Also, remember to look for past use of AFFF on-site to fight fires involving flammable liquids, as runoff may have been allowed to seep into the local soil and groundwater.

WHAT OTHER EPA ACTIONS MIGHT INCREASE MY POTENTIAL LIABILITY?

The EPA has also proposed designating PFOA, PFOS, PFBS, and the GenX Chemicals as hazardous substances under the Resource Conservation and Recovery Act (RCRA). The EPA further intends to clarify under this new ruling that it has the authority to require the investigation and cleanup of contaminated sites under RCRA's corrective action program. To help assess liability issues, businesses that have manufactured or handled PFAS on-site, whether they still do today or not, should also consider testing potentially impacted matrices such as soil and groundwater.

THE EPA RECENTLY PROPOSED MCLS AND MCLGS. WHAT'S THE DIFFERENCE?

Under the National Primary Drinking Water Regulations (NPDWR), MCLs or Maximum Contaminant Levels are the legally enforceable limits. These limits consider factors such as the detection limits of current test methods, the reporting limits of most water labs, current remediation technologies, and the costs associated with remediation.

MCLGs are Maximum Contaminant Level Goals. Since PFOA and PFOS were deemed likely cancerous, the goal is to have zero ppt (parts per trillion) of these two compounds in drinking water. Therefore, EPA felt it wasn't feasible to set an MCL of zero at this time.

WHAT HAPPENS TO MCLS AT THE STATE LEVEL ONCE THE MCLS ARE FINALIZED?

Until the rule is finalized, current limits set by the states are still in effect. For example, if a state has a limit of 70 ppt for PFOA, that limit will remain until the limits set by EPA render it void. This could happen as early as 2023 but will most certainly be before the end of 2024. Once the rule is finalized, states may continue to set enforceable limits; however, they must be at or below the MCLs set by EPA.

WHY IS IT POSSIBLE TO BE BELOW THE HEALTH LIMITS FOR PFNA, PFBS, PFHXS, AND GENX INDIVIDUALLY, AND STILL SCORE ABOVE THE HAZARD INDEX LIMIT?

EPA has said that they believe these compounds will often be found in combination and tend to co-occur, and that combined, they present a greater hazard to human health than each compound individually.

CAN PACE® DETECT BELOW THE MCL VALUES SET BY THE EPA?

Yes, our reporting limit for both approves drinking water test methods, EPA 537.1 and 533 is 2.0 ppt. However, our detections limits are even lower – sub 1 ppt for both PFOA and PFOS.

For a more complete assessment of EPA actions impacting your industry or organization, reach out to our emerging contaminants team for a Technical & Regulatory Briefing.

ABOUT PACE®

Pace® Analytical has been an industry leader in persistent organic pollutant testing for over three decades and was one of the first commercial laboratories to analyze for PFAS compounds. We maintain certifications across all matrices in every state which offers or requires them. We have also received accreditation from all national and federal bodies with PFAS regulatory requirements, including the DOD, DOE, NELAC, and ISO.

As regulatory requirements and methodologies have evolved, we have responded. Today, Pace® has the capabilities to analyze for PFAS through our in-house national network of labs.

PFAS RAPID RESPONSE TEAM

Pace® can quickly mobilize and dispatch a team in response to an environmental disaster. Leveraging our national lab network, we work around-the-clock, often providing results in 24-hours or less.

CERTIFIED AND ACCREDITED

Pace® Analytical is certified in every state and territory requiring certification for PFAS analysis. Additionally, we are accredited by all national and federal bodies with PFAS regulatory requirements.

ON-SITE PROJECT MANAGEMENT

To save time, Pace® can dispatch a team to your site to handle bottles, collect samples, and process paperwork.

PACE® SCIENTIFIC LAB STAFFING SERVICES

Pace® can augment your lab staff with experienced contractors - available to support anything from routine project work to new product development.

LOCATIONS

Convenient, accessible locations throughout the United States

Pace® Analytical customers value laboratory and service center proximity for convenience, quick turnaround times, and when needed, deployment of field service technicians. Our localized level of service backed with our broad capabilities, provides great customer value. As such, we continually analyze customer and market opportunities against our laboratory footprint to ensure we are where you need us. Get the quality results you require; at the Pace® you need. Visit PFAS.com for additional resources on PFAS or contact us to schedule a briefing or request a quick quote on Pace® PFAS services.

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