



PFAS EPA Draft Method 1633: Answers to six key questions

The U.S. Environmental Protection Agency (EPA) recently published the “PFAS Strategic Roadmap: EPA’s Commitment to Action 2021-2024 ¹” which established defined goals and target completion dates to address PFAS concerns through research, restriction, and remediation.

In tandem with the publication of the roadmap, EPA Office of Water recently released the 2nd Draft of Method 1633 “Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. ²” The 2nd draft incorporates feedback, comments, and questions submitted by parties testing the new method.

There are many lingering questions about the draft method – how it should be approached in the short term, and planning for its long-term adoption. These are answers to six of the most frequently asked questions on EPA Draft Method 1633.

What is the purpose of the new method?

The need for standard PFAS methods for different matrices became clearer as the ubiquitous nature of PFAS in environmental media and wastes was better understood. Draft Method 1633 is intended to provide standard procedures for the sampling and analysis of PFAS in a wide range of



Firefighting foam containing PFAS

sample types: surface water, groundwater, wastewater, leachate, fish tissue, soil, sediment, and biosolids. It also analyzes for a larger number of PFAS compounds – 40 in total, and uses isotope dilution techniques to more accurately quantify PFAS. Additionally, Draft Method 1633 addresses analytical challenges that are unique to PFAS, such as:

- Linear and branches isomer occurrence for some PFAS
- False-positive results for PFOS
- Aqueous samples with particulates
- Precursor transformations during sample preservation and storage
- PFAS adherence to the sample container wall and stratification within the container

It is hoped that the success of Method 1633 in addressing these analytical challenges will help to address them in other PFAS methods.

Will this method replace Methods 537.1 or 533?

Draft Method 1633 complements, but does not replace, existing PFAS methods such as:

- Safe Drinking Water Act (SDWA) Method 537.1 for finished, potable water
- SDWA Method 533 for finished, potable water
- Resource Conservation and Recovery Act (RCRA) SW-846 Method 8327 for groundwater, surface water, and wastewater

Draft Method 1633 has been developed for non-drinking water aqueous matrices (surface water, groundwater, wastewater influent/effluent, landfill leachate), fish tissues, biosolids, soils, and sediments. It complements existing PFAS methods by analyzing a larger number of PFAS compounds and a greater variety of sample matrices.

Timeline of PFAS Methods

2008	Office of Water Method 537 for 14 PFAS in drinking water
2018	Office of Water Method 537.1 for 18 PFAS in drinking water
2019	Office of Water Method 533 for 25 PFAS in drinking water, includes short-chain PFAS unmeasurable by Method 537.1
2021	Office of Solid Waste Method 8327 for 24 PFAS in groundwater, surface water, and wastewater
2021	Office of Water 1st Draft Method 1633 for 40 PFAS in surface water, groundwater, wastewater, leachate, fish tissues, biosolids, soils, and sediments
2022	Office of Water 2nd Draft Method 1633 revised in response to feedback, comments, and questions submitted by parties testing the new draft method

What programs are requiring Draft Method 1633?

The EPA Department of Water is leading the development of Draft Method 1633. The "Notice" portion of the draft method states that because the method is still in development, it "is not required for Clean Water Act compliance monitoring until it has been proposed and promulgated through rulemaking."

That said, because there are currently no approved PFAS methods in 40 CFR Part 136, certain Office of Water programs have expressed their openness to use of the draft method. The National Pollutant Discharge Elimination System (NPDES) is one program that is approaching PFAS analysis methods in this manner.

Facilities with a federally issued NPDES discharge permit may use Draft Method 1633 for permit application testing and ongoing discharge monitoring. In addition, states that issue NPDES permits will receive guidance from EPA recommending the use of Draft Method 1633.

The DoD Environmental Data Quality Workgroup has determined that draft method 1633 meets the precision, accuracy, and limits of quantitation needed to support sound decision making. All new contracts and task orders after December 31, 2021, shall require the use of Draft Method 1633 for the analysis for PFAS in matrices other than drinking water using a laboratory accredited to the method/matrix/ analyte by the DoD Environmental Laboratory Accreditation

program (ELAP). All existing projects are encouraged to use Draft Method 1633 for PFAS analysis in matrices other than drinking water when ELAP-accredited laboratories become available.

Are federal agencies and states offering accreditation for the draft method?

EPA does not currently regulate PFAS under the Clean Water Act, meaning there are no laboratory certification requirements for PFAS analysis at this time. The U.S. Department of Defense (DOD) has a PFAS laboratory certification program through its Environmental Laboratory Accreditation Program (ELAP).

States tend to certify laboratories in order to support the monitoring of federally regulated contaminants. As a result, most states have yet to develop a PFAS laboratory certification program. Some state agencies, such as the Alaska Department of Environmental Conservation, are certifying PFAS laboratories based on their DOD-ELAP accreditation. Some states such as the Commonwealth of Pennsylvania are offering certification for the draft version.

ALS Environmental is DOD-ELAP accredited for PFAS analysis.

Methods offered include:

- EPA Draft Method 1633
- EPA 537.1
- EPA 537M
- EPA 533
- EPA 8327
- ASTM D 7979
- ASTM D 7968

Does the method include changes in sampling, preservation, or hold times?

Yes, Draft Method 1633 has requirements for sample container, preservation, temperature, and holding time that differ from existing methods. The following table lists the requirements for aqueous samples for Draft Method 1633 and existing drinking water methods.

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Sampling Requirements

Method 8327	Method 1633	Method 537.1	Method 533
Water sample collection	2 x 500mL HDPE bottles with Linerless HDPE or polypropylene caps	1 x 250mL polypropylene bottle with polypropylene screwcap	1 x 250mL polypropylene bottle with polypropylene screwcap
Preservation	None	Trizma® preset crystals or equivalent	Ammonium acetate
Hold time and temp	Shipping: 48 hours at 6° C or lower; Lab: 90 days from collection at -20° C OR 28 days from collection at 4° C	Shipping: 10° C or lower; Lab: 6° C or lower until extraction; extract within 14 days of collection; Samples must not be frozen	Shipping: 2 days at 10° C or lower; Lab: 6° C or lower until extraction; extract within 28 days of collection; Samples must not be frozen

How will the transition to Method 1633 affect sample turnaround time and lab capacity?

Draft Method 1633 is more intensive for the laboratory in two primary ways: first, there are more target analytes (40 compared to the current 14-25); second, the quality control criteria is more stringent than existing methods. Both of these aspects of the draft method have the potential to impact a laboratory's capacity and sample turnaround time.

EPA Draft Method 1633 enables expanded characterization of more PFAS compounds in more matrices. It is without a doubt the method of the future!

ALS Environmental has the capacity to complete your PFAS analyses in the timeframe you require.

Currently testing performed in accordance with both EPA and ASTM methods are reported in less than 10 days, with rush services down to 3 days available.

For more information or to arrange for sampling materials, please contact one of our PFAS experts below:

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References:

PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024

<https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>

2nd Draft Method 1633

<https://www.epa.gov/system/files/documents/2022-07/2nd%20Draft%20of%20Method%201633%20June%202022%20508-compliant.pdf>