

# PFAS Analysis Without Compromise

Agilent Bond Elut PFAS WAX SPE cartridges



# Meet the Challenges of a Regulated PFAS Landscape

Per- and polyfluoroalkyl substances (PFAS) have been used for decades, both in industry and for products, such as food packaging, nonstick cookware, firefighting foams, and cleaners. Some of the more than 4,000 PFAS include compounds like perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), and Gen X.

PFAS compounds contain strong carbon-fluorine bonds, which enhance their stability and cause environmental persistence and bioaccumulation. This persistence has resulted in regulatory guidance for water and soil, along with accelerated PFAS monitoring and identification.

Current Standards and Consensus methods for PFAS analysis in the environment.

| Method             | Matrix Tested   | No. of Analytes | Sample Preparation Procedure | Quantification Technique                             |
|--------------------|---|-----------------|------------------------------|--|
| EPA 533            | Drinking water  | 25              | Solid phase extraction       | Isotope dilution                                     |
| EPA 537            | Drinking water  | 14              | Solid phase extraction       | Internal standard correction                         |
| EPA 537.1          | Drinking water  | 18              | Solid phase extraction       | Internal standard correction                         |
| EPA 1633 (draft)   | Non-potable water, solids, tissues                                | 40              | Solid phase extraction       | Isotope dilution                                     |
| EPA 8327           | Surface water, groundwater, wastewater influent and effluent      | 24              | Filtration                   | External calibration (isotope dilution also allowed) |
| ASTM 7979          | Surface water, groundwater, wastewater influent and effluent      | 21              | Filtration                   | External calibration (isotope dilution also allowed) |
| ASTM 7968          | Soil and solids   | 21              | Filtration                   | External calibration                                 |
| ISO/DIS 21675:2019 | Drinking water, sea water, fresh water, wastewater (<0.2% solids) | 30              | Solid phase extraction       | Internal standard correction                         |

## Successful PFAS analysis begins with uncompromised sample preparation

### Did you know that an optimized PFAS extraction solution is the key to your PFAS analysis success?

Introducing Agilent Bond Elut PFAS WAX solid phase extraction (SPE) cartridges—a full portfolio of cost-effective SPE cartridges designed specifically for PFAS analysis. They enable you to:

- Optimize your laboratory costs and reduce cost per sample.
- Eliminate guesswork with a weak anion exchange (WAX) sorbent designed for PFAS analysis.
- Comply with increasingly stringent regulatory requirements.
- Have flexibility to meet your laboratory's needs with a variety of bed masses to choose from.
- Minimize costly contamination decreasing your overall data processing time, number of re-runs, and troubleshooting.
- Plan for your laboratory's future by ensuring performance for an extended PFAS target list.

What's more, Bond Elut PFAS WAX SPE cartridges work with Agilent PFAS analysis products and solutions to help you achieve uncompromising accuracy for rigorous regulatory methods.





## Meet your needs for regulatory compliance and method flexibility

Worrying about whether your sample preparation product meets regulatory guidelines has become a thing of the past. Bond Elut PFAS WAX SPE cartridges are a cost-effective solution for PFAS analysis and were created to meet current regulation requirements. That means you can spend more time on the things that matter—like generating reliable results and increasing your lab's revenue.

### Ensure compliance with EPA methods for PFAS analysis

EPA Method 533 and EPA draft Method 1633 (August 2021) call for extraction of PFAS from environmental samples with a WAX product. Here's how Bond Elut PFAS WAX SPE cartridges measure up.

#### Agilent Bond Elut PFAS WAX Offers

- ✓ Polymeric polystyrene divinylbenzene (PSDVB) sorbent
- ✓ WAX chemistry—diamino functionality
- ✓  $pK_a > 8$
- ✓ Multiple bed mass options: 500 mg, 200 mg, 150 mg

Many of these features are called out explicitly in regulated methods. You can have confidence knowing this product was specifically designed for regulatory compliance.



### Need more flexibility in your PFAS consumables?

Available in multiple formats, Bond Elut PFAS WAX SPE cartridges give you method flexibility and high quality results without compromise.



#### 500 mg, 6 mL

- EPA 533 compliant
- Perfect for larger sample volumes that need increased concentration to meet sensitivity needs.



#### 200 mg, 6 mL

- EPA 533 compliant
- Great for EPA 533 labs that are looking for method compliance with the smallest possible sample volume.



#### 150 mg, 6 mL

- EPA draft Method 1633 (August, 2021) compliant
- Suitable for ISO 21675:2019 methods
- Cost-effective option for non-regulated or modified PFAS methods that have flexibility in bed mass choice.



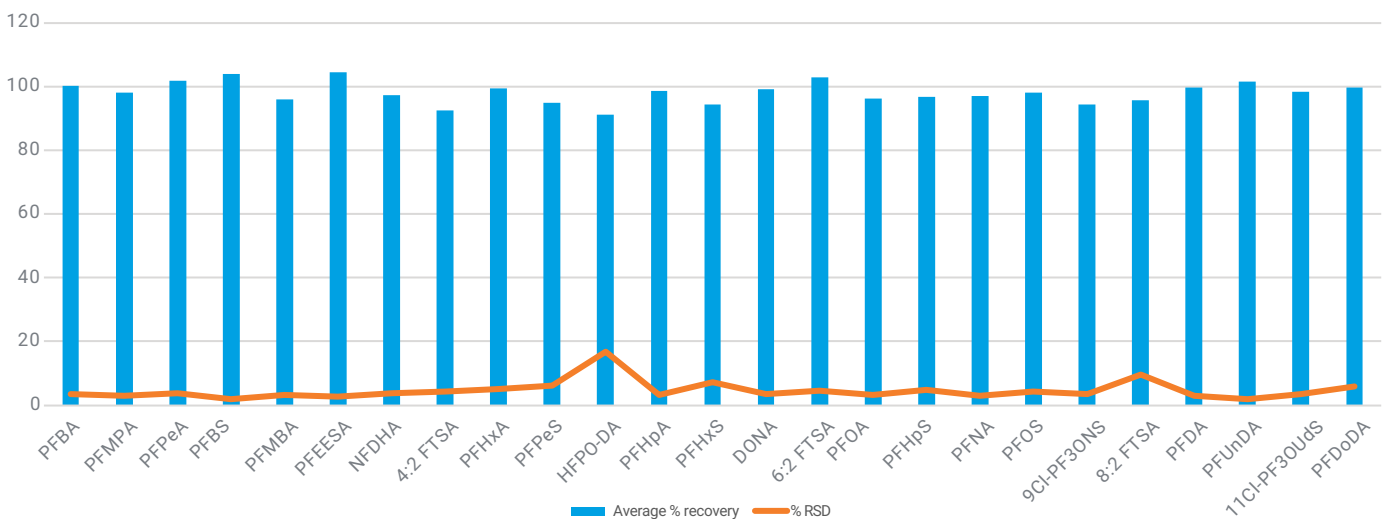
## Consistent quality enables consistent performance for PFAS analysis

As instruments have become more selective and sensitive, Agilent manufacturing standards have evolved as well. Our multistep quality assurance (QA) and quality control (QC) processes minimize variability and deliver the consistency, reliability, and robustness you expect.

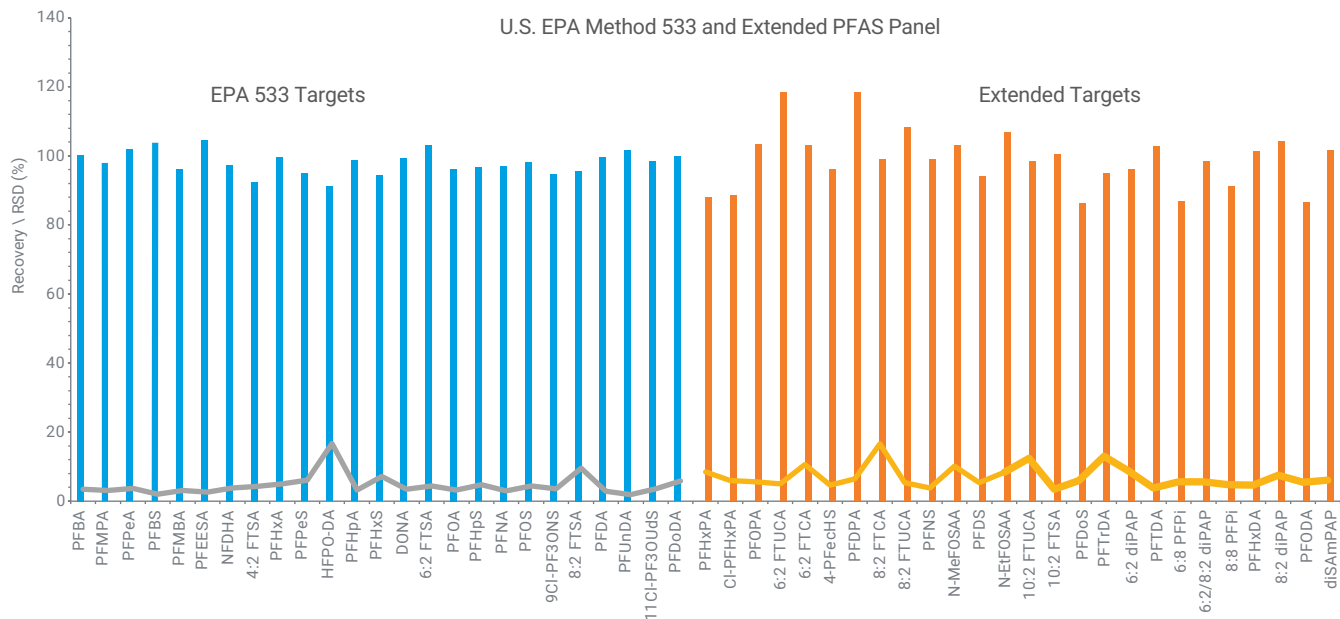
Whether you are following a regulatory method or modifying an existing method to meet your customers' needs, Bond Elut PFAS WAX SPE cartridges deliver high performance with uncompromising results.

A cost-effective solution doesn't mean you have to settle on performance. Bond Elut PFAS WAX SPE cartridges produce reliable results, analyst to analyst and batch to batch. Generate data you can count on, whether you're analyzing a few samples per week or hundreds per day.

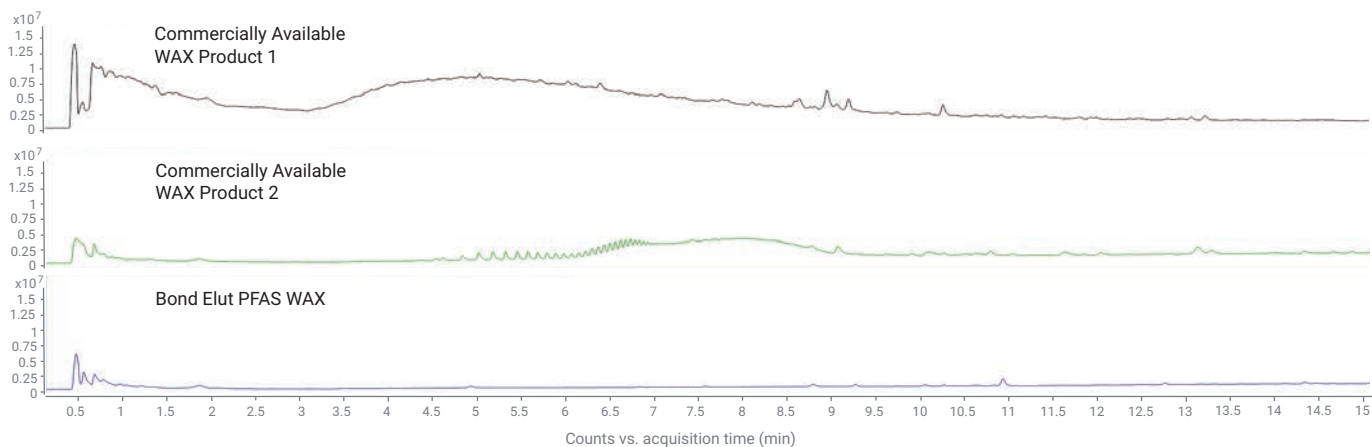
U.S. EPA Method 533 with Bond Elut PFAS WAX SPE Cartridges



Bond Elut PFAS WAX SPE cartridges can be used for the extraction of wide range of compound classes exceeding many regulated compounds lists. The SPE cartridge can be used to extract both short and long chain PFAS including carboxylic and sulfonic acids, sulfonamides, fluorotelomer sulfonates and carboxylic acid (saturated and unsaturated), polyfluoroalkyl ether carboxylic acids, chlorinated polyfluoroalkyl ether sulfonic acids, fluorotelomer phosphate diesters, perfluoroalkyl phosphinates, and sulfonamido ethanols (not shown).



Agilent Bond Elut SPE products are manufactured using state-of-the-art processes—and are subject to more than 25 tests to ensure consistent recovery, cleanliness, and flow.



**Coming soon:**

New data reveals how Bond Elut PFAS WAX SPE cartridges measure up to EPA Draft Method 1633: PFAS analysis in aqueous, solid, and tissue samples.

## Specialized sample preparation for additional PFAS applications



### Agilent Captiva EMR—Lipid

With Captiva EMR—Lipid, you can easily remove interferences, particularly phospholipids, in minutes without PFAS loss. Its pass-through format is fast, repeatable, and delivers a clean extract with minimal ion suppression, extending column life, and reducing the frequency of MS cleaning.

[Take a closer look](#)



### Agilent Bond Elut LMS SPE

Bond Elut LMS (large molecule size) polymeric sorbent has an optimized 75 um particle enabling reproducible flow and fast extraction speeds. Together with the Agilent Ultivo LC/TQ, it offers a robust, start-to-finish workflow for achieving EPA Method 537.1 detection limits.

[Take a closer look](#)



### Interference-minimizing supplies for EPA and ASTM methods

Reliable consumables are critical to the success of sample preparation workflows for analyzing PFAS as outlined in EPA 8327, ASTM D7968-17a, and ASTM D7979-19. Agilent centrifuge tubes, Captiva disposable syringes, and Captiva regenerated cellulose syringe filters are free from interferences and losses that can be problematic for PFAS analysis.

[Take a closer look](#)



# Optimize your PFAS workflow for analytical success

## InfinityLab PFC-free HPLC conversion kit\*

This convenient kit includes everything you need to ensure that your 1290 Infinity II LC systems, including the 1290 Infinity II high-speed pumps, are free of PFAS contaminants:

- Tubing
- Inline filter
- Bottle head assembly
- Delay column with InfinityLab Quick Connect LC fitting

\* Although the kit is customer installable, Agilent offers supplemental installation by a service professional. To add this service to your order, ask for part number H5949A.

## Complete PFAS workflow solutions

Let Agilent be your partner for extracting, quantifying, and reporting PFAS in the environment. Our workflow solutions include ultrahigh performance liquid chromatography (UHPLC) systems coupled to triple quadrupole mass spectrometry. You can also choose from our portfolio of sample preparation products, HPLC columns, PFC-free sample containment, and other HPLC supplies.

[Find easy selection](#) and ordering information

## Agilent eMethods

Set up your method faster and future-proof your lab. Agilent eMethods accelerate your startup time by condensing vast amounts of technical information and optimized analytical methods into a ready-to-run, downloadable, digital information package.

Our [eMethod for PFAS analysis](#) lets you separate and detect 108 native and isotopically labeled PFAS compounds in drinking and surface water. It includes information on instrument configuration, consumables, and sample preparation protocols, plus analytical methods for sample introduction, chromatographic separation, detection, and data analysis.





## Ordering Information

| Description                             | Part Number |
|---|-------------|
| Bond Elut PFAS WAX, 150 mg, 6 mL, 30/pk | 5610-2150   |
| Bond Elut PFAS WAX, 200 mg, 6 mL, 30/pk | 5610-2151   |
| Bond Elut PFAS WAX, 500 mg, 6 mL, 30/pk | 5610-2152   |

### Flexibility and on-time delivery support your success

The Bond Elut portfolio gives you the widest range of options to keep up with your growing selectivity and matrix needs. Plus, the global Agilent distribution network ensures that supplies will be available when you need them.



To learn more about Bond Elut PFAS WAX cartridges, visit [www.agilent.com/chem/bond-elut-pfas-wax](http://www.agilent.com/chem/bond-elut-pfas-wax)



### **Agilent CrossLab: Supporting Your Success**

CrossLab is an Agilent capability that integrates services and consumables to support workflow success, improve productivity, and enhance operational efficiency. In every interaction, we strive to provide insight that help you achieve your goals. We offer a wide range of products and services—from method optimization and training to full-lab relocations and operations analytics—to help you manage your instruments and your lab for best performance.

Learn more about CrossLab at [www.agilent.com/crosslab](http://www.agilent.com/crosslab)

Learn more about Start-to-Finish Workflows  
for PFAS Analysis.

PFAS Testing in Water:

[www.agilent.com/chem/pfas-testing-in-water](http://www.agilent.com/chem/pfas-testing-in-water)

PFAS Testing in Soil:

[www.agilent.com/chem/pfas-testing-in-soil](http://www.agilent.com/chem/pfas-testing-in-soil)

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