

[APPLICATION SOLUTION]

A hand wearing a blue nitrile glove holds a clear glass test tube horizontally. The hand is positioned above a body of water, which shows ripples and a reflection of the hand and tube. The background is a soft-focus green landscape. The overall image conveys a sense of environmental testing and scientific precision.

PFAS Analysis Solutions

ENVIRONMENTAL TESTING FOR PER- AND POLYFLUOROALKYL SUBSTANCES

Waters

THE SCIENCE OF WHAT'S POSSIBLE.™

ENVIRONMENTAL TESTING FOR PER- AND POLYFLUOROALKYL SUBSTANCES

Per- and Polyfluoroalkyl substances (PFAS) are a growing environmental concern. They are man-made chemicals used as surfactants in chemical processes and have been used in industry and consumer products since the 1940s. PFAS are characterized by a chain of strong fluorine-carbon bonds, leading to an incredibly stable chemical. This stability prevents PFAS from breaking down easily and means they are extremely persistent after entering the environment. This stability has led PFAS to sometimes being called “forever chemicals”.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), although there are thousands in existence.

While the health effects from PFAS in humans are still being studied, these substances have been linked to potential hormonal interference and increased risk of some cancers. The subsequent research being done with PFAS and its potential health risks have increased the need for accurate measurement of PFAS in environmental applications.

Since 2008, Waters™ has been pioneering PFAS analysis, providing turnkey applications for complete analysis solutions from standards and reagents to columns, sample preparation, and LC-MS systems.



APPLICATIONS >



Drinking Water



Ground Water



Surface Water



Wastewater

Sample Preparation

OASIS WAX FOR PFAS ANALYSIS

Oasis™ WAX for PFAS Analysis is a mixed-mode, Weak Anion-exchange, reversed-phase, water-wettable polymer that delivers unmatched purity, consistency, and quality for sample analysis in drinking water, ground water, surface water, wastewater, and other complex matrices.

It is designed specifically for environmental testing laboratories that need to perform low level quantification of ubiquitous per- and polyfluoroalkyl substances (PFAS) in environmental samples.

Oasis WAX for PFAS Analysis enables PFAS extraction and concentration without the risk of cross contamination through a comprehensive quality-control, pre-screening test for 32 PFAS.



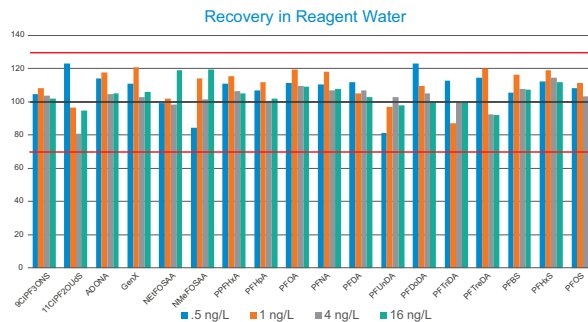
Oasis WAX sample preparation products for PFAS analysis.

Oasis WAX for PFAS Analysis provides assurance in results through application-specific, quality control testing, reducing the risk of false positive results from a critical step in the workflow.

SEP-PAK PS2

In the United States, many laboratories performing PFAS analysis in drinking water will follow the EPA 537 methodology. To comply with the accuracy requirements designated in EPA 537.1, recovery of the 18 PFAS in the method must be in the range of 70–130%.

The Sep-Pak™ PS2 Cartridge is ideal for use in EPA method 537.1 for determination of selected perfluoroalkyl acids in drinking water via solid phase extraction (SPE). Using the Sep-Pak PS2 Cartridge, all 18 PFAS demonstrate recoveries well within the required range over several fortified concentrations.



Recovery of EPA 537.1 PFAS in reagent water. All compounds are well within the method recovery guidance of 70–130% (Waters Technology Brief, [720006695EN](https://www.waters.com/knowledge/technical-briefs/20006695EN)).

Vials and Filters

Waters offers a variety of vials and filters to aid your PFAS testing needs.



Description	Part Number
Polypropylene 12 x 32 mm Screw Neck Vial, with Polyethylene Septumless Cap, 700 µL Volume, 100/pkg	186005230
Acrodisc, Syringe Filter, Glass Filter, 25 mm, 1.0 µm, Aqueous, 50/pkg	WAT200818
Acrodisc, Syringe Filter, Glass Filter, 25 mm, 1.0 µm, Aqueous, 50/pkg	WAT200818

Separations/Columns

ACQUITY UPLC I-CLASS FTN

Waters ACQUITY™ UPLC™ I-Class PLUS System with Flow-Through Needle (FTN) excels at PFAS analysis. With industry-leading separations performance, the ACQUITY UPLC I-Class PLUS System paired with the ACQUITY UPLC BEH C₁₈ Column provides new possibilities of maximizing the resolution and sensitivity of your methods; increasing confidence and enabling accurate quantitation, while improving productivity to advance the science of your laboratory.

- Highly efficient, rapid separations are facilitated by industry-leading ultra-low dispersion and delay volume.
- Ultra-efficient, narrow peaks enhance the sensitivity of any mass spectrometer to simplify the quantification of the most complex samples.

PFAS SOLUTION INSTALLATION KITS

PFAS Solution Installation Kits provide everything to meet your PFAS workflow needs. The kit includes necessary items to help minimize PFAS containing components within your system. In addition, it offers a unique solution to separate any remaining system – introduced PFAS contaminants with an isolator column and stainless-steel coil loop.

Kits include:

- Separation (ACQUITY UPLC Column)
- Isolator column
- PEEK™ tubing
- PEEK solvent lines
- Stainless-steel fittings
- Customizable sample prep options
- PE/PP vials
- High concentration standard



ACQUITY UPLC I-Class PLUS System (FTN).

Mass Spectrometer Systems

HIGH PERFORMANCE AND COMPACT DESIGN WITH RAPID, RELIABLE, AND REPRODUCIBLE QUANTITATIVE DATA

The Xevo™ TQ-S micro Mass Spectrometer is a tandem quadrupole instrument that reproduces high quality analytical performance injection after injection, even with the most complex sample matrices. This compact, reliable instrument fits virtually any lab and delivers consistent low levels of quantitation with a wide dynamic range and maximizes laboratory efficiency, delivering outstanding sensitivity and reproducibility.

- Class-leading performance that can fit into any lab.
- Ultimate flexibility and compatibility delivered through an extensive range of source and inlet options.
- Robust performance, facilitating the most complex analysis.

For ultimate sensitivity, learn more about the Xevo TQ-XS Triple Quadrupole Mass Spectrometry at www.waters.com/XevoTQXS.



Xevo TQ-S micro Mass Spectrometer.



Xevo TQ-XS Triple Quadrupole Mass Spectrometer.

www.waters.com/PFAS

DID YOU KNOW?

Waters ERA offers proficiency testing and quality controlled reference materials.

www.eraqc.com

Waters

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