

A Practitioner's Guide to PFAS Testing

Discover the unmatched capabilities of PFAS testing with Eurofins.

Per-and Polyfluoro Alkyl Substances (PFAS)

Leading the Industry in PFAS Analysis

Our Specialty Analytical Services Laboratory has the experience, resources, and technological innovations to address the environmental analytical challenges of PFAS. In this continually evolving landscape, we have invested in state-of-the-art instrumentation and industry-leading technical staff that provide our clients with the highest quality data and the most sensitive and selective PFAS analytical support in the industry.

The regulatory path for PFAS may be unclear, but our commitment to providing state-of-the-art analytical solutions to our clients for their decision-making processes is unwavering.

Our Practice Leaders and Technical Directors work closely with multiple industry trade organizations, working groups, key researchers and government agencies. This work places Eurofins at the forefront of discussions, innovations, as well as assisting to find solutions to a wide range of PFAS issues.



As the largest PFAS laboratory network in North America, we specialize in research, innovation, and production.

- 25 years of PFAS analytical experience
- 7 PFAS Laboratories Nationwide
- Largest Instrument Capacity in the World
- Dozens of matrices
- Over 100 compounds
- Tens of thousands of samples analyzed monthly
- More than 1,300,000 samples analyzed

Methods:

- EPA 537.1
- EPA 533
- 537 Modified
- EPA 1633A
- Ultra-Short Chain PFAS
- FTOHs by GC/MS/MS
- EPA 1621
- CIF-TOF (AOF/EOF/TF)
- ASTM 8421 Modified
- TCLP/SPLP/LEAF
- OTM-45
- OTM-50
- OTM-55
- Air by Mod TO-13A/TO-10A/TO-17

Capabilities & Quality

MATRICES

AFFF

- AFFF Product
- AFFF Impacted Media

Water

- Drinking Water
- Surface Water
- Groundwater
- Passive Samplers
- Fish Tissue
- Stormwater

Solids

- Soils
- Sediment
- Vegetation
- Concrete
- GAC/Resin
- Food/Feed

Air

- Source Air
- Ambient Air
- Indoor Air
- Soil Vapor

Waste

- Wastewater
- Biosolids
- Landfill Leachate
- Sludge
- IDW

- Consumer Products
- Textiles
- Food Packaging
- Artificial Turf
- Electronics
- Dispersions

Products

Questions to ask to ensure you are receiving defensible data:

- Does your lab have decades of experience with isotope dilution, high-resolution, ultra-trace methods, and LCMS technology?
- Was your lab invited to participate in validating all of EPA's PFAS analytical methods?
- What redundancy and control measures does your lab have in place to manage contamination events?
- Which lab does federal and state agencies consult regarding PFAS analytical solutions?
- Does your lab manage the potential for PFBA false positives?
- Is your lab backed by the industry's leading PFAS analytical experts?
- Does your lab understand the utilization of branched/linear isomer data beyond what the method tells them?
- What capacity and redundancy does your lab maintain within a single location?

With our depth of knowledge and expertise, Eurofins is the answer to your testing needs. Our reinvestment in the business ensures that we continue to offer advanced solutions to meeting regulatory compliance over the duration of the client program.



A History of Brilliance & Success

Our PFAS program is led by two centers of Excellence, each perched on a different coast. Our Lancaster, PA facility has decades of experience tracing back to the creation of the first commercial PFAS analysis methods. Our Sacramento, CA location houses cutting-edge technologies, national PFAS experts, and a focus on research and development. These two Centers of Excellence work to lay the foundation for the network of labs. The laboratories didn't just create the first commercial methods for PFAS analysis; they continuously led the charge in developing techniques for a wide array of applications, ranging from PFAS in AFFF, artificial turf, pesticides, food, activated carbon, dispersions, air, blood, and much more.



Our Centers of Excellence Model

Eurofins utilizes a unique model that highlights our dedication to providing our clients with the most innovative and expansive analytical offerings. All PFAS research and development is conducted within our Centers of Excellence located in Lancaster, PA and Sacramento, CA. These laboratories lay the foundation for the additional Eurofins PFAS laboratories across the country by exporting their established methods, techniques and standards. All Eurofins PFAS Program labs follow a standardized SOP for the analysis of 1633A, an unprecedented achievement. This model establishes the highest level of accuracy and technical expertise, providing you with access to world-class support and precise results.



Trusted Technical Expertise

Our unfaltering investment in people, technology, and innovation has enabled us to develop revolutionary analytical solutions and validate standardized methods. It's one of many reasons why consultants, government agencies, and industry trailblazers rely on us for solutions to unprecedented PFAS challenges. From detecting PFAS in source air to dealing with ultra short chain PFAS, our labs provide the experience and technical expertise to tackle the most formidable problems. Our commitment to staying at the forefront of scientific advancements and our network's wide reach, makes Eurofins the ideal choice for those seeking reliable, cutting-edge, and defensible analytical solutions.



TOF, TOP Assay, Branched/Linear Isomers, and Non-Target Analysis

Available at Eurofins Centers of Excellence in Lancaster, PA and Sacramento, CA with NTA performed in Denver, CO.

On average, current analytical methodologies measure a discrete list of 40 PFAS. Many additional PFAS are not determined as discrete compounds by existing commercial methods. Therefore, we may be underestimating the PFAS mass present in the environment. As the investigation and treatment of sites contaminated with PFAS matures, there is a growing interest in determining the contributions of different sources to the overall contamination and understanding the true mass of PFAS present. Eurofins has implemented several tools that illuminate additional pieces of the PFAS puzzle.

Total Oxidizable Precursors (TOP) Assay

An initial aliquot of each sample is analyzed for a suite of targeted PFAS. A second portion of the sample is oxidized, extracted and analyzed for the same suite of PFAS and compared to the initial analysis. Increases in concentrations in the Perfluorocarboxylic Acids (PFCAs) indicate the presence of oxidizable precursors. The TOP Assay has revealed additional PFAS mass of up to 70% of fluorinated organics in AFFF impacted samples. Achievable detection limits as low as single digit part per trillion (ppt).

Total Organofluorine (TOF)

The determination of total organic fluorine approaches quantitation of the unknown mass of PFAS based on the fluorine content as a proxy for PFAS. With the use of combustion ion chromatography (CIC) a wide range of matrices are analyzed for Total Fluorine (TF), Absorbable Organic Fluorine (AOF) in liquids, or Extractable Organic Fluorine (EOF) in solids. Achievable detection limits as low as single digit part per billion (ppb).

Extensive Compound List

As AFFF and other PFAS sources have changed vendors and formulations over the years, the concentration and composition of PFAS in those products has also changed. As the number of targeted compounds increases, the likelihood of a unique identification increases. This is not to say that increasing from a list of 40 PFAS to 100 PFAS will elucidate a point source, only increase the potential for additional and unique positive identifications. Achievable detection limits as low as single digit part per trillion (ppt).

Linear/Branched/Total PFAS

Different manufacturers and manufacturing processes produced varying ratios of branched and linear isomers of PFAS. Separate results of the linear isomer and the sum of branched isomers for PFOA, PFNA, PFOSA, PFHxS, PFOS, MeFOSAA, EtFOSAA, MeFOSA, EtFOSA, MeFOSE, and EtFOSE are possible. These data reported separately as Total Branched, Linear, and Total or "BLT" can yield more information than a single value would. While BLT assessments are nothing new for skilled PFAS researchers and laboratories, Eurofins is pleased to support a more refined BLT approach for PFOA which includes monitoring of additional ions of PFOA. This product offering is referred to as Forensic PFOA.

Non-Targeted Analysis (NTA)

While a long compound list and the ability to differentiate linear and branched isomers are powerful tools, there are estimated to be hundreds more PFAS in-use or with legacy usage. As there are only analytical standards for a fraction of these compounds, additional instrumentation is needed to identify PFAS without commercially available standards. This task is best suited for Quadrupole-Time-Of-Flight Mass Spectrometry (QTOF-MS) or an LC Orbitrap. This analysis results in exact mass data that can be compared to a library of exact mass spectra. This allows for unknown compounds to be identified with chemical formula, name, and CAS number when compared to publicly available spectral libraries such as NIST or FluoroMatch.



PFAS in Air

Eurofins offers comprehensive PFAS testing across all relevant air categories, from high-concentration source emissions to ultra-trace ambient and indoor environments. Our laboratories provide the method expertise, capacity, and instrumentation to support PFAS destruction programs, regulatory compliance, site investigations, and occupational monitoring.

Source Air

Applications

- PFAS destruction emissions
- Manufacturing & Industrial process emissions

Methods

- OTM-45 / OTM-50 / OTM-55
- CIC-TOF

Analytes

- 49 targeted PFAS (OTM-45)
- 30 targeted PFAS (OTM-50)
- FTOHs by GC-MS/MS (OTM-55)
- Total organofluorine (TOF)

Ambient Air

Applications

- Perimeter & background monitoring
- Site investigation & receptor exposure
- Bench scale treatment testing

Methods

- Mod TO-13A / TO-10A / TO-17

Analytes

- 40+ targeted PFAS
- FTOHs by GC-MS/MS

Indoor Air

Applications

- Indoor air quality assessment
- Occupational & Personnel monitoring
- Vapor intrusion investigations

Methods

- Mod TO-10A / TO-17

Analytes

- 40+ targeted PFAS
- FTOHs by GC-MS/MS

PFAS in Blood

Eurofins supports the full spectrum of PFAS blood testing, from community biomonitoring programs and clinical health research to ecological investigations across diverse wildlife species. All programs leverage our 40+ compound PFAS panel with results traceable to established reference frameworks.

Biomonitoring

Overview

Population-level PFAS exposure assessment, consistent with CDC/ NHANES frameworks and NASEM clinical guidance.

Sample Types

- Serum (traditional clinical draw)
- Plasma
- Whole blood (self-collection)

Key Features

- 40+ PFAS panel
- Serum-equivalent conversions provided
- PFAS Exposure self-collection kit (finger prick, whole blood)
- Comparable to CDC national averages (NHANES)

Health Research

Overview

Support for epidemiological studies, clinical trials, and investigator-led research requiring expanded or customized PFAS panels.

Sample Types

- Serum
- Plasma
- Whole blood

Key Features

- 40+ PFAS panel
- Custom compound lists available
- Supports NASEM 7-PFAS sum risk categories
- High-volume study support and longitudinal studies

Ecological Research

Overview

Wildlife and livestock PFAS exposure assessment supporting environmental investigations and ecological risk studies.

Sample Types

- Serum, plasma, whole blood
- Species tested as an example: cattle, rodents, bats, birds, fish, and more

Key Features

- 40+ PFAS panel
- Approach adapted to species-specific matrices
- Supports site investigation & PFAS liability studies



SACRAMENTO, CA

Center of **Excellence**

880 Riverside Parkway
West Sacramento, CA 95605

LANCASTER, PA

Center of **Excellence**

2425 New Holland Pike
Lancaster, PA 17601

DENVER, CO

4955 Yarrow Street
Suite 101
Arvada, CO 80002

KNOXVILLE, TN

5815 Middlebrook Pike
Knoxville, TN 37921

CLEVELAND, OH

180 South Van Buren Avenue
Barberton, OH 44203

POMONA, CA

Drinking Water **Lab**

941 Corporate Center Drive
Pomona, CA 91778

SOUTH BEND, IN

Drinking Water **Lab**

110 South Hill Street
South Bend, IN 46617



TARYN MCKNIGHT

VP of Product, PFAS Practice Leader
taryn.mcknight@et.eurofinsus.com



SARAH CHOYKE

Technical Director
sarah.choyke@et.eurofinsus.com



BRIANNA HENRIQUEZ

Specialty Services Director
brianna.henriquez@et.eurofinsus.com



ANDREW PATTERSON

VP of Innovation and Development
andrew.patterson@et.eurofinsus.com



JONATHAN THORN

Technical Director
jonathan.thorn@et.eurofinsus.com

Eurofins is accredited by each state, where PFAS certification is offered, as well as NELAC, ISO 17025, and Department of Defense (DoD) and Department of Energy (DoE) ELAP programs following QSM protocols for PFAS