



PFAS – Perfluoroalkyl & Polyfluoroalkyl Substances

Background Information from the EPA

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that include: PFOA, PFOS, GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

PFAS can be found in:

- Food packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- Commercial household products, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- Workplace, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.
- Drinking water, typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, or firefighter training facility).
- Living organisms, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase outs including the PFOA Stewardship Program in which eight major chemical manufacturers agreed to eliminate the use of PFOA and PFOA-related chemicals in their products and as emissions from their facilities. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics.

Test Matrix Options

At this time, EMSL Analytical, Inc. is currently processing drinking water, ground water, wastewater, soil, and food matrices.

Test Methods

EMSL is setup for multiple methods:

EPA 537.1 for drinking water

EPA 533 for drinking water

EPA 1633 for ground water, wastewater, and soils

See PFAS in Food
Testing Sheet



Instrumentation

Solid Phase Extraction (SPE) and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

State of Origin - Certifications: Soils, Groundwater and Wastewater Samples

EMSL is a NELAP certified laboratory by the State of New Jersey (NJDEP 03036) for potable and non-potable water via EPA Method 1633. EMSL is nationally certified as ISO/IEC 17025 and TNI compliant by A2LA (2845.01) for soil and sludge via EPA Method 1633.

As of 01/01/2026, we hold state specific certifications for soil and sludge samples in:

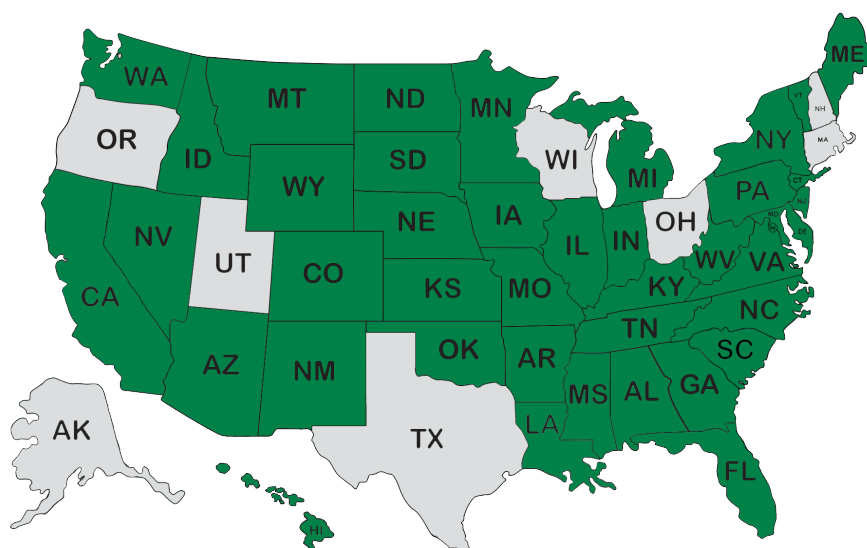
California	Minnesota	New York	Virginia
Florida	Nevada	North Dakota	Washington
Louisiana	New Jersey	Pennsylvania	

As of 01/01/2026, there is no state certification for soil samples, so we **can** accept samples from:

Alabama	Idaho	Michigan	Rhode Island
Arizona	Illinois	Mississippi	South Carolina
Arkansas	Indiana	Missouri	South Dakota
Colorado	Iowa	Montana	Tennessee
Connecticut	Kansas	Nebraska	Vermont
Delaware	Kentucky	New Mexico	West Virginia
Georgia	Maine	North Carolina	Wyoming
Hawaii	Maryland	Oklahoma	

As of 01/01/2026, we **cannot** accept soil samples from:

Alaska	New Hampshire	Oregon	Utah
Massachusetts	Ohio	Texas	Wisconsin



 = Accepting samples as of 01/01/2026





As of April 10, 2024 the EPA established legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS in drinking water: PFOA, PFOS, PFHxS, PFNA, and HFPO-DA as contaminants with individual MCLs, and PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. EPA also finalized health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for these PFAS. Not all states have adopted these lower MCLs, but EMSL meets them routinely.

Compound	Final MCLG	Final MCL (enforceable levels)
PFOA	Zero	4.0 parts per trillion (ppt) (also expressed as ng/L)
PFOS	Zero	4.0 ppt
PFHxS	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
HFPO-DA (commonly known as GenX Chemicals)	10 ppt	10 ppt
Mixtures containing two or more PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index	1 (unitless) Hazard Index

Upcoming Timelines:

Public water systems must monitor for these PFAS and have three years to complete initial monitoring (by 2027), followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.

Public water systems have five years (by 2029) to implement solutions that reduce these PFAS if monitoring shows that drinking water levels exceed these MCLs.

Beginning in five years (2029), public water systems that have PFAS in drinking water which violates one or more of these MCLs must take action to reduce levels of these PFAS in their drinking water and must provide notification to the public of the violation.





Drinking Water Package Options by Compounds

EMSL Test Codes	Compounds
C-PFNA	PFNA (Perfluorononanoic acid)
C-PFOA	PFOA (Perfluorooctanoic acid)
C-PFOS	PFOS (Perfluorooctanesulfonic acid)
C-PFAS 6	PFNA (Perfluorononanoic acid) PFOA (Perfluorooctanoic acid) PFOS (Perfluorooctanesulfonic acid) PFHxS (Perfluorohexanesulfonic acid) HFPO-DA, GenX (Hexafluoropropylene oxide dimer acid) PFBS (Perfluorobutanesulfonic acid)
C-PFAS 14	PFUnA (Perfluoroundecanoic acid) NEtFOSAA (N-ethyl perfluorooctanesulfonamidoacetic acid) NMeFOSAA (N-methyl perfluorooctanesulfonamidoacetic acid) PFBS (Perfluorobutanesulfonic acid) PFDA (Perfluorodecanoic acid) PFDoA (Perfluorododecanoic acid) PFHpA (Perfluoroheptanoic acid) PFHxS (Perfluorohexanesulfonic acid) PFHxA (Perfluorohexanoic acid) PFNA (Perfluorononanoic acid) PFOS (Perfluorooctanesulfonic acid) PFOA (Perfluorooctanoic acid) PFTA (Perfluorotetradecanoic acid) PFTTrDA (Perfluorotridecanoic acid)
C-PFAS 18	PFUnA (Perfluoroundecanoic acid) NEtFOSAA (N-ethyl perfluorooctanesulfonamidoacetic acid) NMeFOSAA (N-methyl perfluorooctanesulfonamidoacetic acid) PFBS (Perfluorobutanesulfonic acid) PFDA (Perfluorodecanoic acid) PFDoA (Perfluorododecanoic acid) PFHpA (Perfluoroheptanoic acid) PFHxS (Perfluorohexanesulfonic acid) PFHxA (Perfluorohexanoic acid) PFNA (Perfluorononanoic acid) PFOS (Perfluorooctanesulfonic acid) PFOA (Perfluorooctanoic acid) PFTA (Perfluorotetradecanoic acid) PFTTrDA (Perfluorotridecanoic acid) PFUnA (Perfluoroundecanoic acid) 11Cl-PF3OUdS (11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid) 9Cl-PF3ONS (9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid) ADONA (4,8-dioxa-3H-perfluorononanoic acid) GenX, HFPO-DA (Hexafluoropropylene oxide dimer acid)





Drinking Water Package Options by Compounds

EMSL Test Codes	Compounds
C-PFAS 25	11CI-PF3OUdS (11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid) 9CI-PF3ONS (9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid) ADONA (4,8-Dioxa-3H-perfluorononanoic acid) GenX, HFPO-DA (Hexafluoropropylene oxide dimer acid) NFDHA (Nonafluoro-3,6-dioxaheptanoic acid) PFBA (Perfluorobutanoic acid) PFBS (Perfluorobutanesulfonic acid) 8:2FTS (1H,1H, 2H, 2H-Perfluorodecane sulfonic acid) PFDA (Perfluorodecanoic acid) PFDoA (Perfluorododecanoic acid) PFEESA (Perfluoro(2-ethoxyethane)sulfonic acid) PFHpS (Perfluoroheptanesulfonic acid) PFHpA (Perfluoroheptanoic acid) 4:2FTS (1H,1H, 2H, 2H-Perfluorohexane sulfonic acid) PFHxS (Perfluorohexanesulfonic acid) PFHxA (Perfluorohexanoic acid) PFMPA (Perfluoro-3-methoxypropanoic acid) PFMBA (Perfluoro-4-methoxybutanoic acid) PFNA (Perfluorononanoic acid) 6:2FTS (1H,1H, 2H, 2H-Perfluorooctane sulfonic acid) PFOS (Perfluorooctanesulfonic acid) PFOA (Perfluorooctanoic acid) PFPeA (Perfluoropentanoic acid) PFPeS (Perfluoropentanesulfonic acid) PFUnA (Perfluoroundecanoic acid)





Ground Water, Wastewater, and Soil Options by Compounds

EMSL Test Codes C-PFAS 40

Compounds

PFOA (Perfluorooctanoic acid)
PFNA (Perfluorononanoic acid)
PFOS (Perfluorooctanesulfonic acid)
GenX, HFPO-DA (Hexafluoropropylene oxide dimer acid)
PFBA (Perfluorobutanoic acid)
PFPeA (Perfluoropentanoic acid)
PFHxA (Perfluorohexanoic acid)
PFHpA (Perfluoroheptanoic acid)
PFDA (Perfluorodecanoic acid)
PFUnA (Perfluoroundecanoic acid)
PFDoA (Perfluorododecanoic acid)
PFTTrDA (Perfluorotridecanoic acid)
PFTeDA (Perfluorotetradecanoic acid)
PFBS (Perfluorobutanesulfonic acid)
PFPeS (Perfluoropentanesulfonic acid)
PFHxS (Perfluorohexanesulfonic acid)
PFHpS (Perfluoroheptanesulfonic acid)
PFNS (Perfluorononanesulfonic acid)
PFDS (Perfluorodecanesulfonic acid)
PFDoS (Perfluorododecanesulfonic acid)
PFOSA (Perfluorooctanesulfonamide)
MeFOSA (N-methylperfluorooctanesulfonamide)
EtFOSA (N-ethylperfluorooctanesulfonamide)
MeFOSE (N-methylperfluorooctanesulfonamidoethanol)
EtFOSE (N-ethylperfluorooctanesulfonamidoethanol)
MeFOSAA (N-methylperfluorooctanesulfonamidoacetic acid)
EtFOSAA (N-ethylperfluorooctanesulfonamidoacetic acid)
4:2FTS (4:2 Fluorotelomersulfonic acid)
6:2FTS (6:2 Fluorotelomersulfonic acid)
8:2FTS (8:2 Fluorotelomersulfonic acid)
ADONA (4,8-dioxa-3H-perfluorononanoic acid)
9CI-PF3ONS (9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid 1)
11CI-PF3OUs (11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid 2)
PFMPA (Perfluoro-3-methoxypropanoic acid)
PFMBA (Perfluoro-3-methoxybutanoic acid)
NFDHA (Nonafluoro-3,6-dioxaheptanoic acid)
PFEESA (Perfluoro(2-ethoxyethane)sulfonic acid)
3:3FTCA (3-Perfluoropropyl propanoic acid)
5:3FTCA (5:3 Perfluorooctanoic acid)
7:3FTCA (3-Perfluoroheptyl propanoic acid)





Sampling Kit

When collecting drinking water for analysis by EPA 537.1 for each location collecting samples, the PFAS Sample Kit will include the following:

EMSL Product ID: 87LMCHEM006

- 2 PFAS sampling bottles with Trizma preservative inside
- 1 PFAS Lab Water Field Reagent Blank (FRB)
- 1 Empty PFAS FRB bottle
- 1 Bag for the 2 PFAS bottles
- 1 Bag for the 2 FRB bottles

When collecting drinking water samples for analysis by EPA 533, for each location collecting samples, the PFAS Sample Kit will include the following:

EMSL Product ID: 87LMCHEM007

- 3 PFAS sampling bottles with Ammonium Acetate preservative inside
- 1 PFAS Lab Water Field Reagent Blank (FRB)
- 1 Empty PFAS FRB bottle
- 1 Bag for the 3 PFAS bottles
- 1 Bag for the 2 FRB bottles



When collecting soil samples for analysis by EPA 1633, for each location collecting samples, please collect using a 500 ML (16 oz) HDPE wide mouth jar with no preservative.

EMSL Product ID: 87LMCHEM009

When collecting ground or wastewater samples for analysis by EPA 1633, for each location collecting samples, the PFAS Sample Kit will include the following:

EMSL Product ID: 87LMCHEM010

- 2 PFAS sampling bottles with no preservative inside
- 1 PFAS Lab Water Field Reagent Blank (FRB)
- 1 Empty PFAS FRB bottle
- 1 Bag for the 2 PFAS bottles
- 1 Bag for the 2 FRB bottles

Hold Times

- 14-Days for sample extraction from the date of collection
- 28-Days for the analysis from date of extraction

Sampling Instructions

(See sampling instructions sheet)

Test Packages

Please call you EMSL Sales Representative or our Customer Service Center at 800-220-3675.





Field Reagent Blanks (FRB)

Once a sample is analyzed, we are required to analyze the submitted Field Reagent Blank (FRB), if the reported value is greater than the Reporting Limit (>RL) per the method. The analyzed FRBs will be invoiced at the same cost as the regular sample.

Reporting

Current reporting for PFAS compounds will be the standard PDF report with results and Chain of Custody. For more advanced reporting (tier) packages, please contact your EMSL sales representative or customer service at 800-220-3675 for availability.

Reference Links (as of 01/01/2026)

Method	https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=343042&Lab=NERL
EPA	https://www.epa.gov/pfas/basic-information-pfas
FDA	https://www.fda.gov/food/chemicals-and-polyfluoroalkyl-substances-pfas
NIH	https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm
ATSDR	https://www.atsdr.cdc.gov/pfas/index.html
State Links	https://www.epa.gov/pfas/us-state-resources-about-pfas

