

Typical Questions for PFAS Analysis

Per and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that include PFOA, PFOS, GenX, and many other related compounds.

How much sample is needed for analysis?

Drinking Water

GEL requests 2 x 250 mL HDPE containers. Samples are preserved with Trizma for EPA Method 537.1 and ammonium acetate for EPA Method 533.

Groundwater and Wastewater

GEL 537 Modified – 2 x 250 mL HDPE containers and 5 mL screening vial. The screening vial is required because unknown PFAS concentrations can damage instrumentation.

EPA Method 1633 – 1 x 125 mL HDPE and 2 x 500 mL HDPE containers. Do not fill bottles past the shoulder to allow room for expansion if frozen.

ASTM D8421 – Sampling kit includes pre weighed vials and transfer pipet. GEL requests 4 x 5 mL vials filled exactly to 5 mL.

Solids including soils, vegetation, tissue, food products and consumer products

GEL 537 Modified – approximately 10 g of solid material. A second container for percent moisture is required when soils are reported on a dry weight basis.

EPA 1633 – approximately 50 g of solid material or 20 g of biosolids or tissue.

AFFF (Aqueous Film Forming Foam)

GEL 537 Modified – approximately 5 mL aqueous sample or 10 g solid material.

What is the holding time for analysis?

- EPA Method 537.1 – Extract within 14 days and analyze within 28 days after extraction.
- EPA Method 533 – Extract within 28 days and analyze within 28 days after extraction.
- ASTM D8421 – Extract and analyze within 28 days of collection.
- GEL 537 Modified and AFFF – All aqueous samples must be extracted within 14 days of collection and analyzed within 28 days after extraction. All solid samples must be extracted and analyzed within 28 days of collection.

- EPA 1633A - All aqueous samples must be extracted within 28 days of collection when stored at 0-6°C, except for NEtFOSE, NEtFOSAA, NMeFOSE, NMeFOSAA, which must be extracted within 7 days of collection. All soil and sediment samples must be extracted within 90 days of collection when stored at 0-6°C, except for NFDHA, which must be extracted within 3 days of collection. Biosolids samples must be extracted within 90 days of collection when stored at 0-6°C. Tissue samples must be extracted within 90 days of collection when stored at < 20°C. All sample extracts must be analyzed within 90 days of extraction, except for 11-Cl-PF3OUdS and 9-Cl-PF3ONS, which must be analyzed within 28 days of extraction.

What are the field quality control recommendations?

Field Reagent Blanks (FRB)

EPA drinking water methods 537.1 and 533 require collection of a field reagent blank. This blank is prepared by transferring PFAS free water into a sample container in the field. Each sample set must include an FRB. A sample set is defined as samples collected from the same site and at the same time. The same lot of preservative must be used for the FRBs as for the field samples.

EPA 1633 and GEL 537 Modified do not require field blanks, but collection is recommended to evaluate possible field contamination.

ASTM D8421 recommends collection of field blanks.

Equipment Blanks

Equipment blanks are recommended because PFAS compounds are widely used in commercial materials.

What other sampling guidance should be followed?

- Use nitrile gloves during sample collection.
- Fill PFAS sample bottles before collecting samples for other analyses.
- Avoid touching the inside of the bottle or cap.
- Do not place bottle caps on surfaces during sampling.
- Place PFAS bottles in a separate plastic bag after collection.

GEL recommends reviewing PFAS sampling guidance from the Interstate Technology Regulatory Council (ITRC) prior to sampling.

How should samples be shipped to GEL?

- Samples should be shipped to GEL in coolers with wet ice.
- Drinking waters for EPA 537.1 and EPA 533 are required to be less than 10°C if received within 48 hours of collection. Do not freeze drinking water samples.
- Aqueous and solid samples are required to be less than 6°C upon receipt for EPA 1633A, GEL 537 Modified, and ASTM D8421.

- Tissue samples should be collected and stored in aluminum foil or ziplock bags and shipped at less than 6°C up to a maximum of 24 hours from collection. Tissue samples should be frozen if they are not shipped on the day of collection.
- All samples need to be clearly labeled, and a completed and signed Chain of Custody should be included in the shipment.

Shipping Address

Deliver direct or ship via FedEx or UPS to the attention of your project manager or Sample Receiving at:

GEL Laboratories LLC
2040 Savage Road
Charleston SC 29407
Phone 843 556 8171