

FOR PUBLIC WATER SUPPLIES PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) SAMPLING Guidance

Introduction

Most laboratories will provide their own sample collection instructions. This guidance document may be used in conjunction with any sample collection instructions provided by the laboratory. This document does not supersede the laboratory’s sampling instructions.

This sampling guidance is intended for public water supplies. This guidance discusses the process and acceptable materials that should be used when sampling for PFAS.

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) will update the information contained in this PFAS Sampling Guidance document as new information becomes available. For a sampling video and additional information, visit Michigan.gov/PFASDrinkingWaterRules.

This PFAS Sampling Guidance discusses the potential for cross contamination that can occur from:

- Clothing
- Sampling equipment
- Sample collection and handling
- Sample shipment

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1. Reducing Sample Contamination

For the purposes of this document, sampling materials and other items that have the potential for PFAS cross contamination have been divided into two major categories:

- **Avoid (X)**; items or materials that should be avoided during sampling. It is documented that they contain PFAS or that PFAS are used in their manufacture.
- **Allowable (✓)**; items or materials that may be used and have been proven not to be sources of PFAS cross contamination and are considered acceptable for sampling.

1.1 Clothing

Determine whether the clothing you intend to wear during sampling has been advertised as waterproof, water-repellant, or dirt and/or stain resistant. These types of clothes are most likely to have had PFAS used in their creation.

- × If the laboratory did not provide gloves, DO NOT use latex or vinyl gloves.
- × DO NOT wear anything made of Gore-Tex™, other water-resistant synthetics, or coated Tyvek® clothing. Additionally, avoid clothing that contains Teflon®.
- × DO NOT wear clothing that has recently been dry-cleaned.
- ✓ Wear well laundered clothing **not** recently washed with fabric softeners.
- ✓ Use only powderless nitrile gloves or gloves provided by the laboratory.

1.2 Personal Hygiene and Personal Care Products

PFAS are known to have been used in personal hygiene and personal care products (PCP) such as cosmetics, shampoo and other hair products, dental floss, etc., and are also used in some sunscreens and insect repellents. However, if the current Sampling Guidance is followed, these items should not come into contact with the sample bottles or the actual water sample being collected.

- × DO NOT handle or apply any PCPs such as lotion, perfume, deodorant/anti-perspirant, sunscreen, insect repellent, etc. that have not been determined to be PFAS-free for several hours before sampling.

1.3 Food Packaging

PFAS have been used by the paper and packaging industry as a special protective coating against grease, oil, and water for paper and cardboard in food packaging. Therefore, it is important to minimize interaction with these products before and especially during sampling.

- × DO NOT touch, eat, or otherwise interact with pre-wrapped food or snacks, carry-out food, fast food, or other food items right before or during sampling.
- ✓ Wash hands thoroughly after contact with any of these products and before sampling.

1.4 Items Required for Sampling

The laboratory you choose will provide the appropriate sampling materials. It is important to use only these items for sample collection.

X - Avoid ✓ - Allowable

2. Step-by-Step Sample Collection

Follow this step-by-step guide when taking your sample(s). Note that Steps 1 – 2 will be done days or weeks in advance of Steps 3 – 8.

Steps 1 – 3: Find a Laboratory and Gather Sampling Materials

Step 1: Locate a certified laboratory that analyzes PFAS in drinking water. A list of certified labs can be found at [Michigan.gov/PFASDrinkingWaterRules](https://www.michigan.gov/PFASDrinkingWaterRules).

Step 2: Contact the laboratory to get details about working with them such as costs for materials, shipping, and analysis. The laboratory should provide you with:

- The appropriate PFAS-free sample bottle(s) for you to collect your sample(s).
- PFAS test request form (sometimes referred to as a Chain of Custody form).
- Sample collection instructions.
- Ice packs that have been verified to be PFAS-free or PFAS-free storage bags for ice. If no blue ice packs are provided by the lab, use polyethylene plastic bags (such as Ziploc®) filled with ice.
- A cooler for return shipment.
- Powder free nitrile gloves for you to use while collecting your sample.
- An estimation of how long it will take to get your results.

Step 3: Freeze the included ice packs for at least 24 hours prior to sample collection.

Steps 4 – 5: On the Day of Sampling – Prepare for Sampling

Step 4: Unless otherwise specified, public water supply compliance samples should be taken from the entry point to the distribution system. This is the same location a public water supply would collect compliance samples for routine metals, cyanide, volatile and synthetic organic compounds.

Step 5: Choose a spot away from the sample location to fill out your sample analysis request form. Note that the sample bottle(s) from the laboratory may come pre-labeled.

Fill out all documentation and labels, ensuring that you fill in the water supply name, collection date, time, water supply serial number (WSSN), sample location, source/well ID, and site code. Missing information can lead to potential noncompliance and/or extra resampling cost for the supply.

- ✓ Use ballpoint pens, or Fine or Ultra-Fine Point Sharpie® markers only.

Steps 6 – 8: Collecting Your Sample

Step 6: Flush the sample tap for an extended period, just as you would with other entry point samples. During this time, go to another faucet to wash and dry your hands. Thoroughly wash your hands with soap and water. Allow them to air dry or use a plain cotton cloth or untreated, non-recycled paper towel. Remove any jewelry that might tear the gloves.

X - Avoid ✓ - Allowable



Put on your new nitrile gloves. Open your laboratory-provided sample bottle, taking care not to set the cap down or let anything touch the inside of the cap or bottle. There should be a preservative in the bottle in a powder form – **DO NOT FLUSH OR REMOVE ANY PRESERVATIVE FROM THE BOTTLE(S).**

If using a tap that does not have a drain, have a bucket ready to catch water from the flushing process.

Step 7: After flushing the sample tap, decrease the water flow to the thickness of a pencil.

Fill the sample bottle to the point indicated in the laboratory's sampling instructions. Do not allow the bottle to overflow. Do not dump any water out of the bottle. Replace the cap, being careful to avoid contact with the inside of the lid. Gently flip the bottle upside down a couple times to mix in the preservative.

If the laboratory provided an additional bottle(s) to collect a duplicate sample(s), repeat **Step 7**.

Step 8: The laboratory may have provided you with a control sample. Control samples help the laboratory determine if a sample has been contaminated during the sampling process. A control sample typically consists of two bottles – one bottle filled with PFAS-free laboratory water and one empty bottle. If you received a control sample, transfer the contents of the pre-filled bottle to the empty bottle, seal, and place with the sample bottle(s) filled in Step 6. Read the laboratory's sampling instructions for further information.

Step 9: After Sampling - Shipping Your Sample

Step 9: Place the sample bottle(s) into the cooler provided by the laboratory, taking care to surround the sample(s) with the provided ice packs or the bags that you have filled with ice.

Refer to the instructions provided in the sampling kit. Samples must be chilled during shipment and must not get warmer than 50°F during the first 48 hours after collection.

- × DO NOT use chemical or blue ice that did not come from the lab.
- ✓ Use ice packs provided by the laboratory only.
- ✓ If the lab did not provide ice packs, use regular ice that has been double bagged in bags provided by the laboratory or polyethylene plastic bags (such as Ziploc®).
- ✓ Freeze ice packs for at least 24 hours prior to use.
- ✓ Deliver to the lab, or ship samples for next day delivery.

The PFAS test request form (sometimes referred to as a Chain of Custody form) provided by the laboratory should be placed outside of the cooler, but inside of the shipping container. If the form must go inside the cooler itself, place it in a polyethylene plastic bag (such as Ziploc®). Close and secure the cooler and ship to the laboratory using an overnight courier. Alternatively, some laboratories allow sample drop-off. Please refer to the laboratory's sampling instructions.

Reporting Your Test Results

Laboratory results must be submitted to the EGLE District Office or the Local Health Department for compliance. Results are due within ten days following the end of monitoring period.

X - Avoid ✓ - Allowable

PFAS Sampling Quick Reference Guide – Reducing Sample Contamination¹

Personal Care Products² (PCP) – On the day of sample collection

Avoid	Allowable
<ul style="list-style-type: none"> Any personal care products, sunscreens, insect repellents applied or handled in the sampling area. 	<ul style="list-style-type: none"> Personal care products, sunscreens, and insect repellents applied away from the sampling area, and away from sampling materials, followed by thoroughly washing hands and putting on a fresh pair of powderless nitrile gloves. Sunscreens and insect repellents listed in the EGLE General PFAS Sampling Guidance

Clothing and Protective Clothing

Avoid	Allowable
<ul style="list-style-type: none"> Anything made with Gore-Tex™ or other water-resistant synthetics Anything applied with or recently washed with: <ul style="list-style-type: none"> Fabric softeners Fabric protectors, including UV protection Insect resistant chemicals Water, dirt, and/or stain resistant chemicals Latex gloves 	<ul style="list-style-type: none"> Well-washed clothing, with most recent washings not using fabric softeners, made of or with: <ul style="list-style-type: none"> Cotton Polyurethane Polyvinyl chloride (PVC) Rubber Neoprene Powderless nitrile gloves

Sampling Items and Materials

Avoid	Allowable
<ul style="list-style-type: none"> Sample bottles that have NOT been provided by the laboratory Chemical or blue ice packs not provided by the laboratory Recycled or chemically treated paper towels 	<ul style="list-style-type: none"> Laboratory-provided PFAS-free bottles Regular ice, double bagged Laboratory-provided ice packs Low-density polyethylene (LDPE) (e.g., Ziploc®) bags Untreated paper towels or cotton cloths

Food and Beverages

Avoid	Allowable
<ul style="list-style-type: none"> No food should be eaten in the staging or sampling areas, including pre-packaged food or snacks. <ul style="list-style-type: none"> ✓ If eating food on-site becomes necessary, move to the staging area and remove personal protective equipment (PPE). After eating, wash hands thoroughly and put on new PPE. 	<ul style="list-style-type: none"> Brought and consumed only outside the sampling area: <ul style="list-style-type: none"> Bottled water Hydration drinks (i.e., Gatorade®, Powerade®)

¹ This table is not considered to be a complete listing of allowable materials or items to avoid.

² The avoidance of PCPs is precautionary because none have been documented as having cross-contaminated samples due to their use. However, if used, application of PCPs must be away from sample bottles and hands must be thoroughly washed after the use of any PCPs before sampling.