

PFAS Sampling Guidance for Public Water Systems

Maine CDC Drinking Water Program • August 2021



I. Introduction

With the signing of LD 129 on June 21, 2021 by Governor Janet Mills, *all* community (C) public water systems and non-transient, non-community (NTNC) schools and child care facilities in Maine are required to sample finished drinking water for perfluoroalkyl and polyfluoroalkyl substances (PFAS) by December 31, 2022. An interim standard of 20 ppt for six PFAS (alone or in combination) is in effect. The six regulated PFAS are: perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA) and perfluorodecanoic acid (PFDA). More information on PFAS and LD 129 can be found on the Maine CDC Drinking Water Program (DWP) website: www.medwp.com (scroll to the *What's New?* section – “Testing for PFAS in Drinking Water”), or go directly to the DWP PFAS webpage: <https://tinyurl.com/MeDWP-PFAS>. The DWP will continue to update this sampling guidance as new information becomes available.

II. Laboratories and Analytical Methods

Only DWP accredited labs employing EPA methods, 533, 537 or 537.1 for use in potable water may be used. A reporting limit of 2 ng/L (nanograms per liter, a.k.a., parts per trillion or ppt) is required. Coordinate with the lab to deliver sample bottles to them in a timely manner so holding times will not be exceeded. Laboratories are responsible for submitting data to the DWP. For more information on labs and analytical methods, please visit the DWP PFAS webpage at <https://tinyurl.com/MeDWP-PFAS> or contact Christine Blais at christine.blais@maine.gov.

III. Potential Sample Contamination

Because PFAS can be found in many household, commercial and industrial items, care should be taken to prevent PFAS cross-contamination when collecting samples. As part of your pre-sampling planning, consider whether the water flowing through your sample port has contact with any Teflon® sealants, tapes, or tubing. If so, consider re-plumbing your sample port or using a different sample location. Wait at least 2 weeks between any plumbing activities and the sampling event. Following the guidelines in Table 1 (Minimizing Sample Contamination) below will help reduce the potential for sample contamination, which will require additional sampling and analysis, possibly leading to unnecessary remedial actions. More information on the products listed in Table 1 can be found in the Michigan Department of Environmental Quality’s General PFAS Sampling Guidance, revised 10/16/2018. Endorsement of products is not implied.

Table 1 – Minimizing Sample Contamination

1a. Personal Hygiene and Personal Care Products

NO – Don’t Use	YES – OK to Use
<ul style="list-style-type: none"> Avoid use of cosmetics, moisturizers, hand cream, perfume, deodorant/antiperspirant, sunscreen, insect repellent or similar products that have not been determined to be PFAS-free on the day of the sampling event. 	<p>The following insect repellents and sunscreens may be used on the day of sample collection, applied prior to arriving at the sample collection area. Other PFAS-free products may be acceptable.</p> <p>Insect repellent:</p> <ul style="list-style-type: none"> Deep Woods OFF <p>Sunscreen:</p> <ul style="list-style-type: none"> Banana Boat Sport Performance Sunscreen Lotion Broad Spectrum SPF 30, Neutrogena Ultra-Sheer Dry-Touch Sunscreen Broad Spectrum SPF 30

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1b. Food and Beverage

NO – Don't Use	YES – OK to Use
<ul style="list-style-type: none"> • No prepackaged food or fast-food packaging on the day of the sampling event. • No food should be eaten in the staging or sampling areas. 	<ul style="list-style-type: none"> • Resealable plastic bags for food storage. Gatorade®, and Powerade® can be consumed outside the sampling area.

1c. Clothing and Personal Protective Equipment (PPE)

NO – Don't Use	YES – OK to Use
<ul style="list-style-type: none"> • Clothing and other materials that have been laundered with fabric softeners, chemically treated to be waterproof, water repellent, stain resistant, insect resistant and/or protective against ultraviolet rays, or anything that has been recently dry cleaned. • Clothing or gear with Gore-Tex™, Tyvek®, or Teflon®, or any chemically treated waterproof Carhartt product (e.g. "rain defender", "DWR", "Rugged Flex", etc.). 	<ul style="list-style-type: none"> • Synthetic or cotton materials, polyurethane, polyvinylchloride (PVC), rubber, neoprene, powderless nitrile gloves. • Clothing should be previously laundered (preferably previously washed greater than six times) without fabric softeners. • Wet weather gear and boots made of polyurethane and PVC only.

1d. Sample Bottles and Coolers

NO – Don't Use	YES – OK to Use
<ul style="list-style-type: none"> • Containers should not come in contact with carpeting or upholstery inside buildings or vehicles. • Foil should not be used as a layer between stacked sample bottles. • Do not use chemical (blue) ice packs to cool samples. 	<ul style="list-style-type: none"> • Sample bottles from the accredited laboratory. • All sample containers must be polypropylene, and caps must be unlined polypropylene (no Teflon®-lined caps). • Sample bottles should be stored in zip-lock bags and transported in coolers. • Regular ice only in coolers.

1e. Sampling and Field Equipment

NO – Don't Use	YES – OK to Use
<ul style="list-style-type: none"> • Latex or vinyl gloves. • Pumps and tubing that contain Teflon® or other fluoropolymer-containing materials. • Recycled or chemically treated paper towels. 	<ul style="list-style-type: none"> • New powderless nitrile gloves or gloves provided by the laboratory. • High-density polyethylene (HDPE), bladders, silicone tubing, peristaltic pump or stainless-steel submersible pump. • Untreated paper towels and cotton cloths.

1f. Field Documentation

NO – Don't Use	YES – OK to Use
<ul style="list-style-type: none"> Waterproof/treated paper or field book, plastic clipboard, spiral bound notebook, Sharpie® and permanent marker, Post-It® and other adhesive paper products. 	<ul style="list-style-type: none"> Plain paper, metal clipboard, ballpoint pens, ZipLoc® resealable plastic storage bags.

1g. Decontamination

NO – Don't Use	YES – OK to Use
<ul style="list-style-type: none"> Decon 90 Dawn dish detergent 	<ul style="list-style-type: none"> Alconox® or Liquinox® or PFAS-free potable water followed by deionized rinse.

IV. Sample Collection Methodology

As part of your pre-sampling planning, consider whether the water flowing through your sample port has contact with any Teflon® sealants, tapes, or tubing. If so, consider re-plumbing your sample port or using a different sample location. Wait at least 2 weeks between any plumbing activities and the sampling event. Sample your finished drinking water (point of entry to distribution system) for PFAS using the following method. If the sampling instructions provided by the accredited lab conflict with these, please follow the instructions from the lab.

- 1. Fill out the sample analysis paperwork prior to arriving at the sampling location.** Use a ballpoint pen. Avoid contact with any Teflon® tape or pipe thread paste on pipe fittings or sampling tap threads on the water supply discharge pipe. If the sampling port is constructed of Teflon® or LDPE, a different sampling location should be used.
- 2. Run water for five minutes or until temperature has stabilized,** whichever is longer. Then reduce the flow to the thickness of a pencil to avoid splashing when filling.
- 3. Wash your hands thoroughly.** Use a new pair of nitrile gloves with each sample. PFAS samples should be collected first.
- 4. Open the sample bottle.** Do not put the cap on any surface and do not allow the inside of the cap, inside of the bottle, or bottle threads to be touched by any object. Do not rinse the bottle as preservatives may be present.
- 5. Fill all sample bottles** (except for field blank bottles described below in Item 6) provided by the lab completely to neck of bottle or a fill line if marked on the sample bottle. Do not overfill (or allow preservative to escape.) Cap the bottle securely and gently flip the bottle upside down (approx. 5 times) until preservative is mixed in. **Do not re-open bottle from this point forward.**
- After collecting the PFAS sample, **prepare a field blank at each sampling location.** The purpose of the field blank is to identify potential PFAS contamination introduced during sample collection and handling. The lab will provide PFAS-free water for the field blank. Transfer this water into the field blank bottle at the sampling location, being careful to minimize contamination as described above. The lab will determine if the field blank(s) needs to be analyzed along with the rest of your samples.
- Place each bottle in a sealed bag** (ZipLoc® or other PFAS-free product), and place in a cooler that only contains PFAS samples (no other sample types) and ice. Your finished water sample(s) and field blank(s) should be in the same cooler. Do not use chemical (blue) ice packs.
- Ensure the Chain of Custody (COC) form and all labels on bottles contain the required information,** including sampling date and time, and name and signature of the sampler.

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- 9. Samples must be chilled during shipment** and must not exceed 10°C (50°F) during the first 48 hours after collection. Sample temperature must be confirmed to be at or below 10°C when the samples are received at the laboratory. Samples stored after 48 hours of collection must be held at or below 6°C. Samples should not be frozen. Adequate ice is particularly important when collecting samples during hot weather or for overnight sample shipment. Pre-chilling the samples in the refrigerator (keeping away from potential PFAS sources) prior to packing and shipping may be needed if the sample(s) will be shipped long distances.

Sample Collection Video

The Massachusetts Department of Environmental Protection Drinking Water Program has produced a video detailing how to collect raw water samples for PFAS analysis: *Sample Collection for PFAS Testing at Public Water Supplies*, <https://www.youtube.com/watch?v=zrwhwSI-R9M>.

Labs Accredited by DWP for PFAS Sampling

A list of laboratories accredited for PFAS sampling is listed on the DWP PFAS webpage at: <https://tinyurl.com/MeDWP-PFAS>.

For more information or assistance with labs and analytical methods, please contact Christine Blais at Christine.Blais@maine.gov.

For general questions regarding PFAS and the new legislation, please contact DWP Source Water Protection Coordinator Ashley Hodge at Ashley.Hodge@maine.gov, or (207) 822-2341.