

Sampling Drinking Water for Haloacetic Acids (HAA5) Analysis using USEPA Method 552.3

Please read and understand this entire procedure prior to beginning any sampling.

[NOTE: The maximum holding time for a sample stored at or below 6 degrees C ($\leq 6\text{ }^{\circ}\text{C}$) and protected from light is 14 days from sample collection until extraction with methyl tert-butyl ether (MTBE). Samples must be chilled to $> 0\text{ }^{\circ}\text{C}$ to $\leq 10\text{ }^{\circ}\text{C}$ within the first 48 hours after collection and kept at $> 0\text{ }^{\circ}\text{C}$ to $\leq 6\text{ }^{\circ}\text{C}$ after that.

Field samples that will not be received at the laboratory on the day of collection must be packaged for shipment with sufficient ice to ensure that they will be $> 0\text{ }^{\circ}\text{C}$ to $\leq 6\text{ }^{\circ}\text{C}$ or $10\text{ }^{\circ}\text{C}$ upon arrival at the laboratory, depending on arrival time. Samples received outside this temperature range will be rejected.]

SAMPLING PROCEDURE

BEFORE YOU BEGIN

- (1) Ammonium chloride (NH_4Cl) is a skin, eye, and respiratory irritant, and may be harmful if inhaled or swallowed. Adequate ventilation and safety glasses are recommended. Flush with plenty of water upon skin or eye contact.

SAMPLING STEPS

- (1) COLLECT SAMPLES FROM A COLD WATER TAP
- (2) Remove the aerator/screen from the tap, if there is one present.
- (3) Open the tap (cold only) and allow the system to flush for about 3-5 minutes at full flow until the water temperature has stabilized and the system has been flushed of stagnant water.
- (4) Adjust the water flow to a thin gentle stream so no air bubbles are detected.
- (5) Uncap and fill the 250-mL amber glass bottle containing NH_4Cl to the neck of the bottle ($\frac{1}{2}$ to $\frac{3}{4}$ " from the top) making sure not to flush out the ammonium chloride. Be sure that the inside of the cap and mouth of the bottle do not come in contact with anything but the sample water.
- (6) Securely cap the 250-mL amber glass bottle w/ NH_4Cl , and gently agitate the sample by hand for 15 seconds so that the ammonium chloride thoroughly mixes with the sample.

FINAL STEPS

- (1) Record the sampling date, time, site, and name of sampler on the bottle label and the Chain-of-Custody (CoC) Record (FORM-N0013A).
- (2) Immediately chill all samples within 15 minutes of collection to at or below 10 degrees C ($\leq 10\text{ }^{\circ}\text{C}$) by placing the samples in a sample refrigerator or in a cooler with ice.
- (3) Continue to chill samples during storage, transport, and/or shipment. Paragon Laboratories, Inc. will take a temperature reading upon receipt.
- (4) When transporting or shipping samples back to Paragon, it is vital that you protect the glass bottles from breakage. Pack securely with an insulation material (Styrofoam, bubble wrap, cardboard, etc.) around or between the bottles.

ACKNOWLEDGEMENT

I hereby acknowledge that I ___ have or ___ have not (check one) collected all submitted samples for Haloacetic Acids (HAA5) as summarized above. I understand that not collecting samples using the above procedure may jeopardize the validity of any results obtained.

(Signature)

(Date)

Submit this document with the completed Chain-of-Custody Record that accompanies samples.

Attachment 1
Reference Information for
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using USEPA Method 552.3

Bottles & Supplies:

PROVIDED ROUTINELY:

- (1) One 250-mL amber glass bottle with PTFE-lined cap containing 25 mg of granular ammonium chloride (NH₄Cl) is required per sample (1 bottle/sample).

References:

- (1) USEPA. 2003. Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-Liquid Microextraction, Derivatization, and Gas Chromatography with an Electron Capture Detector. Method 552.3, Revision 1.0. EPA 815-B-03-002. USEPA: Cincinnati, July.
- (2) USEPA. 2020. Analytical Requirements. Code of Federal Regulations, Title 40, Part 141.131 of Subpart L - Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors. Washington:GPO (e-CFR).

Revision History

Rev	Description of Change	Originator	Reviewer	Approver	Source File	Effective Date
0	Initial Release	SLP-235	n/a	JMS-225	SOP-N0079-R0.doc	05/16/08
1	Document reformatted to be client-facing.	EBA-284	n/a	JMS-225	SOP-N0079-R1.docx	03/02/16
2	Clarified note at beginning of procedure to include additional detail about sample temperature requirements.	ECP-259	TMM-287	JMS-225	SOP-N0079-R2.docx	08/08/20