

Overview

When collecting samples for volatile organics analysis, the most critical aspect of the collection process is the prevention of headspace at the top of the sample in the container. The presence of headspace (i.e. air bubble) in the same container can compromise the integrity of the sample results. The maximum headspace permissible in a VOA vial is not to exceed 5-6mm or 1/4" - roughly the size of a pea.

Sample Containers *Three (3) VOA vials are required for all volatile samples collected:*

40mL Sodium Thiosulfate Preserved Glass VOA Vial – Trihalomethanes only

40mL Hydrochloric Acid Preserved Glass VOA Vial – Full List VOCs

250mL Ascorbic Acid Preserved Amber Bottle – Dechlorination Vessel

Dechlorination Procedures – Full List Volatiles Only

Samples collected for full list volatiles must be dechlorinated and acidified in two separate steps.

1. Initially collect the sample in a 250mL ascorbic acid preserved amber glass bottle
2. Fill the container to the shoulder of the bottle,
3. Cap the bottle and gently invert the sample several times to mix.
 - Do NOT shake the bottle!
4. Allow the sample to settle for a few minutes and transfer into the VOA vials

Sample Collection Procedures – Zero Headspace Collection

1. Remove any attachments on sampling port where applicable (i.e. aerators, hoses, backflow prevention devices if possible).
2. Ensure surrounding area is clear, free of debris, protected from wind and rain.
3. Flush system for 5-10 minutes to clear standing water.
4. Reduce flow to a small stream about the thickness of a pencil.
5. Uncap sample container, ensuring cap remains pointed down or is protected.
6. Do NOT rinse the bottle prior to sampling. Any liquids or solids found inside are the added preservatives and must remain in the container.
7. Slowly fill the sample container to the point of just overflowing. This should leave a small amount of sample bulging over the top of the vial,
8. Once slightly overfilled, cap and seal the VOA vial by tightening the cap to finger tight plus an additional quarter turn.
9. Invert the vial to ensure that there are no bubbles inside the vial. Discard any vial with a bubble larger than ¼" in diameter. Fill all three vials provided per sample.
10. Keep samples cool (<6°C or 43°F, not frozen) and deliver to the laboratory as soon as possible.

Travel Blanks

As part of the protocol for sampling VOCs, one best practice includes the use of Travel or Trip Blanks to monitor the integrity of the samples. Is possible to contaminate volatile samples while in transit or storage. To address this, the laboratory, on request, will provide organic-free water, sealed in VOA vials to accompany the sample containers. On receipt, the blanks can be held or analyzed in parallel with the field samples. Should a contaminant be present in the field sample, the Travel Blank can be assessed for the presence of the same contaminant to determine if the presence was due to contamination.