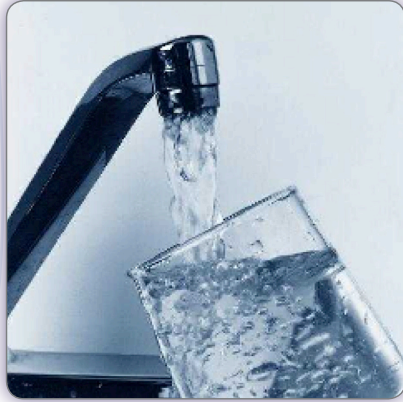




Low-Level Mercury Sampling Guide



This guide has been provided to you in an effort to minimize the possibility of field contamination while collecting low-level mercury samples. Please follow all of the steps in this procedure, and use the sample containers and supplies provided by the laboratory. This guide is based on US EPA Method 1669, "Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels", and US EPA Method 1631, "Guidelines Establishing Test Procedures for the Analysis of Pollutants: Measurement of Mercury in Water".

General Guidelines

1. Two individuals are required to collect low-level mercury samples. One individual will be considered the "dirty" hands person, while the second individual will be the "clean" hands person. The "clean" hands individual will be responsible for handling sample bottles and filling the sample bottle from the sample source (e.g. spigot, pump outlet, scooper). The "dirty" hands person will be responsible for operating machinery, preparation of the sampler, or all other activities which do not involve direct contact with the sample or sample container.
2. All sampling equipment and sample bottles must be non-metallic and free of any material which might contain trace metals.
3. Sampling personnel shall wear disposable gloves which are talc-free. Gloves shall be worn at all times when handling sample bottles or sampling equipment. Gloves shall be changed between the collection of each sample.
4. A field blank (a sample bottle filled with mercury-free water) and a field duplicate must be collected at each sampling site. To prepare the field blank, the mercury-free water should contact all of the sampling equipment to be used for collecting normal samples (e.g. pump the mercury-free water into the sample container).
5. Low-level mercury samples will be preserved at the laboratory. Samples must be express shipped to the laboratory so that they are received within 24 hours of sampling.

6. Samples shall be collected in clear 16 ounce glass bottles or in clear 40 milliliter glass vials (5 vials to be collected for each sample) only. Other plastic bottles (other than teflon or other fluoropolymers) are unacceptable as mercury will diffuse through, adhere to, or leach from the plastic surfaces. A minimum of 200 milliliters of sample must be collected. Samples must be placed into double zip-lock bags immediately following collection.

Sampling Procedure

1. The "dirty hands" individual shall open the sample cooler or box, remove a doubly-bagged sample container, and open the outer zip-lock bag. The "clean hands" individual shall reach into the outer bag, open the inner zip-lock bag, remove the sample bottle or vial, and re-seal the inner bag. The "dirty hands" individual then re-seals the outer bag.
2. The "clean hands" individual shall remove the cap from the sample container, and collect a small amount of sample by holding the sample container in a stream of water, or having the "dirty hands" individual pour the sample into the container using a collection device, or by submerging the sample bottle or vial in a body of water. The "clean hands" individual shall now replace the cap, shake the container, and pour out the rinse water away from the area of sample collection. This rinse process is repeated 3 times.
3. After rinsing, the sample container is filled completely and sealed by the the "clean hands" individual. The sample bottle or vial is placed back into the double bags, using the same technique as when the empty sample container was removed.
4. If 40mL vials are used, a total of 5 individual vials must be filled for each sample point. Each of the vials must be stored in separate doubled zip-lock bags. Multiple vials are required to assure the laboratory has a sufficient quantity of sample to complete all required quality control samples and to allow for required dilutions or re-runs.
5. Return all samples to the laboratory, iced, but unpreserved, within 24 hours of sample collection.



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