



SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

NEW SAMPLING PROTOCOLS FOR PERCHLORATE ANALYSES

For more information, please feel free to contact our Quality Service Department at (800) 789-9115.

NEW MADEP STERILE FILTER SAMPLING PROCEDURE FOR PERCHLORATE

The Massachusetts Department of Protection is requiring perchlorate samples be sterile filtered at the time of sample collection to remove any native microorganisms. Samples must be filtered using a sterile 0.20 micron surfactant-free cellulose acetate filter with a sterile 20ml syringe. A volume of 100ml of filtrate should be collected into a sterile container. Samples must be chilled during shipment, but not frozen. Properly collected samples for perchlorate analysis have a 28-day holding time. For specific details on sample collection, preservation and storage, please refer to Section 8 of EPA method 314.1 attached. Sample kits including containers, filters and syringes are provided by the laboratory at no additional cost. Please allow 3-5 days notice for preparation of sample kits.

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The following information is excerpted from:

**METHOD 314.1 DETERMINATION OF PERCHLORATE IN DRINKING WATER
USING INLINE COLUMN CONCENTRATION/MATRIX ELIMINATION ION
CHROMATOGRAPHY WITH SUPPRESSED CONDUCTIVITY DETECTION**

Revision 1.0

May 2005

8. SAMPLE COLLECTION, PRESERVATION, AND STORAGE

8.1 SAMPLE COLLECTION

- 8.1.1 Grab samples must be collected in accordance with conventional sampling practices.⁸
- 8.1.2 When sampling from a cold water tap, open the tap and allow the system to flush until the water temperature has stabilized (usually approximately 3 to 5 minutes). Collect a representative sample from the flowing system using a beaker of appropriate size. Use this bulk sample to generate individual samples as needed. A volume of at least 20-mL is required for each individual sample.
- 8.1.3 When sampling from an open body of water, fill a beaker with water sampled from a representative area. Use this bulk sample to generate individual samples as needed. A volume of at least 20-mL of filtered sample is required for each individual sample.
- 8.1.4 Once representative samples are obtained (at the time of collection), they must be **sterile** filtered (Sect. 8.1.4.1) to remove any native microorganisms. Perchlorate is known to be susceptible to microbiological degradation by anaerobic bacteria.⁹ Samples are sterile filtered to remove microbes and stored with headspace to reduce the potential for degradation by any remaining anaerobic organisms.
- 8.1.4.1 Remove a sterile syringe (Sect. 6.4) from its package and draw up approximately 25 mL of the bulk sample (fill the syringe). Remove a sterile syringe filter (Sect 6.3) from its package without touching the exit Luer connection. Connect the filter to the syringe making sure that no water from the syringe drops on the exterior of the filter. Depress the syringe plunger gently and discard the first 3-5 mL. Open a sterile sample container (Sect. 6.2) without touching the interior. Using gentle pressure, pass the sample through the filter into the sample container. During this process do not let the syringe or filter make contact with the sample container. Following filtration, seal the sample container tightly, label and prepare the container for shipment. Syringes and filters are single use items and must be discarded after each sample.

8.2 SAMPLE SHIPMENT AND STORAGE – Field samples must be chilled during shipment and must not exceed 10 °C during the first 48 hours after collection. Field samples should be confirmed to be at or below 10 °C when they are received at the laboratory. Field samples stored in the lab must be held at or below 6 °C until analysis, but should not be frozen.

8.3 SAMPLE HOLDING TIMES – Field samples that are collected and stored as described in Sections 8.1 and 8.2 may be held for 28 days.