

DECHLORINATION OF DRINKING WATER SAMPLES

Clients are urged to carefully follow all preservation guidelines as specified in each applicable method. Government agencies strictly enforce these guidelines including sample dechlorination. If residual chlorine is present in a sample, follow the sample collection, preservation and handling instructions outlined in each method. Pay close attention to the order in which reagents are added to the sample. A brief synopsis of dechlorinating reagents by method is provided below for your reference.

EPA 524.2

Add 25 mg of ascorbic acid to sample vials before filling. After the vial is filled to overflow, then add one to two drops of 1:1 HCl for each 20 ml of sample volume to a pH of <2. Seal the vial taking care not to trap any air bubbles. Turn vial septa-face down, and shake vigorously for 1 minute. Collect samples in duplicate 40ml VOA vials.

EPA 504.1

Add 3 mg of sodium thiosulfate crystals or 75 µl of sodium thiosulfate solution to sample vials before filling. Seal the vial taking care not to trap any air bubbles. The addition of acid to sample vials is not recommended. Collect samples in duplicate 40ml VOA vials.

Replicate Field Reagent Blanks (FRB) -- Must be handled along with each sample set. Two sample vials with reagent water will be provided by the laboratory along with sample bottles. Wherever a set of samples is shipped and stored, it must be accompanied by the FRB.

EPA 507

Add 80mg of sodium thiosulfate each liter of water when residual chlorine is present. Collect samples in 1 liter glass containers.

EPA 508

Add 80mg of sodium thiosulfate each liter of water when residual chlorine is present. Collect samples in 1 liter glass containers

EPA 508.1

Add 50 mg/L of sodium sulfite when residual chlorine is present. Sampling equipment must not use plastic tubing, plastic gaskets, or any parts that may leach interfering analytes into the sample. After the bottle is filled, adjust the sample to a pH less than 2 by adding up to 4 mL of 6N HCl. Collect samples in duplicate 1 liter glass containers.

EPA 515.1

Add 80mg of sodium thiosulfate when residual chlorine is present. Collect samples in 1 liter glass containers.

EPA 515.3

Add 4mg of sodium thiosulfate per 50ml of sample when residual chlorine is present. Overfill all bottles, making sure to leave no bubbles or headspace. Collect samples in 250ml glass containers.

EPA 525.2

Add 40 - 50 mg/L of sodium sulfite when residual chlorine is present. Sampling equipment must not use plastic tubing, plastic gaskets, or any parts that may leach interfering analytes into the sample. After the bottle is filled, adjust the sample to a pH less than 2 by adding up to 4 mL of 6N HCl. Collect samples in 1 liter glass containers.

EPA 531.1

Add 1.8 mL of monochloroacetic acid buffer to the 60 mL sample bottle. Dechlorinate with 80 mg of sodium thiosulfate per liter of sample if residual chlorine is present. Collect samples in duplicate 40ml VOA vials.

EPA 531.2

Add sufficient dry solid potassium dihydrogen citrate to adjust the sample pH to about 3.8. Add sodium thiosulfate crystals to sample vials before filling. Collect samples in duplicate 60ml VOA vials.

EPA 547

Dechlorinate samples with 100 mg/L of sodium thiosulfate before filling vials. Collect samples in duplicate 40ml VOA vials.

EPA 548.1

Automatic sampling equipment must be as free as possible of plastic tubing and other potential sources of contamination. Dechlorinate with the addition of 80 mg of sodium thiosulfate per L of sample prior to sample collection. Collect samples in 500ml amber glass containers.

EPA 549.2

Automatic sampling equipment must be as free as possible of adsorption sites which may extract the sample. Dechlorinate samples with the addition of 100 mg/L of sodium thiosulfate. Biologically active samples must be preserved to pH 2 with the addition of sulfuric acid. Collect samples in 1 liter amber PVC high density plastic containers.

The EPA recommends the use of sodium thiosulfate as the dechlorinating reagent in the event that a method allows the use of more than one dechlorinating reagent. One exception to this recommendation is ascorbic acid must be used when vinyl chloride and other gases are measured with a mass spectrometer.

The aforementioned reagents are available from the laboratory. Upon request, VOA vials containing the pre-measured amount of reagent as specified in the method may be supplied. A separate vial containing HCl will be provided for final pH adjustment to <2 when applicable. Be advised to clearly note this requirement when requesting containers, otherwise, HCl preserved VOA vials will be provided.