



## ChlorAC™ Buffer

### For Preservation of Aqueous Carbamate Samples

#### EPA SAMPLING PROTOCOL

Trace analysis of carbamate insecticide residues in water is a routine requirement in the U.S. Since several of the common carbamates—Carbaryl, Oxamyl, Hydroxycarbofuran—are labile in water due to oxidation or hydrolysis, the samples and standards must be preserved in order to obtain valid results.

USEPA Method 531.1 specifies pH adjustment, dechlorination, and cold storage to preserve the samples. The optimum pH is  $3.0 \pm 0.2$ . The specified preservative buffer is made from Monochloroacetic acid and Potassium acetate.

Unfortunately, the commercial grades of Monochloroacetic acid are not specified to be free of contaminants that interfere with carbamate analysis. Laboratories have reported varying levels of fluorescent interferences from 99% crystalline material.

ChlorAC Buffer from Pickering Laboratories is a highly purified Chromatographic Grade™ preservative. It is ready-to-use and prepared to EPA specifications. ChlorAC is guaranteed to be free of co-eluting interferences for the analytes in EPA 531.1.

1. Add 1.8 mL of ChlorAC Buffer to each pre-cleaned 60 mL sample vial.
2. If the water sample is chlorinated, dechlorinate with 5 mg of Sodium thiosulfate per 60 mL sample.
3. Fill the sample vials with the dechlorinated water, seal, and mix well.
4. Refer to actual EPA method for sample transportation and storage details.

When preparing standards and blanks for chromatographic analysis, use 10 mL ChlorAC Buffer diluted to 1000 mL with HPLC-grade water.



#### NOTE:

Well and river waters contain colloidal iron which would dissolve if samples are preserved prior to filtration only to precipitate out again as the hydroxide in the reactor.

#### REFERENCE:

M.W.Dong, M.V. Pickering, M.J. I. Mattina, and H.M.Pylypiw, Jr., *LC-GC*, 10 (6) (1992) 442–446

The shelf life of a factory-sealed 250 mL bottle of ChlorAC is one year.

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