

VOLATILE ORGANIC CHEMICAL (VOC) SAMPLING PROCEDURE

This brochure provides general information on how to collect a volatile organic chemical sample. Steps and procedures can vary depending on the laboratory that is used so you should follow the instructions that are provided by the laboratory you are using.

The analytical methods for VOCs call for the addition of preservatives to the vial prior to sampling. The testing laboratory will have pre-added proper preservatives to the vials. The preservatives include: ascorbic acid (Vitamin C) or sodium thiosulfate for neutralizing the residual chlorine; or hydrochloric acid (HCL), a biocide and pH adjustment for preservation and analysis. You may also need to add some preservatives at the time of sample collection.

Generally the sample kit contains:

- One or more chemical cold packs (i.e., blue ice)
- One 40-ml vial labeled “FIELD BLANK” filled with VOC-free water containing 25 mg ascorbic acid and 4 drops of 3 N HCL—DO NOT OPEN THE FIELD BLANK VIAL.
- Two 40-ml vials for each source to be sampled. Each vial may contain 25 mg ascorbic acid for dechlorination or 4 drops hydrochloric acid.

- One bottle containing 2 ml 3 N HCL with eye dropper
- Insulating material to protect vials from frozen refrigerant pack
- One sample information sheet for each source to be collected
- One extra 40-ml vial containing ascorbic acid



The general sampling procedure for VOC monitoring is as follows:

STEP ONE

Freeze the chemical cold pack before collecting samples.

STEP TWO

Locate a sampling tap that is after treatment (if present), but prior to entry to the distribution system. If collection is from a chlorinated source, the sample site should

be far enough downstream from the site of chlorine injection to ensure that adequate mixing has taken place. If collection is from a non-chlorinated source, firmly hold the uncapped vial upside down and tap it to remove the ascorbic acid from the vial before filling.

STEP THREE

Remove any attachment from the tap such as hoses, filters, screens, or aerators.

STEP FOUR

Flush the water for about 10 minutes or until the water temperature reaches a constant temperature.

STEP FIVE

While the water is running and before collecting the sample, fill out COMPLETELY the laboratory form and sample label. Laboratory forms vary, but the following information is very important to complete:

- Water System ID number
- Water System name
- DOH source number (i.e., S01)
- Sample type
- Collection date and time the sample was taken



- Sample location and sample purpose (usually “RC” for routine compliance)
- System type (i.e., Group A or B)
- Sample type (i.e., pre-treatment/raw or post-treatment/finished)

STEP SIX

Reduce water flow, if possible, to a stream about the thickness of a pencil. Hold the vial at an angle and position



the vial under the edge of the stream of water so that the water flows gently into the vial along the inner sidewall (to reduce agitation and avoid introducing air bubbles).