

When collecting samples from treatment plants employing chlorine dioxide, sections 4.6 and 8.4 of EPA Method 300.1 requires that the samples be **sparged** with an inert gas (helium, argon, nitrogen) for approximately 5 minutes prior to the addition of EDA preservative at the time of sample collection. Otherwise, chlorine dioxide will continue to form chlorite. EEA bottles must be filled **after** this purge step.

1. **WHEN SAMPLING, BRING ICE IN SEALED BAGS TO CHILL SAMPLES DURING SAMPLE COLLECTION.**

2. The sampler will need the kits below:

Supplies	QTY	Size	Bottle Type	Preservative
Chlorite Bottle (provided by the Lab)	1	60mL	High-density polyethylene (HDPE) bottle with polypropylene screw-cap lined with polyethylene	0.6mL of 1.12% EDA (v/v)
Unlabeled Empty HDPE Bottle (provided in kit)	1	250 mL	High-density polyethylene (HDPE) bottle with polypropylene screw-cap lined with polyethylene	None
PVC Tube (provided in kit)	1	-----	-----	-----
Glass Pasteur Pipette (provided in kit)	1	-----	-----	-----
Small Disposable Helium Tank (not provided)	1	-----	Can often be found at party supply stores	-----



3. Put on nitrile gloves. If sampling from faucet, remove the aerator and screen.



4. Open the tap and let the water of the sample source run at fast flow for approximately 5 minutes.



5. Use indelible ink (pen included in kit) to clearly identify the sample bottles with the information listed below (if not already on the label).

- Client Name
- Sample ID
- Source of sample
- Analysis required
- Date and Time of collection
- Preservative used

6. Slow water flow to thickness of a pencil (to minimize splashing) and fill bottle.



7. Fill sample bottle approximately **3/4 full**. Make sure the mouth of the bottle does not come in contact with anything other than the sample water.

\*Note: The sample bottle is colored to show fill line for picture purposes only.



Insert the glass Pasteur pipette to the bottom of the bottle and adjust gas flow to produce a steady flow of bubbles for approximately 10-15 minutes. The chlorine dioxide should be effectively removed from the sample after 10-15 minutes of sparging. Turn off helium and remove the Pasteur pipette.

**NOTE: PER EPA YOU MUST DO THE SPARGING AT THE FIELD SITE – DO NOT WAIT UNTIL YOU GET TO THE PLANT TO DO IT.**



Pour the sparged sample into the EDA preserved 60 mL chlorite sample bottle up to the **bottom of the neck**, taking care not to flush out preservatives and making sure the mouth of the bottle does not come in contact with anything other than sample water.



Fill up to  
bottom of neck

8. Cap and invert the bottles at least 5 times to mix the sample and preservative.



9. Store at  $\leq 6^{\circ}\text{C}$  but above the freezing until transported to the lab.

#### **SAMPLE SHIPPING AND STORAGE**

1. If shipping samples on the same day of sampling, chill samples until  $\leq 6^{\circ}\text{C}$  by exchanging the ice used during sampling with available sealed bags of wet ice.

2. **Pack chilled samples** in a cooler and add enough **FRESH** wet ice to take up 30-50% of the cooler (e.g. most of the remaining space) as recommended in our "Wet Ice Packing Instructions."
3. Complete the Chain of Custody during sample collection. Place Kit Order and completed Chain of Custody in a Ziploc style bag in the cooler on top of packing material. The following information is required on the completed Chain of Custody.
 

- Collector's name	- Sample site	-Comments about the sample (if applicable)
- Client Name	-Date and time of collection	-Sample type
4. **Ship via overnight service such as FEDEX, UPS, or DHL, etc.** Maintain an environment at  $\leq 6^{\circ}\text{C}$  but above freezing during transit. It is recommended that samples arrive within 48 hours of sampling, with no more than 40 hours for transit.
5. If samples are received on the same day as collection, temperature may be  $>10^{\circ}\text{C}$  with evidence of cooling.
6. Maximum **HOLDING TIME FOR SAMPLES** is **14 days** from time of collection.
7. Alternatively, cool the samples down by placing them **overnight** in a cooler with wet ice, or in a refrigerator (store chilled for at least 12 hours before packing for shipment). Maintain the cold samples until repacked in the cooler for shipment to the lab.

#### **ADDITIONAL NOTES**

- Try to collect only on a Monday, Tuesday or Wednesday and ship no later than Thursday of each week, and try to **NOT** collect samples **on Friday**, Saturday, or Sunday unless special arrangements have been made for the receipt of samples at the laboratory within 48-hours of collection.
- If shipping to the laboratory with **frozen gel packs** rather than wet ice, please be sure that the gel packs have **been frozen for at least 48 hours** prior to the shipment time.