LEGEND
Technical Services, Inc.

Sampling, Preservation and Shipping Instructions Checklist

Samples that are collected for shipment or delivery to our laboratory are very valuable. We want to ensure the proper handling of those samples as set forth by the various state and federal agencies that oversee environmental testing. Legend Technical Services of Arizona (Legend) provides the sample bottles at no charge to assure that the proper bottles are used for the required analyses. If you have any questions, please contact a Client Service Representative at Legend.

1. Before Sampling:

- ❑ Please check the contents of your cooler to ensure that bottles have been provided for all requested analyses. The analysis requested is written on each corresponding container. Some analyses may require more than one container while others may share a container.
- ❑ Some analyses require Travel Blanks (TB) as a control. These 40mL vials will already be filled with DI Water and will be labeled "TB" or "Travel Blank" and should not be altered in any way. Travel Blanks should be kept cool, and prolonged storage of them should be avoided. The purpose of Travel Blanks is to determine if there was any contamination while in transit.
- ❑ In order to keep samples at the required temperature of 4^{o} Celsius, and meet all method holding times, plan to collect samples immediately prior to shipping them or delivering to Legend. All samples should be stored with wet ice in a cooler. (Metals analysis preserved in Nitric Acid is the only exception. They do not need to be kept cold.)

2. Sampling Steps:

- ❑ The Chain of Custody must be filled out completely to ensure proper test results.
  - Please fill in the client name, address and contact information of where you want the final report to be sent to. Results will not be released to anyone not listed on the Chain of Custody. Additional contact information can be listed in the Comments/Special Instructions area at the bottom of the Chain of Custody.
  - Create a sample identification that will help you identify your sample on the final report, such as sample location or address.
  - The date and time the sample was taken is required to be documented on the Chain of Custody in the date and time columns.
  - The analyses desired are required to be documented on the Chain of Custody in the diagonal "Requested Analyses" columns.
- ❑ On each container, indicate sampling date, time, sample identification and client name with a permanent marker. Sample information on the containers must match the written documentation on the Chain of Custody.
- ❑ For analysis of Total Coliform/bacteria see instructions below. Sterile procedures are required for this analysis.
- ❑ If your sampling point has a faucet with an aerator, filter or any other attachments, they must be removed prior to sampling. Sampling from water fountains is not recommended.
- ❑ Samples should be collected from a cold water line and flushed for at least two minutes before sampling. Slow the stream before sampling to avoid splashing.

- To avoid contamination of the sample, do not touch the inside of the container lid or the lip of the bottle. Do not allow the container lip to make contact with the sampling point.
- **Do not rinse the sample containers**. **The powders and liquids in the container are chemical preservatives that are required for the tests being performed. Keep containers and preservatives out of the reach of children. Avoid skin contact. We recommend you wear safety glasses and gloves. If you come into contact with any preservative, immediately flush the area thoroughly with water. Avoid getting preservative on clothing and other sensitive surfaces. A complete copy of the Material Safety Data Sheet for each preservative is available from Legend.**
- **For specialty analyses, such as arsenic speciation or low-level mercury, please be sure to follow the detailed sampling instructions that are included with the kit.**

Specific sampling instructions for drinking water are checked below if applicable:

- **Total Coliform/bacteria:**
  Legend provides a special sterile sample bottle containing a white powder (chlorine neutralizing agent). ***DO NOT empty or rinse*** *these containers before filling them with sample.* The bottle must be filled from a running source. When collecting samples from a tap, remove the aerator, then clean the tap thoroughly with isopropyl alcohol **or** flame the faucet with a lighter. Turn on the water and flush for 2 or more minutes. To keep the chance of outside contamination to a minimum, open the bottle immediately before filling. Sterile bottles should be opened carefully. Remove the plastic shrink-wrap collar before removing the cap. Avoid touching the lip of the bottle or inside the cap and do not set the lid down. Adjust the flow to a small steady stream and fill **to just above the 100mL fill line** on the bottle. The water level must be over the 100mL line, but just slightly. *If the bottle is under or over filled, we must reject the sample in accordance with the State rules.*

  State rules mandate that samples for Total Coliform be **no more than 30 hours old**. This is measured from the time the sample is taken until it is analyzed in the laboratory. In order to have the necessary time in the lab, we must reject any samples more than 24 hours old. Please allow sufficient time to get the sample to the lab. Due to the time required to analyze a Total Coliform sample, samples cannot be accepted after 3:00 PM on Fridays

If you are a public water system (PWS) and are testing for compliance purposes, you must submit ADEQ's Microbiological Analysis Report (DWAR 1) with the sample. Our microbiologist will prepare the sample for analysis and "read" the results in approximately 24 hours. You will be contacted immediately if Coliform or *E. coli* are found in the sample. The result will appear as positive or negative for both Coliform bacteria and *E. coli* (fecal bacteria).

- **524.2 (Volatile Organic Compounds/THM's):**
  For EPA 524.2, Legend has provided three 40mL vials with purple labels indicating Ascorbic Acid preservation. The flow should be slow enough to prevent tiny air bubbles from purging the sample during collection. Avoid trapping air bubbles in the sample. Fill the vials ¾ full with sample, then add five (5) drops of Hydrochloric Acid. Once the acid has been added, fill the vial the rest of the way, but do not overflow. (If you look at the vial from the side, the water should make a dome over the top of the vial.) . Screw on the lid. Some water may overflow from the vial as you screw on the lid. If you turn the vial upside down, there should be no air bubbles. If there are air bubbles, do not dump out the sample and start over. Continue adding drops of water until there are no more air bubbles.
  Travel Blanks (2- 40mL vials with blue labels indicating Hydrochloric Acid Preservation) will be accompanying the purple vials. They are already filled with DI Water and should not be altered in any way. They are to determine if there was any contamination while in transit.

- **525 (Chlorinated Source Only):**
  525's will have two 1L Amber Glass bottles. They will already have a de-chlorinating agent in it- do not rinse this out. Fill the container to the neck of the bottle with the sample. Add the entire contents of the small glass vial labeled HCL (Hydrochloric Acid) to the sample (one vial per bottle). Instead of a small glass vial, your kit may have a small plastic dropper with a blue label marked HCL (Hydrochloric Acid). If your kit includes the dropper, then you need to add 30 drops of HCL to each container. After adding the Hydrochloric Acid to the bottle, fill the container to the top so that no air remains when capped. If your source is already de-chlorinated, then the sample container will already contain the HCL needed to preserve the sample. ***Wear gloves when handling hydrochloric acid***.

- **549 (Chlorinated Source Only):**
  549's will have a 500mL Amber Plastic bottle. It will already have a de-chlorinating agent in it- do not rinse this out. Fill the container to the neck of the bottle with the sample. Add the entire contents of the small amber glass vial labeled H_2SO_4 (Sulfuric Acid) to the sample (one vial per bottle). If your source is already de-chlorinated, then the sample container will already contain the H_2SO_4 needed to preserve the sample. ***Wear gloves when handling sulfuric acid.***

- **All other 40 mL vials:**
  Slow the stream until there is barely a flow. Fill the vials until they are at the point of getting ready to overflow, but try not to overflow the vial or the preservative will be flushed out. If you look at the vial from the side, the water should make a dome over the top of the vial. Screw on the lid- some water may overflow from the vial as you screw on the lid. If you turn the vial upside down, there should be no air bubbles. If there are air bubbles, do not dump out the sample and start over. Continue adding drops of water until there are no more air bubbles.

- **All other containers between 250mL-1L:**
  Fill all other containers to the neck of the container. Be cautious not to overflow, rinse out or spill the preservatives contained in the bottles.

3. Shipping Instructions:

- Pack samples in enough ice to keep them between 2° and 6° Celsius until they arrive at Legend. Ice cubes are always recommended over blue ice packs. Be sure to use a large quantity of ice, especially during the summer months. To help ensure that your samples arrive at Legend at the proper temperature, please keep the number of sample containers per cooler to a minimum to allow for adequate ice. Do NOT use dry ice. (Metals analysis preserved in Nitric Acid does not need to be kept cold.)
- Samples should be returned immediately after collection. Some analyses are time sensitive and may need to be at Legend within as little as four hours of sampling. If you are unsure of the holding time of your sample, please contact a Client Services representative.
- If you send your samples via courier (UPS, Fed Ex, US Mail, etc.), be extremely careful when packaging the samples. Provide enough packaging material to sufficiently cushion samples so that they are unable to shift while in transit.
- Before shipping your samples, be sure to complete the "Relinquished By" box at the bottom of the Chain of Custody and verify that the Chain of Custody is sufficiently protected so that it doesn't get wet from the ice while in transit.

4. Terms:

- Legend Technical Services of Arizona provides this testing to the general public at a fee that we try to keep to a minimum. The service includes only the bottles, testing, and emailing the report. Legend has a minimum invoice policy of $75.00. Payment for services is due at the time of sample delivery. Telephone consultation and interpretation of results **is not included**. Consultation is at the rate of $75.00 per hour. The original report will be mailed to the client indentified on the Chain of Custody document. Most reports are completed within 7-10 business days from receipt of the samples. If applicable, details regarding the payment policy and turn-around time policy are attached.