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Packaging and Shipping of Environmental Samples

The following procedures are adapted from EPA instructions and may be used for packaging and shipping of all nonhazardous samples. If any materials are known or suspected to be hazardous, they shall be packaged and shipped in accordance with all applicable federal, state, and local regulations.

1. Place each sample container in a *Ziploc* bag and seal. VOA vials that are aliquots from the same sample can be placed in the same bag. VOA vials should be wrapped with bubble wrap to prevent excessive contact during shipping.

2. Select an appropriate cooler size to allow for upright storage of sample containers. Sample container placement should be snug and not easily shift within the cooler.

3. Securely tape the drain plug of cooler with packing tape or duct tape on both the inside and outside to prevent accidental opening.

4. Place several layers of bubble wrap on the bottom of the cooler.

5. Place a large plastic trash bag in the cooler to contain samples and ice.

6. Place the bottles upright in the plastic bag being careful to situate glass containers so that they are not in direct contact with each other.

7. Use bubble wrap to prevent the samples from colliding and breaking during transportation. Only a minimum amount of packing material should be used as these materials insulate the samples and prevent them from being properly chilled. Plastic sample containers can be placed between glass containers to alleviate glass to glass contact.

8. Fill the cooler with ice. Ice should be double-bagged in *Ziploc* bags and equally dispersed throughout the cooler. Sufficient ice should be placed with the samples in the shipping container to ensure that ice is still present when the samples arrive at the laboratory. A sample temperature of ≤6 °C must be maintained. EPA protocols do not allow the use of icepacks or ice substitutes (blue ice) because they are unable to maintain a cold enough temperature. Do not use dry ice.

9. Drinking water samples must also include a temperature blank in the cooler.

10. Secure plastic trash bag with a zip tie.

11. If shipping via commercial carrier (i.e., FedEx), write the carrier's name and airbill number on the chain-of-custody (COC). Place the COC record in a *Ziploc* bag and tape it to the inside of lid of the cooler. If samples are packed in multiple coolers, the number of coolers should be marked on the COC record and a photocopy of the COC shall be placed in each cooler.

12. Custody seals shall be placed on each cooler in a manner that the cooler cannot be opened with out breaking the seal. Each custody seal shall be signed and dated by the person packing the cooler and the seals shall be covered by clear packing tape to prevent accidental loss or damage during shipping.

13. Tape the cooler shut to prevent accidental opening or potential leakage. Tape shall be placed around the entire perimeter of the lid and then around the body of cooler in two separate bands. Do not tape down or otherwise restrict access to cooler handles.

14. Affix a mailing label with the laboratory's address and phone number on the cooler. Apply clear tape over the address label to prevent accidental loss or damage during shipping. This label should be used in addition to any shipping papers required by carriers.