



GBRA Doc. # 3019-B

TIPS FOR PREPARING SAMPLE COOLERS FOR TRANSPORT/SHIPMENT

Proper packaging and cooling of samples is a means to help prevent re-sampling. These tips will help protect sample containers from any impact they might receive when being shipped and ensure that the sample temperature is within the **0-6°C temperature range**.

1. Use a transport device that conforms to DOT drop test specifications. A typical ice chest / cooler utilized by Guadalupe-Blanco River Authority conforms to these requirements.
2. Keep the samples on ice. Regular “wet” ice is the best choice for keeping samples cold. **Double Bag** the ice to prevent water from leaking from the cooler. Large durable plastic or garbage bags work very well in containing melted ice. **Blue ice packs are generally not sufficient to adequately maintain the temperatures for sample coolers.**
3. If a sample is above temperature when collected, **pre-chill the sample in iced water** for a few minutes or place in the refrigerator for a longer period of time before packing the cooler. This aids in lowering the temperature of the sample quicker and prevents the ice from having to both lower the temperature of the sample and maintain it.
4. **At least 1/3 of the cooler space should be allowed for ice.** Use 20-25 pounds of ice for an average sized 50-quart cooler. When in doubt – USE MORE ICE. Ice and the associated cost of shipping a heavier cooler is typically much less than having to potentially re-mobilize a crew to re-sample.
5. **Isolate each sample container with packing material such as a bubble bag.** Glass containers especially tend to break easier during shipment when they are in direct contact with one another. Do not stack glass containers in the cooler or lay glass on its side-they could break. Use a larger cooler or multiple coolers if necessary.
6. **Seal each container in bubble bags or Ziploc baggies** to prevent water from seeping onto the sample, the label or Chain of Custody when the ice melts. Taping the end of the bag with **duct tape** also helps.
7. **SEAL the entire cooler with DUCT tape...especially the lid.** This will help prevent leaks. Some carriers are beginning to reject “wet” boxes or coolers due to the damage caused to other boxes and packages.
8. **USE BUBBLE BAGS!** Not only is it the ideal packing material for maximum shock protection, the trapped air provides thermal insulation and helps to keep the samples cold.
9. **DO NOT USE packing material that absorbs water.** Material such as paper, cardboard and Styrofoam peanuts become soggy and decompose in water thereby losing their cushioning effects.
10. **DO NOT USE vermiculite.** It does not work well in coolers. It tends to scatter when dry and becomes a soggy mess as it clumps up when wet. Additionally it tends to prevent samples from rapidly cooling down.
11. **Never use dry ice.** Dry ice could potentially freeze samples compromising sample integrity and possibly shattering glass containers. Dry ice also poses a safety hazard and potential problems if shipping via a commercial courier such as FedEx or UPS.
12. **Avoid using water-soluble ink.** Blurred ink could be difficult to read and sample identification could be compromised. Call the Guadalupe-Blanco River Authority Regional Laboratory (830-379-5822) if you should have any questions or packaging difficulties.

H/labforms/lab sops/year/admin/3019-B Tips.. prep: by EG 6/13/07 rev. 0

Reference: NELAC Quality Systems Chapter 5 2003 5.5.8.3.1 Sample Receipt Protocols

GBRA Regional Laboratory

Seguin, Texas 78155

Phone: 830-379-5822

Fax- 830-379-7478

www.gbra.org