

Acidification – Vial-in-Vessel Method

This method can be used for any inorganic carbon sample needing the acidification method, but it is best for small samples which are difficult to transfer from the storage vial the sample is sent in to the acidification vessels used in the Sample Preparation Laboratory.



Left: Close up of vial inside of an acidification vessel at the Sample Preparation Laboratory at NOSAMS

Right: Acidification vessel and sample being prepared for radiocarbon analysis.



What vials to buy:

Used in the SPL: Kimble brand (60811D-1528) ½ dram Vials, Screw Thread Vial w/ Cap Attached, 13-425 Clear, Dimensions:15x28 mm

Note: Any clear ½ dram glass vials with those dimensions would be acceptable.

Vial cleaning protocol

1. Remove caps from vials, set aside in box or bag
2. Wash vials with warm soapy water.
3. Rinse with tap water.
4. Rinse 3x with DI water.
5. Soak in 10% HCl for 1 hour.
6. Rinse 3x with Milli-Q water.
7. Fold up in pre-combusted (525-550 °C for 1 hr) aluminum foil.
8. Combust in furnace for 1 hour at 525-550 °C.

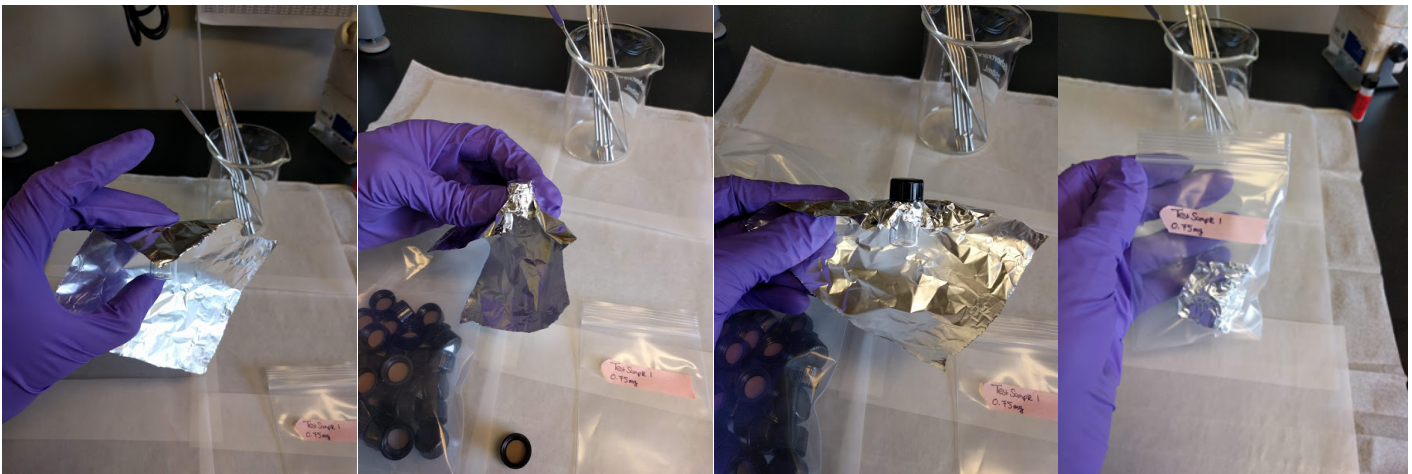
Preparing your samples for shipping

Materials:

- Pre-combusted (525-550 °C for 1 hr) aluminum foil squares (approx. 5x5 inch), one for each sample
- Small Ziploc or re-sealable bags
- Clean Kimble vials from previous step
- Samples to be weighed and sent
- Balance
- Weigh paper
- Gloves
- Acid-cleaned spatulas (or other tools needed for weighing)
- Caps (these have not been washed or prepared in any way)

Weighing samples into vials:

1. Wearing gloves, place weigh paper into weigh chamber of the balance with a pre-combusted vial on top and tare.
2. Weigh sample into vial.
3. Record weight and any other important information.
4. Write pertinent information (sample ID information, etc.) on label and stick it on a small Ziploc bag.
5. Take a foil square and using the corner or edge, cover the top of the vial.
6. Gently screw down the cap over the foil.
7. Wrap the excess foil around the rest of the vial. It doesn't have to be perfect. Just ensure that the foil keeps the cap from coming into contact with the sample in the vial.
8. Put the aluminum foil, vial and sample into the Ziploc bag.
9. Repeat for each sample.



Demonstration of steps #5-8.

When you have completed the preparation of your samples, please complete the needed forms in our online client portal (<https://nosams-prod.whoi.edu/nosams/logon.aspx>) and mail samples to:

Woods Hole Oceanographic Institution
NOSAMS Sample Submission
Attn: K. Elder MS #8
266 Woods Hole Rd
Woods Hole, MA 02543