

**Requirements for Shipping Samples to SNS and HFIR:**

1. All samples containing Beryllium must be received by ORNL no less than 6 weeks prior to the start of the experiment so that ORNL can test for Beryllium contamination. If the sample is received without sufficient time for a test, the beamtime will be forfeited.
2. All single crystal samples containing Beryllium are required to be covered in foil or other primary containment, and containment exterior cleaned prior to shipping to ORNL.
3. All powder samples containing Beryllium are required to be pre-loaded, sealed, and cleaned prior to shipping to ORNL.
4. For powder samples containing Beryllium, Labs and Soft Matter group or instrument team will ship users sample canisters, quartz tubes, or other containment devices to load the samples at their home institution.
5. Each sample container shall be in secondary containment (Ziploc style bag or similar). Samples shall be labeled "Danger Contains Beryllium" See example below.



6. Suggested guidance for the shipping party to ensure the exterior of the container is below 0.2 ug/100cm<sup>2</sup> Beryllium, which is the DOE receipt and release limit (10CFR850.31).
  - a. Wipe sample container with a damp Kimwipe or similar (water, Simple Green, 409, or Ethanol work best)
  - b. Perform a Beryllium wipe sampling, send to an AIHA accredited lab for analysis, and submit the results to NScD ESH before shipping.
  - c. If AIHA accredited lab results show results above 0.2 ug/100cm<sup>2</sup> Beryllium contamination, then shipping party shall not ship the sample to ORNL.

NOTE: If samples are sent to an AIHA accredited lab for analysis, it does not bypass the Beryllium contamination analysis completed at ORNL and samples are still required to be sent 6 weeks prior to the scheduled experiment.

7. Users shall complete the sample questionnaire in IPTS and list the chemical compounds of each sample including attesting that the exterior of the container sample is below 0.2 ug/100cm<sup>2</sup> Beryllium, which is the DOE receipt and release limit (10CFR850.31).
8. Any improperly loaded or leaking sample will be remounted, reloaded, resealed, returned, or wasted at the discretion of NScD ESH and Labs and Soft Matter Group Leader. Additional NScD ESH review and written approval is required to remount a sample or reload or reseal a sample can.

NOTE: If beryllium contamination is found to be above the DOE limit of 0.2 ug/100 cm<sup>2</sup> then the sample will be disposed of through hazardous waste.