

Sample Preparation Area at ARCS

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Sample Preparation Area at ARCS

ARCS18-00-WI0001

Revision 00

Approved By

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Lead Instrument Scientist	Date
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TOF Group Leader	Date
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NSSD ES&H/Operations Manager	Date

Sample Preparation Area at the wide Angular Range Chopper Spectrometer Training Document

1. New Users are asked to do the following:

- 1.1. Take the onsite ARCS sample preparation safety training. The training is a short tutorial of the general rules and information related to sample handling and preparation. A walkthrough of the laboratory will accompany and complete this training tutorial.
- 1.2. Take the onsite ARCS glove box safety training. The training will familiarize users to the use of the glove box and detail what materials may and may not be handled in it.
- 1.3. Plan what type of equipment and supplies you will need. Talk to your contact and/or Mark Loguillo (865-235-9000) to help set up the sample prep area.
- 1.4. Plan for the disposition of materials at the end of their experimental time. SNS will not store hazardous materials or samples for future experiments

2. Available Equipment:

- Cabinets for flammable materials.
- Sartorius balance
- Helium Glove Box
- Vacuum Oven (200°C)

3. Safety Rules

- 3.1. All of the usual precautions for work with chemicals apply in the Sample Preparation Area. Some additional rules are necessary because it is a multi-user space. Keep in mind that, while your own work may not require a given precaution, other users' work may involve hazards not obvious to you.
- 3.2. A binder containing the Material Safety Data Sheet (MSDS) of all the chemicals used in the sample prep area is stored in the ARCS hutch. MSDSs for the chemicals are also available on the HMMS inventory safety page.

3.3. If you need to dispose of glass, please place it in the "Glass Only" waste receptacle.

3.4. **If medical attention is required, call the LSS at 574-6606.**

4. Personal Safety

4.1. Do not eat or drink in the sample prep area.

4.2. Eye protection (ANSI approved safety glasses) must be worn at all times; protective gloves and lab coats are available when needed. Closed toe shoes are required for entry into the laboratory.

4.3. The appropriate gloves and face protection must be used when performing work reactive chemicals. (See MSDS for personal safety)

5. Labeling

5.1. Label all equipment that you are responsible for with your name and a phone number at which you can be reached. (This is NOT the BL18 instrument phone)

5.2. Label and date all chemicals that are not in their original containers, giving the names of the chemicals, your initials, and the date that the chemical was placed into the new container.

6. Hazardous Materials

6.1. When working with hazardous chemicals, use the smallest quantity necessary for your experiment. Transport only the amount you need to the Instrument Cave to perform your experiment.

7. Chemicals Spills

7.1. All spills must be assessed for potential hazards and managed appropriately.

7.2. If a spill is considered small and you are familiar with the hazard and have the proper protective equipment, you may clean it up.

- 7.2.1. If the spill requires no emergency response, but you are uncomfortable cleaning up spill for whatever reason contact beam line staff.
- 7.3. If a spill poses a hazard to personnel, equipment, or the environment, call the LSS at 865-574-6606 to get assistance with this spill.
- 7.4. Do not attempt to clean up a hazardous spill yourself. Warn others of the hazardous waste (including the absorbent from the spill kit) and report this to Mark Loguillo (865-235-9000) or David Fuller (865-384-7608).
- 7.5. Keep the area clean. Ensure that all glassware and surfaces you have used are clean before you leave the laboratory.

8. Chemical Disposal

8.1. Material and Sample Disposition

- 8.1.1. Any chemical that has flammable, corrosive, reactive, explosive, or toxic properties is considered hazardous and must be disposed of properly.
- 8.1.2. **Hazardous materials may not be poured down a drain or put directly into the garbage.** Any unwanted hazardous material must be placed in the appropriate container or area and will be assessed by the Lab Space Manager.
- 8.1.3. Users generating waste by-products from sample preparation should contact Mark Loguillo or David Fuller for help with its eventual disposition.

9. Irradiated Samples and Materials

- 9.1. Irradiated samples and materials must be handled according to sample handling procedures. This includes any material that was in the ARCS sample room with the beamline 18 shutter open
- 9.2. DO NOT open any powder samples that have been in the neutron beam in the area.
- 9.3. Single crystal samples that have been in the neutron beam must be first properly tagged by an RCT, and only handled when instrument staff are present.
- 9.4. DO NOT machine any materials that have been in the neutron beam or in an RMA while the beam shutter was open.

10. Conclusion

Remember, this is a user facility, and your work will not be the only work taking place in the area, please be courteous and respectful in the sample prep area. We will all work together to keep the area a clean and safe place to prepare for experiments. If any situation that is not covered in this procedure arises or you have questions, please contact Mark Loguillo at 865-235-9000, to address your concerns.