

Safety instruction for the sample preparation laboratory LR 022

This laboratory is intended for sample preparation using x-rays, cutting devices and polishers. The use of these instruments and the handling of samples can bear health risks. Here we give rules for safe work to avoid risks that arise specifically for this laboratory. The general safety instructions at HZB are not superseded by the assessment here and remain fully valid (<https://www.helmholtz-berlin.de/bin/unterweisungen>).

Eating, drinking, and smoking in any laboratory is not allowed to avoid any possible incorporation of potentially dangerous materials.

Short guidelines for the use of the Laue diffractometer, the wire saw, and polisher are available at <http://www.helmholtz-berlin.de/forschung/quellen/corelabs/quantum-materials/samplecharaclab/>. Users MUST follow these guidelines. In case this is not possible they MUST contact an instrument responsible to seek alternative routes for their experiment.

1. Handling of samples:
Samples can be dangerous e.g. toxic, or have sharp edges etc.
There are gloves to be used, as well as protective eye glasses.
A glove box is available for materials that must be kept confined. For handling of such materials, the lab-responsible must be contacted.
2. The use of the x-ray equipment (Laue, Bruker) is subject to the safety rules given in the x-ray training course (<https://www.helmholtz-berlin.de/bin/unterweisungen>). The users of these instruments MUST undergo this training which is provided by the "Strahlenschutz" department.
3. The Laue apparatus contains a Laser class 2 which can be dangerous for the eye. Protective laser glasses are available and must be used. The users MUST undergo the "Lasertraining" which is provided under "<https://www.helmholtz-berlin.de/bin/unterweisungen>".
4. Wire saw: The wire saw is interlocked. Risks arise from the fast moving wire that potentially can break, from loose sample pieces that fly around. The saw may only be operated with the door locked. Samples must be fixed well with a proper glue.
The cooling water is contaminated with the various materials treated on this saw. Skin contact with the cooling water of this saw should be avoided.
5. Polisher: The polisher is operated manually. It must run slow (<50turns/min). Samples are mounted on a support and must be fixed well. The rotation must start with unloaded polisher plate.

I have read and understood the safety instructions for Laboratory LR 022

Date, signature