

Safety Concept for working in a Photon Science Chemistry laboratory

Your safety concept (upload as max. 6 pages pdf in DOOR/chemistry declaration) is a part of our DESY Photon Science risk assessment at the chemistry lab. It helps us to identify risks and to define safety measures for a safe and successful preparation. For further questions please contact us on photon-science.safety-managers@desy.de. The safety concept should at least cover the following:

1. Sample description

Please describe what kind of samples you have: single crystals, thin films, powders, liquids or other types. You need also to specify your sample environment (pellets, capillary or single crystal holder, electrochemical cell, liquid jet setup, your own developed setup, etc.). In case of introducing self-made setup in the chemistry lab, please provide detailed information and a drawing/photo).

2. Planned activities in the chemistry laboratory

Please describe your activities in the chemistry lab, e.g. solution preparation, use of the lab analytical balance, synthesis, applying different type of cleaning procedure, thin films preparation or thermal treating of the samples.

If you need to use gases, please specify the gas, the purity, the pressure and the size of the gas bottle that you need. Contact the lab responsible to check the availability of the gas bottles and gas connections. In case that you want to use liquid nitrogen or dry ice, you need also to contact the lab responsible well in advance. Describe as well, how the samples will be transported to the beamline and back to the lab.

3. Equipment used in the chemistry laboratory

Please describe the used equipment (fume hood, ultra-pure water facility, clean room facility, pumps, shaker, mixer, stirrer, analytical balance, microscope, spin-coater, ultrasonic bath, oven, glove box, etc.). If you need an oven, please specify the temperature range. If you need a glove box please contact the lab responsible in advance.

In case you bring your own equipment, please provide the producer specifications, and define the required working space and conditions. In case that you will bring self-made equipment, provide an image and specify the required working space and conditions. If it is needed, contact the lab responsible.

All equipment and installations used at DESY must meet the effective DESY requirements and European standards which are valid for Germany. Portable electrical equipment must be labelled using a sticker indicating the testing carried out by your institution and is still valid.

4. **Risk assessments of the work with registered substances, sample environment, equipment, activities and transport.**

Please indicate the risks that can appear during the work with the registered substances, sample environment, activities and used equipment in the chemistry laboratory. The risks during the transport from the chemistry laboratory to the beamline and back should be considered as well. Indicate explicitly what kind of precautions should be taken to avoid/minimize the listed risks. Describe the needed personal protective equipment. Please consider substitution of dangerous compounds and reduction of the total amount of used chemicals, whenever it is possible.

5. **Disposal**

Please describe here, what type of waste and the amount will be produced during your activities in the lab and at the beamline. Please specify as well the waste management and if you intend to take the used samples and the remains of substances back home.