PARIS LODRON UNIVERSITY SALZBURG

Department Environment and Biodiversity

Laboratory Unit:	Luminescence and Radiometry
Rooms:	E-2.044, E-2.046, E-2.076 (A+B), E-2.077, E-E.082
Responsible:	Michael Discher
Co-Responsible:	Andreas Lang
Technician responsible for this area:	Alexander Hubmer
Consultation prior to work:	see persons mentioned above
Latest update:	November 2023

Local Safety Rules for Luminescence and Radiometry

The OSL lab is a light controlled area, please adhere to any signs on the door warning of light-sensitive work in process. Usually the lab is left with safe red lights switched on, do change the laboratory light without consulting other people in the lab

- Although there are no statutory regulations for working in low light levels, it is recommended that a break be taken every 2 hours.

- Do not switch on white light in any of the lab rooms unless in case of an emergency. Other cases are, e.g., repair, cleaning, etc for which clearance through the lab management has to be obtained.
- **Protective clothing must always** be worn (i.e. lab coat, goggles, gloves, rubber apron etc.).
- The **lab rooms are equipped with gas bottles and store hazardous chemicals**, please adhere to the signs at the door. Before access to the lab can be granted the laboratory officer will provide training of safe handling procedures.
- **Work with toxic, corrosive, volatile and/or combustible chemicals** (i.e. acetone, ethanol, butanone, HCl and H_2O_2) must be performed **in the fume hoods only**.
- **heavy liquids that contain l**ithium heteropolytungstate (LST) may cause serious eye damage. Please use safety glasses and gloves when handling LST
- **chemical waste** (also liquids, such as diluted acids, bases etc.), has to be collected in designated containers and stored in the “Chemikalien Depot”. Ask the lab safety officer and do not transport chemical waste on your own.
- Handling of **hydrofluoric acid (HF)** is only allowed in the dedicated HF fume hood with filter box and adhering to the specific HF handling regulations. Specific protective clothing need to be worn (including full face and body coverage).Emergency items including silica gel for neutralisation need to be available.
- Eating, drinking, smoking and application of cosmetics **is generally forbidden in all lab areas**.
- **Alone work** is permitted only after training has taken place. **No persons are allowed to perform chemical procedures** before 8:00 and after 17:00 weekdays or during periods of holidays and weekends when the laboratory team is absent.
- Precautions needs to be taken when handling the solar simulator equipped with a light bulb that *emits an elevated level of UV-light*: Eyes and skin must be protected. Do not open the device when the bulb is switched on

- When using the **drilling and cutting equipment** protective closing needs to be worn including impact-protective goggles and cutting resistant gloves.
- Precautions when **changing the N2 bottles**: For the N2 cylinder change, the system must be depressurised, air must not enter the N2 system, check for leaks if necessary (see check list in the safety cabinet).

Special instruction luminescence measuring laboratory – controlled and monitored room: E-2.046

Hazards:

Sealed radiation sources (Sr-90/Y-90 beta sources) built in the measurement reade

1. Only instructed persons with a **personal dosimeter** are allowed to enter the r
2. **Annual radiation protection instruction** by the radiation protection officers is required.

The radiation sources are sealed and sit in a lead castle. However, Bremstrahlung does occur. Exposure is minimised by considering the square rule (exposure decreases inversely with the square of the distance). Do not stay longer than absolutely necessary in the room
The luminescence readers are fitted with light emitting laser diodes, including an invisible infrared light emitting laser. Working with the open reader when the lasers are switched on by circumventing the computer control is forbidden.

Special work instruction RMLS storage (room: E-E.082)

Hazards:

Sealed and open radiation sources in the controlled and monitored area

Protective measures and rules of conduct:

1. There are **radiation sources** located in the laboratory i.e. liquid standards an sources for calibration: open (Am-241) and sealed sources (Cs-137, Co-60, Pb-210)
   Only **instructed persons** and persons with a **personal dosimeter** are allowed to enter room and handle the sources.
   Annual radiation protection instruction by the responsible radiation protection officers is necessary.
2. **Regulations for handling radioactive material** must be followed:
   In the interests of **radiation protection**, attention should be paid to **reducing radiation exposure, keeping distance and shielding from the source**.
3. **Regulations on (de)contamination monitoring and waste collection and disposal,** must be followed.
4. **Regulations on what to do in the event of incidents and accidents** must be followed.

Emergency

Building manager: 6821 („Portier“)

Fire: 0 – 122

Ambulance: 0 – 144

Info Poisoning Treatment: 01- 406 43 43

User:

I confirm that I have read and understood the above Local Safety Rules

Date: _____Name: _____Signature: _____

Laboratory Responsible:

I confirm that above named person was trained on the basis of the Local Safety Rules.

Date: _____Name: _____Signature: _____