

Department Environment and Biodiversity

Laboratory Unit:	Botany Soil
Rooms:	D-1.024, D-1.025, D-1.026, D-1.033
Responsible:	Anja Hörger
Co responsible:	Matthias Affenzeller
Consultation prior to work:	Anja Hörger or Matthias Affenzeller
Latest update:	September 2023

Local Safety Rules

General notes:

- The use of the labs is **only allowed after approval** by the responsible persons (Anja Hörger and Matthias Affenzeller). To keep the lab going smoothly, we have to be informed at least **with sufficient time before project start**. For larger projects funded by agencies, the lab management must be asked before project submission. We ask the lab users regularly to provide a short project report, an overview of activities planned in the lab and a rough budget estimation. If you have any questions regarding security and good practice in the lab, ask!
- Always use **appropriate protective** lab wear including a labcoat, gloves and when necessary, safety goggles! Avoid walking around in the house or touching anything with gloves OUTSIDE the lab.
- All waste (also liquids), has to be disposed of accordingly (Please, see safety sheets for the respective chemicals.), e.g. in containers for acidic substances (room D 1.025) or in autoclave bin bags (in room D 1.028). Autoclaved waste has to be collected in the corresponding bin in room D-1.028 immediately after autoclaving.

Specific lab rules:

- In general, lab spaces in the soil labs are reserved for certain activities (e.g. sample grinding, chemical handling, microwave extraction, cleaning, measurements) and must not be accessed/used by unauthorized personnel or used for other purposes!
- All users **must clean** the benches, fill emptied tip boxes, and wash glassware **immediately after use**. Wipe benches with water and 70% Ethanol. Labware used in the soil labs, which needs dishwashing, should be collected in the washing up basket in room D 1.025 until enough material has been collected to fill the dish washer. Once the basket is full, run the dishwasher, place washed labware in the drying cabinet immediately after the dishwasher run and return them into the corresponding cupboard once they are dry.
- Work with **toxic volatile chemicals** (e.g., chlorophorm, mercaptoethanol,) **MUST** be performed in the fume hoods in room D 1.026 or D 1.033.

- Used tips and other things are disposed of into the bags on the benches. These containers are emptied to the normal trash. Everything contaminated with toxic substance has to be collected as **special waste** and **must be labelled accordingly**.
- **It is not allowed to pipet chemicals directly from their original flask/container.** Prepare smaller scale aliquots instead so liquid handling is simplified and contamination of chemicals is kept to a minimum. Containers containing aliquots must **always be labelled appropriately** (substance, concentration, date).
- For general use in the soil labs, de-ionized water, produced in room D 1.026 (Bodenlabor I) is used. It is not recommended to use this water for molecular labwork. Users of the water deionization facility may be instructed to the use of the facility without general instruction for the soil labs. The water level in the water tank should always level in between the minimum and maximum (labels on the tank). Please, make sure to switch off the inlet **before the water level rises above the maximum**.
- Gas taps in the labs may only be opened when needed (e.g. when running the atomic absorption spectrometer in lab D 1.024). Make sure **to close them properly immediately after use** (for gas tabs attached to gas bottles see labels at bottle taps; for gas taps attached to house gas lines: gas tap aligned with pipe = open, gas tap transverse to pipe = closed; exception: gas tap on the right hand side (next to fume hood) in lab D 1.026 where it is the opposite).
- Some pipette sets are reserved for certain activities and are labelled accordingly. Do never use them for other purposes. If a pipette is contaminated, clean it. If a pipette is not calibrated tell the technical lab manager about it and mark it. Pipettes are labelled and should NEVER be transferred from one lab to another one!
- Lab instruments and equipment must never be used without having been instructed by the lab managers first and must not be switched on, if not in use. Manuals for all machines are available in the labs. Please, be aware of important **handling instructions for particular machines and devices**:
 - Drying cabinets in room D 1.025 (Bodenlabor II) may be used by **instructed personnel** without specific instruction to the soil labs. Please, be aware that they are **only intended for drying of clean materials**, e.g. after dish washing or autoclaving. It is not allowed to place “dirty” materials, e.g. soil or tissue samples inside these cabinets without explicit permission by one of the lab managers (**ASK BEFOREHAND!**).
 - Lab shakers in rooms D 1.025 and D 1.026 may be used by **instructed personnel** without specific instruction to the soil labs. They should always be closed when operating, of course, but also once not in use, to avoid accumulation of dust.
 - Fume hoods should ideally only be operating once being in use for work with chemicals or if hazardous volatile chemicals are stored inside. The protective glass shield should **always be closed at the maximum**.
 - The autoclave in room D 1.025 (Bodenlabor II) **must not be run without prior instruction**. Make sure that the autoclave is well-filled, the water level inside the autoclave chamber exceeds the central metal bar and the water level in the exhaust container levels between the minimum and maximum. **It is important to loosen lids** of any bottle containing liquid **before** placing inside the autoclave to avoid explosion of the bottle during the autoclaving process. Also, make sure that autoclave tape is stuck

on all autoclavables to ensure sterile conditions during the autoclaving process. Please, avoid running the autoclave over night to save energy.

- The lab microwaves in rooms D 1.026 (Bodenlabor I) and D 1.033 (Bodenlabor III) **are reserved for acid digests and must not be used for other purposes**. Be aware that often toxic vapours are produced during acid digestion and make sure that exhaust pipes are well fitted into the corresponding fume hood. Make sure the fume hood is operating before starting the microwave and keep the protective glass shield at maximum closure.
- The atomic absorption spectrometers in room D 1.024 may only be switched on when needed for analyses. The liquid containers (e.g. washing liquid, waste) must always be filled at the appropriate level (see respective manuals). Make sure to **switch off and bleed the gas supplies** after use. Aerate the room well after running any of the atomic absorption spectrometers.
- Be careful not to touch the automatic handling arm of the graphite furnace AAS in room D 1.024.

Emergency



Building manager: ext 6821

Fire: 0 – 122

Ambulance: 0 – 144

Info Poisoning Treatment: 01- 406 43 43

Confirmation of safety instruction for Soil Labs at the Department Environment and Biodiversity

User:

I confirm that I have read and understood the Local Safety Rules of the Soil Laboratories.

Date: _____ Name: _____ Signature: _____

Laboratory Responsible:

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

Authorization for work in specialized labs:

I confirm that above named person has been instructed to work in the following labs:

Date _____

Room D-1.024: **Messraum AAS**

Safety responsible person as specified in the rules

Room D-1.025: **Bodenlabor II**

Safety responsible person as specified in the rules

Room D-1.026: **Bodenlabor I**

Safety responsible person as specified in the rules

Room D-1.033: **Bodenlabor III**

Safety responsible person as specified in the rules