

Laboratory Rules at the Chair of Hydrogeology

latest update 03.12.2003

1 Responsible laboratory head

Dipl. Chem. Peter Volke (as far as not stated differently in the description of the single laboratories)

2 Scope

These laboratory rules regulate all laboratory work in the rooms designated for research or students' laboratory work at the chair of hydrogeology, in the Meisser building and the adjacent laboratory building. Those designated rooms are the following:

Basement:	room 001	column experiments
	room 003	hydrogeological experiments, sediment preparation
2 nd floor:	room 308	chromatography and adjacent room 308a
	room 317	sample preparation
	room 318	maintenance and renting of on-site and analytical equipment
Laboratory building:	room 133	spectroscopy
	room 135	chemical analyses
	room 138	hydrogeological experiments (cooperation with chair of sedimentology, Prof. Breitzkreuz)

Laboratory work in all other than the above mentioned rooms is strictly forbidden.

3 Health, safety and fire protection at the workplace

3.1 Emergencies / Responsible persons / emergency numbers

Emergency numbers:	Police	0-110
	Fire works / rescue service	0-112
University internal numbers:	Safety inspector	2577 (Dr. Friederici)
	Fire protection expert	2089 / 2577
	Company doctor	023439 (Dr. Helbig)
	Expert for hazardous substances	3258 (Mr. Drees)
Meisser building:	Head of the Department	2775 (Prof. Merkel)
	Secretary	2792 (Mrs. Kluge)
	Competence for the building	2890 (Mr. Böhme)
	Safety inspector	3224 (Mr. Segler)
	Head of the Laboratory	3615 (Mr. Volke)

Information in case of emergency

In case of emergency keep calm, call the emergency numbers, and give the following information:

1. Who calls?
2. What happened?
3. Where did it happen?
4. Are there persons in imminent danger, injured or dead persons?

In case of fire consider additionally:

1. Fire fighting by yourself only if possible
2. Inform fire works (number: 0-112), give the above stated information
3. Trigger the fire alarm, if there are no automatic fire detectors
4. Turn off electrical equipment
5. Close the windows and doors
6. Leave the building via the evacuation routes and gather at the meeting point (meadow between Meisser- and Humboldt building) while
taking injured persons with you
pressing a wet towel against mouth and nose, when smoke builds up
not using elevators

In case of any accident Mrs. Maja Merz (Meisser building, room 127, phone 2352) is trained in first aid. For further medial treatment, inform or visit Dr. Wehr or Dipl.-Med. Walther (phone 34751). Report the accident at Mr. Böhme's (Meisser building, room 313, phone 2890).

3.2 Instructions

According to the German regulations to avoid accidents in laboratories („Unfallverhütungsvorschrift, Teil: Allgemeine Vorschriften“ § 7 (2)) all persons working in the laboratory have to be informed about possible dangers during their laboratory activities as well as measures to prevent hazardous situations.

This introduction to the general regulations has to be done

- Before starting any work in the laboratory
- Whenever changing to a different type of work, even temporarily
- Whenever operating conditions change
- and at least once a year as a refreshment course

4 Do's and Don'ts while working in the laboratories

4.1 General

- Smoking, eating, and drinking are strictly prohibited in all laboratory rooms. Food is not to be stored in laboratory glass ware, and chemicals are not to be stored in food vessels.
- Jackets and personal gear are not to be stored in the laboratory, but only on designated coat-stands, respectively in lockable personal cupboards.
- Work can only be conducted in the laboratories during official working hours. At any time, there have to be at least 2 persons in the laboratory. Exceptions are only possible after prior arrangement with the laboratory head or his deputy.
- The security advice sheets have to be consulted before starting any work in a new room. Everyone working in the laboratory especially has to be familiar with the

position of fire extinguishers, alarms, showers, eye showers, emergency power cuts, evacuation routes, and first aid kits. Laboratory head, deputy, and special regulations for single rooms are listed on the security sheet for each room.

- All rooms have to be kept clean and tidy, especially sinks have to be cleaned after use.
- Windows and doors have to be closed after finishing work for the day, electrical equipment has to be turned off, as long as not marked differently (long-term experiments).
- Work in the laboratory has to be registered in the general laboratory book (name, activity, duration of activity) which is provided in each lab.
- Persons can be sued for damages resulting from reckless handling, or neglecting the laboratory rules.

4.2 Laboratory dress

- Part of safe laboratory practice involves dressing appropriately (no open shoes, no shorts, etc.).
- While working with chemicals white coats have to be worn.
- Further safety means (glasses, gloves) have to be used while handling acids, bases and toxic substances.
- Neither the university TU Bergakademie Freiberg nor their personal are responsible for damages to clothes or health.

4.3 Glass ware handling

- Glass ware has to be in a perfect condition, damaged or broken glass ware is to be thrown away, glass fragments have to be cleaned up carefully. The laboratory head has to be informed to care for replacement of broken glass ware.
- While breaking glass tubes or sticks, or introducing glass tubes or sticks in rubber sealings protect your hands with towels.
- Used glass ware has to be cleaned and put back into its designated area. If using a dishwasher, the one who fills and runs it, is also responsible for emptying it.

4.4 Handling of chemicals

- In general handling of chemical substances requires a prior introduction from and information of the laboratory head. Handling hazardous chemical in potentially dangerous amounts is not to be done alone.
- While handling acids, bases, or corrosives safety dress must be worn.
- While diluting acids or bases, always put the water in first and work over a sink or underneath a dust hood.
- All chemical bottles and vessels have to be labelled clearly (name / initial, chemical, concentration, date). The labelling also includes the common symbols for hazardous substances.
- Unlabelled bottles of whatsoever content must not be in the lab in any case.
- Handling toxic substances requires skilled and trained personal. Toxic substances are stored in a separate cupboard. Consumption has to be registered in the corresponding book for toxic substances.
- If hazardous gases or fume is to be expected from chemical work, the work has to be done underneath dust hoods. There are two dust hoods in room 135, one in room 133, as well as two mobile ones. Their operation has to be arranged with the laboratory head.

- Untrained persons are responsible to arrange the necessary security briefing for their work by themselves.
- The laboratory head has to be informed well in advance if chemicals draw to a close. Whoever takes distilled / deionized water has to take care for its remaking.

4.5 Handling of gas bottles

- For the rooms in the Meisser building (basement and 2nd floor) gas bottles can only be kept inside the rooms in amounts that are consistent with the actual consumption. Excessive storage has to be avoided. Gas bottles have to be secured against falling and heating. If necessary they have to be stored in designated hazardous material cupboards (e.g. acetylene: fire protection). They are only to be transported with suitable aids and generally only with the corresponding security cap. An introduction about handling gas bottles and reducing valves has to be passed before starting to work with gas bottles.
- For the laboratory building adjacent to the Meisser building a central gas storage unit exists. Storage of gas bottles in the laboratory rooms 133, 135 and 138 is only permitted in rare cases and after prior approval by the laboratory head.

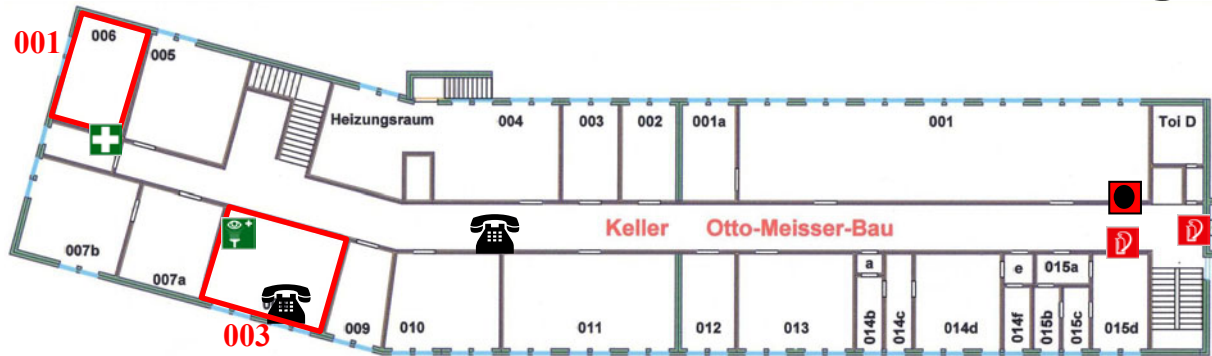
4.6 Handling of mechanical or electrical equipment

- Mechanical or electrical equipment is only to be used after prior briefing by the laboratory head.
- Untrained persons are responsible to arrange the necessary security and operating briefing for their work by themselves.
- The laboratory head has to be informed immediately if any mechanical or electrical equipment is damaged, in order to take care for repair or replacement.

4.7 Work space

- Works spaces have to be kept clean and tidy.
- Neither chemicals, nor glass ware nor mechanical or electrical equipment are to be removed from other persons' work spaces.
- The laboratory head must be informed about long-term experiments, and those have to be labelled accordingly (name, short description of the experiment stating chemicals, media, equipment used, start and scheduled end of the experiment, emergency telephone number). Long-term experiments have to be checked upon regularly by the person running the experiment or any representative.
- Any experiment has to be documented in a personal, numbered laboratory book, which has to be shown to the laboratory head if required to do so.
- In case of emergency work spaces can be controlled and closed by the laboratory head. If lockable cupboards are available, the laboratory head has a spare key.

Basement Meisser Building



Legend



= Fire extinguisher (powder)



= Fire alarm



= Eye shower



= First aid kit

Room 001 (phone 2687)

Head: PD Dr. Peter Dietrich, room 322, phone: 2789

Deputy: Dr. Volkmar Dunger, room 311, phone: 3227

Special rules for room 001

- Column experiments are set up in room 001
- If nitrogen gas is used during the column experiments, sufficient aeration has to be guaranteed (do not close the outside door, if any persons are in the room)

Room 003 (phone 2943)

Head: PD Dr. Peter Dietrich, room 322, phone: 2789

Deputy: Dr. Volkmar Dunger, room 311, phone: 3227

Special rules for room 003

- room 003 is to be used for sediment preparation
- there the large-volume-centrifuge is to be found

2nd floor Meisser building



Legend



= Fire extinguisher (powder)



= Fire alarm



= Fire extinguisher (CO₂) to extinguish fire in electrical equipment



= Eye shower



= First aid kit

Room 308 (phone 2243)

Head: Dipl. Chem. Peter Volke, room 310, phone: 3615

Deputy: Dipl. Chem. (FH) Hans-Joachim Peter, room 310, phone: 3615

Special rules for room 308

- Ion chromatography and gas chromatography (GC-MS, GC-PIC/ECD/NPD) are to be found in room 308a. Both equipments can only be run after prior briefing. Responsible for the ionchromatography is Mr. Dipl. Chem. Peter Volke (deputy: Herr Dipl. Chem. (FH) Hans-Joachim Peter), for the GC-MS Mr. Dipl. Chem. (FH) Hans-Joachim Peter (deputy: Mrs. Dipl. Geol. Britta Planer-Friedrich).
- The adjacent room 308b can only be used after prior arrangement with the laboratory head.

Room 316 / 317 (phone 2822)

Head: Dipl. Chem. Peter Volke, room 310, phone: 3615

Deputy: Dipl. Chem. (FH) Hans-Joachim Peter, room 310, phone: 3615

Special rules for room 316/317

- Room 317 is to be used for sample preparation (extractions, enrichment)
- The adjacent room 316 hosts the distillation and deionisation equipment

Room 318 (phone 3190)

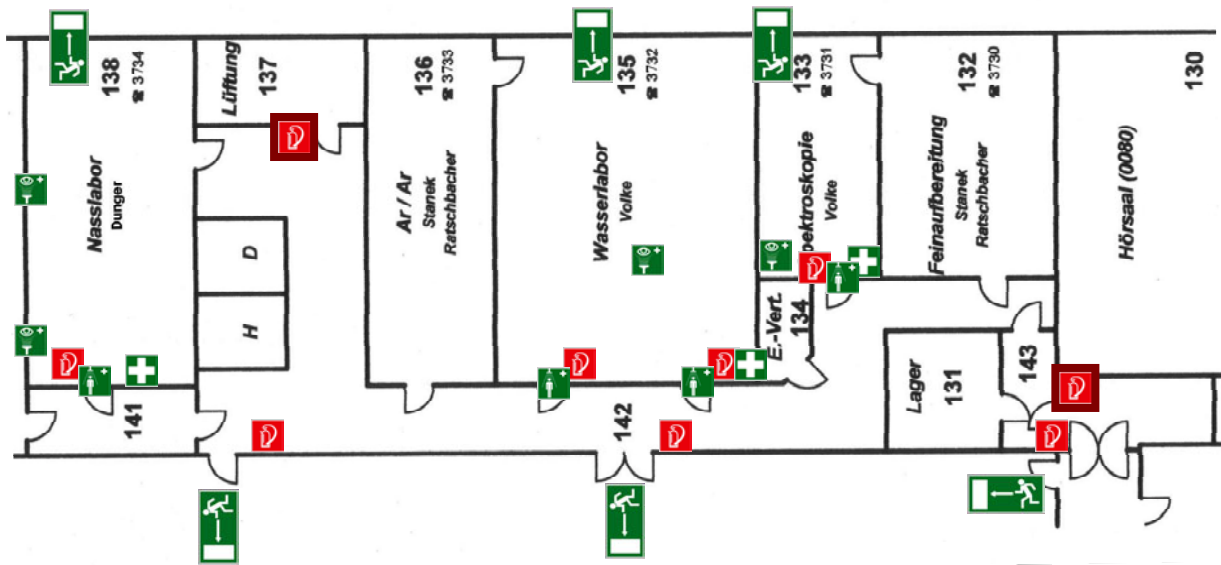
Head: Mrs. G. Goldberg, room 318, phone: 3190

Deputy: Dipl. Chem. Peter Volke, room 310, phone: 3615







Special rules for room 318

- Maintenance and renting of on-site and analytical equipment takes place in room 318.

Laboratory building rooms 133, 135, 138



Legend

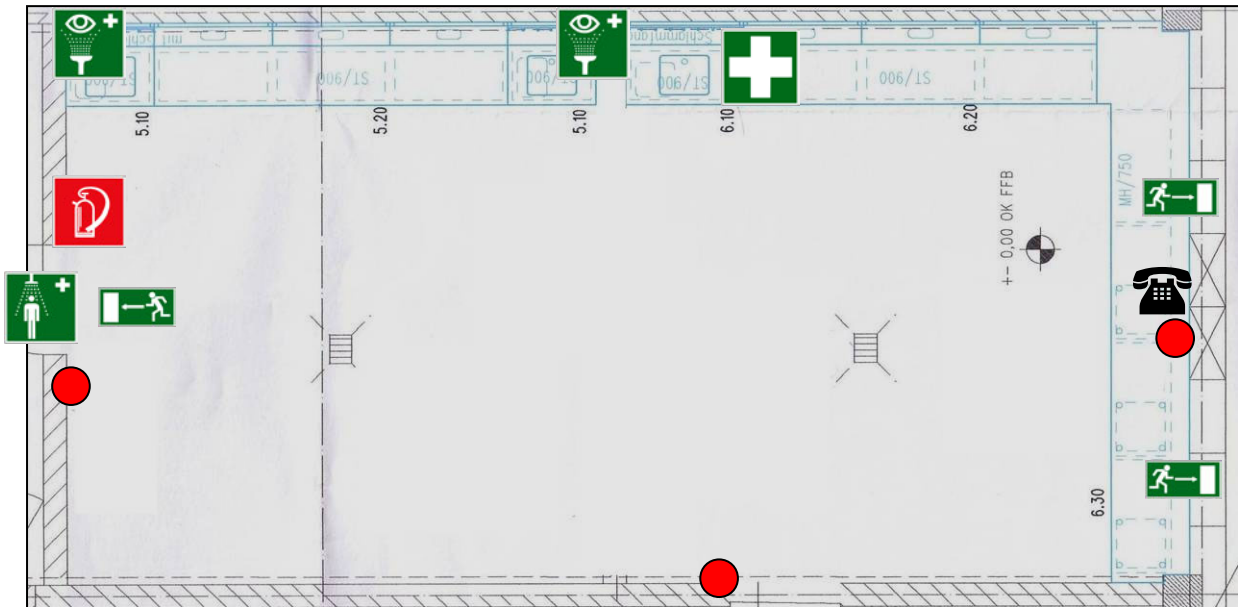
-  = Emergency power cut
-  = Fire extinguisher (powder)
-  = Fire extinguisher (CO₂) to extinguish fire in electrical equipment
-  = Shower
-  = Eye shower
-  = First aid kit

Room 138

(phone 3734)

Head: Dr. Volkmar Dunger, room 311, phone: 3227

Deputy: Dr. Michael Magnus, Humboldt-Bau, phone: 2539



Special rules for Room 138

- Evacuation routes: 1 door at the west side, windows at the east side; the door at the south side is permanently locked.
- Automatic fire detectors are spread all over the laboratory building.
- Additionally to the fire extinguisher on the left side of the door inside room 133, there are fire extinguishers at the left side of the two doors to the parking lot as well as at the exit towards the Meisser building and adjacent to the lecture hall 0080 inside the Meisser building; CO₂-fire extinguishers to extinguish fire in electrical equipment is to be found adjacent to the women restrooms in the laboratory building as well as adjacent to the lecture hall 0080 in the Meisser building.
- All internet sockets are active. Additionally WLAN is available.

Herewith I confirm to have read and understood the current laboratory rules (latest update 03.12.2003) and that I will obey those. I received a copy of the laboratory rules. I understand that reckless handling and neglecting the laboratory rules will lead to laboratory ban.

Freiberg, _____

(Signature in the presence of the laboratory head)

Herr / Frau _____

hat eine Einführung in die Laborordnung vom Raumverantwortlichen bzw. seinem
Stellvertreter erhalten und ist damit berechtigt, einen Schlüssel für den Raum
_____ für den Zeitraum von _____ bis _____
auszuleihen.

Freiberg, _____

(Unterschrift Raumverantwortlicher / Stellvertreter)