

# **Laboratory Guidelines**

## **(for students working in the Department of Chemistry)**

These guidelines are posted in all teaching laboratories

Prepared by: Tim Causon, Andreas Hofinger-Horvath, Christina Steiner-Friedmann

Regulations are essential for the safe and orderly running of laboratory classes! Major infringements may result in the issue of a temporary ban from the laboratory.

**The department of chemistry is certified according to ISO 45001 (safety and health management system)**

### **General code of conduct in the laboratory**

**Teaching staff is responsible for compliance with the laboratory guidelines, the application of appropriate precautions, and all other aspects of laboratory safety.**

To ensure that the laboratory classes begin on time, all students must be present at the entrance of the specified laboratory and ready to start work (i.e., wearing their personal safety equipment) prior to the beginning of the class.

If something is unclear in the written instructions, talk to the teaching staff **before** you start – misunderstandings are often the cause of accidents.

Plan out the experiment from beginning to end **before** beginning any work. Only chemicals specified in the laboratory instructions/manual (Skriptum) may be used for carrying out of experiments.

### **Safety**

Preventing accidents is each individual's personal responsibility. Do not rely on others!

General rules:

- Eating, drinking, chewing gum, smoking, communication via phones or use of radios or similar devices is **strictly forbidden** in the laboratory.
- Legwear has to be loose, long, and cover the whole leg.
- Footwear has to be flat and closed-toe.
- Jewellery, especially on hands and long chains/necklaces, may not be worn in the laboratory.
- Coats, jackets, bags and the like must be stored in the lockers outside the laboratory.

- Long hair must be tied back.
- Wearing contact lenses is prohibited in all areas of the laboratory.
- In case of health problems that may interfere with work and safety in the laboratory (colour blindness, mobility limitation, etc.), please talk to the teaching staff as soon as possible so that an individual solution can be developed.
- Pregnant people may not work in the laboratory. If a pregnancy is noted or presumed during a lab course, please talk to the occupational physician and inform the teaching staff so that an individual solution for the lab course can be found.

### **Personal protective equipment (PPE)**

PPE has to be equipped prior to entering the laboratory. PPE consists of:

- a clean, knee-long lab coat with long sleeves, 100 % cotton
- safety glasses (also for wearer of glasses)
- safety gloves if needed

### **Working with chemicals**

When handling chemicals, work has to be carried out with extreme caution. Contact of chemicals with eyes, skin or mucous membranes must be avoided (PPE see above, if needed, safety gloves can be obtained from the laboratory technicians). In case an accident happens:

- **eyes:** Immediately rinse the open eye thoroughly with an eye wash (help by a second person is advisable)
- **skin:** Immediately rinse thoroughly (minutes, if necessary) with water
- **clothing:** If soaked, remove immediately. In case of small splatters, rinse properly with water

**In case of any kind of injury or laboratory accident, on-duty teaching personnel must be informed immediately and without exception!**

### **Maintaining a suitable workplace:**

Only items required for carrying out the task at hand should be on the work bench space. These items should be at hand: PPE, paper towels, spatula, tweezers, permanent marker, lab journal, lab instructions (Skriptum, lab manual), calculator.

At the end of each day, the laboratory has to be cleaned and remaining items on the benches must be removed. When taking over a locker in the laboratory, check that all listed glassware and laboratory equipment are present and stored in your locker.

### **Labelling:**

Glassware or sample containers that are kept in storage (e.g., in the fume cupboards, refrigerators, or cool rooms) must be clearly labelled with the name of the student, the date, and a clear description of the contents.

### **General lab equipment:**

Balances, photometers, centrifuges, microscopes, water baths, etc. must be treated with care. If in doubt about the proper use of any laboratory instrument, ask teaching staff for help. All equipment must be maintained and left in a clean state and turned off at the end of the day.

### **Balances**

Check the level prior to use (report any issues to a laboratory technician)

Pay attention to different weighing precision and ranges for the balance being used.

Balances must be kept clean and cleaned immediately after spillage.

### **Chemicals**

Always keep chemicals free of contamination – never return chemicals to the original container if excess has been taken. Following use, close the reagent bottle immediately with the correct lid and then remove and dispose of any spillage.

Take note of hazard symbols (see GHS) and the related information concerning potential hazards and safety recommendations.

### **Waste disposal and environmental management**

BOKU has developed an environmental management system based on the European Ecological Audit Directive (EMAS-VO 761/2001). See: <http://www.boku.ac.at/emas/>

The amount of chemicals used and therefor the amount of waste generated should be as small as possible.

The proper disposal of waste generated by work in the student laboratory classes follows the rules for hazardous waste as defined in the respective lab manual or on posted instructions in the laboratory.

More information about this is available from the on-duty teaching staff or can be found on the department website <https://boku.ac.at/en/chemie/entsorgungshinweise> .

### **Fire prevention and safety – inflammable agents:**

- In rooms or work areas that are designated as fire or explosion hazard zones, no fire, open flames of any type (e.g., match, cigarette lighter, candle), or electrical equipment may be used (excluding explosion protected electrical equipment).
- Note that cold rooms and freezers are absolutely not suitable for the storage of flammable chemicals.
- No flammable liquids may be used or stored near open flames (only exception is the use of small quantities in the context of microbiological work - after consultation with the teaching staff).
- **If clothes or hair are on fire, immediately use a fire blanket or emergency shower (above the emergency exits).**

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