

Area-Specific Laboratory Regulations for the Core Facility BioIndustrial Pilot Plant

1. Preamble

The purpose of these Laboratory Regulations is to ensure laboratory safety for all persons working in the laboratory and to ensure compliance with current legal requirements. This shall not be construed as restricting freedom of research.

2. Scope

- This document supplements the Laboratory Regulations of the Department of Biotechnology and Food Science (BTLW). It applies until further notice to the Core Facility BioIndustrial Pilot Plant (CF-BIPP), Muthgasse 18, 1190 Vienna, and to all employees, users, students, apprentices, interns and visitors. It covers operations in the following areas:
 - All rooms, laboratory areas, storage areas and offices assigned to the CF-BIPP

3. General Provisions

The instructions issued by CF-BIPP personnel must always be followed.

- Before starting work, familiarise yourself with the safety equipment and emergency facilities in the area, including escape routes, assembly points, eyewash bottles and/or emergency eyewash stations, fire extinguishers, fire blankets, respiratory protective equipment, chemical spill absorbents, first-aid kits, first aiders, etc.
- Pregnant and breastfeeding persons are not permitted to work in the plant. The course coordinator or the designated contact person must be informed immediately. Any pregnancy must be reported immediately to protect the pregnant person and the unborn child
- In the event of an alarm, stop work immediately. Ongoing processes must be secured to the extent necessary to ensure that emergency responders are not endangered by the process. Leave the building as quickly as possible via the nearest escape route and proceed to the designated assembly point. The instructions of fire safety wardens / evacuation assistants must be followed without exception
Re-entry into the building is only permitted after official clearance has been given by the fire safety wardens.
- **Every occupational accident, commuting accident or near miss** must be reported immediately. Every person present is required to provide first aid (ensure personal safety!) and initiate the emergency response procedure.

Subsequently, an **accident report** must be sent to the **Head of Core Facilities, the Head of CF-BIPP, and the safety officer**.

Email: office.cf@boku.ac.at, bipp@boku.ac.at and arbeitnehmerinnenschutz@boku.ac.at

[Accident report BVAEB](#) for all BOKU employees (BOKU employment contract)

[Accident report AUVA](#) for all other persons, including students of BOKU or other universities in Austria, students from abroad and apprentices

Near-miss accident to the Head of CF-BIPP and the safety officer.

If the injured person is unable to do so, a short email to the addresses listed above stating who, when, how, and where they were injured is sufficient for the time being.

The accident report can then be sent retroactively on the following working day.

- **Ordering and Procurement**

Requests for purchases may be entered into the OMS procurement system by anyone. Final orders are placed by designated authorized purchasers, appointed by the Head of CF-BIPP.

In general, stock levels of required working materials must be monitored to ensure that the necessary materials are available before work begins or ordered in advance.

1. For Chemicals

- Before ordering a chemical

The relevant Safety Data Sheet (SDS) must be read, and it must be ensured that:

- a. A less hazardous substitute could not be used instead (substitution assessment).
- b. The chemical can be safely stored, handled and disposed of.
- c. The required personal protective equipment (PPE) is available.
- d. If the substance is acutely toxic, classified as CMR (according to the GHS/CLP Regulation), or is a precursor substance for explosives, the Head of CF-BIPP must be informed before ordering/using the substance and must approve its use.
- e. Further procedures according to the classification of the chemical are specified in the document "Bestellung Chemikalie IBSE".

- Upon delivery of chemicals

Chemicals must be provided with a barcode when brought into the CF-BIPP premises and entered into the chemical database.

Empty chemical containers must be removed from the chemical database, and the chemicals/containers must be disposed of appropriately.

2. All other Materials / Working Equipment

The requirement must be submitted to the Head of CF-BIPP, who will initiate the procurement process.

4. Safety Regulations

- In general eating, drinking and chewing gum are prohibited in the plant and laboratory areas.
- Protective clothing / laboratory coats and laboratory shoes / overshoes must be worn before working in the CF-BIPP plant area and its laboratory areas. Protective clothing must be suitable for the work being carried out. Specific PPE required for individual procedures is specified in the relevant operating instructions, equipment training and specific workplace training and must be available. The risk assessment for the planned activity must be observed.
- Do not touch your face with your hands.
- Always use the handrail when using the stairs.
- Floors in the plant area may be wet: Slip hazard!
- The following applies to the use of disposable gloves in the laboratory:
 - Select gloves suitable for the work process, and select accordingly based on the requirements, for example, chemical resistance and breakthrough times.
 - Change gloves regularly, including during individual work steps. This serves both personal protection and the obligation to keep the laboratory and equipment clean.
 - **Work cleanly even when wearing gloves.**
 - Never operate the following with gloves: computers, laptops, telephones, light switches, door handles, equipment control panels, water and gas fittings, etc.
- Work with acids and alkalis may only be carried out while wearing safety goggles or face protection!
- Work with solvents and toxic or odorous chemicals, whether liquids or powders, must be carried out in an operating fume hood. After completion of the work, the sash/front panel must be closed, and the fume hood must remain in operation for at least another 10 minutes.
When not required, the fume hood glass sash must remain lowered/closed.
In the evening, the last person leaving the laboratory MUST ensure that the fume hood is closed.
- When working with hot / cold equipment and materials, thermo-resistant gloves and safety goggles/face shields must be used, especially for:

- liquid nitrogen
 - when unloading an autoclave (explosion)
 - when placing/removing materials in/from -80 °C freezers
- Caution when working with sterile steam: risk of scalding from escaping steam and hot pipes/lines!
- When working with pressure vessels, the following points must be observed:
 - Observe the maximum permissible pressure (manufacturer's specifications, nameplate).
 - Before opening pressure vessels, ensure that they are depressurized (pressure gauge at 0 bar).
 - When working inside a tank, existing agitators must be secured against unintentional activation.
 - Before pressure testing or sterilization, ensure that all blind plugs as well as installed probes/sensors and similar components are correctly screwed in and secured.
 - Glass vessels intended for pressure or vacuum applications must be coated and pressure-resistant (observe manufacturer's specifications). Bottles must be checked for possible damage before use.
 - Gas must only be introduced into a pressure vessel via a pressure-reduction system including pressure indication and coarse, and fine adjustment
- The use of sharp needles (hollow needles) is prohibited in the CF-BIPP. Any exceptions must be discussed with the Head of CF-BIPP.
- Equipment or materials lent to other working groups or to persons who are not affiliated with the CF-BIPP must be documented on the Confluence page "Geräte und Materialien Verleih". The following must be recorded: equipment/material, date of loan, name and return date.
- Solutions, media and other working materials must be labelled with the name (or initials/signature) and date (day, month and year) after first opening.
- Self-prepared solutions must be labelled with the date (day, month and year) and initials/signature. The GHS labelling requirements must be observed!
- Work with solvents as well as strong acids and alkalis must be carried out under an operating fume hood (e.g. fume cupboard or local exhaust ventilation). For fume cupboards: after completion of the work, the sash must be closed, and the fume hood must remain in operation for at least another 10 minutes. Keep the fume hood glass sash closed when not in use.
- Keep weighing areas and balances clean, including underneath the balance and weighing pan. Clean work equipment such as spatulas, weighing boats, spoons, etc.
- Return materials and chemicals that are no longer required to their designated storage locations after completion of the work. Remove fully used-up chemicals from the chemical database.
- If a user list or logbook is provided for equipment, entries must be made accordingly.
- Equipment that is no longer required must be switched off.
For some equipment, it is appropriate to switch it off after every use, e.g. centrifuges, magnetic stirrers, etc.
For other equipment, switching off at the end of the day or when nobody else is using it is sufficient, e.g. photometers, etc.
- Equipment used for cooling/heating, such as centrifuges, must not be left with doors/lids open!
Autoclaves: after completion of autoclaving cycles, leave the autoclave with the lid/door open.
Centrifuges: after centrifugation, remove any condensation, clean the centrifuge chamber and rotor, and leave the centrifuge with open lid. If the centrifuge is not required for an extended period, the lid may be closed to prevent the accumulation of dust.
- Keep incubators and refrigerators/freezers open for as short a time as possible and close them carefully.
- Defects in facilities and equipment must be reported immediately to the person responsible for the equipment or laboratory manager or repaired directly, if possible.
- If something runs out in the laboratory, replenish it from storage or place an order in time.

5. Hazard Prevention

- **General Rules**
 - Tie back long hair.
 - Remove long earrings, necklaces and rings (except wedding rings).
 - Do not wear scarves or neckerchiefs.
- **Use of an Autoclave**
 - The training “SU_Steamsterilisation” must be completed before using the autoclave for the first time.
- **Use of Centrifuges**
 - Familiarize yourself with the centrifuge before use.
 - Centrifuge tubes / centrifuge cups must be properly balanced, including buckets/adapters where applicable.
 - Fill centrifuge cups to a maximum of 2/3 of their maximum filling volume.
 - Always wait until the equipment has reached the set maximum speed.
 - Immediately remove any spilled liquid. The centrifuge chamber and rotor must be cleaned after every use.
 - **In the event of centrifuge imbalance, regardless of centrifuge size:**
 - Stop the centrifuge immediately.
 - If the centrifuge cannot be stopped and begins to move, leave the room immediately. DO NOT close the doors, as there is a risk that the centrifuge may block the door.
 - There is a risk of flying parts.
 - Warn persons nearby as well as persons in adjacent rooms.

Do not re-enter the room until the centrifuge has come to a complete stop
- **Use of the Disc Separator (Pathfinder)**
 - The separator must be operated in accordance with the manufacturer's instruction „HV_154_F011“.
 - Training must be completed before starting work.
 - For equipment safety: do not forget to switch on the ice-water cooling!
- **Handling Liquid Nitrogen**
 - Use face protection and suitable cryogenic protective gloves.
 - Avoid contact of liquid nitrogen with textiles and skin. Warning: severe cold burns/frostbite!
 - Do not use liquid nitrogen or dry ice in enclosed, unventilated rooms. Risk of asphyxiation!

6. Emergencies

- **Spilled Culture Supernatants**

Absorb spilled liquids using paper towels and dispose of the paper towels in the biological solid waste. Subsequently wipe the area with clean water and paper towels, followed by a disinfectant (e.g. 70% ethanol). Dispose of the used paper towels in the biological solid waste.
- **Spilled Acids / Alkalis / Solvents**
 - Warn persons in the vicinity and evacuate the area if necessary.
 - Block off the affected area (slip hazard!).
 - Before entering the room and taking further action, put on the appropriate PPE.
 - Absorb the spilled liquid using suitable absorbent material (Chemizorb, granulate for acids, alkalis and solvents).
 - Place the used absorbent material in the appropriate container, label it accordingly and arrange for proper disposal
- **Accidents & Injuries**
 - Do not panic – Alert, Rescue, Extinguish
 - Inform a first aider and/or activate the emergency response chain.
 - Report according to Point 3
- **Fire**
 - In house emergency number: 30800 (BIG Techn. Service)

- Bring endangered persons to safety (if possible, ensure your own safety and do not take unnecessary risks)
- If possible, extinguish small fires using a fire blanket or suitable fire extinguisher (after appropriate training by the fire safety officer).
- Leave the building via the escape route. Do not use the elevator.
- Assembly point: parking area of Zgonc.
- The instructions of the fire safety wardens must be followed without exception
- **Gas Odour / Gas Leak**
 - In house emergency number: 30800 (BIG Techn. Service)
 - Bring endangered persons to safety (if possible, ensure your own safety and do not take unnecessary risks)
 - Warn persons within the plant. Inform CF BIPP head.
 - In case of nausea or other persistent symptoms, consult a doctor or contact emergency medical services.
- **Cuts**
 - Working with open wounds on the hands is prohibited.
 - In the event of a cut: inform a first aider to discuss further action.
 - In case of heavily bleeding wounds and/or pulsating bleeding, apply a pressure dressing and call emergency medical services (144).
 - Report the accident
- **Burns**
 - Minor burns should be rinsed with lukewarm tap water for approximately 10 minutes until the pain subsides somewhat. If necessary, consult a first aider to discuss further action.
 - For larger burns, immediately rinse with lukewarm water (if necessary, use the emergency shower). Carefully remove clothing if possible. Do NOT pull off clothing that is stuck to the skin! Inform a first aider and call emergency medical services (144).
 - Report the accident
- **Frostbite / Cold Injuries**
 - Minor frostbite (e.g. when handling materials in -80 °C freezers): warm the affected area with lukewarm (!) water. Consult a first aider if necessary. If there is no improvement, consult a doctor.
 - Severe frostbite (e.g. caused by liquid nitrogen): carefully remove affected clothing immediately. Warm the affected area with lukewarm water. Call emergency medical services (144).
 - Report the accident.
- **Symptoms of Poisoning**
 - In case of nausea, dizziness or other persistent symptoms, call the Poison Information Centre: 01 406 43 43.
 - Inform CF BIPP head.
 - Report the accident

7. Waste Management

If waste is collected in designated collection containers, these must be labelled with the name, date, contents and applicable hazard classes. This allows questions to be clarified and ensures correct disposal.

1. Solid Waste

In the laboratory areas, biological waste and non-biological laboratory waste must be collected separately.

- Waste bags on laboratory benches must be disposed of before they become too full. Attention: only solid materials may be disposed of in these bags/containers, no liquids.
- **After use, nitrile gloves** must be placed in the collection containers designated for recycling. These collection containers are exclusively for nitrile gloves. Gloves made from other materials must be disposed of as solid waste.

- **Disposal of Solid Materials**

- a. **Disposable materials / paper towels / disposable gloves / etc.:**

- Disposable materials / paper towels / disposable gloves / etc.:
Dispose of such waste in the large waste container in the laboratory or in the small waste bag on the laboratory bench. This waste is autoclaved in accordance with SOP 154_GG003.
 - Contact with organic solvents:
collect in empty chemical boxes and label accordingly. Dispose of the boxes as hazardous / special waste.

- b. **Chemical boxes and bottles**

- If necessary, allow empty containers to vent in a closed, switched-on fume hood, dispose of the containers as laboratory waste.
Note: Chemical boxes may be used for the disposal of organic solvent waste or other laboratory waste. Cleaned boxes with the original label removed must be stored accordingly.

- c. **Laboratory glass**

- Broken but clean laboratory glass must be collected in the glass-breakage container in the washroom (Room U1/12.4).
 - Broken, biologically contaminated laboratory glass must be autoclaved in the designated glass-breakage container and subsequently collected in the washroom (Room U1/12.4).
 - Broken, contaminated small glass vessels, glass fragments or microscope slides must be collected in Sharpsafe containers.
 - Do not dispose of laboratory glass in the glass recycling containers! Laboratory glass is disposed of as residual waste in puncture-resistant containers.

- d. **SDS Page Gels**

- These must be collected in empty chemical containers (label accordingly). Full containers are disposed of as hazardous / special waste

- 2. **Liquids**

- Culture supernatants containing cells and cell harvests are transferred to the thermal disinfection process.
 - Smaller quantities are collected in glass containers and subsequently autoclaved in accordance with SOP 154_GG003

8. Telephone Numbers and Contact Persons

CF-BIPP Head Markus LUCHNER, Ext. 35041

CF-BIPP Deputy Sabine NECINA, Ext. 35042

- **Contact Persons**

For all CF-BIPP facilities:

Anita Zwanzleitner, Ext. 35041 / 35047

Jürgen Holzinger, Ext. 35042 / 35047

Markus Luchner, Ext. 35041 / 35047

Sabine Necina, Ext. 35042 / 35047

- **First Aiders & Fire Safety Wardens**

MUG I	First Aiders	Fire Safety Wardens
UG	Anita Zwanzleitner Markus Luchner Sabine Necina	Markus Luchner Sabine Necina
EG	Anita Zwanzleitner Markus Luchner Sabine Necina	Markus Luchner Sabine Necina

ZE	Anita Zwanzleitner Markus Luchner Sabine Necina	Markus Luchner Sabine Necina
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- **Safety Representatives (SVPs)**

- Sabine Necina
- Markus Luchner

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