S1 and occupational safety instructions

S1 Facilities 1218 and 1098

Project manager

Stefanie Poll

Gábor Zsurka

Initial instructions

Every person has to be trained **before they start working** in the lab, and this has to be **documented**

Occupational safety

- Introduction to laboratory rooms, team, equipment, etc.
- Emergency situations (escape routes, assembly points, extinguishing systems)
- Accident (first aid, group leader, accident report)
- Order, cleanliness, personal protective equipment
- Report of defects and damages
- No eating and drinking in the lab
- Environmental protection

Biosafety level 1 (S1)

Allowed

- E. coli based plasmid cloning
- Adeno-associated virus based systems
- Cell culture
- Transgenic animals
- Human material (Biological Risk Group 2)
- Working with lentivirus-modified cell lines (virus not detectable)

Not allowed

Generation of lentivirus-modified cell lines (S2)

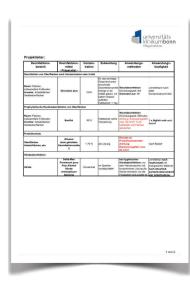
Resources

- Safety Instructions / Betriebsanweisung
- Short version of the Safety Instructions
- Safety instructions for equipment
- Hygiene plan
- Project managers: Stefanie / Margit / Gábor
- Occupational Safety Team / Stabsstelle Arbeits- und Umweltsicherheit
- Genetic Engineering Team / Stabsstelle Gentechnik



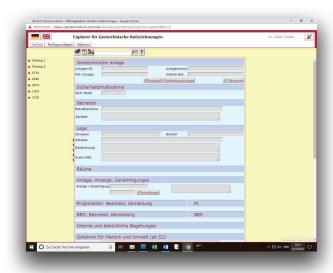






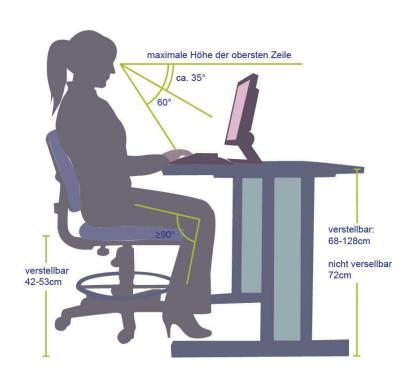
Documentation

- Genetically modified organisms: GenTech Explorer (obligatory yearly check)
- Hazardous substances: DaMaRIS
- Initial and yearly S1 instructions
- Regular checkup of emergency safety showers and eye washes
- Yearly maintenance of hoods and equipment





Your office should fit you



Flyer of the Occupational Safety Team

- How to sit
- Change your position, stand up and walk
- Illumination minimum 500 Lux, noise level maximum 55 dB. They carry out measurements if required

Environment and sustainability



The Laboratory Efficiency Assessment Framework



Environment and sustainability

- Waste separation (only non-lab waste for now)
- Turn off lights, computers, and equipment when they are not in use
- Keep the fume hoods closed
- Consider setting freezers to −70°C
- Regularly calibrate pipettes
- Clearly mark bottles: content, date, name
- Before ordering chemicals: inform yourself if they are available at other groups (IEECR: Slack; UKB: DaMaRIS)



Inspections

Inspection by the district government (every third year)
 Last inspection 2023 (next beginning 2026?)

Yearly internal inspection (Albert Becker, Caroline Geisen)

Next internal inspections Facility 1218: October 15, 2025 14:30 Facility 1098 (HET3): October 14, 2025, 14:30

LEAF audit

November 2025

Regular issues at inspections

- All surfaces have to be easily cleanable and disinfectable
 - No unsealed wood or paper
 - No rusting metal (setups)
- No cardboard boxes on the ground
- No power strips and cables on the ground
- Label disinfectant bottles with the date of opening
- Sufficient traffic area between equipments
 - The minimum width of traffic routes must not be less than 0.9 m

General rules

- Unauthorized access is prohibited
- No eating, no drinking, no drugs, no cosmetics
- No smoking







Personal protective equipment

- Lab coat (regular change)
- Gloves
- Face and eye protection (UV protection?)
- Closed shoes

Ich bitte darum, die Projektleiter der gentechnischen Anlagen auf die Einhaltung dieser Vorschrift hinzuweisen. Um mich von der Umsetzung der Forderung zu überzeugen, beabsichtige ich, zukünftig die gentechnischen Anlagen auch ohne vorherige Terminvereinbarung zu begehen.

Insbesondere möchte ich Sie darauf hinweisen, dass auch bei der Darstellung und Veröffentlichung von Bildern, z. B. in sozialen Netzwerken, die dargestellte Problematik (Fotografie aus dem Labor ohne Tragen eines Kittels) zu beachten ist.

Biological materials

- Appropriate working place
- Cleaning before and after work
- Inactivation of spilled material (hygiene plan)
- Bacterial and cell cultures, human material: autoclave before disposal
- Transport of S1 biomaterial in closed, marked containers
- Suction device: sterile filter, empty regularly (no overspill)
- Mouth pipetting is prohibited; pipetting aids must be used
- Close doors and windows while performing S1 work

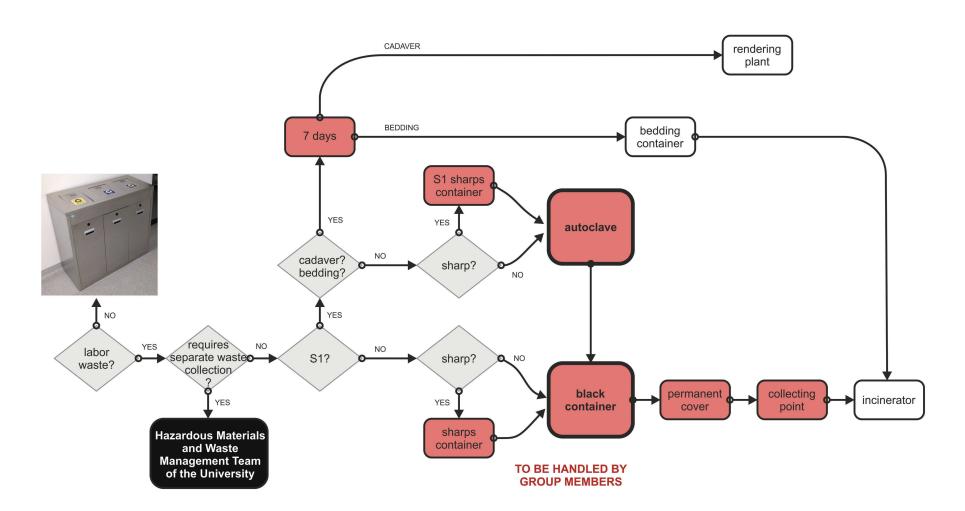
Animals

- Be trained
- Appropriate working place
- Cleaning before and after work
- Prevent fleeing
 - Have a sign outside of the closed door while working with animals
 "Caution: animal experiment in progress. Do not enter"
- Transfer only in appropriate container
- Collect cadavers in freezer and organize disposal service

Waste disposal

- GMOs (S1 material) has to be autoclaved before disposed in normal lab waste
 - Agar plates, bacterial suspension
 - Aspirated cell culture medium
 - Anything coming in contact with AAVs
- Exception: cadaver and bedding can be disposed without autoclaving
 if viral injection happened more than 7 days back. If the animal dies
 before this time point, cadaver and bedding has to be kept for one
 week
- Make sure that the cleaning person does not empty black containers with labor waste. Once full, the black containers have to be closed with a cover and brought to the collecting point

Waste disposal



Hazardous substances

- Be informed and inform colleagues
- Refer to Safety Data Sheet
- Clearly mark containers (content, data, name)
- Use protective equipment (hood, gloves, face mask)
- Store safe, restrict access (hood, poison cabinet)
- Appropriate disposal (Waste Management Service 88-19847)
- Make sure it is documented (DaMaRIS)





Entzündbare Stoffe





Entzündend wirkende Unter Druck stehende









Gesundheitsgefährdend Umweltgefährdend



Accident

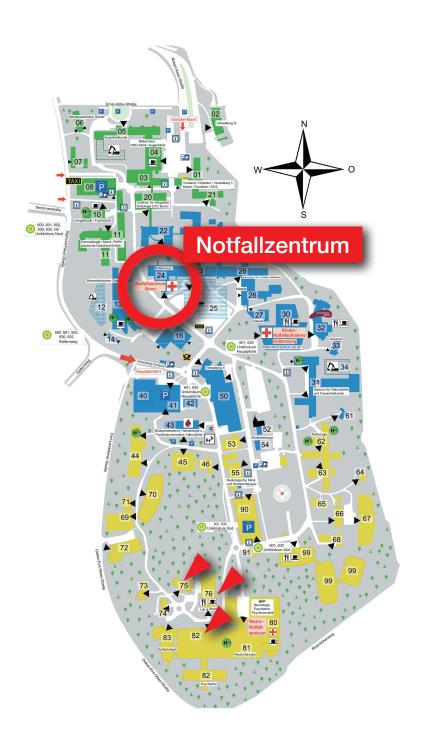
- If possible, avoid working alone
- Inform colleagues and group leader
- Rinse with plenty of water, eye wash
- First aid (kit, disinfection and dressing)
- First aider in each group
- Emergency Center of the UKB
- Medical help emergency call 112 (0112) emergency center 12000 emergency poison service 0228 19240
- Accident report





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Fire alarm

- Keep calm
- Warn your colleagues
- Securely terminate hazardous experiments (emergency-off button)
- Leave the building and make sure that your colleagues do the same
- Be aware of escape routes and assembly points
- Is anyone missing?







Medical care

- Depending on the type of work, regular checkup by the Medical Service for Employees
- Right for medical examination at the Medical Service if employee suspects work-related health issues

Expectant mothers

- Pregnancy to be reported to project manager
- Relaxation room on the ground flour
- Work restrictions
 - Poisonous and harmful substances
 - Mutagenic, cancerogenic, and embryotoxic substances
 - Overpressure
 - Danger of transmitted pathogens
- Women of reproductive age