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Lab. rules

for

Laboratory 4.120

Contents:

1. General lab’rules for the Department

2. Special rules lab 4.120

3. Signature and receipt

The Health, Security and Environment (HSE) coordinator is Martin Gimmestad and the personnel safety representative is Wenche Iren Strand.

**1.** Common rules for IBT

1. Protective equipment

* Gloves must be used when necessary. Take them off when the lab work has ended or when you leave the lab.
* Eye protection must be used in areas where it is mandatory or when there is a risk of injury to eyes (e.g. corrosive chemicals or high/low pressure). The NT-faculty has a written an eye protection regulation (the faculty’s web).
* Ventilation hoods/ spot hoods must be used when working with volatile, hazardous or malodorous chemicals.

2. Equipment and chemicals

* Overview of IBT’s chemicals with material safety data sheet (MSDS) can be found in NTNU’s electronic chemical register, Ecoonline (My bookmarks → organizational → Fakultet for Naturvitenskap og Teknologi → stoffkartotek). Paper copies in Norwegian and English are located in relevant labs. Users of chemicals must check the MSDS information.
* The technical staff routinely prepares stock solutions of chemicals that are documented with weight forms. Everybody that prepare these solutions must use weight forms (e.g. if we run out and the technical staff does not have capacity to supply in short notice). Empty forms can be found in binders in lab. Forms that are filled out should be archived in these binders.
* Room U07 in Kjemiblokk 3 is used for common storage of chemicals. Used the log book when borrowing/ removing chemicals.
* It is everybody’s responsibility to order common chemicals and equipment before we run out. If relevant, inform the room administrator or supervisor. It may take a while to receive supply.
* Orders are sent to IBTs ordering staff (”fagbestillere”) by electronic requisition forms. See innsida: My bookmarks → organizational → Institutt for Bioteknologi → Routines → Bestillingsrutiner.
* Registrations of chemicals that are emptied or disposed and not replaced must be removed from Ecoonline. Empty original packing (boxes etc.) must in such cases be labelled with Ecoonline location and placed in collection boxes/ trays in room K3-403 (Kjemiblokk 3) or D1-174 (Realfagbygget)
* Chemicals in the categories ”toxic”, ”very toxic” or ”explosive” must be secured from public access in cabinets, fridges etc. with locks or in or safes.
* Stock-chemicals in unoriginal packing must be labeled according to local routines (se innsida: My bookmarks → organizational → Institutt for Bioteknologi → HSE (Health, safety and environment → Merking). Other goods (ager plates, samples etc.) must be labeled with date and name. Unlabelled goods will be discarded.
* In order to identify owners of chemicals and goods, each lab has an initial list for the users (e.g. “EDE” = Emanuel Desperado).
* Always use log books when established.

3. Behaviour in lab

* Eating and drinking in lab is prohibited
* Keep the lab tidy and clean
* Don not contaminate stock chemicals: Never return chemicals to the stock container and always use clean spatulas
* Confer the room administrator (romansvarlig) before you borrow/ remove equipment
* It is prohibited to work alone outside normal working hours in case there is a rask for acute health injury that prevents call for help (e.g. entry to the -40 C room, working with cyanides). See risk assessment.
* Contact room administrator if you plan activity that is not in accordance with information from the room card.
* Report aberration by the electronic aberration form (NT-faculty’s web pages)

4. Risk assessments

* All activity at IBT should be subjected to risk assessment. The project leader is responsible for the preparation of risk assessment documentation for activities with risk. Risk assessments and operating instructions are archived and accessible on innsida (My bookmarks → organizational → Institutt for Bioteknologi → HSE Health, safety and environment → Risikovurderinger IBT)
* Everybody that starts working in lab should send the following to the HSE-coordinator:
1. Risk mapping and risk assessments
2. Signed documentation for guiding and training in lab (last chapter in this document).

5. HSE-contact persons

* Leaders in all levels (including. Project leaders and supervisors) are responsible for the lab security.
* HSE-coordinator, safety deputy, room administrators.
* Other roles can be found on innsida (My bookmarks → organizational → Institutt for Bioteknologi → HSE Health, safety and environment → Organisering)

6. HSE-information

* Fire instructions (building)
* Room cards (room)
* Material safety data sheets (chemicals)
* HSE-info can be found at innsida:
	+ My bookmarks → organizational → Institutt for Bioteknologi
	+ My bookmarks → organizational → Fakultet for Naturvitenskap og Teknologi

**2. Special rules for Lab 4.120**

Read this document before practicing:

**General hazard:**

* Some activities at the lab can cause danger and risk the same way general cooking at the kitchen do. Examples are: handling boiling water, boiling agarose in microwave oven (remember to release top), do not eat chemicals even harmless ones. We expect everyone to use common sense and take the responsibility in each of these and similar situations.

**Chemical hazard:**

* Each time you use new chemicals: Check the health and risk information which is related to it. Do you need to use the fume hood? At the lab you will find a red folder with data sheets for all the chemicals we use at this lab. Check alternative or supplementary info in Eco Online (online database with locations for chemicals at the department) http://www.ecoonline.no/
* If any equipment is missing or instruments at the laboratory do not work properly, immediately report to supervisor or technical staff at the lab.
* Remove spill immediately.
* Use safety goggles, gloves, lab- coat and shoe covers when it is required (when forming acrylamide gels, vacuum filtration, working with acid/base).
* Change gloves often.
* Turn of the gas burner if not in use.
* Wash hands thoroughly after being in contact with chemicals or infected materials.
* Antibiotics and powder chemicals which are toxic must be weighed in the fume hood.
* If you have questions or if you are uncertain, ask for help.

**Autoclavation:**

* All the equipment and solutions which is ment to be autoclaved must be labelled (content and name, use your initials or full name)
* Do not fill flasks and storage equipment full – it might cause accidents by boiling inside the autoclave. Fill flasks with agar only half full.
* Because of the danger of explosion, do not tighten screw caps completely when autoclaving!

**Waste:**

Cultures of bacteria with recombinant DNA must be thrown in an appropriate box and autoclaved before throwing in waste. Contaminated glass equipment must be autoclaved before washing.

* Solid waste contaminated with/containing bacteria and non- reusable equipment which has been in contact with bacteria needs to be autoclaved before it is thrown away.
* Non- reusable pipettes and equipment used during work without bacteria is placed together with normal dirty equipment.
* Combustible risk waste must be thrown in boxes labeled risk waste (yellow box made of plastic beneath fume hood).

Definition of risk waste: agarose gel colored with ”GelRed”

combustible waste contaminated with organic solvents combustible waste combined with polyacrylamide gels combustible waste -acrylamide combined

* Acrylamide needs to be polymerized before it is thrown away.
* Residues of solvents must be poured in a container at K3-403 (”instrumentrom”). Specify type of spill: with or without halogenes (chloro- iodo-, bromo- ). Remember to fill in the form (date, description and ammount) for the disposed solvent.
* Broken glass and damaged glass equipment must be thrown in its own container (carton box with black plastic bag inside)
* Dirty equipment like flasks, colbes etc. must be rinsed with water and placed in the tub at the sink for further cleaning in the mashine. Remove tape. Remove ink marks using EtOH, 96%.

**System:**

Many people are working in the lab and it is therefore important to keep it clean and tidy.

Using the dishwasher and tidying up is everybody’s responsibility

Everybody is responsible for maintaining order and system at their own area at the laboratory. All users of common areas need to clean up and remove their equipment after finishing their work there.

Important notifications when using common areas:

* Bench for electrophoresis: clean spills, empty the electrophoresis unit and rinse the unit after use. If reuse of the buffer: place the lid on the unit to avoid evaporation of the buffer.
* Centrifuge : clean the rotor when dirty.
* Geldoc: clean after use.
* Weighing: clean the scale and the bench after use.
* Spectrophotometer: clean the area and throw away kuvettes you have been using.
* Place dirty equipment in the tub at the washing bench for dishwashing.
* Keep order in the fridge and freezer: Throw away old samples, store samples in cardboard boxes and bags(not in stands intended to be used on the bench!)

**Checkist for guided tour at lab 4.120**

* Go through rules at the lab
* Guide through the lab and repeat the routines for order and system
* Fume hood and point exhaust
* Storing chemicals
* Training before using instruments
* Rules for use and log for instruments
* Handling waste

**3. Signature and receipt**

**Lab rules and guiding in lab K4.120**

I, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , have read and understood the lab rules and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been responsible for the mandatory guiding in lab

Date/ signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Trained/ guided person

Dato/ Underskrift:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Responsible for guiding

Cross out:

**□** I confirm that (1) documentation for mapping of activities and risk assessments for planned activities have been sent to the HSE-coordinator and that (2) risk assessment for new activities have been sent to achive-administrator.

Date/ signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Trained/ guided person

Date/ signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Supervisor

Send this document (signed) to the HSE-coordinator

**□** Controlled by the head of the institute: Date/ signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­\_\_\_\_\_