

# Workplace instructions

## Supplement to manufacturers instructions

The numbers 4-16 preceding headings refer to the 16 points in the materials safety sheets supplied by the manufacturers.

See also the the Basic rules for Laboratory work at the Section for Microbiology:

[http://bios.medarbejdere.au.dk/fileadmin/Resources/bios.medarbejdere.au.dk/Udvalg\\_raad\\_fora/Arbejdsmiljoevalg/2016/16\\_1\\_2\\_14RulesLabWorkMicrobiology.pdf](http://bios.medarbejdere.au.dk/fileadmin/Resources/bios.medarbejdere.au.dk/Udvalg_raad_fora/Arbejdsmiljoevalg/2016/16_1_2_14RulesLabWorkMicrobiology.pdf)

### 4. First aid measures

*Where to find first aid equipment:*

**First aid kits** are available in the hallways on levels K, 0 and 1 in building 1550:

- K. level: outside room K15
- 0. level: outside room 021
- 1. level: hallway between rooms 116 and 120

as well as:

- In building 1540 in the technicians office (room 115-117) in the cupboard between the two doors of the room
- In building 1137 (the Herbarium) in the cupboard above the sink in room 219

**Eyewash bottles** are located in all laboratories. Important note: Upon exposure to strong acids or bases eyes will close as a conditioned reflex and the injured person cannot wash her or his eyes sufficiently alone – the nearest bystander(s) must assist.

**Shower stations** are located in the hallways on levels K, 0 and 1 in building 1550. Two shower stations are found at each level:

- K. level: outside rooms K15 and K22
- 0. level: outside rooms 015 and 022
- 1. level: outside rooms 115 and 122

as well as

- In the poison/toxic waste room 1550-K09 above the entrance to the room
- In building 1137 (the Herbarium) in room 223 above the entrance to room 221

**Automated external defibrillator (AED)** for use when a person is in cardiac arrest. AEDs are located between the two elevators at the ground floor main entrance of building 1540 as well as at the 1. level entrance of building 1135 (on the wall next to the aquarium). The AED will upon opening the AED box give an automated recorded instruction on how to operate the device; see also this link: Danish: <https://hjerterstarter.dk/saadanredderdu/hjertestart-trin-for-trin> UK: <https://www.wikihow.com/Use-a-Defibrillator>

**Acquaint yourself with where to find the first aid equipment before you are in a situation where you need to make use of it.**

### Emergency phone numbers

If possible always have the MSDS at hand before contacting an emergency line.

Central Emergency Service (Alarmcentralen). Phone: 112. Call this number in case of serious injury or life-threatening acute illness.

Poisoning hotline (Giftlinien). Phone: 82 12 12 12 (open 24 h). Contact this service immediately if exposed to toxic chemicals. Here you will be advised on how to proceed by expert health professionals.

Emergency room (Skadestuen; <http://www.rm.dk/sundhed/akut-sygdom/>). Contact this service in case of acute illness or injury. You must contact the service before going to the emergency room:

- Weekdays from 8 am to 4 pm: Call your own Danish general physician
- On weekdays from 4 pm to 8 am, at weekends and on public holidays, call the emergency doctor service on tel. +45 7011 3131
- If you do not have a Danish general physician, call the emergency doctor service (+45 7011 3131)

Emergency room address: Aarhus Universitetshospital, Skejby, Palle Juul-Jensens Boulevard 161, Indgang J3, 8200 Aarhus N, <https://m.rm.dk/?l=2031&parkering=1>

**First-aiders.** At the Section for Microbiology the following persons are trained first-aiders - contact them in case of accidents during working hours that require first aid:

Laboratory technician Britta Poulsen: 60 20 26 50

Laboratory technician Susanne Nielsen: 60 20 26 52

**First aid basic instructions:**

1. Stop the accident
2. Provide life-saving first aid
3. Contact emergency service (phone 1-1-2 or see above)
4. Provide general first aid.

Note: Never provide artificial respiration in case of cyanide poisonings.

## 5. Firefighting

*Where to find firefighting equipment*

**Fire blankets** are available in the hallways on levels K, 0 and 1 in building 1550. Two blankets are found at each level:

- K. level: outside rooms K15 and K22
- 0. level: outside rooms 015 and 022
- 1. level: outside rooms 115 and 122

As well as

- In the poison/toxic waste room 1550-K09 on the wall inside the room on the right hand side of the entrance
- In building 1137 (the Herbarium) in room 223 on the wall facing room 221

**CO<sub>2</sub> fire extinguishers** are available in the hallways on levels K, 0 and 1 in building 1550. Two extinguishers are found at each level:

- K. level: outside rooms K15 and K22
- 0. level: outside rooms 015 and 022
- 1. level: outside rooms 115 and 122

As well as

- In the poison/toxic waste room 1550-K09 on the wall inside the room on the right hand side of the entrance
- In building 1137 (the Herbarium) in room 223 on the wall facing room 221

**Dry powder fire extinguishers** (*do not use for electrical installations*). In building 1550 a dry powder fire extinguisher is placed on the wall in front of the poison/toxic waste room 1550-K09. In building 1137 (the Herbarium) a dry powder fire extinguisher is placed in room 223 on the wall facing room 221

**Fire hoses** are available in the hallways on levels K, 0 and 1 in building 1550

- K. level: outside room K15
- 0. level: outside room 015
- 1. level: outside room 115

As well as in building 1137 (the Herbarium) in the staircase at each level of the building.

**Emergency stops of gas flow.** An emergency stop button is located in all rooms with propane gas outlets on the wall facing the hallways next to the entrance doors. Upon fire press the red button to activate the emergency stop of gas flow. Propane gas outlets are found in all laboratories in building 1550.

Acquaint yourself with where to find the firefighting equipment before you are in a situation where you need to make use of it.

**In case of fire - basic instructions:**

Stop the fire if possible.

- Take no risks.
- Request assistance from a colleague, if relevant.
- Try to fight the fire by using suitable fire-extinguishing equipment.
- Try to seal off the area to avoid unauthorised access.

Alert the fire service by calling 112.

- Follow the alarm instructions.
- Meet the fire service on site.

Evacuate.

- Follow the evacuation instructions.
- Do not use the lifts.

Prevent the fire from spreading.

- If possible – close doors, windows and gates.
- If possible – remove material, which presents a fire hazard (gas cylinders and chemicals).
- Remove or disconnect the source of the fire.

**Evacuation**

Staff and students at Aarhus University are obliged to acquaint themselves with the fire evacuation instructions at their work place(s) at the university.

<http://medarbejdere.au.dk/en/administration/au-planning/emergency-response/emergencies/evacuation/>

General information about how to respond to emergencies is available here:

<http://medarbejdere.au.dk/en/administration/au-planning/emergency-response/emergencies/>

**Evacuation instructions.** There are clearly marked holders set up in each evacuation area (areas with permanent staff) which contain:

- A yellow vest with the text: "Aarhus Universitet. Evakuering" (Aarhus University. Evacuation)
- A laminated yellow instruction sheet with a detailed step-by-step description of the evacuation leader's duties. The area which is to be evacuated is illustrated on the instruction sheet.
- An orange vest with the text "Aarhus Universitet. Evakuering" (Aarhus University. Evacuation)
- A laminated orange instruction sheet with a detailed step-by-step description of the meeting point leader's duties. The location of the meeting point is illustrated on a photo on the instruction sheet.

The evacuation leader puts on the yellow vest and follows the instructions on the yellow instruction sheet. The evacuation leader's task is to clear the area of people. In connection with the evacuation of the area, the surrounding areas must be informed that evacuation is taking place. As soon as possible, the local management must be informed about the incident. The meeting point leader puts on the orange vest and follows the instructions on the orange instruction sheet. The meeting point leader's task is to meet the evacuees at the specified meeting point outside the building. Always consider your own safety when assuming the role of evacuation or meeting point leader.

**Evacuation folders.**

In building 1540 evacuation folders are placed:

- K. level: next to the elevator in the hallway connecting building 1540 and 1550
- 0. level: outside room 011
- 1. level: outside room 125

In building 1550 evacuation folders are placed:

- K. level: next to the elevator in the hallway connecting building 1540 and 1550

- 0. level: outside room 026
- 1. level: outside room 126

In building 1137 (the Herbarium) an evacuation folder is placed by the entrance door to the 2<sup>nd</sup> floor.

An **internal (fire) alarm system** is present in building 1550 (but not in building 1540). The alarm system is activated by pressing the button in the **alarm boxes** located:

- K. level: outside rooms K15 and K26 and by the west-end building entrance by room K09
- 0. level: outside rooms 012 and 026
- 1. level: outside rooms 112 and 126

Alarm boxes are also located in building 1137 (the Herbarium) in front of room 211 as well as in the staircase at all levels of the building.

Activating any of the alarms will sound the alarm system at all levels in a given building and thereby initiate the evacuation procedure. When activating the alarm in building 1550 It is very important to also initiate the evacuation for building 1540 (follow the evacuation instructions) if evacuating this building is demanded by the situation.

If alarms are activated by mistake, contact ST building service (building 1550: +46 8715 0526; building 1137: +45 8715 0506).

**Note that the alarms do not alert the Aarhus Fire Brigade, call 1-1-2 following the “basic instructions in case of fire” listed above.**

*Precautions in case of fire:*

Be aware that certain chemicals can form toxic gases and smoke and/or react explosively with water.

## 6. Accidental release measures (precautions in case of spills)

*Clean-up material*

Spilled chemicals are to be cleaned up immediately if the cleanup procedure does not pose an acute threat to personal health and safety. In the latter case evacuate the floor and/or building and alert the Central Emergency Service (phone 1-1-2).

Liquids are absorbed in porous material (vermiculite). Buckets with vermiculite are placed in all laboratories in building 1550 in the sink areas. Vermiculite and spilled solid chemicals can be collected by sweeping with a broom. The collected spilled material should be disposed in UN-approved plastic jerricans. Clothing with spilled chemicals is to be exchanged immediately. Pay attention to shoes and wristbands etc. which have absorbed liquids.

*Personal protective equipment:*

Use appropriate protective equipment when cleaning up solid chemicals that emits dust (powder), gasses and aerosols.

*In case of a serious accident*

Evacuate the building (see section 5) and following the evacuation instructions. If toxic chemicals are spilled into the sink and sewer system contact the Aarhus Fire Brigade the Central Emergency Service (phone 1-1-2).

Contact the local safety representative if in doubt about how to handle a spilled chemical: Susanne Nielsen mobile phone: 60202652/29888993.

## 7. Handling and storage of chemicals

*Arrangement of the workplace:*

Weighing out hazardous chemicals labeled with GHS danger symbols must take place in fumehoods. A box-enclosed scale can be used when working with very small amounts. Always check that the flow in the fume hood before use.

Never use point suction for toxic or highly volatile chemicals (e.g. methanol) and note that point suction is only effective when placed immediately above a specimen.

Some fumehoods in building 1137 (The Herbarium) are set up to shut down outside working hours (check the labeling on the fumehood). In building 1137 (the Herbarium) a "vent. forl. drift" button is located in front of room 217. Use this button to turn the fumehoods on after working hours. In building 1550 all fumehoods are set up to be manually turned on or off individually. If a fumehood is turned off always remember to indicate this with the appropriate sign on the front glass.

#### *Storage of chemicals*

All chemicals and mixtures must be stored in closed containers and clearly and appropriately labeled with content name, concentrations, date and if relevant GHS labels. Be aware that acids must be mixed into water while stirring in order to prevent (uncontrollable) generation of heat.

In building 1550 toxic and carcinogenic chemicals are stored in the poison/toxic waste room 1550-K09 (keep locked at all times) and in the locked cabinet for chemicals in room K12.

In building 1137 (the Herbarium) toxic and carcinogenic chemicals are stored in the locked cabinet for chemicals in room 219. Other chemicals are stored in ventilated cabinets in the laboratories of building 1550 and 1137 (the Herbarium).

All chemicals are registered and can be searched in the KIROS Database

<http://www.kiros.dk/Web/group?action=index> from where their storage location at the Section for Microbiology and their associated MSDS are also available. Username: Mikro1 and password: Mikro1

## **8. Exposure controls/personal protection**

#### *Where to find personal protective equipment:*

Gloves: Two types of disposable gloves are available: blue colored nitrile gloves and green colored "touch n tuff" nitrile gloves. Stock of the gloves are stored in the storeroom K22 in building 1540. Always use the green nitrile gloves when handling chemicals. Blue nitrile gloves are only used for protecting non-harmful samples. It is very important to note the penetration rates of gloves in order to choose the correct type of glove for a given type of work:

[https://medarbejdere.au.dk/fileadmin/www.medarbejdere.au.dk/oekonomi\\_bygninger/Indkoeb/Indkoebsaftaler/Personlige\\_vaernemidler/Gennembrudstider - TNT\\_92-600.pdf](https://medarbejdere.au.dk/fileadmin/www.medarbejdere.au.dk/oekonomi_bygninger/Indkoeb/Indkoebsaftaler/Personlige_vaernemidler/Gennembrudstider - TNT_92-600.pdf)

Respirators: Dust masks are stored in the laboratory technicians office (room 117) on level 1 in building 1540. Respirators are placed in the poison/toxic waste room 1550-K09 as well as in the laboratory technicians office (room 117) on level 1 in building 1540. In building 1137 (the Herbarium) dust masks and a respirator are stored in the cupboard above the sink in room 219.

Ear protection: Ear plugs are stored in building 1550 room 114 in the cupboard above the sink and in building 1137 (the Herbarium) room 219 in the cupboard above the sink.

Eye protection: Safety glasses are available in the laboratory technicians office on level 1 in building 1540 and are handed out by the laboratory technicians upon request. In building 1137 (the Herbarium) safety glasses are stored in the cupboard above the sink in room 219. Face masks are located in room 1550-112 on the top shelf in the tall cupboard.

Workwear: Change your lab. coat in case of spills. Clean lab. coats are available in the cupboards in the hallway connecting building 1540 and 1550 on the first floor. Here dirty lab. coats are also returned for cleaning in the cleaning bag. It is mandatory to use lab. coat in the clean rooms (1550-124 and -126A) and the cloning laboratory (1550-122 [yellow lab. coats]) in building 1550. A special bag for cleaning of dirty lab. coats used in the cloning laboratory is found in this laboratory.

Notify the laboratory technicians if personal protective equipment is missing.

*Use of personal protective equipment:*

Use lab. coats in the laboratories if the type of work requires their use, and always when doing molecular biology work to lower the risk of sample contamination. Lab. coats are not to be worn in office and common areas of building 1535 or 1540, i.e. take off the lab. coat when leaving the laboratory areas in building 1550.

When working in the clean rooms (1550-124 and -126A) and the cloning laboratory (1550-122) in building 1550 special lab. coats specific to these laboratories must be worn. Protective gloves are only to be worn in the laboratories, not in the hallways. Check the penetration rate of a given type of glove before using it:  
[https://medarbejdere.au.dk/fileadmin/www.medarbejdere.au.dk/oekonomi\\_bygninger/Indkoeb/Indkoebsaftaler/Personlige\\_vaernemidler/Gennembrudstider - TNT\\_92-600.pdf](https://medarbejdere.au.dk/fileadmin/www.medarbejdere.au.dk/oekonomi_bygninger/Indkoeb/Indkoebsaftaler/Personlige_vaernemidler/Gennembrudstider - TNT_92-600.pdf)

When working with -80 °C freezers wear gloves to prevent frost bites. When working with liquid nitrogen use protective glasses or a face mask and wear closed shoes. Working with liquid nitrogen or dry ice involves a risk of frost bites.

### 13. Waste disposal

*Packaging:*

Liquid and solid chemical waste should be collected in UN-approved jerricans in the respective laboratories. Empty jerricans (1L or 5L) are stored in the cupboards in front of the poison/toxic waste room 1550-K09 and in the storage space next to the walk-in freezer in the basement of building 1535. Use only UN-approved jerricans and do not fill jerricans to more than 90% of their capacity. Label the waste jerricans with waste group letter, content, concentrations, name, laboratory, and date. For information on waste groups visit this page:

[http://medarbejdere.au.dk/fileadmin/www.arbejdsmiljo.au.dk/arbejdsmilj\\_akt\\_rer/arbejdsmilj\\_organisationen/Sikkerhedsraadgiver\\_dokumenter/Vejledninger/UK - Handling\\_of\\_chemical\\_and\\_clinical\\_waste\\_2016.pdf](http://medarbejdere.au.dk/fileadmin/www.arbejdsmiljo.au.dk/arbejdsmilj_akt_rer/arbejdsmilj_organisationen/Sikkerhedsraadgiver_dokumenter/Vejledninger/UK - Handling_of_chemical_and_clinical_waste_2016.pdf)

and always ask a laboratory technician if in doubt.

*Handing over filled waste jerricans.*

Place filled waste jerricans in the labeled cupboards in poison/toxic waste room 1550-K09. Certain types of waste should be placed in the metal drums on the floor in the poison/toxic waste room 1550-K09 as specified by the waste group labels on the drums and cupboards.

All radioactive waste should be stored in the waste room K27C in the lower parking lot behind building 1550. Here waste jerricans should be placed in the blue boxes behind the door.

Packaging and labeling of waste drums, paper work and waste disposal is attended to by laboratory technician Susanne Nielsen, who is responsible for and in charge of the waste handling at the Section for Microbiology.

### 14. Transport

*Rules and regulations for transport of chemicals:*

Transport of chemicals outside the laboratories must take place in sealed containers. Never transport volatile, fuming, corrosive, flammable or explosive chemicals in a manned elevator. This for example concerns volatile solvents, bromide or chlorinated compounds, liquid nitrogen and fuming acids. When transporting gas bottles the pressure reducing valve must be removed beforehand. Gas bottles, both empty and filled, but be secured at all times to prevent them from overturning.

Contact the local safety representative if in doubt about how to handle and transport a given chemical: Susanne Nielsen mobile phone: 60202652/29888993.

### 15. Other Regulatory Information

*Limits of use:*

Pregnancy and breast feeding: Consult the working environment authority's instruction Nr.A.1. 8-5 februar 2002, updated october 2015: "Gravide og ammendes arbejdsmiljø". Contact the local safety representative (Susanne Nielsen mobile phone: 60202652/29888993) for guidance about which chemicals and work places that are potentially harmful during pregnancy and breast feeding.

*Education Uddannelseskraav:*

There are no specific rules regarding the education of persons handling chemicals. However such persons must be familiar with proper procedures for how to handle harmful chemicals. This means that the work place instructions and MSDS must be read and understood before working with a given chemical.

**16. Additional information**

It is not allowed to eat, drink or smoke in the laboratories. Observe the special rules regarding work in the cloning laboratory, isotope laboratory and clean rooms in building 1550.

**Upon accidents**

Immediately inform the local Environment/Health/Safety Manager (Assoc. Prof. Kasper Urup Kjeldsen: 26847120) about any type of actual and nearby accidents. If the local EHS manager is not available the Institute Head should be informed.

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Udarbejdet af *Susanne Nielsen*