UNIS
The University Centre in Svalbard

## INTRODUCTION TO THE STERILE LAB

There are many users of the sterile lab at Unis, and it is necessary to state the rules and how the lab works. In this folder you will find information regarding the laboratory routines and regulations, handling of chemicals and safety instructions.

The purpose of this document is to ensure that all persons follow the same rules and procedures in the Unis laboratory areas. You are obliged to work as per the guidelines given below and by signing a form stating that you have read and understood all the information in this folder.

Please read the text carefully and make sure that you understand everything, before you begin your work. Take your time to get everything right and never hesitate to ask if you have any questions or suggestions regarding our routines and safety. We all want good laboratory results!

Any questions may be directed to Emma Johansson-Karlsson, room B 231

## GENERAL INFORMATION

**Access**
You are to sign the form to give you access to the Unis' lab. The sterile lab is located in C 205.

**Manuals**
Manuals should always be in a folder in the same room as the equipment is located. Do not remove it. If you need certain information from the manual please make a copy.

**Freezers**
There is a common fridge and freezer in the lab. A bigger -80°C freezer, for long term storage, is located in the bin storage room on the ground floor, B105.
Remember to label your samples with name, date and what it is. Please make it a habit to every now and then to go through your stuff and throw away things that are not necessary to save for the future.

**Phone numbers**

| | | |
|---|---|---|
| Sterile lab | room C 205 | 79 02 64 35 |
| Instrument/gel lab | room C 207 | 79 02 64 37 |
| Instrument lab | room C 206 | 79 02 64 36 |

## LABORATORY ROUTINES

**Lab meeting**
About once a month there is a lab meeting. The lab meeting is a forum for information sharing and discussion of common lab procedures. Attendance is recommended for everyone using the lab since it is essential that everyone remains up-to-date on current procedures.

**General cleaning and autoclaving**
While the cleaning staff clean the floors and empty the wastebaskets, we have to take care of everything else in the laboratory. The lab is shared by many, and it is important to keep things tidy and clean. Always make sure that you have cleaned up after you and put common things back where they belong.

About once a month it is necessary to clean the equipment such as PCR-machines centrifuges etc.

Everyone is responsible to rinse glassware and plastic, remove all labels and place the stuff in the dish washing machine. Put used racks in the box with 1% chlorine bath overnight and then in the box with distilled water for some hours or over night to rinse them. Change chlorine bath twice per month.

There is an autoclave in the lab. It is only user of the sterile lab that is allowed to use the autoclave in the lab. Other person may use the small autoclave in the Instrument lab, C 207. Goods to be autoclaved are marked with autoclave tape and labelled with your name. When autoclaving flasks with liquid do not fill them more then half way up, and leave the lids slightly open. Used culture medium and plates should be autoclaved in the small autoclave situated in the instrument lab C 207.

There are some general guidelines for using the lab;

- Eating and drinking is forbidden in the lab.
- Always wear gloves when working with sensitive material.
- Take off the lab coat when you leave the room. Lab coats and gloves are not allowed in lunchroom or offices.
- Always use indoor shoes in the lab.
- All labelled things that belong to a person or project are private.
- Do not move laboratory equipment, except for racks, between the different areas in the lab and between rooms.
- Keep the lab bench clean. It is everybody's responsibility to clean up after using the common work spaces.
- You must not use any instrument without having been trained by an experienced user. Do not use it if you are unsure – ask for help.
- Always leave the equipment in a condition that you would like to find it yourself. If equipment is broken or not well functioning, please notify the person responsible for the lab.
- Please be careful with the pipettes!
- Do not leave dishes anywhere, place dirty goods in the washing machine, and rack in the chlorine bath.

**Different areas for different use**

There are different areas in the sterile lab. It is very important that you understand the concept of the borders between the different areas. The borders are there to avoid contamination and mixing of samples. Please make it a habit to think about what you take from one area to another. Show respect by following the guidelines below for each area.

**DNA extraction area**

The area and instruments for isolation of DNA are marked with a yellow tape. This area is the lab bench, or in the hood and lab bench next to the sink. Use the hood for extraction when you are using solvents. Show respect for each others samples and never bring PCR products to this area. Use your own set of pipettes.

Work with phenol-chloroform, or other solvents, only in the hood. Phenol-chloroform goes straight through latex gloves, so always use blue nitrile gloves to obtain maximum protection. Please change gloves when necessary. Phenol and chloroform waste should go into a labelled waste bottle. Put tips etc in the beaker placed there for this purpose. Leave it to let the phenol evaporate before throwing away into a hazardous waste box.

**Pre PCR area**
The area and instruments for Pre PCR activity is marked with a green tape. The Pre PCR area is the sterile hood closest to the window. It is only for preparing PCR reactions. The hood contains filtertips and microfuge tubes and a set of pipettes only for this purpose. Never bring in PCR products or equipments from another area into the hood.

Always wear a lab coat and only use filter tips when setting up PCR reactions. Please make sure to keep the front of the hood in right position when working in the hood, and closed when it is not in use.

**Post PCR/selective PCR**
The area and instruments for Post PCR activity are marked with a blue tape. The hood closest to the door is for Post PCR activity. The hood contains tips and tubes and a set of pipettes.

**PCR machines**
To prolong the life time of the PCR machines do not program the last step to be +4˚C over night or weekend, +10˚C works fine and experience show that also +20˚C or room temperature is adequate. For the same reason, please avoid leaving samples in the PCR machines over a weekend.

**Gel-electrophoresis**
The equipment for running gel-electrophoresis is placed in the Instrument lab, C 207.
Keep the lids on the electrophoresis trays. Otherwise we will not be able to know the concentration on the buffer because of evaporation. Loading buffer and marker is stored in the fridge.

**Storage room**
In the storage room, C 220, or in the teaching room, C 203, you will find some common things that we share in the lab, like gloves, glassware and similar. The storage room is not for storage of samples.

**Chemicals**
Some of the (dry) chemicals are placed in a cupboard in the sterile lab but there is a bigger storage room for chemicals in C 219. Here you will also find the material safety data sheets (HMS datablad) folder. There is a list of all common chemicals placed on the cupboard door. When you open a new bottle, box or kit, please date it.

All containers, even if very temporary, must be marked with content, date and your signature. Never leave anything without a label! Make it a habit to always read the labels on the chemicals before using them so that you are aware of the potential dangers. Certain dangerous chemicals may not be used without special permission. It is not just a matter of your own health but also that of everyone else.

Material safety data sheets (HMS datablad) are collected in a folder marked HMS in the chemical storage room. Some safety data sheets are stored in the lab. These sheets provide information on handling of chemicals, decontamination and actions in case of accident. Please read these sheets before you start to handle chemicals. These data sheets are continuously updated by the companies that provide the chemicals. You must always wear the protective equipment that is stated in the material safety data sheets (HMS datablad). You also find the material safety data sheet (stoffkartotek) on the UNIS' website. Unfortunately it is not updated and only available in Norwegian.
http://www.unis.no/45_LOGISTICS/Laboratories.htm

***Phenol-chloroform.*** Phenol-chloroform is a solvent and toxic and harmful if inhaled, swallowed or in skin contact. Be very careful and work safe, always wear blue nitrile gloves. It may cause reproductive or foetal defects, liver and kidney damage, as well as central nervous system depression.

## WASTE ROUTINES

### Hazardous waste

There are hazardous waste boxes and bottles in the chemical storage room.

Solvents, Phenol-chloroform for example, are collected in brown glass bottles, marked with content and the correct hazard symbols. Other contained material, as pipette tips, is placed in the hazardous waste box.

Pipette tips are collected in containers in the different areas in the lab. When it is full, empty the container in a double layer plastic bag and put it in the waste basket.

Agar plates should be autoclaved in the small autoclave in C 207 after use. Tubes and tips etc. that has been involved in this kind of work should all go in the same plastic autoclavable bag. Finally this bag ends up in the waste baskets.

### Glass and sharp objects

All kind of sharps and small glass objects are collected in hard yellow plastic containers. The whole container are then disposed in hazardous waste boxes. Remember to label the container "sharp objects". Broken glass is collected in the glass waste box, located under the sink in the lab.

## LABORATORY SAFETY

It is very important to know the safety procedures and how to work appropriately in a laboratory to protect yourself and others from dangerous situations. Please remind each other to be safe.

**IN THE EVENT OF FIRE AND ACCIDENTS**
You have a duty to know the location, and handling, of:

- *Emergency showers* (In teaching lab and chemistry lab)
- *Eye showers* (In teaching lab and chemistry lab and bottles in every lab)
- *First aid kit* (Small kit in every lab, larger outside the chemical room)
- *Fire alarm* (In both ends of the corridor)
- *Fire hose* (In the beginning of the corridor, outside teaching lab)
- *Emergency exits* (In both ends of the corridor)
- *Fire extinguisher* ($CO_2$ and powder in every lab)
- *Fire blankets*

Emergency showers are installed in the teaching lab and chemistry lab. They are used as first aid in accidents causing burns, scalds, chemical contamination etc.

**FIRE** emergency phone numbers: **110**. Duty phone: **91109700**
Your position: Unis sterile lab, first floor (2:a etasje), C 205

1. Make sure people are **SAFE**
2. Activate the **FIRE ALARM**
3. **CONTAIN** the fire by closing doors and windows
4. **CALL** the fire department **110**
5. (If possible, put out the fire)
6. **EVACUATE**

**ACCIDENT** emergency phone numbers: **113. Longyearbyen hospital: 79 02 42 00**
Your position: Unis sterile lab, first floor (2:a etasje), C 205

1. Find out **WHAT HAS HAPPENED**. Call others for help.
2. Provide **FIRST AID** if necessary
3. Call the **AMBULANCE 113**
4. Send someone to wait for the paramedics and show them the way
5. Do not leave the injured person alone

**EYE INJURY**
Always use eye protection when working with dangerous chemicals.
In case of an eye injury, keep the eyelid open and flush continuously until you get medical attention. The emergency showers also have an eye flushing function. There is a emergency shower in connection to the sink in the sterile lab.

.

# Access to the UNIS lab

**Personal information**

Name_____

Date of birth_____

Email_____

Room no._____ Phone_____

Supervisor_____

☐ Received and read the folder ‘Introduction to the Unis lab”

☐ Lab & Safety tour

☐ Introduced to members of the lab.

I hereby state that I have read and understood the contents of the folder ‘Introduction to the Unis lab’. I have been taking part in the Lab & Safety Tour.

**Singature**_____ **Date**_____

Lab guide _____