

Safety handbook for DTU Civil Engineering in Greenland

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Martin Kotal, Niels Hoedeman



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Introduction

The activities relating to the Danish Technical University (DTU) in Greenland are centered on Arctic DTU Sisimiut, the campus of DTU in Sisimiut. This results in daily operation, fieldwork and excursions in areas where weather conditions, long distances and limited emergency help require participants to pay closer attention to safety than what is customary in most other places where DTU operates. The objective of these instructions is to increase the safety awareness of staff and students involved in activities arranged by DTU, through careful preparations and training of various safety measures. The instructions also state clear regulations, policies and methods of operation for different kinds of activities, as well as use of equipment and tools during fieldwork. Moreover, these instructions provide guidelines and methods of operation for DTU staff and students when planning and performing fieldwork outside Greenland.

These guidelines always apply to all staff members, students and external visitors that are involved in activities that are organized by **DTU Civil Engineering** (education, research, administration, fieldwork and excursions), are conducted using DTU equipment, or take place at the campus in Sisimiut with all its facilities. These instructions also provide useful recommendations for DTU staff and students when planning and performing leisure activities.

The handbook summarizes various safety regulations, policies and safety measures in existence for the accomplishment of DTU operations in Greenland. The instructions will not always manage to provide complete guidance of operational procedures, but rather serve as a summary of the safety measures and regulations. A more thorough description of operational procedures and safety regulations will be provided during the safety courses, safety seminars and HSE briefings at DTU.

Whenever in doubt, a Safety Committee for DTU operations in Greenland should be contacted for more details and assistance. The regulations are based on experience drawn from operations in Greenland by DTU, cooperating institutions and individual employees at DTU.

The handbook is divided into three parts:

1. **General conditions (definitions, organization of safety, responsibilities)**
2. **Safety at Campus (buildings, offices, labs, workshops, cars, equipment etc.)**
3. **Safety during fieldwork and excursions**

The aim of this handbook is to describe safety measures and organization of safety in easily understandable form so it can serve as a user friendly guide before, during and after the activities organized by DTU in Greenland. It is expected that every staff member, guest and student is familiar with the content of this handbook and actively contributes to preventing injuries, accidents and critical situations.

1. General terms and conditions

1.1. Limitations

This guide aims to provide general safety instructions covering the most common activities performed by DTU in Greenland. We realize however, that there will be situations and activities that are not covered here that require instructions and/or consultation. In these cases, the safety group should be contacted for more details and information.

It is also strongly recommended to study the additional materials about safety that are attached to this handbook.

1.2. Definitions

Fieldwork

Fieldwork is defined by DTU as practical work carried out by staff employed by DTU, DTU students, DTU guests or others for whom DTU is responsible, in places outside the university area, which normally means away from the university location.

Each fieldwork must have an appointed leader. This is the person who has planned the work and who teaches or advises the fieldwork participants.

Fieldwork therefore covers a range of land-based practical activities in Denmark and abroad, for example:

- Field studies and collection of samples or data from nature in connection with research or teaching
- Fieldwork in cities, companies or other organizations in connection with research and teaching
- Work in the laboratories or workshops of other companies or institutions for shorter or longer periods of time
- Transport in connection with getting to and from fieldwork

Excursions (organized class instruction outside the classroom limited by time and place) are also considered to be fieldwork.

Participation in theoretical courses and conferences is not considered to be fieldwork.

Risk

Potential for realization of unwanted, negative consequences of an event

Risk treatment

An expression of the process to modify risk. This involves:

- Avoiding the risk by deciding not to start or continue with the activity that gives rise to the risk
- Taking or increasing risk to pursue an opportunity
- Removing the risk source
- Changing the likelihood
- Changing the consequence

Residual risk

An expression of the remaining risk after risk treatment. Residual risk can contain unidentified risks.

Accident

A sequence of logically and chronologically related deviating events involving an incident resulting in injury to personnel or damage to the environment or materiel assets.

Event, incident or unwanted accident

A sequence of logically and chronologically related deviating events involving an incident which, under slightly different circumstances, could have resulted in injury to personnel or damage to the environment or materiel assets.

ALARP

A term that describes a principle in safety management where the risk has been managed to a level "As Low As Reasonably Practicable"

OHS

Occupational Health and Safety organization. In this handbook these regulations primarily deal with the safety part of this term, but many of the regulations and measures will also have an impact on both health and environmental issues.

DTU operations in Greenland

All activities performed in Greenland by DTU staff, students and guests that are either arranged by DTU (e.g. courses, experiments, fieldwork) or take place at DTUs campus in Sisimiut or are performed using DTU equipment (e.g. vehicles, tools, gear).

Arctic DTU Sisimiut – Ilinniarfeqarfik Sisimiut

The comprises of buildings, workshops and extended facilities in Sisimiut owned by KTI (Tech College Greenland) and operated in a joint venture with Arctic DTU Sisimiut.

Fieldwork/excursion leader

The leader responsible for a field project. Other terms, such as field leader, expedition leader and chief scientist, may be used synonymously. Unless decided otherwise the fieldwork leader is responsible for OHS.

For more info visit:

<https://www.inside.dtu.dk/en/medarbejder/hr-og-arbejdsmiljoe/arbejdsmiljoe/oevrigt-arbejdsmiljoe/feltarbejde/feltlederen>

Person responsible for OHS during fieldwork

In field activities where the project chooses to have a dedicated person responsible for OHS, this may be someone other than the excursion leader. In such cases, the person responsible for OHS will organize and quality assure all OHS aspects during the field work. Logistical tasks and responsibilities can also be assigned to this function. The fieldwork leader retains responsibility for the accomplishment of the operation, and the person responsible for OHS reports to the excursion leader.

OHS coordinator for Greenland

OHS coordinator coordinates the occupational health and safety work in Greenland in continuous cooperation with the OHS organization at DTU Civil Engineering. This includes:

- Creating an overview of and systematizing the Arctic DTU Sisimiuts occupational safety and health work.
- Advising the OHS organization on working environment issues to the extent required.
- Helping ensure a good working environment dialogue in case of changes in working conditions.
- Assisting in the handling of accidents at work and emergency response incidents.
- Contributing to creating a better framework for working environment actions and initiatives.
- Coordinating the OHS group for Greenland activities

For more info visit:

<https://www.inside.dtu.dk/en/medarbejder/hr-og-arbejdsmiljoe/arbejdsmiljoe/arbejdsmiljoeindsats/arbejdsmiljokoordinator>

OHS group for Greenland

The OHS group handles the day-to-day tasks regarding health and safety during all DTU operations in Greenland. For example the group will handle the following tasks:

- Monitor that the working conditions comply with DTU's guidelines.
- Inform and advise employees on OHS issues.
- Help the management ensure that effective training and instructions are provided based on the employees' needs and adjusted to the working conditions in Greenland.
- Assist in organization of the safety training for employees and students.
- Assist in the selection of technical aids/machines that meet requirements for health and safety.
- Assist in registration and analysis of accidents and near incidents.
- Approve the fieldwork/excursion registration forms
- Assist in administration, maintenance and development of the safety equipment at Arctic DTU Sisimiut

For more info visit:

<https://www.inside.dtu.dk/en/medarbejder/hr-og-arbejdsmiljoe/arbejdsmiljoe/arbejdsmiljoeindsats/arbejdsmiljogruppe>

1.3. Responsibilities

Safety organization

The overall responsibility for safety and the working environment lies with the Head of the department.

The day-to-day safety and work environment tasks are handled by the OHS group for Greenland. Issues can be identified for example via observation, screening, fieldwork approval process, and accident reporting or workplace assessment. The issues that cannot be resolved by the OHS group for Greenland are submitted to Work Environment Committee at DTU Civil Engineering (Byg AMU).

The OHS group for Greenland meets as needed but at least prior to each meeting of Byg AMU. Any relevant issues will be presented at AMU meetings by the OHS group representative or OHS coordinator.

All fieldwork and excursions shall have a field/excursion leader. The leader has the overarching responsibility for ensuring that the fieldwork/excursion follows the instructions outlined in this document. The leader can delegate this responsibility to another person participating in the field work/excursion (for example in cases where the leader is not participating in the actual fieldwork). The fieldwork/excursion leader for master's students will be their supervisor or a person delegated by this person.

Personal responsibility

Although DTU is responsible for the safety and wellbeing of students and staff, it is important that all individuals take responsibility for their own safety. Everyone is required to take an active part in the quality assurance of all aspects related to OHS, and all participants in fieldwork are required to follow DTU's OHS guidelines, policies and regulations.

Stop the work philosophy

It is every individual's right and duty to make others aware of possible threats and dangers. If you observe what you believe to be a possible unsafe condition, you are obliged to report this immediately to the OHS group, and the ongoing work must be stopped. The situation, or possible hazard, shall be evaluated by the OHS responsible before work may resume.

Employer duties

DTU's responsibility as an employer towards its employees is mainly governed by Working Environment Act (no. 674 from 25. may 2020), which states:

The employer shall ensure that there is effective supervision that work is performed safely and without risks to health. The employer shall inform the employees of any risks of accidents and diseases which

may exist in connection with their work. Furthermore, the employer shall ensure that the employees receive the necessary training and instruction to perform their work in such a way as to avoid any possibility of risk.

DTU offers compulsory safety instructions and safety courses primarily to ensure that safety principles are incorporated in field work and excursions. However, it is also assumed that faculty staff and students familiar with these safety instructions also utilize this knowledge in other activities.

Employee duties

Working in an Arctic environment, requires special emphasis on safety and safe behavior. This is especially important in relation to fieldwork and the use of potentially dangerous equipment and machinery for work or transportation in the field. Natural hazards, such as challenging weather conditions, glaciers, avalanches, sea ice and wildlife, represent potential hazards related to safe travel and work in the High Arctic environment. DTU Civil Engineering expects all employees (internal and external) to perform their job in such a way that they can be trusted with the responsibility for other staff and students while engaging in fieldwork, and to demonstrate safe behavior and good judgement in all aspect of their work. The employees are responsible for ensuring that the preparation and implementation of the field work/excursion comply with the stipulated instructions and guidelines, and to the best of their ability exercise proper judgement and implement decisions to prevent injuries or accidents.

All employees are required to participate in the safety instructions and training mandated by the employer unless the employees can document relevant, equivalent or greater knowledge in these areas. The employees whose fieldwork require access to firearms must attend courses in rifle handling and polar bear protection.

Student duties

Students are required to familiarize themselves with these safety instructions. The students are also required to follow the instructions given to them by the supervisor when participating in fieldwork or excursions. The students are required to act properly and attend to their own safety as well as the safety of their fellow students throughout the work.

All students are required to participate in safety courses arranged for students at DTU. Students are required to inform Arctic DTU in case they suffer from any significant health issues.

Visitors and guests

Visitors and guests to DTUs activities in Greenland either at the campus in Sisimiut or elsewhere must follow the same rules and regulations as the ordinary staff and students at DTU Civil Engineering. If visitors or guests take part in fieldwork, they must undergo the necessary safety training connected to the activity in which they will take part. In special situations, it may be possible for permanent staff at DTU to take full responsibility for visitors and guests and, as such, enable people from this category to participate in fieldwork with less safety training than permanent staff. In such cases, visitors and guests are not allowed to use equipment, or engage in activities, requiring special training. Examples of this include responsibility for others during fieldwork, handling of firearms and driving boats or snowmobiles.

External projects

All projects supported by DTU (by material, personal or facility support) must follow all these guidelines.

Insurance

A mandatory supplementary accident insurance is required for all DTU students who stay in Greenland. It is the student's own responsibility to take out the insurance and to cover the expense. The insurance cost approximately 150 DKK per year.

The insurance is issued by Nordflex and is valid one year from the payment date. Remember to renew the insurance if the stay in Greenland exceeds one year.

Find the updated price, insurance policy, payment info etc at:

<https://www.pf.dk/en/student-life/accident-insurance>

Employees are covered by insurance while they work in Greenland. During their stay in Greenland, they are - if they are in Greenland on a business trip or posting - covered by DTU travel insurance for Danish Government Employees according to "Cirkulære om Tjenesterejseforsikring nr. 9238 of 15 April 2015".

<https://www.inside.dtu.dk/en/medarbejder/oekonomi-og-indkoeb/rejser-koersel-og-udlaeg/rejseforsikring>

The travel insurance does only cover the employee when at work and does not cover any accompanying family or in conjunction with the employees vacation/leave. For details about what the insurance covers and needs for special covering for equipment, field work etc. please contact DTU legal (Jura og kontrakter).

For more information about insurance during fieldwork visit:

<https://www.inside.dtu.dk/en/medarbejder/hr-og-arbejdsmiljoe/arbejdsmiljoe/oevrigt-arbejdsmiljoe/feltarbejde/forsikringsforhold-under-feltarbejde>

Error reporting

If you as a user become aware of errors or deficiencies that may impair safety, well-being or health, and which you cannot correct yourself, you must inform the OHS coordinator or OHS group for Greenland member at Arctic DTU Sisimiut (see appendix for contact list)

1.4. General requirements

All employees and students participating at any DTU operations in Greenland must, as a minimum, undergo an Arctic Safety Training.

Exceptions to this rule must be discussed and approved by the OHS group for Greenland.

Standard safety trainings are offered by DTU and organized twice a year in Greenland and once a year in Denmark. Individual and customized trainings can be arranged in special cases (e.g. for courses not following standard schedules or employees unable to participate in the planned courses). Sufficient experience or participation in similar training will count as a safety training only if approved by the OHS group for Greenland.

Employees and students who participate in fieldwork or excursions must have necessary competence in the different risk scenarios that the fieldwork might imply. Depending of the nature of the fieldwork, safety training for this group can include:

- Risk assessment
- Leadership and organization of a field party
- Accident management
- Movement on glaciers, both summer and winter
- Movement on ice and sea ice
- Use of snowmobiles
- Use of DTU vehicles
- Movement in avalanche prone terrain
- Travelling at sea in small boats
- Leading groups at sea in bigger vessels
- Crossing tundra and rivers
- Work on mountainsides or steep hillsides
- Polar bear protection
- The special environmental considerations in Greenland
- Lifesaving Arctic first aid
- Use of communication tools; VHF radio, satellite phone and emergency beacon
- Establishment of field camp

OHS group for Greenland will assist in identifying the necessary requirements and courses as part of the fieldwork approval process.

1.5. Accidents and near accidents reporting

Serious accidents where life or limbs are at stake, and where professional help is required, must be reported immediately to the search and rescue and emergency services:

- 112
- +299701448 (Police)
- VHF radio on channel 16 (distress channel)
- Deploying the emergency beacons
- Activating the SOS function on satellite communicators

Smaller accidents that still require some medical assistance should be reported to local hospitals. In Sisimiut the hospital's main desk can be reached on +299 864211

After reporting the accident and performing initial measures to limit the extent, OHS group for Greenland should be informed as soon as possible for further instructions and/or debriefing.

Near accidents must, as a minimum, be reported and registered through the representatives in the OHS group for Greenland.

All accidents and near accidents are reported to the Work Environmental Committee at DTU.

Accidents with personal injury and / or significant damage or loss of equipment are the subject of an internal investigation, the purpose of which is to clarify the causes of the accident and to suggest measures to prevent similar accidents from occurring in the future.

2. Safety at DTUs campus in Sisimiut

2.1. General

Contingency

The users must familiarize themselves with the fire equipment, the special risk factors in the form of, for example, pressure tanks and dangerous chemicals as well as the escape routes that exist in the facility.

Fire extinguishers and first aid kits

First aid and fire extinguishing equipment (fulfilling the legal requirements on amounts, placement and control) is available in all DTU facilities including apartments, workshops and vehicles.

The placement of this equipment is marked with signs.

In case of fire

- Report the fire
 - Inform others by shouting “FIRE! FIRE!”
 - Activate the fire alarm (if present)
 - Calling 112
- Save persons in danger if it is safe
- Evacuate building
 - Close doors on the way out
 - Get everybody out (check bathrooms)
 - Go to the gathering place
- Extinguish the fire if it is safe
- Provide the fire fighters with necessary information
 - Are there people in the building?
 - What and where is burning?
 - Is there an access to the fire?

2.2. Workshops

Safety wear

Appropriate safety wear required by specific activities must be used. This includes:

- Safety shoes
- Safety goggles
- Ear protection
- Gloves
- Respirators

2.3. Motorized vehicles

All DTUs motorized vehicles at Arctic DTU Sisimiut can only be operated by DTU employees.

Cars

Principles for the use of cars and bikes in Sisimiut is described in a guideline. The vehicles must be booked online. A printed technical instruction about use of the cars must be read prior to the use . This is to increase the safety and to reduce the amount of service and.

ATVs and snowmobiles

All terrain vehicles and snowmobiles can only be operated with employees that passed a snowmobile course or have sufficient experience. The experience level must be discussed with the OHS group for Greenland. Helmets must be worn at all times when driving.

Bicycles

Mountain bikes are available at the campus. Same principles as for cars applies for the bicycles.

2.4. Teknikimik Ilinniarfik, KTI

DTU has access to a number of buildings and facilities at our partner, KTI (www.kti.gl). For the use of KTI's laboratories, including booking of the facilities, special rules apply (see Appendix XXX)

For KTI's other workshop areas, separate rules apply. DTU therefore does not have general access to these areas without prior permission from KTI. Contact kp@d@kti.gl for a more detailed agreement.

3. Safety during fieldwork and excursions

The below guidelines apply to fieldwork and excursions, when the activities form part of ordinary courses, research or other DTU operations in Greenland.

Detailed information and guidelines on fieldwork planning, conducting and debriefing are provided in designated safety courses. Whenever in doubt, the OHS group in Greenland should be contacted for consultation.

3.1. Preparation and planning

Planning of fieldwork and excursions must be done well in advance and in cooperation with the OHS group for Greenland (if needed) to ensure that equipment is available and that the plans are possible to accomplish.

Registration form must be filled by the fieldwork leader and approved by the OHS group prior to the fieldwork.

Planning of field work must always include a thorough risk analysis in accordance with ALARP. Special emphasis must be attached to the following topics:

- Potential risks and hazards related to travelling to the area
- Potential risks and hazards related to the field work methods, tools and equipment
- Potential safety and security risks unique to the region and weather
- Special legal issues and relevant legislation, including legal advice
- Needs for special insurance. The DTU insurance may not cover the area and activity that is planned.
- Cultural issues and differences that might affect the project
- SAR capacity and access to medical treatment in the region
- MEDEVAC plan for participants in the field party
- Communication issues

Safety is the top priority in all types of field activities. If doubt arises about whether the activity can be accomplished in a safe matter, it should not be accomplished. The group must always be organized in such a way that all safety aspects are adequately attended to. This is especially important when it comes to polar bear protection and handling of fire arms or other types of dangerous machinery, tools or chemicals.

Attention must be paid to changing conditions which may affect the plan. Field work plans must be robust, in terms of both time and equipment, to allow for maneuverability and options in case of unforeseen events or changing conditions.

General rules and considerations

- Make a plan and consider:
 - Directions and difficulty
 - Duration of the trip/fieldwork
 - Size of the group
 - Amount of equipment and its logistics
 - Abilities and competences of all members
 - Make sure all members are informed and involved in the planning
- Respect the weather
 - Check the weather forecast (check www.dmi.dk and www.yr.no)
 - Account for sudden weather changes
 - Adjust the plans accordingly
- Dress appropriately
 - Wear functional clothes
 - Dress in layers
 - Avoid sweating
 - Bring appropriate work wear for the job

- Bring spare layers
- Communication and navigation
 - Get familiar with the terrain in the area before you go
 - Bring GPS, map, compass and satellite communicator
 - Consider signaling lights, flares or other emergency signalization
 - Be sure you know how to use those devices
 - Have enough charge in the electronics
 - Preload the work and emergency contacts
 - Maintain regular contact in pre-agreed intervals
- Food
 - Make a food plan and hydration plan
 - Bring sufficient amount of food and liquids with a realistic reserve
 - Consider what cooking equipment you will need and how much fuel it requires
 - Are you going to melt snow for water – very fuel and time demanding
- Equipment
 - List all the equipment needed for your trip
 - Prepare and test all the equipment that you are bringing
 - Make sure you know how everything works and if it works by testing it in advance
 - Have enough fuel and battery charge
- Safety equipment
 - What safety equipment you will need regarding the terrain, season and size of the group
 - Remember first aid kit and be familiar with the content and use of it
 - Is there a member in the team with an Arctic first aid course?
 - In winter consider the avalanche gear and training
 - Are you going to be in polar bear region?
- Leave no trace
 - Bring all your trash back!
 - Toilet paper should be either burned or brought back to town
- When back
 - Inform your contacts
 - Clean, dry and return all equipment
 - Report any damages to equipment
 - Report any accidents or near accidents

3.2. Leadership during field work and excursions

An excursion leader must be explicitly appointed. This person bears the full responsibility for OHS for all activities during the field work period. Each project or course must have a second in command, who takes over the responsibility for OHS if the excursion leader is absent or sick. Depending on the experience of the scientific staff, personnel from the OHS group for Greenland may be appointed as the person responsible for OHS. This person must be explicitly appointed prior to departure.

Fieldwork leaders have unrestricted authority to make decisions regarding safety matters during fieldwork. Fieldwork leaders must have the necessary competence and skills to be able to lead expeditions in an Arctic environment.

The field leader should make sure to instruct participants about the special risks that may occur during the fieldwork. And participants are obliged to follow these instructions. This includes instructions in relation to clothing, equipment, need for training, health issues, safety regulations, code of conduct etc..

3.3. Residual risk handling

Regardless of planning safety measures, there will still be a residual risk connected to accomplishment of fieldwork. The following principles apply for how to handle residual risk:

Planning phase

Activity is planned in cooperation between the OHS group for Greenland and the fieldwork leader. All necessary safety measures and operational procedures are agreed upon, taking into account the nature of fieldwork, the competence and experience of the participants and the known conditions on site. The last coordination is done during the OHS briefing prior to departure.

Deployment / transportation phase

The expedition leader must constantly review the conditions on the route as he / she is moving towards the field site. If the field party meets unexpected or difficult conditions, the expedition leader must adapt to the situation and, if necessary, change the route or cancel the transport. Examples on this could be unexpected, difficult sea ice conditions, rough conditions at sea or worse weather conditions than expected. The expedition leader is responsible for making these judgements and adjustments.

Execution phase

During the execution phase, the expedition leader is responsible for constantly judging the present and forecasted conditions on site. The accomplishment of fieldwork must be adapted to the actual conditions on site, and if necessary altered, to make sure safety and wellbeing for the participants.

In cases or situations where doubt arises about whether an operation may be accomplished in a safe matter, the operation in question should be interrupted or further safety measures should be implemented.

3.4. Accidents and near accidents

Near accidents

Near accidents may be a clear indication of malfunctions in systems, equipment, organization or human errors resulting from a lack of competence, skills or wrong attitudes. All near accidents must be thoroughly investigated on site immediately to ensure the activity can continue without risk of similar incidents. The investigation is managed by fieldwork leader with assistance of the OHS group if needed. It may be necessary to implement additional safety measures, organizational actions, or consequences in case of disobeying the rules.

Accidents

In the event of an accident, all available resources must be used to limit the extent of the accident. The fieldwork is put on hold until the situation is resolved.

Accident scene management is the expedition leader's responsibility and he / she must have the necessary skills and competence to be able to lead the rescue work.

In the event of an accident, the priorities are:

- Stop the accident from getting worse
- First aid if necessary
- The safety of the rest of the group (those not affected by the accident)
- Planning of a rescue mission and notifying the relevant authorities
- Accomplishment of the rescue mission

3.5. Booking, preparation and restoring of equipment after use

The scientific staff and students are expected to take an active part in the preparation of equipment for field work and the restoring of it after use. Details of how this will be accomplished should be agreed during the OHS briefing with OHS group members prior to commencement of the field work. To ensure availability of the field and safety equipment it is recommended to contact the OHS group in sufficient advance and make reservations.

3.6. Protection of the environment

Do not leave any waste in the nature. Include appropriate waste management plan in your preparation for the fieldwork. For larger trips, it is suggested to appoint a waste management responsible person in the team that will make sure the waste is handled according to the plan.

3.7. Debriefing and fieldwork evaluation

The fieldwork group or the OHS group for Greenland may have a need to evaluate the accomplishment of the fieldwork, e.g. in relation to logistical support or OHS matters. Each member can request such a meeting. The OHS group is responsible for organizing such meetings.

4. List of attachments

- Attachment 1 – Contacts
- Attachment 2 – Arctic DTU Sisimiut Field Code
- Attachment 3 – Garmin InReach guide
- Attachment 4 – Radio etiquette
- Attachment 5 – Safety equipment available at Arctic DTU Sisimiut
- Attachment 6 – KTI Laboratory Safety guide
- Attachment 7 – Fieldwork registration form

Additional attachments – available on-line

- Attachment 8 – Interact – Fieldwork planning handbook
- Attachment 9 – Interact – Practical field guide
- Attachment 10 – Arctic first aid

*Safety handbook for
DTU Civil Engineering in Greenland*

Attachment 1

Contacts

Contacts

	Contact information
Occupational Health and Safety group for Greenland	glfsafety@byg.dtu.dk
Occupational Health and Safety coordinator for Greenland	mrko@byg.dtu.dk +45 45251930
Campus Sisimiut	tina@dtu.dk ; teit@dtu.dk +299 528463 +299 867981 +299 249307
Sisimiut police station	grl-sisimiut@politi.dk +299 701448
Sisimiut hospital	sisshv@peqqik.gl +299 864211
Sisimiut fire station	+299 864111
Emergency	112

*Safety handbook for
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Attachment 2

Arctic DTU Sisimiut Field Code

The Field Code – DTU Arctic

1. Plan your trip and inform others about the route you have selected.

- Plan your trip based on the group's abilities, and always include alternative options.
- **Make sure that all changes to the plan are communicated to all concerned parties**
- Obtain current information about the area and the weather conditions.
- Ensure you have sufficient knowledge and practical skills to complete this trip.
- Respect the natural environment. **Leave only foot prints!**
- Arrange meeting points during the trip that don't require mobile coverage or accurate timing.
- **Use the satellite trackers and GPS for all trips away from town!**
- Do not rely on supplies left behind by others in your destination unless you are certain.
- When going to ARTEK huts **ALWAYS** make a booking and check the logbook and instructions using GOOGLE Calendar (user: **artekhuts** pw: **artekhuts3911**)

2. Adapt the planned routes according to ability and conditions.

- Assess the conditions continuously and adjust your plans accordingly.
- **Respect the weather!** There is no shame in turning back!
- Do not go alone!
- Do not embark on a trip without sufficient experience.
- Be considerate of other group members.
- Make sure your group maintains an open and direct line of communication.
- Can you complete the trip under these conditions and with this group?

3. Pay attention to the weather and the avalanche warnings.

- Always check the weather forecast and avalanche risks.
- Check the weather on yr.no, dmi.dk, windy.com
- Monitor the development of the weather and avalanche conditions along the way.

4. Be prepared for bad weather and frost, even on short trips.

- Dress appropriately for the season, weather, and the terrain.
- Remember that the weather changes quickly in Greenland. Bring extra clothing.
- Extra food and drink can help save lives, if the trip takes longer than planned.
- Is your group equipped to deal with a sudden change in weather?

5. Bring the necessary equipment so you can help yourself and others.

- **Learn to use your gear! Test it before you go. Practice makes masters.**
- In the winter, you need at least a sleeping pad, sleeping bag and a shovel so that you can spend the night outdoors if you have to. A windsack can save lives.
- Bring a high-visibility vest or a headlight, that will make it easier to find you if necessary.
- Always bring a first aid kit and be familiar with its content. Blister plaster is a very handy thing!
- Use a transmitter/receiver, and have an avalanche probe and a shovel in winter time.
- Pack smart! Packing lists for different tours can be found at ut.no.
- If a serious accident occurs, alert the police at 112 or use the SOS function on the Garmin

6. Choose safe routes. Recognize avalanche terrain and unsafe ice.

- Take an active decision to avoid terrain that is prone to avalanches, and plan your route well.
- Be aware that avalanches can start in drops higher than five meters and steeper than 30 degrees.
- Even if you walk in flat terrain, you can trigger an avalanche on the mountainside above you.
- An avalanche dropout zone can be three times the height of the drop.
- Avoid terrain traps, such as narrow gorges. Consider what will happen if there is an avalanche.
- Be aware that a cornice can break off when you walk on a mountain ridge.
- Be aware of ice conditions when you walk on lakes, fjords and rivers.
- Avoid wet spots on the ice and seal holes – they indicate thin ice.
- Can an avalanche happen where I plan to go? What will the consequence be?

7. Always know where you are.

- A map and compass are an essential basic equipment that always work.
- Pay attention to the map even when hiking on a marked trail.
- Knowing where you are on the map, makes for a better hiking experience.
- GPS and other electronic aids are helpful, but **make sure you have enough power.**

8. Don't be ashamed to turn around.

- Evaluate your route continuously and if conditions are becoming difficult, choose your best alternative long before you or group members become exhausted.
- Have the circumstances changed? Should you turn around?
- Is anyone in your group have problems completing the route? Should the group turn around?
- Enjoy the hike for its own sake, and remember that there will be other opportunities if it is too challenging today.

9. Conserve your energy and seek shelter if necessary.

- Adjust your hiking speed to the weakest member, make sure that everyone can keep up.
- Remember to eat and drink frequently. Winter conditions increase risk of dehydration.
- Don't wait until you are exhausted before you seek shelter.
- Strong winds will tire you out quickly.
- Use your windsack or dig a snow cave before it's too late.
- Are you able to get back to your base? Do you know where the nearest shelter is?

*Safety handbook for
DTU Civil Engineering in Greenland*

Attachment 3

Garmin InReach guide

Garmin inReach Explorer+

Quick Guide

Last update: 17-8-2021



- Turn ON by pressing the power button
- Select “Turn On” to start the device
- To check/change coordinate system:
 - Go to **Settings > Units > Coordinates** and choose the preferred (or required) coordinate system
- To enter new waypoint:
 - Go to **Waypoints > New waypoint** and enter the coordinate field
 - Adjust the coordinates and return by **X** key
 - Select **Navigate** if you want the device to lead you in the waypoint direction
 - Keep in mind that the device does not respect roads or trails, only points you the direction to target
- To check/adjust tracking interval for optimal battery life:
 - Go to **Settings > Tracking**
 - Adjust **Log Interval** and **Send Interval**
 - Longer time = Longer battery life
 - Log 10 min and Send 1 h is sufficient for hiking
 - Log 5 min and Send 10 min for boating and snowmobiling
- To start tracking:
 - Go to **Tracking > Start > Share**
 - Edit the recipients (phone number or e-mail)
 - Edit the message if needed
 - Send the message
- To send message:
 - Go to **Messages > New Message**
 - The recipient is a mobile phone always with international code (+299xxxxxx for GL) or e-mail address
 - To send to another ARTEK inReach use e-mail: gps.artek.X@inreach.garmin.com where **X** is the number of the device

Garmin inReach Explorer+

DOs

- Make sure the device works before leaving for a tour
 - Check the battery status
 - Check if the messages are sent and delivered
 - Calibrate the compass
 - Check tracking intervals
- Inform your contact person about your trip and actions that are expected in case of emergency
- Make arrangements for eventual pickups before leaving
- In your messages be specific and to the point
- Confirm receiving of messages back to the sender

KEEP THE TRACKING ON WHENEVER ON THE MOVE!

DON'Ts

- Do not follow other people's tracks unless you know the circumstances under which they were made (season, weather, means of transportation)

To administer the device online

- Go to <https://explore.garmin.com/> and click **Sign In**
- The email address is: gps.artek.X@gmail.com
- The password is: artek.GPS.X
where **X** is the number of the device

DO NOT CHANGE SYSTEM SETTINGS OR PASSWORDS!

*Safety handbook for
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Attachment 4

Radio etiquette

Radio Etiquette

Last update: 17-8-2021

Push To Talk (PTT) - Operation Rules

1. Press and hold PTT button throughout your entire transmission
2. Hold microphone 2-5 cm from your mouth
3. Talk past the microphone, not straight into it
4. Don't rattle the microphone
5. Avoid background noise around microphone
6. Speak clearly

Push To Talk (PTT) - Communication Rules

- 1. Clarity:** Your voice should be clear. Speak a little slower than normal. Speak in a normal tone, do not shout.
- 2. Simplicity:** Keep your message simple enough for intended listeners to understand.
- 3. Brevity:** Be precise and to the point.
- 4. Security:** Do not transmit confidential information unless you know the proper security technology is in place.

Push To Talk (PTT) – Alphabet

A - Alpha	N - November
B - Bravo	O - Oscar
C - Charlie	P - Papa
D - Delta	Q - Quebec
E - Echo	R - Romeo
F - Foxtrot	S - Sierra
G - Golf	T - Tango
H - Hotel	U - Uniform
I - India	V - Victor
J - Juliet	W - Whiskey
K - Kilo	X - X-ray
L - Lima	Y - Yankee
M - Mike	Z - Zulu

Push To Talk (PTT) - Language

<u>Term</u>	<u>Meaning</u>
Radio Check	What is my signal strength? Can you hear me?
Go Ahead	You are ready to receive the transmission.
Stand-by	You acknowledge the other party, but I am unable to respond immediately.
Roger or Ten Four	Message received and understood.
Negative	Same as "No".
Affirmative	Same as "Yes". Avoid "yup" or "nope" as they are difficult to hear.
Say Again	Re-transmit your message
Over	Your message is finished.
Out	All conversation is finished, the channel is clear for others to use.
Break, Break, Break	You are interrupting in the middle of communication because you have an emergency.
Read you loud & clear	Response to "Radio Check". Means your transmission signal is good. Also, use " Read you 5-by-5 ".
Come in	You are asking the other party to acknowledge they hear you.
Copy	You understand what was said.
Wilco	Means "I will comply".
Repeat	Used before you repeat something. ex: " <i>I require 9-5, repeat 9-5, gallons of diesel fuel. Over</i> "

Push To Talk (PTT) – Making a call

1. Think and formulate your message
2. Make sure the channel is clear (there is no ongoing communication)
3. Press and hold the PTT button
4. After 2 seconds: Say "recipients call sign" twice, followed by "THIS IS" and "your call sign" followed by "COME IN" and "OVER"
5. The recipient should reply with "your call sign" followed by "THIS IS" and "recipients call sign" and "GO AHEAD" and "OVER"
6. You can now transmit your message followed by "OVER" at the end of your message
7. At the end of the conversation a sign "OVER AND OUT" is used to notify others that the channel is now free for use

Push To Talk (PTT) – Example

- A: ARTEK 1, ARTEK 1, **This is ARTEK 2 Come in, Over**
B: ARTEK 2, **This is ARTEK 1 Go ahead, Over**
A: We need 10 liters of gasoline in a base camp, **Repeat**, 10 liter of gasoline in a base camp **Over**
B: **Wilco**, we are on a way, estimated arrival in 2 hours, **Over**
A: **Roger, Over and Out**

*Safety handbook for
DTU Civil Engineering in Greenland*

Attachment 5

Safety equipment available at Arctic DTU Sisimiut

List of field equipment available at DTU Campus Sisimiut

Last update: 1-5-2021

*Reservations can be made contacting the OHS group for Greenland at:
glsafety@byg.dtu.dk*

Gear:	Type:	Placement:	Present:	Note:
Tent	Hilleberg KERON 4GT	GEUS	7	
Sleeping mat - Winter	Therm a Rest NEO AIR XTHERM L	GEUS	26	
Sleeping mat - Summer	Grey foam	GEUS	15	
Sleeping bag - Winter	Sir Joseph Looping 1200	GEUS	25	
Sleeping bag - 3 seasons	Sir Joseph Erratic 500	GEUS	4	
Liner for sleeping bags	Sea To Summit Thermolite	GEUS	28	
Stove	Primus Omnifuel	GEUS	7	
Cookware	Primus Litech Superset	GEUS	1	
Cookware	MSR	GEUS	6	
Snow shoes	MSR REVO Ascent	GEUS	24	
Hiking poles	Black Diamond Traverse	GEUS	24	
Backpack	Lowe Alpine Cerro Torre 65:85	GEUS	4	
Backpack	Osprey	GEUS	24	
Avalanche set (probe)	Pieps	GEUS	24	
Avalanche set (shovel)	Pieps	GEUS	24	
Avalanche set (transceiver)	Pieps	School (Basement)	24	
Crampons	Petzl LYNX	GEUS	24	
Ice axe	Salewa FRENEY	GEUS	24	
Satellite messenger	Garmin InReach Explorer	School (Basement)	6	
First aid kit	-	GEUS	6	
Gas stove	Primus Jet	GEUS	2	
Meal set	-	GEUS	23	
Duffle bag XXL	The North Face	GEUS	19	
Thermos	Thermos	GEUS	12	
Pulk	Fjellpulken	GEUS	6	
Teepee tent	Helsport Laavo	GEUS	2	
Winter boots	Sørel	GEUS	3	
Snowmobile helmets	Arctic Cat	GEUS	2	
Down pants	Canada Goose	GEUS	1	

*Safety handbook for
DTU Civil Engineering in Greenland*

Attachment 6

KTI Laboratory Safety guide

DTU og laboratoriearbejde på KTi

Laboratorierne på KTi står til rådighed for DTU's uddannelser i Sisimiut. I det følgende beskrives:

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DTU og laboratoriearbejde på KTI

Laboratorier og depoter

Der er to tilgængelige laboratorier (LAB 1 og LAB 2) med forskellige anvendelsesområder. På gangen ved LAB 2 findes endvidere et kemidepot med forbrugsvarer såsom nitrilhandsker, podepinde, engangspipetter, pipettespidser og ekstra glasvarer etc. samt nogle ekstra tørre kemikalier.

Begge laboratorier er udstyret med gængs laboratorieudstyr, så som stativmateriale, glasvarer, vægte, varmeskabe og lignende til fri afbenyttelse. Øvrigt specifikt forsøgsudstyr tilhører Gymnasiet GUX, og kan benyttes efter aftale med den laboratorieansvarlige ved KTI.

Forbrugsvarer (nitrilhandsker, engangspipetter, pipettespidser, vejbåde etc) kan benyttes frit. Det forventes at DTU bidrager til opfyldning af forbrugsvarer.

Booking af laboratorietid

Laboratoriefaciliteterne benyttes primært af GUX, Råstofskolen og DTU. For at sikre bedst mulig adgang for alle brugere skal det tilstræbes at booke laboratoriefaciliteterne, når de rent faktisk skal bruges. Derfor booking på timebasis med mulighed for flere sammenhængende timer og hele dag.

Ved længerevarende projekter, f.eks. speciale- og PHD-studerende, laves der individuelle aftaler.

Laboratorietid bookes ved at sende en mail til den laboratorieansvarlige på KTI:

Kristian H. N. Pedersen

Mail: kpmed@kti.gl

Mobil: +299-586167

Ved booking oplyses ønsket laboratorium, tidsrum, dag(e) og navn(e).

LAB 1

Anvendes til almindeligt laboratoriearbejde **uden brug af kemikalier** og **uden krav til punktsug** eller lignende. **Grovere laboratoriearbejde** så som disektion af fisk og dyr, vejning og tørring af sedimentprøver og undersøgelse af tang udføres i LAB 1.

Depotplads

Depotet i laboratoriet anvendes udelukkede af GUX (GUX-depotet). DTU råder over tre aflåste skabe på reposit.

Særligt udstyr

Mikroskoper og stereolupper er placeret på reposit, hvor tilbehør ligeledes findes i glasskabet til venstre. Udstyret rengøres og placeres på de numerede hylder efter brug.

Kemikalieskab med sug

DTU råder over det gule kemikalieskab bagerst i laboratoriet til opbevaring af kemikalier. Skabet skal være aflåst, og nøglen opbevares i nøgleboksen lige indenfor døren i GUX-depotet. Nøglen til kemikalieskabet må ikke fjernes fra LAB 1.


LAB 2 (Kemilaboratoriet)

Anvendes til laboratoriearbejde, hvor der indgår kemikalier. Der er arbejdspladser med punktsug, fire stinkskebe og relevant udstyr til kemiforsøg.

En kort gennemgang af laboratoriet findes her: <https://www.youtube.com/watch?v=7uSjvJfgXPk>

Dansk kemidatabase

Lovmæssigt skal der foreligge sikkerhedsdatablade samt arbejdspladsbrugsanvisning (APB) for alle kemikalier/stoffer i beholdningen. For at imødekomme dette abonnerer GUX på Dansk Kemidatabase, hvor alle kemikalier/stoffer er registreret.

DTU-login	Login via www.dansk-kemidatabase.dk eller scan QR-koden. <ul style="list-style-type: none"> • Brugernavn: DTUSTUD • Password: DTUSTUD DTU-studerende og undervisere har med dette login <i>læse adgang</i> , og kan se den samlede kemikaliebeholdning på KTI.	
Mærkning	Alle stoffer/ kemikalier er mærket med CLP-piktogrammer, placering i kemikalie- eller giftskab samt QR-kode, der giver direkte adgang til APB'en for det aktuelle stof/ kemikalie.	

Databasen giver mulighed for et hurtigt og let overblik over kemibeholdningen. Dette er et nyttigt værktøj for undervisere og studerende, som planlægger undervisning eller eksperimentelt arbejde fra DK forud for rejse til Sisimiut.

Guide til Dansk Kemidatabase på GUX findes her: <https://www.youtube.com/watch?v=qrgVIEp4KMo>

GUX-kemikaliebeholdning

DTU er som udgangspunkt velkommen til at benytte sig af kemikaliebeholdningen på GUX, men forventes at bidrage til opfyldning afhængig af forbrug. Kontakt den kemikalieansvarlige på GUX ved yderligere spørgsmål (kontaktoplysninger nedenfor)

DTU-kemikaliebeholdning og registrering

Kemikalieskabet i LAB 1 er hjemsted for DTU's kemikaliebeholdning på KTI. I databasen er opbevaringsstedet navngivet *ARTEK – giftskab*. Alle stoffer/ kemikalier skal mærkes og registreres i databasen. Ved nyindkøb er den kemikalieansvarlige på GUX behjælpelig med oprettelse og mærkning:

Anne Smet Andersen

Mail: anan@kti.gl

DTU ansatte kan anmode om udvidede rettigheder (*skrivebruger*), hvormed nye produkter kan tilføjes.

Retningslinjer for brug af laboratorierne på KTI (opslag i LAB)

God laboratorie praksis (GLP)

GLP kan med rette oversættes til THE DO'S AND DON'T'S i laboratoriet. Det er den altoverskyggende tilgang til god opførsel, der gør at man ikke blot opfører sig sikkert i laboratoriet, men man bliver også til en bedre videnskabsmand/kvinde.

Påklædning

- Kittel anvendes som udgangspunkt ved undervisning, hvor der **anvendes kemikalier eller ild**.
- Almindeligt tøj ved anden undervisning .
- Langt hår sættes op, så det ikke fanges af roterende maskiner eller antændes af åben ild, fx en gasbrænder.

Adfærd


- **Overtøj og tasker er forbudt**, men kan placeres på knagerækkerne udenfor laboratoriet eller efterlades i klasseværelset.
- **Ingen mad og drikke** i laboratoriet.
- **Gå stille og roligt**. Løb aldrig og lav ikke pludselige bevægelser.
- Mobiltelefoner og computere må kun være med i laboratoriet efter aftale med din underviser.
- **Sørg for orden og renlighed under arbejdet**, ryd op efter dig og efterlad arbejdsområdet, som du gerne selv vil finde det. Husk:
 - Vask op og start eventuelt opvaskemaskinen.
 - Aftør borde efter arbejdet. Brug en klud med rengøringsmiddel. Afspryt med ethanol hvis du har arbejdet mikrobiologisk.
 - Hæld aldrig overskydende kemikalier tilbage i beholderen eller i flasken (undgå forurening).
 - Kemikalier stilles enten tilbage i kemikalieskab eller på et midlertidigt opbevaringssted, hvis et sådant er anvist af din underviser.
 - Kemikalier påhæftet giftig faremærkning skal altid opbevares aflåst.
 - Håndter affald korrekt – se nedenfor.
- Forsøgsoptillinger, der skal bruges over flere dage, skal mærkes med navn, klasse, fag og mobil (umærkede opstillinger fjernes uden varsel). Brug blanket.
- **Hænder vaskes**, som det sidste inden laboratoriet forlades.

Daglig sikkerhed i laboratoriet


Sikkert arbejde forudsætter, at du har sat dig godt ind i den forsøgsoptilling og de kemikalier som du skal anvende. Derfor er **Dansk Kemidatabase** et vigtigt redskab i den **daglige sikkerhed** og færden i laboratoriet.

Databasen indeholder **arbejdspladsbrugsanvisninger (APB)** til alle stoffer og kemikalier, der anvendes i undervisningen. Du skal orientere dig om de stoffer/ kemikalier som du skal anvende, og som minimum have viden om:




Krav til personlige værnemidler	<ul style="list-style-type: none"> • Åndedrætsværn • Handsker • Kittel • Beskyttelsesbriller
--	--

Mærkning og sundhedsfarer (CLP-piktogrammer)	 <p>Sundhedsfare Ætsende Brandfarlig Miljøfare Kronisk Sundhedsfare</p> <p>Brandnærende Akut Giftig Gasser Under Tryk Eksplosiv</p>
Forholdsregler ved brug	Fx ventilation (punktsug og stinkskab).
Førstehjælp	Procedure ved indånding, øjne, hud, indtagelse og forbrænding.
Brand	Valg af slukningsmiddel (brandslukkere og brandtæppe, nødbruiser).
Bortskaffelse af affald	Valg af korrekt affaldsbeholder.
Risikovurderinger	Ved arbejde i stinkskab, punktsug og kemikaliespild. (se opslag i laboratorierne)

Dansk kemidatabase

Elev-login	Login via www.dansk-kemidatabase.dk eller scan QR-koden. <ul style="list-style-type: none"> • Brugernavn: GUXELEV • Password: GUXELEV 	
Mærkning	Alle stoffer/ kemikalier er mærket med CLP-piktogrammer, placering i kemikalie- eller giftskab samt QR-kode, der giver direkte adgang til APB'en for det aktuelle stof/ kemikalie.	

Håndtering af affald

Kemikalier	Affaldsstativ – LAB 2 skab 2	
	Rød Flydende uorganisk affald – surt.	
	Blå Flydende uorganisk affald – basisk.	
	Gul Organisk affald	
Glas	Benyt blå beholder til glasaffald. Lab 1 og Lab 2.	
Kanyler mv.	Gule beholdere depot LAB 1 skab X.	
	Kanyler, fingerprikkere, skalpeller etc.	
Almindeligt affald	Papir, handsker etc.	NB. Tøm ALTID ved biologisk affald efter endt undervisning. Brug blå containere ved multibanen.

Uheld og ulykker

Alarmnumre Sisimiut	Politi	Brand	Sygehus
	701448	113	864211
Giftlinjen	Akut hjælp ved forgiftning – døgnet rundt: +45 - 82121212		

Risikovurdering ved arbejde med kemikalier i stinkskab (LAB 2)

Forberedelse

- Brug altid en lukket laboratoriekittel og nitrilhandsker ved færemærkede kemikalier samt lukkede sko ved arbejde i et laboratorium. Langt hår bindes op.
- Handsker skal skiftes, når du er færdig med en given aktivitet eller når de er våde. Undgå undervejs at røre ved dørhåndtag, tastatur, briller, hår mm., når du har handsker på.

Før arbejdet i stinkskab

- Læs sikkerhedsdatabladet/kemiinstruksen for kemikaliet
- Lav en risikovurdering i forholdt til hvordan du skal arbejde med produktet
- Kemikalierne skal være i lukket beholder under transporten til/fra stinkskabet
- Print fareetiketter til mærkning af blandingerne i kemidatabasen
- Læg evt. et engangsunderlag/bordbeskyttelsespapir i bunden af stinkskabet
- Tjek at stinkskabets diode lyser grønt

Under arbejdet i stinkskab

- Afvejning skal foregå i stinkskab eller vejeskab
- Begræns luftstrømmen ind i stinkskabet – undgå hurtige bevægelser
- Undgå unødvendigt udstyr i stinkskabet
- Stinkskabslugen skal holdes så langt nede som muligt under arbejdet
- Skift handsker og kittel straks hvis du spilder. Følg instruks for spild før arbejdet fortsættes

Efter arbejdet i stinkskab

- Skift handsker uden at røre ved huden
- Påfør fareetiketter på kemikalier/blandinger, som skal overnatte i stinkskab
- Bortskaffelse af kemikalier og rester skal foregå i stinkskab, følg instruks om affaldssortering
- Lad kolber, glas mv. afdampe i stinkskab inden rengøring
- Vask under en blød vandstråle for at undgå stænk
- Engangsunderlaget/bordbeskyttelsespapiret fjernes og stinkskabet rengøres med engangsklud. Begge dele bortskaffes i skraldespand med låg sammen med de aftagne handsker
- Handsker aftages uden at røre ved huden
- Vask altid hænderne grundigt efter øvelser

Placering af værnemidler:

Handsker: på vægen til venstre for stinkskabe

Kitler: I skab ved indgang til laboratoriet

Briller: I plastkasse under computeren

Placering af førstehjælpsudstyr:

Øjenskyllflaske: På vægen ved døren

Førstehjælpskab: På vægen ved døren

Bruser: Tæt ved døren

Dato for seneste revision (Minimum hver 3. år) 06-juli 2021 Jesper Terp

Risikovurdering ved arbejde med kemikalier under punktsug (LAB 2)

Forberedelse

- Brug altid en lukket laboratoriekittel og nitrilhandsker ved arbejde med faremærkede kemikalier, beskyttelsesbriller samt lukkede sko ved arbejde i et laboratorium. Langt hår bindes op
- Handsker skal skiftes, når du er færdig med en given aktivitet. Undgå undervejs at røre ved dørhåndtag, tastatur, briller, hår mm., når du har handsker på

Før arbejdet med punktsug

- Læs sikkerhedsdatabladet/kemikalieinstruksen for kemikaliet
- Kemikalierne skal være lukket under transporten til/fra punktsuget
- Afvejning skal foregå under ventilation
- Forbered fareetiketter eller mærkning af blandingerne
- Læg et engangsunderlag/bordbeskyttelsespapir på bordet
- Orienter dig om hvor punktsugets kontrolanordning er placeret

Under arbejdet med punktsug

- Placer punktsuget under din indåndingszone. Så tæt på kemikaliet som muligt
- Begræns luftstrømmen undgå hurtige bevægelser
- Skift handsker og kittel straks hvis du spilder. Følg instruks for spild før arbejdet fortsættes

Efter arbejdet med punktsug

- Skift handsker uden at røre ved huden
- Påfør låg og fareetiketter på kemikalier/blandinger, som skal opbevares til dagen efter
- Bortskaffelse af kemikalier og rester skal foregå under punktsug, følg instruks om affaldssortering
- Håndtering uden for punktsuget skal foregå i lukket beholder
- Evt. afdampning skal ske i stinkskab
- Rengør kolber, glas mv. Vask under en blød vandstråle for at undgå stænk
- Engangsunderlaget/bordbeskyttelsespapiret fjernes og bordet rengøres med engangsklud. Begge dele bortskaffes i skraldespand med låg
- Handsker aftages uden at røre ved huden
- Vask altid hænderne grundigt efter øvelser

Placering af værnemidler:

Handsker: på vægen til venstre for stinkskab

Kitler: I skab ved indgang til laboratoriet

Briller: I plastkasse under computeren

Placering af førstehjælpsudstyr:

Øjenskyllflaske: På vægen ved døren

Førstehjælpsskab: På vægen ved døren

Bruser: Tæt ved døren

Dato for seneste revision (Minimum hver 3. år) 05-juli 2021 – Jesper Terp

Risikovurdering ved spild af kemikalier (LAB 1)

Før spild

- Sikre dig at der er en fyldt værnemiddelskasse indeholdende; Barrierer handsker, briller, åndedrætsværn FFABEK1-P3, opsamlingsmaterialer (absorptionsmåtter eller vermiculit)
- Sikre jer at der ved brug af vermiculit forefindes en kost og fejebakke
- Sikre dig at der er et 30 liters spændelåsfad til opsamling af spildet
- Beholderen afhentes af affaldsfirma

Ved små mængder spild

- Tag briller, handsker og kittel på
- Optør med rigeligt papir eller engangsklude.
- Tør efter med en ren våd engangsklud
- Bortskaf papir, klude og handsker i en lukket beholder
- Beholderen afhentes af affaldsfirma
- Handsker aftages uden at røre ved huden
- Kontakt arbejdsmiljørepræsentant med henblik på at registrere nærvæd-hændelsen

Ved større mængder spild

- Evakuer lokalet og find værnemiddelkassen
- Tag barriere handsker, briller, kittel og åndedrætsværn på
- Optør med absorptionsmåtter eller vermiculit
- Bortskaf affaldet i et spændelåsfad
- Tør efter med rigeligt vand på rene våde engangsklude
- Bortskaf klude og handsker i den lukkede beholder
- Handsker aftages uden at røre ved huden
- Marker stedet for spil og orienter rengøringslederen om dette.
- Kontakt arbejdsmiljørepræsentant med henblik på at registrere nærvæd-hændelsen og for at få opdateret værnemiddelkassen

Placering af værnemidler

Kasse: Åndedrætsværn, barrierer-handsker (EN ISO 374-5) og briller står på hylde over computer i Lab2.

Kitler: På væg overfor indgang til lokalet.

Kemikaliespildkit: Står på hylde over computer i Lab2.

30 liters spændelåsfad: Står ved computer i Lab 2.

Placering af førstehjælpsudstyr

Øjenskyllflaske: På endevæg ved vask.

Førstehjælpskab: Ved trappe til repos.

Bruser: I omklædningsrum modsat indgang til Lab 1.

Dato for seneste revision (Minimum hver 3. år) Jesper Terp 06-juli 2021

Risikovurdering ved spild af kemikalier (LAB 2)

Før spild

- Sikre dig at der er en fyldt værnemiddelskasse indeholdende; Barrierer handsker, briller, åndedrætsværn FFABEK1-P3, opsamlingsmaterialer (absorptionsmætter eller vermiculit)
- Sikre jer at der ved brug af vermiculit forefindes en kost og fejebakke
- Sikre dig at der er et 30 liters spændelåsfad til opsamling af spildet
- Beholderen afhentes af affaldsfirma

Ved små mængder spild

- Tag briller, handsker og kittel på
- Optør med rigeligt papir eller engangsklude.
- Tør efter med en ren våd engangsklude
- Bortskaf papir, klude og handsker i en lukket beholder
- Beholderen afhentes af affaldsfirma
- Handsker aftages uden at røre ved huden
- Kontakt arbejdsmiljørepræsentant med henblik på at registrere nærvæd-hændelsen

Ved større mængder spild

- Evakuer lokalet og find værnemiddelkassen
- Tag barriere handsker, briller, kittel og åndedrætsværn på
- Optør med absorptionsmætter eller vermiculit
- Bortskaf affaldet i et spændelåsfad
- Tør efter med rigeligt vand på rene våde engangsklude
- Bortskaf klude og handsker i den lukkede beholder
- Handsker aftages uden at røre ved huden
- Marker stedet for spil og orienter rengøringslederen om dette.
- Kontakt arbejdsmiljørepræsentant med henblik på at registrere nærvæd-hændelsen og for at få opdateret værnemiddelkassen

Placering af værnemidler

Kasse: Åndedrætsværn, barrierer-handsker (EN ISO 374-5) og briller står på hylde over computer i Lab2.

Kitler: På væg overfor indgang til lokalet.

Kemikaliespildkit: Står på hylde over computer i Lab2.

30 liters spændelåsfad: Står ved computer i Lab 2.

Placering af førstehjælpsudstyr

Øjenskyllflaske: På væggen til højre for indgangsdør.

Førstehjælpsskab: På væggen til højre for indgangsdør.

Bruser: På stolpe ved indgangsdør.

Dato for seneste revision (Minimum hver 3. år) Jesper Terp 06-juli 2021

*Safety handbook for
DTU Civil Engineering in Greenland*

Attachment 7

Fieldwork registration form

Registration of activity (fieldwork, excursion) in Greenland

This form must be completed by the fieldwork leader and approved by local work environment representative PRIOR TO FIELDWORK.

Basic information				
Fieldwork/Excursion title:				
Fieldwork Leader:			Organization/department:	
Contact prior to fieldwork: <i>e-mail:</i> <i>phone:</i>			Contact during fieldwork (cell, satellite, etc.):	
Participants in fieldwork/excursion: <i>(use separate list for class excursions or large fieldwork)</i>				
Name	Mail address	Cell phone	Organization/department	Status
Date and place of start of fieldwork: (planned departure)			Date and place of end of fieldwork: (expected return)	
Routine contact list and communication protocol during fieldwork (if applicable)				
Contact person(s)		Contact information (e-mail, cell phone, satellite, etc.)		
Communication protocol <i>Means of contact, frequency, time of the day, etc.:</i>				

Work description

Where and when does the fieldwork take place?
 Explain in closer detail the location and work schedule including planned interruptions

Fieldwork description
 Short description of work tasks and equipment use.

Risk assessment

Hazards <i>Physical (weather, terrain)</i> <i>Biological (animals, insects, bacteria, viruses)</i> <i>Chemical (contamination, poisoning)</i> <i>Man-made (equipment, vehicles, buildings)</i> <i>Personal (lone working, remoteness, culture)</i> <i>Environmental (pollution, rubbish)</i> <i>Others</i>	Possible accident <i>Who/what may be damaged and how</i>	Risk level Low/Medium/High <i>Use the table from safety guide to calculate the risk levels</i>	How you minimize the risks to achieve ALARP (As Low As Reasonably Practicable risk) <i>Precautions, safety equipment, protective equipment, courses, instructions, etc.</i>

Safety related qualifications

The participants of the fieldwork are instructed/attended courses:
Note that not all courses are necessarily required for every type of fieldwork or excursions. At the same time there may be other courses (or years of experience) that can substitute the official courses required. Read the Safety guide for more info or contact the Safety committee.

	All participants	Some participants	No participants	Not relevant
DTU Arctic safety course				
Arctic First Aid course (<i>less than 2 years old</i>)				
Rifle safety course (<i>less than 2 years old</i>)				
Snowmobile operation course				
Car operation instructions				
Avalanche course (<i>less than 2 years old</i>)				
Safety at sea course (<i>less than 2 years old</i>)				

Other relevant courses or experience contributing to increased safety and reduced risks

Resources

List of the Arctic DTU equipment that will be needed for the fieldwork
 Vehicles, camping equipment, safety equipment, etc.

List of courses/instructions that would contribute to increased safety during the fieldwork

For Safety committee ONLY

Date	Author	Comment



Field Leader	Date
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Work Environment Coordinator	Date
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If any changes occur in the planned fieldwork, list of participants, list of contact etc. it must be updated and signed again.