In the lab and field

Instructions and basis for risk assessment

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Contents

1 Welcome to our course laboratories

This booklet contains instructions for students and lab teachers for laboratory work at IBG, and clarifies the responsibilities of students, lab teachers (teachers on the course) and laboratory staff (IBG's permanent lab staff). Read the booklet before starting the first lab.

The hope is that we will increase the safety and well-being at our laboratories. If you are unsure about something, don't hesitate to ask!

2 Localities

2.1 Lab coats

Lab coats can be bought from the laboratory staff (ibg-lab@ibg.uu.se). Payment for the coat can only be made by bank card or Swish.

2.2 Lockers

At BMC, in the A-corridor's level 0, there are several changing rooms with lockers. You need an access card to enter these rooms. Students who want a locker can sign out the access card at BMC's reception: B7, floor 1.

At EBC, there are lockers in the basement under the laboratory corridor. Bring your own padlock. Please note that the lockers must be emptied at the end of the spring semester. After that, the remaining locks are cut, and the lockers are emptied of their contents.

3 Regulations

- **Outer clothing and bags must not be stored inside the lab. If hangers are not available next to the lab, lockers must be used.**
- A lab coat must be used.
- Students should only work under the supervision of a lab teacher or laboratory assistant.
- No eating or drinking in the laboratory.
- Be careful with hand hygiene and do not use gloves outside the laboratory.
- At BMC: Do not take glassware from the chemistry cabinets. Glassware is available in the dish room and in the hallway outside the dish room.
- Check that windows are closed when leaving. Turn off the lights.

4 General routines

4.1 Autoclaves and sterilisation ovens

The lab personnel manage autoclaves and sterilisation ovens. Never put opened containers with measuring pipettes or similar back in the storage cabinets.

4.2 Dish washing

Dish wagons are available in every laboratory. Rinse and remove labels on items to be washed. Remember that nothing contaminated may be placed on the dish wagon! Tubes and glass materials containing bacteria must be killed with jodopax (use gloves as jodopax is allergenic). The iodine solution must not be poured into the drain but poured into containers for destruction. The containers must be labeled with contents.

4.3 Bacterial spill

Treat bacterial spill with 70 % ethanol and wipe it up. Use 70 % ethanol for bench sterilisation.

4.4 Solutions and media

Course leaders or lab teachers send order lists and material lists to the laboratory staff **at least 4 weeks** before the start of the course (ibg-lab@ibg.uu.se)!

4.5 Broken or faulty lab equipment

When you notice that any lab equipment is broken, put it in the marked box. Label broken equipment with what is wrong and contact laboratory staff.

4.6 Gloves

Do not use the same gloves for an entire lab session but change gloves after different steps. Gloves do not protect against prolonged contact with chemicals. In case of contamination - change immediately. Always throw the gloves in the yellow hazardous waste box!

4.7 Washing lab coats

Please wash your lab coat at least once per semester.

4.8 Notification of work injuries and accidents

If accidents occur, lab teachers must contact the safety representatives at IBG: Lena Henriksson (lena.henriksson@ibg.uu.se) or Hanna Olsén (hanna.olsen@ibg.uu.se). They will help with the reporting.

If you suffer a work injury, report this to the Kammarkollegiet: https://www.kammarkollegiet.se/vara-tjanster/forsakring-och-riskhantering/anmal-skada/sjukdom-eller-olycksfall

5 Safety

5.1 General

Check location for emergency shower, eye wash equipment and fire hydrant as well as escape routes.
Lab teachers have a safety briefing with students at the start of the course.

> *Lab teachers must have made a risk assessment for each lab. Previous risk assessments are placed in folders at Carin (BMC) and Mariela (EBC).*

5.2 In case of fire

- First save those who are in obvious danger.
- Call the fire department by dialling 112.
- Warn others that are threatened by the fire.
- If possible, extinguish the fire.
- Evacuate the building and head to the assembly point.
    - BMC: The field outside the main entrance to Rosendalsgymnasiet.
    - EBC: The grassy area by the parking lot towards Norbyvägen.
- Do not use elevators.
- Shut doors to prevent smoke from spreading.
- If possible, allocate someone who meets the fire brigade.

5.3 Eye safety routines

- If an accident occurs use the eyewash.
- In more serious cases, contact the eye clinic.

Contact lenses should not be worn in the laboratory as this may increase the risk of eye damage.

5.4 Working with chemicals

- Read the warning text before using a chemical!
- Hazardous chemicals that have spilled onto the floor or bench are covered with absorbents, e.g. vermiculite, and collected in cardboard for chemical waste. Contact the laboratory staff.
- Work in fume hoods and use safety glasses and gloves.
- In case of phenol splash on the skin - spray with PEG 400 and rinse thoroughly with water.
- When weighing chemicals, clean the scale afterwards. If spills occur that require special equipment, protective equipment is available in the chemical room, such as visors, heavy rubber gloves, gas mask, dust brush and shovel.
- If your make own mixtures, containing dangerous chemicals, they must be labeled with the chemical name and danger symbols.

5.5 Working with liquid nitrogen

- Use a special thermos for liquid nitrogen storage. An ordinary thermos might explode.
- Use protective glasses and thermal gloves.

5.6 Working with injection needles

- Do not put the protective cap on again after using the needle.
- The needle must be thrown away directly in a yellow hazardous waste box.

6 Waste

6.1 General

It is important to handle and destroy lab waste according to current laws and regulations to protect people and the environment. Assessment of which waste is generated must be included in the risk assessment for the laboratory. Ask the lab teachers if you, as a student, are unsure about how to handle and destroy lab waste, e.g., infectious waste etc. Infectious waste includes toxins, prions, viruses, bacteria (e.g., *E. coli*), fungi and parasites that can cause disease in humans, animals or plants. Remember that blood is considered infectious.

6.2 Handling of non-infectious waste

- Paper towels should be thrown in a **wastebasket**.
- Sharp and cutting materials such as e.g., Pasteur pipettes, needles, scalpel blades and object glasses are thrown away in the **yellow hazardous waste box** (Hazardous waste – Including glassware!).
- Empty paper boxes and plastic that can be recycled are placed in a box marked for Recycling.

6.3 Handling of infectious waste

- Contaminated gloves, paper towels, Eppendorf tubes, tips, plates as well as contaminated piercing/cutting material are thrown into yellow hazardous waste box.
- Biological waste such as small animals, organs, tissues and blood goes as hazardous waste but is placed in a separate container that is kept in a freezer.
- Remaining bacterial cultures are killed with jodopax and poured onto vessels for destruction. The containers must be labeled with contents.
- Genetically modified organisms/microorganisms (GMO/GMM) refer to organisms with genetic changes that did not occur naturally. To prevent GMOs and GMMs from harming people and the environment, these are handled as biological waste or infectious waste and thrown away in the yellow waste boxes found in the labs. At BMC, these yellow boxes are marked with a white label to declare the contents.

6.4 Handling of chemical waste

- Chemicals e.g., phenol, are poured into plastic bottles/cans and stored in fume hoods. Label the bottles carefully with contents and date.
- Do not mix different chemicals without consulting the lab teacher or laboratory staff.
- Acrylamide gels are disposed of in a **yellow hazardous waste box**.

- No corrosive, flammable, toxic or environmentally hazardous substances may be poured down the drain!

7 Laboratory instruments

7.1 General

Ask the lab teacher/laboratory staff for a manual or instruction before using an instrument. Broken equipment must be marked with a description of the error, and the laboratory staff notified.

7.2 Micropipettes

- The pipette is a precision instrument. Handle it carefully!
- Store the pipette in its holder.
- **Avoid removing the ejector.** It acts as a support for the tip holder.
- Use the same pipettes during one experiment.
- If the pipette feels stiff or different, return it to the laboratory staff for service, or label it and place it in the marked box for broken material.

8 Laboratory personnel

We work in the laboratory:

EBC:

Mariela Mejia Cordova, mariela.mejia_cordova@ibg.uu.se,
018 - 471 6431 (kemikalier & material)
Karina Lagerström, karina.lagerstrom@ibg.uu.se, 073 - 469 75 53 (materials)

BMC:
Carin Backlin, carin.backlin@ibg.uu.se, 072 – 999 97 47 (chemicals & materials)
Karina Lagerström, karina.lagerstrom@ibg.uu.se, 073 - 469 75 53 (material)

Manager (located at EBC):
Afsaneh Ahmadzadeh, afsaneh.ahmadzadeh@ibg.uu.se,
018 - 471 4125 / 070 - 42 50 113

Technician (located at BMC and EBC):
Mats Omarin, mats.omarin@ibg.uu.se,
018 - 471 4134 / 070 - 4250 114

Broken equipment: Label it, contact laboratory staff and tell them what's wrong, or label it and put it in the marked box.

9 Risk assessment

Before practical work, it is important to carry out a risk assessment to ensure the safety of everyone involved and to prevent accidents or exposure to hazardous materials. The risk assessment helps identify potential hazards, such as harmful microorganisms, toxic chemicals, or unsafe procedures, and enables the implementation of appropriate safety measures. By understanding the risks, minimizing them, and preparing oneself and others for emergencies, a risk assessment protects the person performing the practical work.

Risk assessments should be conducted by the supervisor or teacher, as well as the individual performing the potentially hazardous work. As a student, you are therefore expected to participate in the risk assessment, even though the teacher will ultimately hold the main responsibility. Regardless, you are expected to have basic knowledge of risk assessment in your future professional role.

9.1 General steps for risk assessment

A good mindset for practical work is that "anything that can go wrong will go wrong," and to be prepared for that. However, a formal risk assessment requires a more thoughtful identification and handling of the risks deemed relevant. Especially during fieldwork, conditions can change dramatically and without warning, so the risk assessment must always include a degree of flexibility to account for the unexpected. The assessment should also include any potential language barriers within the team, particularly in unfamiliar situations or those that might lead to distress, fear, or panic.

- **Identify risks**: Start by considering what could cause harm within the scope of the work (e.g., chemicals, terrain, weather, wildlife).
- **Evaluate risks – assess likelihood and consequences**: How likely are these risks to occur? What kind of harm could they cause?
- **Calculate risk value**: What is the combination of the likelihood of a risk occurring and the severity of its consequences? Which risks are most important to address with preventive measures?
- **Control measures**: Implement steps to reduce the risks (e.g., protective equipment, training, emergency plans) and prepare for potential incidents.
- **Monitor and review**: Regularly reassess risks as conditions change.

It's wise to consider the next steps before an accident happens. Who should be contacted in the event of an accident or incident? What equipment is available, such as fire extinguishers, eyewash stations, life buoys, etc.?

9.2 During laboratory and field work

This section addresses several aspects that should be considered during both wet lab work and fieldwork.

Bacteria/Viruses

When working with bacteria or viruses, or in environments that may contain them, it is important to understand how pathogenic they are, how they are transmitted, and therefore how they should be handled and what protective equipment is required. Extra caution may be necessary during activities such as dissection, handling of large quantities, centrifugation, or in the event of spills. It is also essential to know how waste should be managed and how materials and surfaces should be properly cleaned.

Biological material

When working with living or dead animals, plants, fungi, or soil samples, gloves should sometimes be used to prevent contamination and exposure to potential pathogens. In some cases, the work should be conducted in designated areas, and tools such as tweezers or scalpels should be used to minimize direct contact. Proper disinfection of equipment after use is also essential. Samples should be clearly labelled and stored securely in appropriate containers to prevent cross-contamination and to preserve the sample as effectively as possible. You should also be aware of how to properly dispose of biological material.

Bunsen burner

When using a Bunsen burner, ensure that it is securely placed on a stable surface. Always inspect the burner for leaks or damage before use and adjust the flame to the appropriate size and intensity for the task. Keep flammable substances and chemicals at a safe distance from the flame, and never leave the burner unattended while it is lit. A fire extinguisher or nearby fire blanket should be readily available, and you should be familiar with how to respond in case of a fire. Gloves should not be worn, and long hair must be tied back.

Chemicals

When working with chemicals[1], it is important to understand the properties and hazards of each substance, as well as to be prepared for how to respond in case of spills or other emergencies. Use appropriate personal protective equipment, such as gloves, safety goggles, and lab coats. Ensure proper ventilation, such as working in a fume hood, when handling volatile or toxic substances, and follow correct storage and labelling procedures to avoid misunderstandings and accidents.

Chemical reactions

When performing chemical reactions, make sure you are familiar with all reactants and products to anticipate possible hazards such as fire, toxicity, or reactivity. Be aware of heat generation or gas release, and use appropriate containment, such as a fume hood, for volatile or hazardous substances. Carefully plan the reaction scale to avoid overpressure or uncontrolled reactions and never mix

[1] https://www.uu.se/en/students/it-for-students/services-for-students/chemical-registration-system-klara

chemicals without knowing their compatibility. Ensure you know the locations of the eyewash station, emergency shower, and fire extinguisher, and be familiar with how to handle spills.

Equipment

Make sure you are aware of the correct handling of the equipment you will use to prevent accidents. Inspect the equipment before use to ensure it is in good condition and immediately report any damage or malfunctions to the teacher and/or lab staff. Use appropriate protective equipment, and clean and store the equipment properly to avoid contamination or damage.

Microwave oven

When using a microwave oven, ensure that containers are microwave-safe and suitable for the substances being heated to prevent container breakage or unwanted chemical reactions. Never use sealed containers in the microwave, as pressure buildup can cause explosions (for example, lids should not be used when melting agarose). After use, handle hot containers carefully with heat-resistant gloves and clean the microwave properly to avoid contamination.

Pregnancy / Weakened immune system or relevant diagnosis

If you are pregnant, inform your teacher, supervisor, or equivalent to receive information about which tasks, chemicals, or infectious agents you should avoid working with. It is important to be aware of potential risks from chemicals, biological agents, or physical hazards that may affect the developing fetus. Avoid exposure to teratogenic substances, chemicals that can harm fetal development[2], and wear appropriate protective equipment.

If you have a weakened immune system or another condition that makes you especially sensitive to the materials you will be exposed to, please discuss this with your teacher so that suitable measures can be taken.

Protective clothing

Essential safety equipment may include gloves to protect hands from chemical, biological, and thermal hazards, and safety goggles to shield the eyes from splashes, debris, or harmful light. A lab coat or similar garment protects the skin and clothing from spills and acts as a barrier against contamination. Closed-toe shoes prevent foot injuries from falling objects or chemical spills.

Reporting incidents

It is important to document incidents (“close calls”) and accidents that occur in connection with practical work. This should be reported to the nearest teacher/supervisor and the local safety representative, who will also notify the Swedish Social Insurance Agency (Försäkringskassan). Afterwards, as a student, you may apply for compensation from the Kammarkollegiet’s accident insurance[3].

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[2] https://www.uu.se/en/staff/employment/work-environment/your-workplace/laboratory-safety/chemical-handling/cmr-substances

[3] https://www.uu.se/en/students/your-rights/injuries-and-incidents

Sharp objects / Scalpels

When using sharp objects such as scalpels, consider how to handle them with care to protect both yourself and others. Store sharp objects safely and ensure proper disposal. Be especially diligent in reporting to the lab instructor or lab staff if you cut yourself with a scalpel that has been in contact with, for example, biological material.

UV / Laser

When working with UV light and lasers, proper safety equipment is essential to prevent serious injuries. UV-blocking goggles and gloves protect against corneal burns and skin damage, while laser safety glasses shield the eyes from specific wavelengths to avoid retinal injury. Lab coats or similar garments, as well as flame-resistant clothing, prevent burns and exposure to harmful radiation.

Waste

It is important to identify the types of waste generated, such as chemical, biological, or radioactive, and to assess the potential hazards associated with each. Proper labelling and sorting must be in place to ensure that waste is handled in accordance with relevant safety and environmental regulations.

Working alone or in small groups

When working alone or in a small group, ensure that all necessary safety protocols and procedures are understood and followed by everyone involved. Maintain clear communication with others in case assistance is needed or an emergency arises. Be aware of the location of emergency equipment and familiarize yourself with the nearest exits or assembly points. If working alone, inform a supervisor or teacher about your tasks and expected timeline, and do not work with hazardous equipment or high-risk chemicals without supervision. We strongly recommend that you do not work alone!

9.3 What else should be considered during fieldwork?

Fieldwork includes excursions as well as sampling and mapping of terrain - along roads, at sea, and from the air. If your project involves any kind of fieldwork, whether it is a single-day activity or an extended stay lasting several weeks, you should carry out a risk assessment. There are many factors in the field that can influence a risk assessment, and it is not possible to prepare for every conceivable scenario. Therefore, it is important to understand the underlying principles so that you can apply them to the specific situation you may find yourself in.

Legal and organisational frameworks

As a student or employee participating in university activities, you are subject to laws and regulations that may be either more or less restrictive than those applying to you as a private individual. There are certain actions you are permitted to carry out as a student or in the course of your duties that you may not be allowed to do as a private person, and vice versa. This is often linked to specific permits issued for the activity in question, or more generally to permissions granted to the university as an institution.

- **Be aware of laws and regulations:** Before conducting fieldwork, it is important to be familiar with the laws and regulations that apply to the specific location and activities involved. These may include local, national, and international laws concerning health, safety,

and the environment. In Sweden, the Right of Public Access (*Allemansrätten*) applies to general outdoor access, but different regulations may be relevant during work or study. The course instructor or department should be aware of the legal frameworks that apply specifically within the context of the course.
- **Institutional guidelines:** The university or your department may have specific fieldwork protocols or safety standards that you are expected, or required, to follow. One such guideline is to avoid conducting hazardous work alone.
- An important aspect is ensuring that you are covered by insurance that applies to the location and the activities involved in the fieldwork.
- Certain types of locations or work require specific permits. These may include ethical permits for work involving vertebrates and endangered species, or site permits for protected environments or areas alongside roads.

Preparations

Before heading out into the field, there are several important points to consider:

- **Training:** Do you have knowledge of first aid and the necessary skills relevant to the work?
- **Permits:** Are all necessary permits for fieldwork in place (e.g. research permits, land access, ethical approvals)? For students, these are usually arranged by the department, but it's good to be aware of the process for future professional work.
- **Health status:** Inform your peers of any medical conditions that may be important to know about - for example, allergies, sensitivity to insect stings, diabetes, etc. Also consider non-work-specific factors that could be relevant, such as fear of heights or ability to swim.
- **Vaccinations:** TBE (tick-borne encephalitis) vaccination is recommended for fieldwork.
- **Roles and responsibilities:** Clarify who is responsible for what during the fieldwork.
- **Communication plan:** Establish how the team will stay in contact and report problems, both internally and with external support resources.
- **Buddy system:** Avoid working alone whenever possible; use a buddy system for safety.
- **Essential equipment:** Make sure you have suitable clothing, footwear, and tools for the environment and the task. If unsure, consult your teacher or someone with more experience. Consider whether you need sunscreen and remember to bring sufficient drinking water.
- **Safety equipment:** Include items such as a first aid kit, navigation tools, and communication devices (e.g. satellite phones).
- **Local knowledge:** Be familiar with the area's specific risks, available resources, and emergency services. Discuss and, if possible, rehearse potential emergency scenarios (e.g. encounters with wild or venomous animals and plants, injuries, or missing team members).
- **Minimise impact:** Ensure that your activities do not harm the environment, wildlife, or cultural sites, and restore the area if necessary in accordance with applicable regulations.
- **Local conflicts:** Fieldwork near human settlements may lead to tension or conflict. Make sure you are informed about what needs to be communicated to the local community.
- **Hunting and poaching:** Check whether hunting season is ongoing. In some areas, fieldwork may be disrupted by local hunting activities or potential conflicts with poachers.

Documentation for transport

Before departure, a list must be compiled containing the following information:

- The names of all participants and, if applicable, their mobile phone numbers, as well as the name and phone number of the field station.

- The registration numbers of all vehicles, and if applicable, the names and phone numbers of any car rental companies.
- The name and contact number of next of kin, if applicable.
- The name of the site where the daily work will take place. The area should be specified using a map sheet reference.
- The expected return time / latest possible return time, and the time at which an alarm should be triggered if no contact has been made.
- For solo work: Ensure that the Swedish police app *"SOS Alarm 112"* is downloaded. For non-urgent matters, you can also call 114 14. For emergencies, call 112.
- For solo work: Appoint someone with whom you will maintain daily contact.

This information must be sent to info@ibg.uu.se for students on IBG courses before departure. For trips starting from a field station, such as Belone during your stay at Klubban, a corresponding list must be organised for that specific excursion.

Specific details

Most people have spent time outdoors and understand that there are certain differences compared to everyday life in the city. When it comes to professional activities in the same environment, additional aspects may arise that are not normally part of private individuals' activities, while other aspects of fieldwork are similar to those in the laboratory. For example, handling, storage, and transport of chemicals must be considered just as in the lab, but there are added factors regarding how the chemicals are used in nature and the potential effects of any spills. The equipment used can vary (expensive electronics, sharp needles), and there may be handling of potentially hazardous plants and animals.

Land transport

Several potential issues can arise when it comes to land transport during fieldwork. These problems can vary depending on the region, terrain, weather, and type of fieldwork. Here are some common challenges, many of which also occur during everyday travel:

- **Mechanical failures:** Flat tyres, engine breakdowns, or battery problems, especially in remote areas with limited access to repair services. Prepare for emergencies by bringing tools, spare parts, and a first aid kit. Make sure you know who to call for help.
- **Fuel/power shortages:** Running out of fuel in areas without nearby petrol stations or charging points.
- **Inappropriate vehicles/roads:** Using vehicles that are not suited to the terrain (e.g., a standard car on uneven or mountainous roads, or lacking winter tyres in icy conditions). Plan alternative routes and familiarise yourself with the terrain.
- **Overloading:** Carrying too much equipment or too many passengers, which can lead to safety risks or vehicle damage.
- **Rental car issues:** Misunderstandings with rental companies or lacking the correct insurance coverage.
- **Restricted access:** Roads that are closed or require special permits.
- **Driver fatigue:** Long hours behind the wheel without adequate rest or driving after strenuous fieldwork.
- **Inexperience:** Drivers unfamiliar with challenging terrain or handling specific vehicles.

Work by, on, and in water

Work conducted by, on, or in water presents particular challenges primarily because humans are not naturally adapted to aquatic environments, and there is a risk of drowning. However, there are several other factors specific to water-related work that must be considered:

- **Boat:** Risk of engine failure, fuel problems, or other technical issues with the vessel. Make sure you know who to call for assistance.
- **Lack of equipment:** Missing safety features such as life jackets, emergency signals, first aid kits, communication radios, and lifeboats.
- **Incorrect boat for the environment:** Insufficient boat size or wrong type of craft for the work (e.g., open sea versus inland lake).
- **Overloading:** Excess equipment or passengers, which affects stability and safety.
- **Rapid weather changes:** Waves, currents, fog, rain, or darkness that make navigation and work difficult.
- **Falling overboard:** Risk of falling into the water, especially during waves or on slippery surfaces.
- **Dangerous animals:** Encounters with dangerous marine animals such as sharks, sea snakes, or stingrays.
- **Injuries:** Cuts from sharp objects, fishing gear, or underwater rocks.
- **Temperatures:** When working on open water, there is a risk of overheating and sun damage if sun protection is inadequate, as well as hypothermia from wet clothing or immersion, especially during winter.
- **Physical exhaustion:** The work can be physically demanding, particularly in strong currents or waves.
- **Limited coverage:** Poor mobile phone signal on lakes, seas, or in remote areas.

Work with plants and fungi

- **Toxic plants and fungi:** Some plants can cause skin irritation, allergic reactions, or be poisonous upon contact or ingestion (e.g., giant hogweed, henbane, yew, fly agaric).
- **Thorns and spines:** Plants such as roses, blackberries, or cacti can cause injuries when handled.
- **Allergies:** Pollen or plant sap can trigger allergic reactions in some individuals.
- **Invasive species:** Handling invasive plants can inadvertently spread them further, which is undesirable from an ecological perspective.
- **Environmental conditions:** Plants in sensitive habitats may be difficult to study without causing damage to the ecosystem.

Work with live animals

- **Aggressive animals:** Wild animals may react aggressively if they feel threatened (e.g., snakes, wasps, large mammals).
- **Dangerous bites or stings:** There is a risk of being bitten or stung by animals such as insects, spiders, snakes, or other venomous species.
- **Zoonoses:** Some animals can carry diseases transmissible to humans, for example Lyme disease (from ticks) or leptospirosis (from rodents).
- **Animal stress:** Improper handling can cause stress in animals, which may affect their health and behaviour.
- **Flight responses:** Animals may flee when disturbed, making them difficult to observe or capture.

Prioritisation in the event of an accident

In the event of an accident, the aim is, of course, to minimise negative consequences as far as possible. It is therefore helpful to keep in mind a prioritised list of actions to consider:

1. **Safety of people**

- **Prioritise life and health first.** Ensure that injured persons receive assistance and that no further risk arises for others.
- **Evacuate dangerous areas:** If the accident involves risks such as explosions, chemical leaks, landslides, or other dangers, move everyone to safety immediately.
- **Administer first aid:** Begin life-saving measures if necessary, such as cardiopulmonary resuscitation (CPR), stopping bleeding, or managing unconsciousness.
- **Alert emergency services**: Contact emergency number 112 in Sweden (call via the *"SOS Alarm 112"* app) and provide a clear description of the accident, injuries, and location.
- **Stop the progression of the accident:** If possible, limit or stop the cause of injury, for example by turning off machinery, sealing a leak, or isolating an area.
- **Prevent secondary accidents:** Protect yourself and others from further harm by identifying hazards that may arise, such as fire, chemical exposure, or fall risks.

2. **Protect the environment**

- **Limit damage:** If the accident poses a risk of environmental pollution (e.g., chemical or oil spills), take measures to contain the spread, such as creating barriers or collecting spillages.
- **Report:** Inform relevant authorities, such as the County Administrative Board ("Länsstyrelsen") or Environmental Agency ("Miljöförvaltningen"), if the accident has impacted the environment.

3. **Protect property**

- **Minimise damage to equipment and materials:** Once human safety and the environment are secured, try to prevent further damage to tools, vehicles, buildings, or other property.
- **Save valuable equipment first:** Remember that the most valuable item might be the notebook or computer containing collected data!
- **Restore order:** Begin planning to restore the area after the accident, such as cleaning up spills or repairing damage.