



LUND
UNIVERSITY

General safety routines and info

DEPARTMENT OF BIOLOGY | LUND UNIVERSITY

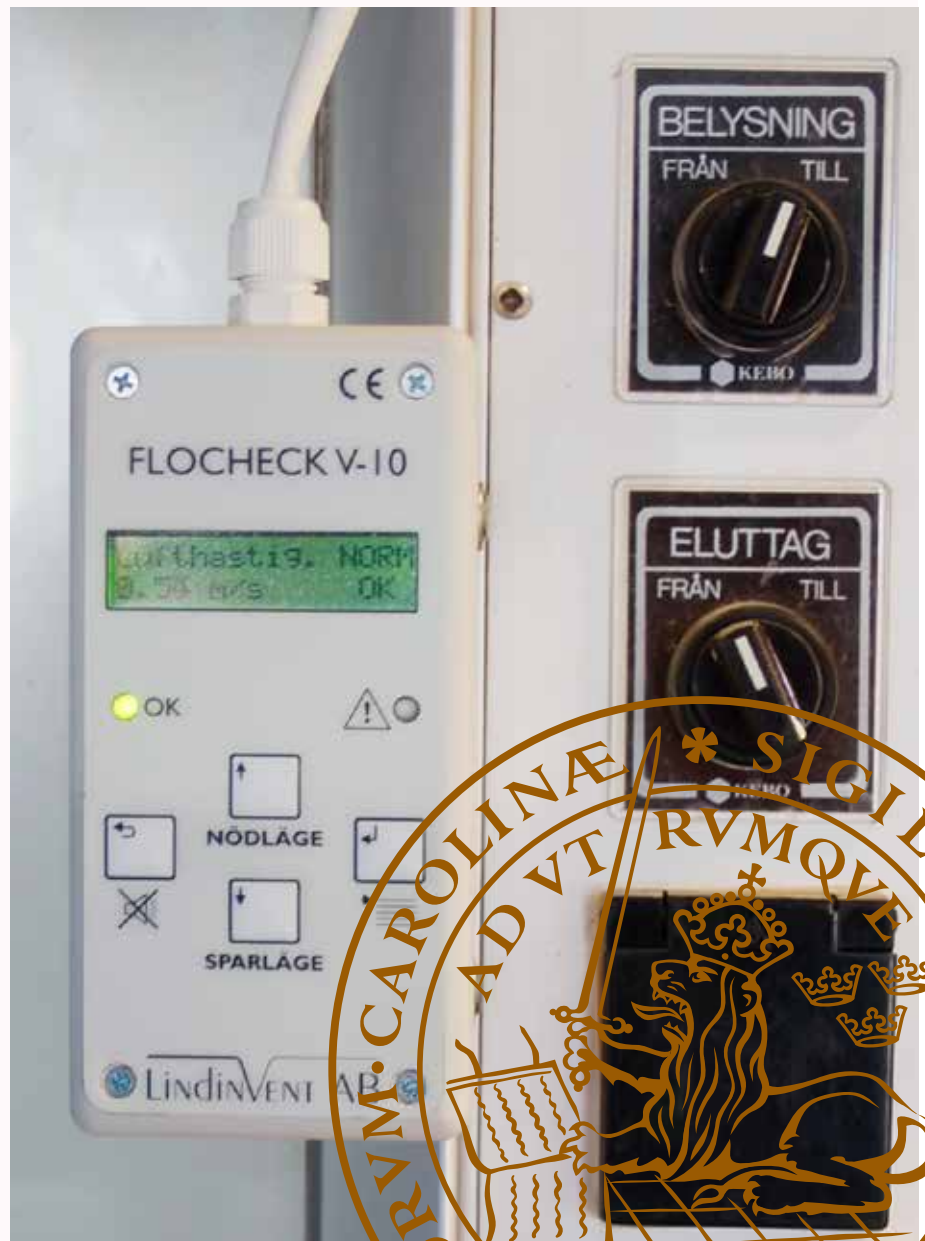


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This manual is primarily intended for people who will work in our labs, but it also covers general safety at the department. It is in English only, but some Swedish terms are added in brackets: [på svenska].

The manual tries to cover the whole department, but some local info can be found in the different units and houses. Check with the lab manager or check in your local lab security/safety manual.

If you are new in a lab you should get an introduction by the local lab manager to the lab facilities, and get a lab safety course. These courses are given at the department level, locally with your unit or by your research group.

All units have health and safety representatives [skyddsombud] and KLARA operators [KLARA-invente-

rare] who can help with the working environment and chemicals.

To keep track of all rules and permits concerning work environment and health there is a working committee at the department, called *HMS-AU*, consisting of lab managers, health and safety representatives, and others from the different units. There is also a *HMS-kommitté* for more general discussions. [HMS; Hälsa – Miljö – Säkerhet means Health – Environment – Security].

The department keeps a list of all the laws issued by different government authorities to be able to follow all these laws and regulations issued at provincial, national and EU level.

In the lab

SIGN CHECKLIST

After participating in a lab safety course, there is a checklist to sign, including the different subjects concerning lab safety and general safety rules at the department. The checklist can be found as the last page in this manual.

Check the appropriate subjects, sign it and give it to the course leader.

RISK ASSESSMENT

For specific lab work you must read the risk assessment protocol that pertains to that work. Extra care should be taken when the specific lab work includes hazardous chemicals (listed as CMR, PRIO, toxic compounds, etc.). Go through the protocol in the risk assessment carefully and choose the correct type of gloves, goggles, lab coat, etc. If there is no risk assessment done you have to do a new one, using the KLARA risk assessment tool. You can choose English or Swedish. Get help with this by your supervisor, lab manager or KLARA operator. The new risk assessment has to be signed by the head of the unit, or sub-unit.

All of this has to be done **before** you start the lab work.

For field work there is a special risk assessment checklist available for downloading at the department working environment web page www.biology.lu.se/internal/employment/work-environment. This must also be filled in and signed and given to the appropriate supervisor or head of unit.

Special risk assessments have to be done by pregnant and breast-feeding women together with the head of unit and the health and safety representative. The head of unit has a protocol for this. These protocols and assessments are kept private, so don't hesitate to contact the head of unit about this.

RESPONSIBILITY

The person who has the general responsibility for safety at the whole department is the Head of the Department [prefekt Christer Löfstedt].

Heads of units and some sub-units have been delegated the responsibility for the working environment by the Head of the Department. Check who that is for your unit.

Your health and safety representative can also help if there are problems with the lab safety or working environment. In the end of this manual there is a list of more functions at the department, like persons responsible for ionized radiation, KLARA database administration, etc.

PERSON RESPONSIBLE FOR THE LAB

Every lab, climate chamber, freezer room, etc. should have a responsible person. The name + telephone number should be posted at the door. Lab managers can have responsibility over several labs, but their name needs to be posted on each door. This person is responsible for function of the equipment in the lab, that waste is handled correctly and that fume hoods, etc., work as they should. If equipment breaks that person contacts a service technician or the building supervisor [husintendent]. The users of the lab should always contact the manager of the lab if something is malfunctioning.

If there is anything that can cause danger, also contact the head of unit and the health and safety representative – if necessary put up a sign to inform about the danger, like; FAULTY EQUIPMENT – DO NOT USE!

INSURANCE

All persons that are either registered students, registered postdocs, employees at Lund University or professor emeriti are fully insured at work by *Kammarkollegiet* (The Legal, Financial and Administrative Services Agency, the oldest public agency in Sweden, from 1539!). The insurance is called SPS, *special personal protection* [särskilt personskadeskydd]. Also unemployed persons, not registered in Lucat etc., are insured, as long as they have a Swedish *personal identity number* [personnummer] and have an approval by a supervisor or head of unit to be at our workplace. If you are newly arrived from abroad and are waiting for your personal identity number you are instead automatically covered by another insurance, called *GIF*, until you have received your personal identity number.

If you are planning a business trip outside EU you should bring a special insurance certificate from *Kammarkollegiet*. Ask an administrator to issue one for you. The trip must be booked via Egencia – our contractual partner for travel.

MEDICAL EXAMINATION

For the following work you might need to make routine medical examinations to ensure that you are not exposed above a certain limit: Contact your head of unit for discussion and then the Occupational Health Service if you plan to work with synthetic organic fibres, asbestos, lead, cadmium or quartz. Also if the person plans to use thermosetting polymers (i.e., embedding resins like Araldit), epoxiplastic components, formaldehyde resins, metacrylate, acrylates and some others (see details in AFS 2014:43 page 23). Check also certain types of filaments for 3D-printers. Some work above requires a pulmonary examination [lungröntgen].

At our department we normally don't have heavy noise or vibrations, which also are included in the list of medical checks. Diving is also included in the list of medical checks.

If you work with animals, like mammals, birds and insects

and if you have an allergy or other problems you should also contact the Occupational Health Service. The same applies to working with biological agents.

Observe: All the work listed above requires a registration at the unit; your name, what type of work, what type of organism, etc.

If you work with chemicals in the risk category "H" you also have to do a medical check, to make sure you do not exceed the exposure limit [hygieniska gränsvärdet] for this chemical.

The levels have to be measured and written into the Klara risk assessment protocol. In case you exceed the exposure limit despite safety equipment, which is rarely the case, a medical exam is mandatory, otherwise it is not. Contact the Occupational Health Service to get an appointment. If you exceed the limit it is very serious and you should rethink about performing this work at all.

CMR chemicals also have special regulations, see details under the chapter Chemicals.

ALLERGIES

People who are allergic to certain chemicals (mammal fur, animal faeces, butterfly scales, etc.), should make sure that the right kind of safety equipment is accessible. Concerning work with insects there is a special manual for this available on the department working environment web page, see *insect handling*. It also includes safety regarding stings by bees, wasps and bumblebees. The Occupational Health Service [Företagshälsövården] can help with allergy investigations.

ACCIDENTS & INCIDENTS

Telephone numbers and other info concerning alarms, poisoning, police, etc., is posted on bulletin boards and at the *first aid* stations. See more in the end of this manual.

All accidents that have led to, or incidents that could have led to, an accident have to be reported by law. Contact both the head of the unit/sub-unit and the health and safety representative. The head of unit has access to all info and all forms regarding this on the HR webpages. It is important to report an accident within 24 hours.

First aid kits for minor injuries are available on green boards in the corridor or in the labs, or in "Red cross" boxes.

Heart starters (defibrillators) are placed in the entrance of Biology Building B and in the entrance of the Ecology Building.

FIRE ALARMS AND FIRE-FIGHTING EQUIPMENT

Read the nearest sign showing emergency exits, escape routes and fire-fighting equipment. The signs are situated in the main corridors. Fire-fighting equipment (extinguishers, blankets, water hoses, showers) are marked with red signs in the corridors. Emergency exits have signs showing which direction to take.

In the case of a fire which can't be extinguished easily with fire-fighting equipment, press the alarm button for automatic connection to the fire brigade, or call (0)112.

You must leave the building at once should the alarm go off. Go to your *assembly point* [återsamlingsplats], which is also marked on the escape route signs. Don't use elevators and don't walk into smoke-filled areas.

There are emergency showers and eye showers in the corridors and in some of the labs if clothes take fire or you get chemical splashes into your eyes.

If you get chemicals into the eyes; first wash for a long time using the eye shower. Then use a small wash bottle that are placed in the labs or mounted on walls in lab corridors while you go to the hospital for check-up. Bring a colleague if possible to help you.

Avoid using things inside labs that can produce smoke, since we have automatic fire alarms with direct contact to the fire brigade.

We don't have sprinklers anywhere.

GENERAL LABORATORY PRACTICE

- Gloves are designed to protect you (and others) from harmful materials and to prevent contamination/spreading of contaminants and/or harmful materials. **Do not leave the lab with them on and never touch a door handle with a glove.**
- Different labs have different rules concerning mandatory lab coat – check with the lab manager. Never leave the lab with the lab coat on.
- No eating and drinking in the lab. No handling of snuff.
- Don't use laptops, iPads, smartphones etc. while handling chemicals. Some labs don't permit any of these devices.
- The general rule concerning chemical and hazardous waste is: **no chemicals into the sink**. All chemical, biological or harmful waste goes into the appropriate container for proper waste disposal.
- Keep waste in correct fractions; especially important is separating chlorinated waste from non-chlorinated, sharp waste into yellow buckets, and chemical waste in labelled waste bottles. No harmful, unhygienic or sharp waste in the waste-paper basket! See details about waste in a chapter below.
- Always label preparation vessels clearly with the chemical name, your name and an appropriate warning symbol; see the original bottles with chemicals which pictogram to use.
- Don't prepare a larger volume of a solution than you plan to use.
- When finished preparing chemicals, put them back in correct cabinet, especially solvents and harmful substances.
- Don't store bottles in the fume hoods, exhaust benches or on lab benches, use the designated ventilated cabinets. One or two bottles are OK. Put these bottles on spill trays.
- If you spill liquid chemicals – use vermiculite to soak it up and put it in a chemical waste box. Vermiculite is available in boxes in the labs, in containers in the corridors or on special trolleys. Check where your nearest supply is.
- When you are going to wash glassware containing chemicals, use a small amount of water first for rinsing and pour this in an appropriate waste bottle for chemical waste. In this way you don't pollute the sewage unnecessarily. Remove tape and text from the glassware before putting it into the dishwasher.

- If you are going to use an instrument or a machine that you are not familiar with you must get an introduction by the person in charge of the instrument or machine. Several research groups have a form to fill in and sign before you can become a user.
- Keep the working areas in the lab as free as possible from equipment and chemicals that are not in use. Don't store a lot of consumables in the lab, use a storage room instead. The corridors outside labs are in most cases evacuation routes and must not be filled with tables, chairs, empty styrofoam boxes, cardboard boxes and other things that can help a fire to spread.
- If you are unsure about anything in the lab – ask for help or instructions.

PERSONAL PROTECTION

The risk assessment states which type of gloves you should use in different types of lab work. There are also good overviews in lab catalogues from companies like VWR or Fisher. Standard disposable vinyl gloves, disposable nitrile gloves and thick long rubber gloves for acids should be available, as well as heat protective gloves beside ovens and cryo gloves beside low temperature freezers.

Avoid powdered gloves and latex gloves if possible, since these can cause allergy.

Lab coats and safety goggles must be available for lab staff, and also instructions where to put dirty coats for laundry.

Face shields can in some cases be useful if you work with, for example, down-flow benches, UV light or with acids. For work in fume cupboards the glass window is normally enough protection against splashes into your eyes.

Opened-toe shoes are not allowed in laboratories as these present unnecessary exposure to hazards.

FUME CUPBOARD

During work the protective glass should be pulled up at most 30 cm. The proper working position is often marked with a label on the right side of the glass. Do not pull it up completely – then the ventilation will not work properly. After your work is finished, pull the door down completely, there's still some ventilation.

Electric equipment in the fume cupboard must be connected to the sockets on the front, especially if flammable compounds are used in the fume cupboard. The outlet has a safety device to cut the power if the ventilation stops working.

Do not store chemicals or other material not required for work inside the fume cupboard.

Fume cupboards are especially good for work with volatile compounds or when you want to heat something up.

There is a risk area half a meter around the cupboard at bench level and down to the floor, and about 20 cm above bench level where no electric equipment is permitted (like radio, mobile phone, shaker, centrifuge) unless they are of EX class.

DOWN-FLOW BENCH

Down-flow benches (also called ventilated benches) are good for work with volatile and non-volatiles but should not be

used for work at temperatures above 50 °C. Try to work close to the perforated surface and don't cover the surface more than 30%.

Start the ventilation with the switch and don't forget to turn it off when you have finished working. The new type of control display shows the exhaust speed and has a green light for bench on and a red light for bench off. But even in the off mode the bench has some ventilation.

If the ventilated bench is equipped with a plexiglas safety hood the hazardous substances can be placed higher than 15-20 cm from the perforated surface and slightly more of the surface can be covered.

LOCAL EXTRACTOR

Some work with hazardous substances cannot be done in fume cupboard or on downflow benches (e.g., microscope work and weighing), in which case you should use a local extractor (also called spot ventilation). The switch is located on the pipe. Switch off when you are done to save energy. You should adjust the local extractor very close to your object, the maximum distance is the pipe diameter.

UV LIGHT

Use UV filter safety glasses with correct wavelength filter while working with ultraviolet light. There should be a pair of glasses at each UV light workstation of the correct type. Be aware also of the risk of skin exposure and use protection (lab coat and gloves).

Biohazard cabinets in which the UV light tube is removed should cover the UV light button so it is clear that there is no UV light connected in this cabinet, and no UV light protection gear is needed.

HEATER WITH OIL

Should be heated up to maximum 20 °C under the flash point for the oil. Mark the flash point on the heater.

RADIOACTIVE MATERIAL (IONIZED RADIATION).

If you plan to work with ionized radiation (with radionuclides like 14-C or 3-H or an instrument with a radioactive source) you should attend the radiation safety course given every semester by the University radiophysicist Hanna Holstein.

Department of Biology has a contact person who can help with course info and practical things and also holds the local permit for work with ionized radiation: Erling Jirle.

In 2017 all radionuclides and ionized radiation sources will be registered in the KLARA database instead of the old radiation safety register [Strålskyddsregistret]. If you plan to buy a machine with a radioactive source you should contact Erling Jirle beforehand.

There are *isotope labs* in the different buildings that have specific introductions, like in Biology Building A for example, where you should contact Marita Cohn if you are going to work in their isotope lab, and Elisabeth Barane about registration of new radionuclides and waste collection. In house C contact Camilla Björklöv. In Ecology building there are several labs on second floor [Plan 2], where Johannes Rousk is in

charge (Microbiological Ecology) and another one where Erling Jirle is in charge. At ground floor [Plan 1] Emma Kritzberg is in charge for the lab. Concerning radioactive waste in Ecology Building contact Johannes Rousk, Marie Svensson or Erling Jirle.

SCINTILLATION

For running scintillation contact the person in charge of the scintillator (in Biology Building A Marita Cohn and in Ecology Building Johannes Rousk). Scintillation waste is usually categorized as chemical waste, not radioactive, but with its own labels: [Kemiskt avfall. Vätskescintillationslösning]. Check the activity concentration to be sure it is less than stated on the label (<100 Bq/ml for 3-H and 14-C or alternatively <10 Bq/ml for other compounds, and emitting no alpha-radiation).

LASER

Class 4 lasers with open beam are not allowed to use without a dispensation from the Swedish Work Environment Authority [Arbetsmiljöverket]. The department contact person for ionized radiation & laser; Erling Jirle, can help with this.

For totally enclosed beams no dispensation is necessary. But protective glasses with correct class for specified wavelengths should always be available at all stronger laser sources. Also be careful with weak sources, like laser pointers, when you use them.

GMO (GENETICALLY MODIFIED ORGANISMS)

There are several types of these, covering plants, animals and microorganisms.

Biology house A has a permit for working with genetically modified plants [GMV]. Contact: Chatarina Mattsson.

Research groups in Biology Building C and Ecology Building plan to apply for work with GMO insects.

GMM (Genetically Modified Microorganisms)

The different houses have general permissions to perform GMM work, class F. GMM refers to all micro-organisms and cell cultures which have been genetically modified in an unnatural manner. Class F means negligible risk (no viral vectors). Check with the persons responsible for this in the different labs about precautions and waste handling, like treating with Virkon, autoclaving and waste collection. There are also risk assessments to read.



Chemicals

VENTILATED CUPBOARD

Solvents and chemicals in fluid form in the lab should be stored in ventilated cupboards. Keep flammable solvents away from toxic substances and also separate acids from bases. For long-time storage it is best to keep the chemicals in our special chemicals storage rooms, acids rooms and solvents rooms which have extra strong ventilation.

TOXIC SUBSTANCES

Chemicals that are classified as toxic (marked with a skull) must be stored locked up! The best way is to use a separate locked cabinet for this. A toxic substance that needs to be kept in fridge or freezer is a problem. At least keep it on a separate, well-marked shelf. The fridge or freezer must be locked. A chemical that is both flammable and toxic, like methanol, should be handled mainly as flammable, i.e. locked up in a cabinet for flammables, preferably on its own, labelled shelf.

FLAMMABLE SOLVENTS IN THE LAB

A maximum of two liters of flammable solvents, like ethanol and acetone in spray bottles, should be kept on lab benches. Avoid storage in fumehoods and on ventilated benches, since this can result in poorer safety, use the ventilated cabinets as mentioned above.

Exhaust benches, fumehoods, point sources and other areas where work with flammable goods is done have a risk area around them where no electric equipment that is not of EX class is allowed; the risk area is 0.5m around the work area and 0.2m above, and down to the floor. So avoid vortexers, shaking machines, radios, smartphones, etc., within this perimeter.

WHAT TO THINK ABOUT BEFORE ORDERING CHEMICALS – OR START WORKING WITH THEM

In labs where chemicals are handled or stored there is generally a list of compounds on the door to cabinets, fridges or freezers. There are also different types of local databases, check with the Lab Manager if you don't find a chemical you are looking for. If you need a new chemical for your lab there are a number of things to think about before you order, or ask the person ordering chemicals for you:

- In case you only need a small amount of a compound, check in the KLARA database if it is already available at the department, and contact the lab in question if you could get some. Saves government money.
- When you have purchased a new compound from a company, contact your local KLARA-operative to get it registered in KLARA, including all info like brand, amount, CAS number, and where it will be stored.
- Compounds listed as carcinogenic, narcotics, ozone degrading, containing mercury, CMR, etc., need special permit, dispensation, or are totally forbidden to purchase. The categories mentioned above are visible in KLARA and show up during KLARA registration, so it is a good idea to check there before ordering odd chemicals you

are not familiar with. Check with Lab Managers how to proceed with this; like getting help with applications for permit or dispensation. Several of them result in heavy fines if they are found at an inspection without a permit.

Here are the categories to keep in mind:

Group A carcinogenic: Forbidden to handle at all. Examples: benzidin, 1,1-dichlordimethyl ether

Group B carcinogenic: Needs a permit from Arbetsmiljöverket. Examples: diazomethane, O-dianisidine, dimethyl sulphate, hydrazine. (The list can be found on page 30 in AFS 2014:43 at www.av.se). Contact LU Byggnad for forms and help with this. The fine is 100 000 SEK for B-compounds without permit!

Narcotics precursors: Need permit from the Medical Products Agency [Läkemedelsverket] if they belong to cat. 1. The other categories don't need permit (cat. 2A only if >100 litres). The list can be found here: lakemedelsverket.se/malgrupp/Foretag/Narkotikakemikalier/

Narcotics: Permit is not needed, but has to be registered in a separate list and send to LU Byggnad. The list of compounds can be found on LVFS 2011:10 at www.lakemedelsverket.se

Ozone degrading compounds: should be phased out. They are eight: carbon tetrachloride, 1,1,1-trichlorethane, methyl bromide and fluorinated compounds like CFC, HFC, HCFC and halons.

Mercury: Forbidden since 1 Jan 2014, but dispensation can be applied for. Examples: mercury salts, thermometers containing mercury.

CMR chemicals (carcinogenic, mutagenic or toxic for reproduction) are chemicals with hazard phrases H350, H340, H360 or R45, R46, R49, R60, R6 and have special regulations:

1. Try to substitute the chemical with something less hazardous. Document this investigation.
2. If not possible, make a detailed risk assessment in KLA-RA. Then based on the risk assessment write a handling document in order to minimize risk for exposure. The handling document must contain details on where the chemical is used, stored and security measures undertaken, including which protective equipment is used.
3. Register the persons handling the chemicals and keep the records for 40 years.

Thermosetting polymers (or plastics): Theoretical and practical training concerning risks and protective measures has to be performed before work can start. Risk phrases involved are H137 and H334.

KLARA DATABASE

This is a national database of chemicals used in hospitals and universities in Sweden. No private companies are included. It contains a lot of info on over 20,000 chemicals. Each unit at our department has operators responsible for making inventories of chemicals in KLARA.

The chemicals can be searched both in English and Swedish. If your unit or research group use labels with barcodes

for keeping track of the chemicals, ask for instructions about this, like how to use the scanner.

You log in with your CAS ID and then you can go further with more passwords (ask your KLARA-operator) to see where chemicals are stored, general info about the chemical like if it is listed in any of the list above, or doing risk assessment. Contact the department KLARA administrator, Erling Jirle, if there are general problems with KLARA.

MATERIAL SAFETY DATA SHEETS (MSDS)

[SÄKERHETSDATABLAD]

The data sheets for chemicals should be kept in a folder in the lab or storage area where it is easy accessible to look up the risks with the particular chemical (flammable, allergenic, carcinogenic, toxic, first aid measures and disposal considerations). The person who orders the chemical is responsible for posting the safety sheet at the right place. Sometimes the sheet is only available on websites, and then you should find and print out all important information. If the safety sheet is in Swedish, instruct non-Swedish speakers working with it

about risks. In the KLARA database all chemicals have links to MSDSs from different companies to be downloaded.

GAS

Only people with special knowledge are allowed to move or change gas cylinders.

Check the main valve, the gasket, the threading and make a tight connection when changing the reduction valve between cylinders. Cylinders must not be transported with the reduction valve mounted. Cylinders must be mounted securely with a chain at all times.

Gas pipes for gases have to be pressure controlled once a year.

Flammable gas is allowed to be stored only in an EX-class gas room.

Small cylinders or so-called lecture bottles (max. 5 litres) can be handled in the lab but should be returned to the storage area immediately after use.

In the Biology Building some labs have carbon dioxide outlets. Close them carefully when you are finished with using them.

Waste disposal

In order to keep this manual short, it will not explain waste disposal in great detail. There is a very detailed handbook concerning all type of waste disposal and treatment to download from LU Byggnad, called *Avfallshandboken*, unfortunately it is only in Swedish as of now (2016), but an English version is planned to be available in February 2017. Meanwhile, below is info in English:

HAZARDOUS WASTE [FARLIGT AVFALL]

CHEMICAL WASTE [Kemiskt avfall]

Separate waste into the categories below in separate waste bottles.

You can use mixtures within categories, but if you have a lot of one compound, keep it as it is separated and label it with a waste label.

It is very important that you label what type of waste it is. Do not write on the original label on the bottles directly with a marker. Use special labels ["Laboratorieavfall / Chemical waste"] that should be available in the laboratories or if not available cover the old label with white paper and write with a marker pen, so there are no mistakes about what's in the bottle. The label must tell solvent, content, your name, unit, telephone number, and date. This is useful when later filling in the form for removal of waste by Sysav.

Waste labels, forms for removal of chemical waste and of hazardous waste (sharp/pointed/biological waste) can be found on this page: www.staff.lu.se/support-and-tools/premises-and-parking/waste-hazardous-waste-and-recycling click "Se sidan på svenska" to get to the Swedish page, including *Avfallshandboken*.

Categories for waste bottles:

- Non-chlorinated solvents (e.g., hexane)
- Chlorinated solvents (e.g., methylene chloride, chloroform)
- Organic compounds (e.g., pump oil)
- Larger quantities of alcohol, acetone etc.
- Acids
- Bases
- Old pharmaceuticals (e.g., antibiotics)
- Liquid scintillation bottles (with < 10 Bq/ml or < 100 Bq/ml for 3H or 14C)
- Mercury thermometers, and other equipment that contains mercury.
- Other heavy metals, like lead.
- Other chemicals
- Other environmentally hazardous compounds

Chemical waste should be put in special thick black plastic bags in special unmarked brown boxes with packing material (vermiculite). Do not close the bag or box with tape (this is done by Sysav after inspection). You can also ask for help with packing directly in the lab when you order pickup of waste. Check the box for this on the waste removal form. Observe that the waste box should not be heavier than 13 kg (55 lit. box) or 8 kg (25 lit. box).

Empty waste bottles in three sizes are available in the solvent storage room in the basement of Ecology Building, and also big bags with vermiculite, yellow containers with red lids for sharp waste [kanylburkar] and of course cardboard boxes of brown and white types, and plastic bags for packing. Some of this material is also available in the chemicals storage room in Biology building A and elsewhere.

For removal of waste, filled boxes with forms attached [Hämtningsblankett] can be stored in special rooms in the Wind Tunnel Building, Biology House A and Biology House C.

Don't forget to notify the KLARA operative that you are sending away chemicals, so the database can be updated. The units have different routines how to handle this – if there are barcode labels for example, get instructions how to do with these.

Finally, a warning: If you find an old bottle with picric acid, perchloric acid or ether which should be send away as waste – don't move it, but contact Sysav! Then they will come and pick it up directly at the site with full precautions, like diluting with glacial acetic acid to make it non-explosive!

BIOLOGICAL WASTE [Biologiskt avfall]

Dead research animals or parts of animals are shipped away in the same brown boxes as chemical waste, but with blue (55 lit.) or red (25 lit.) bags inside. Close with special tape marked *Biologiskt avfall* and also write with a marker on the side of the box; *Biologiskt avfall*. Fill in the same form as for infectious waste below and put the box in a freezer while waiting for pickup by Sysav.

INFECTIOUS WASTE [smittförande avfall]

Must not contain chemical waste.

There are the following categories (mark with respective tape) [Swedish in brackets]

- Sharp (broken glass, syringes, pipette tips etc.) =[SKÄRANDE/STICKANDE]
- Infectious or contaminated/sharp = [SMITTFÖRANDE or SMITT/SKÄR/STICKANDE]

Put in special white waste boxes marked with the text "skärande/stickande/smittförande". The big 55 liter boxes should have a blue bag inside, and weight maximum 13 kg. The smaller boxes, 25 liters, should have a red bag inside, maximum weight 8 kg. Fill in the form "Item declaration form for infectious waste" (valid for *all* hazardous waste, including biological) put it on the box and send an email to Sysav.

The form can be downloaded from this page, here you also find the email address: www.staff.lu.se/support-and-

[tools/premises-and-parking/waste-hazardous-waste-and-recycling](#)

OTHER HAZARDOUS WASTE:

Low radioactive waste
Small batteries
Light tubes, low energy bulbs
Electronics etc.

Read more in the waste management handbook that will be available in Feb 2017 or in the Swedish version; *Avfalls-handboken*.

HARMLESS WASTE [SIGNS IN SWEDISH]

- Clear soda glass (dry and clean), place in container marked [KLARGLAS]. Must not contain chemicals! (Observe; Lab glassware often has higher melting point (brands like Schott, Duran, VWR), they must not be thrown away as clear glass but as combustible waste in the big green containers outside).
- Coloured glass (dry and clean), place in the glass-container marked [FÄRGAT GLAS]. No lab glass!
- Metal is placed in corresponding container. [METALL]
- Plastics (e.g. plastic containers without hazardous compounds), place in corresponding container [PLASTFÖRPACKNINGAR]
- Paper (writing material), place in normal green paper containers in the hallways. *Observe*: No envelopes, printer paper wrapping, books, plastic etc. mixed with the paper, throw this other stuff in a normal waste bucket.
- Corrugated cardboard boxes, place in a special big container outside [KARTONGAVFALL/WELLPAPP]
- Bulky things like fridges, furniture etc. are placed beside the big green containers for combustible garbage outdoors.
- Bins for sorting food and residual waste like plastic shall also be located in or close to your lunchroom.

There are also bins for bulbs, batteries, toners and electronic waste. Ask where these are located.



Checklist and safety review certificate

FILL IN, PRINT OUT AND SIGN THIS PAGE AND GIVE IT TO THE COURSE LEADER, SUPERVISOR OR TO THE HEAD OF YOUR UNIT

IN THE LAB

- Risk assessment procedures
- Responsibility and insurance
- Medical examination, allergies
- Accidents & incidents
- In case of fire
- General laboratory practice
- Personal protection
- Fume cupboard, downflow bench & local extractor
- UV light, heater with oil
- (If applicable):
 - Radioactive material
 - Scintillation
 - Laser,
 - GMO

CHEMICALS

- Ventilated cupboards
- Toxic substances
- Flammable solvents
- Ordering chemicals
- KLARA database
- MSDS
- Gas
- Waste disposal
- Chemical waste
- Hazardous waste
- Harmless waste

MORE INFORMATION

- Glasses for computer work
- Working with computer
- Workshop
- Courses in fire protection and CPR

Instructor / supervisor: Date:

I hereby certify that I have been informed about security regulations concerning work at the Department of Biology and I undertake to comply with these.

Signature:

Name in block letters:

Addresses, telephone numbers & links

FUNCTIONS AT THE DEPARTMENT

Head of Department [prefekt] Christer Löfstedt 046-222 9338

Assistant Head of department Carin Jarl-Sunesson 046-222 0124

List of health and safety representatives [skyddsombud]

www.biology.lu.se/internal/employment/work-environment/health-and-safety-representatives

Ionized radiation and lasers contact person at department Erling Jirle

KLARA operators, KLARA database, risk assessment

www.biology.lu.se/internal/employment/work-environment/chemical-database-and-risk-assessment

IMPORTANT TELEPHONE NUMBERS

SOS Alarm call 112 on a mobile phone (On an IP-telephone zero first: 0-112)

The Police 114 14 (non-emergency)

..... polisen.se/Skane/en/Languages/Startpage/

Lund University security 046-222 07 00

Akademiska Hus call telephone (for major failures in the houses) 046-31 13 10

Lund University switchboard (08:00-16:00) 046-222 00 00

Ambulance 040-676 93 00

Poison Info Centre [Giftinformationscentralen] 010-456 6700

..... giftinformation.se/servicemeny/in-english/

Sysav waste management Liason person Per Malmquist 040-6351904

..... per.malmquist@sysav.se

USEFUL LINKS

General info about work environment at our department

www.biology.lu.se/internal/employment/work-environment

Specific info for different houses at the department

www.biology.lu.se/internal/employment/work-environment/safety-procedures

The Occupational Health Service [Företagshälsovården]

www.staff.lu.se/employment/work-environment-and-health/health-and-wellness/occupational-health-service

The Student Health Centre [Studenthälsan] for student health counselling

www.lunduniversity.lu.se/current-students/health-care/student-health-counselling

The Swedish Work Environment Authority [Arbetsmiljöverket]

They have the provisions and regulations downloadable also in English www.av.se/en/

Waste, hazardous waste and recycling at Lund University

www.staff.lu.se/support-and-tools/premises-and-parking/waste-hazardous-waste-and-recycling

Avfallshandboken (in Swedish only so far, in English 2017)

www.medarbetarwebben.lu.se/stod-och-verktyg/lokaler-och-parkering/avfall-farligt-avfall-och-kallsortering

In Swedish: CMR - inkl. forms

internwebben.ki.se/sv/cmr-klassificerade-kemikalier

GMM permits and notifikations:

internwebben.ki.se/en/permits-and-notifications-gmm#Classification%20of%20negligible%20risk,%20low%20risk%20and%20risk%20filled