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GENERAL LABORATORY REGULATIONS



SAFETY INSTRUCTIONS pursuant to EMPLOYEE PROTECTION LAW

Introduction

These laboratory regulations apply to all areas in the department where hazardous agents are handled.

The Working Procedures that are compiled on a case by case basis apply in addition to these Laboratory Regulations.

These Laboratory Regulations are to be published in all areas, made accessible, and all new employees are to be handed a copy of them by their laboratory/department manager or by the latter's representative before beginning their work. Employees are to be given verbal instruction regarding the content of the Laboratory Regulations and the content of the Working Procedures. Employees confirm by their signature that they have received and have read a copy of the Laboratory Regulations, that they have been instructed therein and that they will abide by these regulations.

In addition to the Laboratory Regulations, the Chemicals Act, the Chemicals Directive, the Poisons Act and the Labelling Regulations, as well as the applicable Hygiene Regulations are to be abided by.

Moreover, the following documents are to be complied with when handling hazardous substances in the laboratory:

Instruction Manuals on Single Substances, Current Safety Data Sheets, special Instruction Manuals (e.g. for poisons)

1. General Points

- External persons (such as. maintenance personnel) may only be present in the laboratory with the permission of the employee in charge. Unauthorised persons are not permitted to enter the laboratory.
- Pregnant women and mothers still breast-feeding must not come into contact with hazardous substances.
- All employees are to be instructed on how to handle hazardous agents and substances (e.g. chemicals. poisons). Responsibility for this lies with the laboratory manager.



Zutritt verboten

- While installing/before putting new equipment into operation, all employees are to be trained in how to use the equipment and evidence of this is to be provided.
- Eating, drinking and smoking is forbidden in all laboratories where hazardous substances are handled.
- Obvious deficiencies in safety are to be reported to the laboratory/department manager immediately.



2. Clothing/Personal Protective Equipment

- The relevant laboratory/department manager is responsible for enforcing that employees wear the protective equipment prescribed.
- When handling certain hazardous substances, the protective equipment to be worn is specified in the Safety Data Sheets or in the Instruction Manuals compiled for certain substances. E.g.:

Protective glasses



Protective gloves

(e.g. nitrile gloves)



Lab coat



- Single-use gloves used when handling infectious material, blood, serum or poisonous substances, for example, must be removed and disposed of immediately once the substances have been handled. Risk of contamination! Hands must be disinfected!
- If there is risk of contamination, a protective apron must be worn. This must be removed directly after the work is finished.

3. Keeping the work place clean and tidy

- Private workspaces and all communal facilities are to be kept neat and tidy.
- Private laboratory work space must be cleaned daily and wiped over with disinfectant, if necessary.
- Chemicals must always be sealed and labelled. Containers which contain hazardous substances must be labelled with the corresponding hazard symbol (see chapter 5).
- Chemicals are to be checked once a year regarding the necessity of their presence in the laboratory, and are to be surrendered or disposed of, if necessary.

4. Safety devices

Each person working in the laboratory must inform themselves of where to find and how to use the relevant safety devices, e.g.

Eye shower and emergency shower



Emergency exit



Fire extinguishing facilities



First aid equipment



- The escape route and emergency exits are to be kept free at all times!
- Fire extinguishers are available in all areas of the laboratory.
- Defective or used fire extinguishers must be reported to Facility Management immediately.
- Accidents, near-accidents and injuries must be documented in an accident report. Accident reports must be sent to Human Resources.










5. Dangerous work - Labelling hazardous substances

- **Hazardous substances are to be stored in accordance with the applicable regulations.**
- Dangerous work is always to be carried out under special protective measures (in a fume cupboard, in special facilities).
- **When handling hazardous substances and during all kinds of dangerous work, it must be ensured that employees carrying out the work have been *informed* of all possible hazards and have been *trained* regarding the relevant emergency provisions. The laboratory/department manager is responsible for this.**
- When decanting hazardous substances into other containers (e.g. for use in the hand), they must be labelled (name of hazardous substance, hazard symbol).

Dangerous work means all work with substances which possess the following properties described:








GHS symbols (Ordinance on Hazardous Substances [GefStoffV] in conjunction with EC Regulation No. 1272/2008 valid from 1.12.2010)

(GHS = Globally Harmonised System of Classification and Labelling of Chemicals)

								
Symbol: exploding bomb	Symbol: flame	Symbol: flame over a circle	Symbol: gas bottle	Symbol: corrosive effect	Symbol: skull with crossed bones	Symbol: exclamation mark	Symbol: danger to health	Symbol: environment
GHS01 Danger Danger of explosion	GHS02 Danger Highly flammable	GHS03 Danger Oxidising agent	GHS04 Caution Compressed gas	GHS05 Danger Corrosive	GHS06 Danger Poisonous/ very poisonous	GHS07 Caution Irritant	GHS08 Danger Harmful to health	GHS09 Warning Hazardous for the environment

These GHS symbols are complemented by **risk phrases** and **safety phrases** such as **H260** "Spontaneously combusting gases formed on contact with water."

Old symbols and hazard codes

			No equivalent				No equivalent	
E Danger of explosion	F, F+ Highly flammable	O Oxidising agent		C Corrosive	T, T+ Poisonous/ very poisonous	XI Irritant		N Hazardous for the environment

6. Conduct in dangerous situations

Protect persons before protecting items!

When dangerous situations arise e.g.:

- **Gases and vapours released** – Avoid ignition sources. Create ventilation.
- **Dangerous liquids leaking** – Avoid ignition sources. Open window. Remove with absorbent or binding agent and dispose of in storage container (black bucket).
- **Outbreak of fire** – Dial the emergency number. Warn persons (vicinity). If possible, initiate fire fighting procedures.

General points for all situations:

- **DO NOT PANIC** – Remain calm, warn persons at risk, request them to leave the areas if necessary!
- **ALERT THE EMERGENCY SERVICES** – Telephone e.g.: **0-122**, WHO, WHAT, WHERE, HOW MANY
- **RESCUE** – Watch out for your own safety!
- **EXTINGUISH** – Only take reasonable risks, use the correct extinguishing agent!

Other measures:

- Warn colleagues who are in danger.
- Protect the helpless whenever possible and escort them to safety.
- Switch off the electricity (fuse box).
- In case of fire, close the doors and windows.
- After chemicals have come into contact with the eyes or skin, always wash with plenty of water (eye shower and emergency shower).
- In an emergency: initiate First Aid procedures.
- If people are harmed, always notify the emergency medical services **0 – 144**.
- Give the Instruction Manual or Safety Data Sheet for the hazardous substance to the emergency medical services or fire brigade.
- When emergency workers are used, always brief them (facilities, possible connections, etc.).
- Inform the personnel responsible (Safety Advisor, Safety Engineer und Facility Management)

Emergency numbers:



Fire brigade	0 - 122
Emergency medical services/ emergency doctor	0 - 144
Poison Control Centre	01- 4064343

7. Handling hazardous substances

- Hazardous substances and chemicals must only be stored in containers which do not lead to confusion due to their shape or labelling.
- The container is to be labelled using a regular label with the substance description and hazard symbol(s) written on it clearly and unmistakably. Old labels must never be covered over with a new label or written over.
- The requirement to label substances also applies to waste from hazardous substances.
- Safety Data sheets and/or Instruction Manuals are to be available for all hazardous substances.
- Hazardous substances in the laboratories are to be documented regularly according to their nature, amount and properties.
- Hazardous substances are also to be stored in such a way that **no unauthorised persons have access to them.**
- Hazardous substances must only be stored in the laboratory in an amount that is needed for one day (1 litre or 1kg of each). Amounts which exceed this are to be stored in suitable storage rooms or safety cupboards.
- Poisonous substances are to be kept locked up and stored separate from highly flammable substances.
- Hazardous substances may only be transported in fragile containers (e.g. glass bottles) when they are also transported in a secure outer container (e.g. special plastic tub).

8. Handling gases

- Facilities in which gas canisters are stored must be labelled as such by placing the appropriate sign on the doors.
- Gas canisters must be stored in a gas canister cupboard.
- Gas canisters must only be moved within the facility using special transport trolleys and only with the protective cap on the valve. It is expressly forbidden to carry canister

9. Handling biological agents



Introduction:

Biological agents may under certain circumstances endanger the health of employees. They may cause infections, allergies or toxic reactions.

Biological agents are divided into four risk groups (RG) according to their hazard potential. Various different protective and hygiene measures are provided for each.

Hazards:

Biological agents can enter the human body in different ways:

- Through the respiratory tract (aerosols, droplets, dust particles which are carrying micro bacteria).
- Through the mouth when eating, drinking, smoking etc. (**lack of cleaning or hand disinfection** or through contaminated food, drink and tobacco).

A significant danger is in moving contaminated fingers and hands up to the mouth accidentally while handling biological agents.

- Through the skin or mucous membrane (injuries, e.g. needle prick injury, through damaged skin or spraying into the eyes etc.).

Protective measures:

The entrance of micro organisms into the human body can be minimised by observing the hygiene measures.

- Regularly teaching employees about preventing infection.
- Avoiding the release of bioaerosols (**inhalation!**) by reducing work which creates dust particles or droplets (centrifugal/spillage/atomising/opening containers).
- Only pipette agents using machines. It is forbidden to pipette using the mouth!
- Use work benches and wear a mouth guard.
- Work using protective gloves. Once the work is finished and before leaving the laboratory, dispose of the gloves.
- If areas of the skin have come into contact with blood etc., they must be disinfected immediately.

Hygiene measures:

- Disinfect hands immediately after handling biological agents.
- Regularly use skin protection and skin care products.
- Protect injuries on hands using a tightly fastening plaster or a bandage.
- Do not eat, drink or smoke in the work area.
- Work spaces/work benches are to be cleaned and disinfected regularly.
- Contaminated work spaces must be disinfected immediately using a fast-acting disinfectant (gloves, single-use paper towel, fast-acting alcohol disinfectant, wipe over with disinfectant).
- Follow the procedures for injuries (see point. 14: 'Measures to take in case of injuries').
- Observe the disinfection plan.

10. Fume cupboards and work benches

- The fume cupboard is to be monitored constantly to see that it is in good working order.
- Any defects observed must be reported immediately to Facility Management.
- Fume cupboards should be left to run for a minimum of 15 minutes once the work is finished.
- It is necessary to clean and disinfect fume cupboards and work benches daily.
- You must not leave the facility with protective clothing!

11. Special guidelines for poisons



- According to the Poisons Act, there is a particular duty to take care and to provide instruction when handling poisonous substances. The law has provided special guidelines for handling poison.
- Any order containing poison must be recorded in the poison database. Order confirmation, delivery note and invoice must be recorded centrally.
- The amount of poison used and the reason for its use must be logged in the poison database. Responsibility for this lies with the laboratory/department manager.
- The telephone number for the **Poison Control Centre 01 4064343** must be provided in all laboratories where poison is used.
- Poisons must be stored in storage facilities/safety cupboards/cupboards/lockable fridges which are not accessible to unauthorised persons. These areas must be labelled accordingly.

12. Fridges, freezers

- Only sealed containers with the contents and name of the substance properly labelled may be placed in fridges and freezers. These are to be checked at least once a year as to whether they need to be kept and are to be disposed of, if necessary.
- Fridges in which poisonous substances are stored are to be labelled as such and made lockable or kept locked up.
- **It is strictly forbidden to store food stuffs (food and drink) with chemicals!**

13. Waste

- All kinds of waste are to be appropriately disposed of according to AA Waste Disposal.
- When disposing of liquids, take care that chemical reactions are not caused when emptying liquids together. **(It is forbidden to empty chemicals together.)**
- Containers which contain liquids are to be clearly labelled and stored in a secure place (collecting tank, safety cupboard).
- It is forbidden to store waste canisters in sinks.
- Solvent waste must be collected in the solvent waste canisters provided and disposed of separately.

14. Measures to take in case of injuries



- Primarily, First Aid should be offered, other necessary measures (**medical help**) are to be arranged. The supervisor directly responsible is to be notified of the incident.
- Every work accident is to be documented for the purposes of health and safety in the workplace. To this end, the accident report sheet in accordance with section 363 of the ASVG is to be completed and sent to Human Resources.

15. Eye and skin damage by UV light

- Face protection: In order to visualize e.g. ethidium bromide-stained DNA/RNA in a gel, UV light is used. At high doses, UV light can cause damage to the eyes and skin. Therefore, the UV-illuminator may be switched on only when equipment is used that protects the face against UV-light.

16. Pregnancy

- An employee who is pregnant must inform the employer and the laboratory head immediately of her pregnancy. The same applies when the pregnancy ends prematurely. Specific information on maternity leave and working in the laboratory can be found at...link

17. Poisons and CMR chemicals

- Poisons are chemicals that have dangerous properties which affect humans or animals in either a toxic or very toxic way (hazard notes H300 etc.). CMR substances are classified as either **C**arcinogenic, **M**utagenic, or toxic for **R**eproduction (Hxxx). Because of their acute toxic effects, poisons fall under legal regulations for poisons (law on chemical substances 1996; and regulation concerning poisons 2000).
- In order to purchase poisons, a confirmation signed by the rector is obligatory. Each novel poison that is purchased must be registered in a file (list of poisons).
- Storage of poisons and CMR chemicals in a lockable cabinet is obligatory. If storage is needed at lower temperatures, fridges and freezers must be locked as well.
- Each time poisons are used, the amount taken must be recorded in the list of poisons. Material safety data sheets of each poison (and of CMR substances) must be present in the laboratory in electronic form as well as printed on paper. Before poisons or CMR substances are used, employees are obligated to read and understand the corresponding material safety data sheets. In case of questions employees have to contact the laboratory head beforehand. All instructions provided by the material safety data sheet have to be followed.

I hereby confirm that the aforementioned points have been explained to me and that I understand them. Further, I confirm that a copy of these instructions has been handed to me.

Place and date

Forename and surname of employee

Employee signature