

Labor safety instructions for the laboratories of the Department of Lithospheric Research

11.01.2018

Labor safety in laboratories of the Department of Lithospheric Research



1. Laboratory and safety regulations
2. General safety regulations
3. Work on machinery and equipment
4. Handling hazardous materials
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8. General measures for laboratory incidents – basics
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10. Emergency numbers
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13. Instructions in the individual laboratories at the Department of Lithospheric Research

Labor safety in laboratories of the Department of Lithospheric Research

ASchG §12

Sub unit manager- response

Employees

- *Follow instructions*
- *Information requirement*

Once a year - instructions

- **Why an instruction?**
- Austrian **Protection of Employees Act** ASchG §12 (1)
- Employers are obliged to provide adequate information to workers about the **dangers to safety and health**, as well as about the **measures to prevent risks**. This information must enable the workers to verify, through appropriate co-operation, whether the necessary safeguards have been taken. This information must be given during working hours.
- The **responsibility** lies with the **head of the organizational unit or subunit** to which the laboratory is assigned either spatially or organizationally. He is responsible for the notification and compliance with the laboratory regulations as well as for the installation, the condition, the corresponding technical equipment and the maintenance. It shall ensure that, in practical operation, monitoring of the implementation of the laboratory regulations as well as the notification of possible defects are carried out by suitably qualified staff.
- All groups of persons present in the laboratory have to **follow the instructions**.
- Information obligation: Employees have the duty to **report known grievances** to the responsible supervisor.
- The **instructions** must be given at least **once a year**.

Labor safety in laboratories of the Department of Lithospheric Research

*Laboratory and workshop regulations
(Display in the lab)*

*Signature of the instructed person
(Employees, students, guests, etc.)*

- **Basics**
- The content and basis for this documentation are the **laboratory and workshop regulations** of the University of Vienna published in the notification form of the University of Vienna from 14.11.2007.
- http://ans.univie.ac.at/fileadmin/user_upload/rrm/rrm_ans/Laborordnung_Mitteilungsblatt.pdf
- http://ans.univie.ac.at/fileadmin/user_upload/rrm/rrm_ans/Laborordnung_Mitteilungsblatt_Anhaenge.pdf
- http://ans.univie.ac.at/fileadmin/user_upload/rrm/rrm_ans/Engl_laborordnung.pdf
- http://ans.univie.ac.at/fileadmin/user_upload/rrm/rrm_ans/Engl_laborordnung_anhaenge.pdf
- The **laboratory regulations** must be **displayed clearly visible** in all laboratories.
- The content and timing must be documented in writing and must be **confirmed by the instructed person**.
- This also applies to the instruction of the students and guests of the Department of Lithospheric Research in the different laboratories.

Labor safety in laboratories of the Department of Lithospheric Research

Instruction - Enter and work in the lab

Instruction: Safety measures, Personal protective equipment

Laboratory cleaning by users

Solo work -

Organisation of timely assistance after accident

Solo work prohibited in case of increased risk of accident (immediate measures, work with poisons, etc.)

Lock the lab rooms

- **Laboratory and safety regulations**
- The entering and working in the individual laboratories is forbidden **without prior instruction** in the general and special laboratory regulations by the respective laboratory management.
- In addition to the **site-specific hazards** and burdens and the safety measures defined for their defense, the documentation shall also include the obligation to carry appropriate **personal protective equipment and clothing**.
- Cleaning the laboratory and workshop rooms is one of the tasks of the users.
- **Solo work** is only permissible if
 - a time-delayed assistance power is possible during the operating operation without consequential damage,
 - a timely assistance through appropriate organizational and / or technical safeguards is ensured,
 - as well as individuals working and securing individuals are adequately informed and instructed.
- When working with an **increased risk of accident**, if immediate assistance is required, a person **must** be in sight and call range.
Solo work is forbidden in these cases!
Always report solo work to the department manager or the supervisor!
- All **laboratory rooms** must be kept **locked** after completion of the work.

Labor safety in laboratories of the Department of Lithospheric Research

General safety instructions

Safety instructions

Order workplace

Report a defect

Equipment instruction

Work equipment

- perfect condition

- appropriate handling

*Instructions that are detrimental to
safety- do not follow*

- Keep **order** in your **workplace**.
- Work diligently and **ask** if you have **not understood** something.
- **Report safety deficiencies** immediately to your supervisor.
- Only use the **equipment** and devices you have been **instructed on**.
- Only use **work equipment** in perfect **condition** and for your **purpose**.
- Look for **slipping and** tripping.
- Do **not follow** any **Instructions that are detrimental to safety**.
- Pay attention to the **proper handling** of work materials.
- Clean hands - **skin protection plan**

Labor safety in laboratories of the Department of Lithospheric Research

*Instruction:
Machinery and equipment*

*Operating instructions - read
Instructions for use - read*

*Hearing protection - wear noise
protection*

- **Work on machinery, equipment and facilities**
- The training of workers before the first-time use of work equipment (machinery, equipment, facilities, tools, vehicles, etc.) must include at least:
 - Commissioning and use
 - If necessary, set up and dismantle
 - Eliminate disturbances in the workflow of the work equipment,
 - If necessary, set up the equipment (filling, loading)
 - Protective equipment intended for the particular application
 - Necessary protective measures (emergency stop switch)
 - Read the operating instructions
 - Read the instructions of use
- **Noise protection**
Noise levels that can damage the hearing 80dB
In these areas, an ear protection must be provided and used.
See Employee Protection Act §65

Labor safety in laboratories of the Department of Lithospheric Research

Working materials

Hazardous substances

- explosion-hazardous
- combustible
- harmful to health
- fibrogenic, radioactive, biologically inert

Biological agents

- **Handling of hazardous materials**
- **Working materials**
Chemicals, wood dust, plastics, medicines, metal dusts, auxiliaries, **waste**, etc.
- **Hazardous substances**
Hazardous substances are all substances which have at least one of the following **properties**:
- **Explosive**
- **Combustible**: oxidizing, highly flammable, easily flammable
- **Hazardous to health**: very toxic, toxic, harmful, corrosive, irritant, carcinogenic, mutagenic, toxic for reproduction or sensitizing
- **Fibrogenic, radioactive or biologically inert** properties
- **Biological agents 1,2,3,4**

Labor safety in laboratories of the Department of Lithospheric Research

Hazard pictograms

Acetone:

Hazard statements:

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Safety Precautions Prevention:

P210 Keep away from heat / sparks / open flame / hot surfaces. Do not smoke.

P240 Ground the tank and the filling system to be filled.

Reaction:

P305 + P351 + P338 Contact with eyes.

Rinse cautiously with water for several minutes.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

R- / S-phrases ALT



Explosive
Explosionsgefährlich
Explosif



Hazardous to the environment
Umweltgefährlich
Dangereux pour l'environnement



Gas under pressure
Gas unter Druck
Gaz sous pression



Acute toxicity
Akute Toxizität
Toxicité aiguë



Serious health hazard
Ernsthafte Gesundheitsgefährdung
Très dangereux pour la santé



Oxidising
Brandfördernd
Oxydant



Flammable
Entzündbar
Inflammable



Corrosive
Ätzend
Corrosif



Health hazard
Gesundheitsgefahr
Dangereux pour la santé

Labor safety in laboratories of the Department of Lithospheric Research

Pipette - mouth - forbidden

Dangerous work - 2 people

Eye wash bottle

Use fume hoods

Chemical transport - carrying basket

Handling of hazardous materials

Laboratories

The suction of liquids into **pipettes** with the help of the **mouth is forbidden**.

Use **personal protective equipment** (gloves, etc.).

At least **two persons** must be present for **hazardous work**.

Chemical binders for chemical accidents.

Eye wash bottles in each laboratory.

Use **fume hoods** absolutely.

In the case of volatile, explosive, flammable or toxic and foul-smelling chemicals;

Defect fume hoods must not be used.

For the **transport of chemicals** or liquid gases, **carrier baskets** or Dewar-vessels must be used.

Leaked or spilled materials (especially in the area of the scales) must be **removed immediately**.

At least **once a year**, **chemicals** are to be checked for the **necessity to stay in the laboratory** and, if appropriate, to dispose it.

Labor safety in laboratories of the Department of Lithospheric Research

- *Material Safety Data Sheet (example)*
- *Acetone, Merck*
- *Flammable liquid, eye irritation, etc.*
- *Formula: C₃H₆O*
- *First aid: inhaling - fresh air, ...*
- *Extinguishing media: carbon dioxide, foam, extinguishing powder*
- *Do not empty into drains. Explosion risk! take up with chemisorb*
- *Measures against electrostatic charging!
Eye protection / hand protection*
- *Vapors may form an explosive mixture with air*
- *Keep chemicals in original container*

Material Safety Data Sheet

1. Material and company name
2. Hazards identification: Hazard pictograms, dangers, safety instructions, H and P phrases (old: R and S phrases)
3. Composition / information on ingredients
4. First aid measures: After inhalation, skin contact, eye contact, ingestion
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls / personal protection: hygienic measures, goggles, hand protection (full contact, splash protection), respiratory protection, protective clothing
9. Physical and chemical properties
10. Stability and Reactivity
11. Toxicological information
12. Environmental information
13. Disposal considerations
14. Transport information
15. Legislation
16. Other information: Training instructions
17. Internet companies

Labor safety in laboratories of the Department of Lithospheric Research

PPE Personal protective equipment

Eyes

Hearing

Respiratory system

Limbs

Body

Crash

Personal protective equipment (PPE)

- Protection of **eyes** and face (acids, laser radiation)
- Protection of the **hearing**
- Protection of **respiratory system**
- Protection of the **limbs** (gloves, work shoes)
- Protection of the **body** (cold, wet)
- Protection against **falls**
- Protection against **heat** and **flames**
- Protection against **electric shock**
- **Weather protection** for outdoor activities

- **Use the PPE** provided to you.
- Get familiar with the **right application** of the PSA.
Always **check** your PPE **for damage**.
- **Replace defective equipment**.

Labor safety in laboratories of the Department of Lithospheric Research

Disposal

- *separate Halogen - free from halogen - containing solvents*
- *Acid mixtures*
- *Operating equipment*
- *Special waste*
- *Glass waste*
- *Injury - cleaning staff - prevent!*

• **Disposal**

- Collect **halogen-free** and **halogen-containing** solvent waste **separately** in the fume hood with appropriate **labeling** and dispose of regularly.
- Collect and characterize **acid mixtures** separately.
- Collect the **equipment** (wipes, gloves, filter papers, etc.) in suitable labeled containers.
- **Dispose of the silica gel waste** separately.
- Dispose of objects contaminated with **low-toxicity chemicals** in such a way as to avoid any **risk to health or injury** to the **cleaning staff** when emptying the waste bins.
- **Special waste** must be disposed professionally.
- Dispose of **glass waste** separately. **Not in the normal waste!**
- Further information in the safety data sheets and the homepage of the University of Vienna

Labor safety in laboratories of the Department of Lithospheric Research

Incidents in the laboratory

Self-protection

Material Safety Data Sheet

Poison removal

Poison Information Center
01/406 43 43

No medication

*Skin - Eye Contamination -
Rinse 15 minutes with water*

First aid

- **General measures for laboratory incidents - basics**
- **Self-protection** first
- **Poison removal**
- Collect poison information - **Safety Data Sheet**
- Contact the **Poison Information Center** and follow their instructions.
- If necessary **call rescue**.
- No treatment measures - **no medication**
- Exception: **life saving emergency aid** - 2x ventilation / 30x heart pressure massage
Heart / circulatory, respiratory unconsciousness, see notice in the laboratory
- General Rules of **First Aid - see notice**.
- Skin contamination by liquid chemical substances or vapors, and fire wounds must be flushed with running water for at least 15 minutes.
- **Eye Contamination:** Rinse at least 10 to **15 minutes** with an eyewash / **eyewash bottle**.
Attention! **Rinse water** must not get into the healthy eye.
- **Accident report:** There is a notification obligation for accidents - own forms

Labor safety in laboratories of the Department of Lithospheric Research

Fire protection

First aider

First aid box

Fire extinguishers

Escape routes

Emergency exit

Meeting point

Fire protection – First aid

- Inform yourself about the name of the **first aider** in your work environment and the location of the **first aid box**.
- Alarms and **instructions** for fire protection **must be followed**.
- Find out about the **location of the fire extinguisher** and how to deal with it.
- Keep traffic routes and **escape routes always free**.
- Do not close or dislodge **emergency exits**.
- In the event of a hazard, please go to the **meeting point**.
If you discover a fire yourself, you have to indicate:
Who is calling!
What happened?
How many persons are affected / injured?
Where is the place of emergency?
Wait for questions! Do not hang up!
- **Keep calm!**
Immediately leave the building (do not use elevators!) on the **designated escape routes**.
- **Wait for instructions at the meeting points**

**Labor safety in laboratories
of the Department of
Lithospheric Research**

Emergency numbers

Emergency numbers

Display clearly visible in each laboratory

**Ambulance 144
Fire department 122
Police 133
Doormen 14966**

**Poison Information Center 01/406 43 43
Security team Uni Wien 0664 602 77 127 00**

24h available

In case of fire

Call doormen : Tel 14966

Emergency switch

Rescue

Extinguish

**Labor safety in laboratories
of the Department of
Lithospheric Research**

Commissioners

First aider

Safety officer

Fire warden

Radiation protection officers

Department of Lithospheric Research

First aider

Franz Biedermann 53451

Dieter Mader 53305

Monika Horschinegg 53457

Safety officer

Franz Biedermann 53451

Fire warden

Peter Nagl 53365

Radiation protection officers

Dieter Mader 53305

Peter Nagl 53365

Labor safety in laboratories of the Department of Lithospheric Research

Information obligation

Internet - University of Vienna

Employee protection

*Special questions on the topic of safety in the
laboratory are answered by
Mr. Ing. Christian Brand of the University of
Vienna.*

Information obligation

The employee is **obliged** to register regularly on the Internet pages of the **University of Vienna** to keep updated

- on the latest version of the General **Laboratory and Workshop Regulations** and their annexes,
- on the list of **hazardous substances**,
- on the survey list of **substances subject to investigation**,
- on **first aid in the laboratory**,
- on the **Protection of Employees Act** (ASchG),
- and lectures on the topic of **occupational health and safety**

<http://ans.univie.ac.at/>

- **Employee Protection of the University of Vienna**
Weinmann Nina, MSc 12774
- **Safety specialist**
Ing. Christian Brand 12775
Ing. Christoph Schuster-Bourgin 12776

Labor safety in laboratories of the Department of Lithospheric Research

*Safety briefings in the laboratories of the
Department of Lithospheric Research*

Laboratory managers

Signature of the instructed

- This safety briefing serves as the **basis** for the individual safety briefings of the **individual laboratories** at the Department of Lithospheric Research.
- The **laboratory managers** of the individual laboratories have to provide the employees, students, guests and other groups of persons with the important information about, e.g., used laboratories, the handling of equipment, how is disposal regulated, when may the laboratories be used, who is to inform in an emergency, etc.
- The content and date has to be documented and must be confirmed by the instructed person **by signature**.

This safety briefing serves as the basis for the individual safety briefings of the individual laboratories at the Department of Lithospheric Research.

The laboratory managers of the individual laboratories have to provide the employees, students, guests and other groups of persons with the important information about, eg: used laboratories, the handling of equipment, how is disposal regulated, when may the laboratories be used, who is to inform in an emergency, etc.

The content and date has to be documented and must be confirmed by the instructed person by signature.

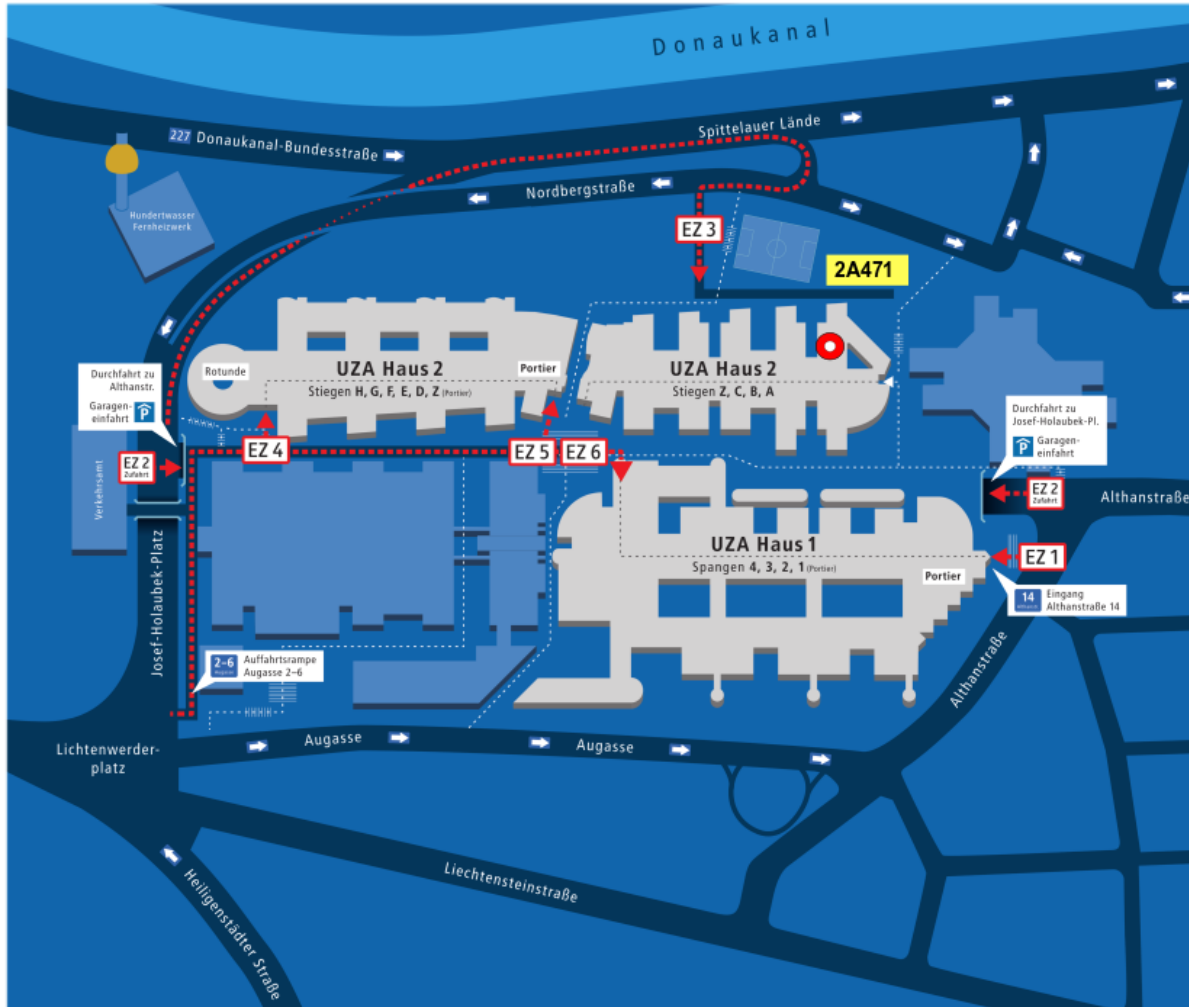
Thanks for your attention!

Monika Horschinegg



Einsatzkräfte-Zufahrten UZA

Universitätszentrum
 Althanstraße



EZ1

Althanstraße 14
 Portier

EZ2

Althanstraße 14
 Zufahrt Erste-Hilfe-Raum
 über Rampe Althanstraße
 oder über Josef-Holaubek-Platz

EZ3

Nordbergstraße 17
 Zufahrt Sportplatz

EZ4

Augasse 2-6
 Zufahrt Rotunde
 über Rampe

EZ5


Augasse 2-6
 Vorplatz Portier UZA 2

EZ6

Augasse 2-6
 UZA 1 über
 Vorplatz Portier UZA 2



Einbahnstraßen


Standort | Position

Verhalten im Erste-Hilfe-Fall

1. Lebensrettende Sofortmaßnahmen



- **Ruhe bewahren!**
- Gefahrenzone absichern
- bei starken Blutungen **im** Blutstillung
- Kontrolle:

Atmung	Bewusstsein	
ja	nein	→ Stabile Seitenlage
nein	nein	→ Reanimation

2. Notruf



1. Verständigung Rettung: **144** **im** PortierInnen müssen noch alarmiert werden
2. Entsendung einer Person zur nächsten Einsatzkräftezufahrt: **Einweisung Rettung**
3. Verständigung PortierIn UZA2: **14966**

Leitfaden Notruf:

- Wo** ist der Notfallort? (Gebäude, Spange, Stock, Raum, **Einsatzkräftezufahrt**)
- Was** ist geschehen?
- Wieviele** Personen sind betroffen?
- Welche** Verletzungen/Erkrankungen?
- Warten** auf Rückfragen! **Nicht** auflegen!

Nächste Einsatzkräftezufahrt

EZ2

Althanstraße 14
Zufahrt Erste-Hilfe-Raum
über Rampe Althanstraße
oder über Josef-Holaubek-Platz

3. Erste-Hilfe Einrichtungen



Nächster EH-Kasten:	Raum 2C173
Defibrillator:	Portier 2Z214
ErsstherInnen:	Biedermann Tel. 53451 Horschinegg Tel. 53457 Mader Tel. 53305

Weitere Notruf- und Informationsnummer:

Feuerwehr	122	Gas Notruf	0-128
Polizei	133	Sicherheitsteam	12700
Euro Notruf	112	KundInnenservice RRM:	12828
Vergiftungen (VIZ)	0-406 43 43		

First aid measures

1. Life-saving immediate measures



- **Keep calm!**
- Secure the danger zone
- In case of severe bleeding **im** stop bleeding
- Check:

Breathing	Response	
Yes	No	→ Recovery Position
No	No	→ Reanimation

2. Emergency call



1. Call Ambulance: **144** **im** Doormen have still to be alerted
2. Dispatch a person to the next access point for orienting the ambulance
3. Call Doormen UZA2: **14966**

Guideline emergency call:

- Where** is the place of emergency? (house, floor, room, **entrance for emergency services**)
- What** happened?
- How many** persons are injured?
- Which** injury/ disease?
- Wait** for questions! Do **NOT** hang up!

Next access point for ambulance services:

EZ2

Althanstraße 14
Zufahrt Erste-Hilfe-Raum
über Rampe Althanstraße
oder über Josef-Holaubek-Platz

3. First aid facilities



Next first aid kit:	Room 2C173
Defibrillator:	Doormen 2Z214
First aider:	Biedermann Tel. 53451 Horschinegg Tel. 53457 Mader Tel. 53305

Further emergency and information numbers:

Fire department	122	Gas emergency	0-128
Police	133	Security team	12700
European emergency number	112	Customer service RRM:	12828
Assistance in cases of poisoning	0-406 43 43		