

All labs and rooms in the NFZ

## **Operating instructions**

### **General laboratory regulations**

In these laboratory regulations general rules of conduct for the handling of hazardous substances are mentioned. For the handling of very toxic, toxic, carcinogenic, reproductive, mutagenic and highly flammable and easily flammable substances as well as for hazardous work within the meaning of the "Rules for Safety and Health Protection for Laboratories" (GUV 16.17), the substance-related specific operating instructions provide additional information.

These laboratory regulations and the material-related operating instructions are strictly mandatory.

These laboratory regulations are supplemented by the "Rules for Safety and Health Protection for Laboratories" (GUV 16.17), October 1993 edition, updated in 1998 (formerly "Guidelines for laboratories"). Each employee must ascertain the knowledge of GUV 16.17.

The handling of substances whose safety is not unequivocally certain must be treated in the same way as the handling of hazardous substances.

If the measures specified here can not be carried out due to insufficient equipment of the workplaces, please contact your respective supervisor.

### **1. hazardous substances**

are gaseous, liquid, solid or dust-like substances or preparations assigned to the hazard classes as "flammable", "carcinogenic" (skull symbol), "propagation-hazardous" (skull symbol), "fruit-damaging" (skull symbol), "genital mutant" (skull symbol), "sensitizing" (St. Andrew's cross) classified or otherwise chronically harmful. Hazardous substances also include preparations or products from which hazardous substances may be released or released during use.

New EU hazard symbols:

1.



Exploding bomb  
GHS 01



Flame  
GHS 02



Flame over circle  
GHS 03



Gas cylinder  
GHS 04



Caustic effect  
GHS 05



Skull and Crossbones

GHS06



Health Hazard

GHS08



Thick exclamation mark - caution

GHS 07



Caution environment

GHS09

### Old symbols



The uptake into the human body, depending on the nature of the substance, can take place via the lungs, through the skin and through the mucous membranes and the digestive tract.

## 2. Enquiry /Search

Before handling a substance, the user must determine whether it is a hazardous substance by means of the safety data sheet, labeling or other sources of information (eg hazardous substance databases, chemical catalogs). It must also be determined whether a less hazardous substance is available for the intended purpose.

For the handling of the hazardous substance, a workplace and substance-related operating instructions must be provided.

In the laboratory and in the storerooms, a list of existing and used hazardous substances must be kept up to date. The list must contain the hazardous substance name, hazard class, the quantity in stock and the area of application.

Hazardous materials are usually supplied by the manufacturer / distributor with safety data sheets. The safety data sheets for the individual hazardous substances must be collected and kept accessible to the laboratory personnel.

## 3. Protective measures and rules of conduct

Dangerous work (see GUV 16.17, section 5) must not be carried out alone. During this work, at least one other person must be within reach of the call. This regulation must be observed, in particular, for work outside normal working hours.

Obvious defects in safety equipment must be reported immediately to the supervisor. Dangerous conditions must be eliminated as soon as possible.

If tests are carried out which require permanent supervision, the workplace may only be left if supervision is provided by another instructed person.

It is important to make sure that gas faucets are closed after the plant has been shut down. If possible the gas main faucet close to the laboratory as well as electrical appliances should be switched off.

Cleanliness and order in the workplace are important criteria for safe working in the laboratory.

Eating, drinking, running cold and smoking in the laboratory is prohibited. This prohibition is intended to prevent the unwanted uptake of hazardous substances via contaminated food or decomposition products that are produced in cigarette smoke.

The inhalation of vapors and dusts as well as the contact of hazardous substances with skin and eyes should be avoided.

Gaseous, dust-like or hazardous materials, which have a high vapor pressure, are only to be used in the fume hood, which has to be as closed as possible. The functionality of the hoods must be recognizable (for example by attaching a wind-wheel). Defective fume hoods may not be used.

Heating cabinets from which gases, vapors or mists of dangerous concentration or quantity may leak must be connected to an effective ventilation system or placed under a fume cupboard.

Hazardous substances must never be pipetted by mouth.

Glass bottles should not be worn around the neck. For transport of bottles, baskets or buckets with handles are to be used.

Bunsen burners and other devices operated with fuel gas may only be connected with DVGW-tested hoses (test sticker on hoses or hose nozzle).

When using liquified petroleum gas (propane, butane) as fuel gas: The laboratory may contain a maximum of 1 LPG cylinder with a maximum filling weight of 14 kg. Replacement bottles in the laboratory are not permitted. The total number of bottles must be limited to what is strictly necessary. In rooms below ground level, neither LPG cylinders nor LPG devices should be used.

Floor drains and basin siphons are to be filled with water to seal the sewer pipes against the negative pressure prevailing in the laboratory.

#### **4. Labeling and storage of hazardous substances**

Hazardous substances must not be stored or stored in containers that can cause confusion with food.

The containers must be labeled according to their contents (full substance name, additional components if necessary, danger symbol with danger description, P- and H-phrases (formerly R- and S-phrases)).

Bottles containing hazardous substances in an amount required for manual use shall be labeled at least with the name of the substance, if applicable with the components of the preparation, and the hazard symbols.

Very toxic and toxic substances are to be kept under lock and must be accessible only to qualified persons.

Flammable liquids as well as highly flammable or highly flammable hazardous substances may only be stored in refrigerators or deep-freeze units if their interior is explosion-proof (see GUV 16.17, section 3.8).

The amount of flammable liquids in the laboratory must be limited to the daily requirement. Quantities exceeding the daily requirement must be stored either in safety cabinets according to TRbF 22 or DIN 12925 T1 or in storage rooms intended for this purpose.

If the daily requirement is increased, the flammable liquids must be stored in a protected place, if possible in safety cabinets according to TRbF 22 or DIN 12925 T1.

Flammable liquids should be stored for hand use in containers of a volume not exceeding 1 l. For increased daily requirements, glass containers up to a volume of 2.5 liters, metal containers up to a volume of 10 liters or plastic containers up to a volume of max. 5-l may be permitted.

The supply of gas cartridges and spray cans with highly flammable propane / butane as a propellant gas is limited to the daily requirement. Larger quantities must be stored in the storage facility for compressed gas cylinders or in safety cabinets for compressed gas cylinders, spray cans also in storage rooms or safety cabinets for flammable liquids.

Substances that can react dangerously with each other when they leak or become free may not be kept in close proximity to each other. The contact with each other can e.g. be prevented by placing in separate drip pans.

When storing hazardous substances in the laboratory, please refer to GUV 16.17, section 4.10. Separated according to properties, the hazardous substances are stored in the laboratory at the following location:

Toxic / very toxic substances: poison cupboard, room no.

Flammable liquids: certified closet, room no.

Acids: certified closet, room no.

Alkalis: certified closet, room no.

Oxidizing agents (such as peroxides, perchlorates): Not applicable

Explosive substances: not applicable

Self-igniting substances: not applicable

Gas cartridges: not applicable

## **5. Work and protective clothing**

Wear appropriate clothing in the laboratory:

- long cotton lab coat with long sleeves
- firm, closed and sure-footed footwear.

Plastic street clothing (for example, nylon stockings) should not be worn in the laboratory because of an increased risk of burn in case of fire due to their melting behavior.

In addition, the following protective equipment must be worn:

- Protective goggles with side protection when working in the laboratory (including other persons) with hazardous substances; spectacle wearers must wear over-glasses, goggles or a protective visor over their eye-glasses. Goggles with prescription lenses are very suitable; their procurement must be supported by the laboratory management (possible reimbursement of the procurement costs by means of a health insurance scheme).
- Protective gloves when handling substances that are absorbed through the skin or that are very toxic, toxic, irritating to the skin, corrosive, allergic, carcinogenic, toxic for reproduction or mutagenic. The gloves must be sufficiently resistant to the chemicals (resistance data can be found in the catalogs of relevant manufacturers) and comply with European safety standards ("CE" symbol, pictogram, performance indices and package leaflet).

For working with infectious material, chemicals and cell cultures, disposable gloves are available:

- Protective shoes with conductive (antistatic) sole if there is the possibility that persons become electrostatically charged and the discharge sparks can easily ignite flammable or explosive substances (eg. when filling flammable liquids, when distilling solvents, when working with highly flammable gases when handling explosive substances). Street shoes usually do not have sufficient conductivity.

## **6. Emergency and safety equipment**

Every person working in the lab needs to know the location and function of the following facilities:

- Gas emergency off and shut-off valves of the gas lines inside the laboratory and towards the laboratory in the hallway,
- main switch (for example emergency stop) of the electrical energy supply within the laboratory and to the laboratory,
- Shutting off the water supply to the laboratory
- Emergency showers
- Eye safety showers or eye wash bottles
- Fire extinguishers, fire blankets and extinguishing sand containers
- First aid materials

Interventions in the media supply should be limited to emergencies. The employees affected by the interruption of the media supply must be informed.

It should be noted that the sudden interruption of the media supply may potentially increase the risk. Further details regulate workplace-related operating instructions for hazardous work. After intervening in the gas, electricity and water supply, the technical service (fault reporting office Tel. 27777) must be notified immediately.

## **7. Regular inspection and maintenance**

Emergency showers are to be checked monthly, eye-showers are to be checked weekly by applying water flow.

The respective laboratory manager is responsible.

Fire extinguishers and extinguishing sand containers are to be replaced or filled after each use. Used fire extinguishers or fire extinguishers with injured seal are to be delivered to Dieter Hertel and must be replaced immediately.

First aid materials must be controlled regularly for completeness and the expiration date and, if necessary, supplemented. Responsibility: Prof. Dr. Beate Winner

Chemical binder is to be replenished or replaced after use.

Gas fittings and pipelines must be checked for leaks before commissioning and after refitting prior to recommissioning unless type-tested equipment is used. The test must be carried out by a qualified person. The notification is made by the University Construction Office.

Reusable respiratory equipment must be checked at least annually for proper function. Pay attention to the expiry date of the filters.

Stationary residual current devices (RCCBs) must be checked by the laboratory staff at least every 6 months for proper function by pressing the test button (Attention: power supply to the laboratory connections is interrupted!).

## **8. Special protective measures for the handling of human tissues, body fluids and other potentially infectious substances**

Employees in medical, histological and microbiological laboratories must undergo regular occupational medical examinations.

If unsolicited, please contact the secretariat of your department / institute or the Human Resources Department of the Central University Administration. In your own interest, you should make sure that occupational medical check-ups are actually carried out.

The work surfaces must be disinfected. Uncoated wood and cork materials are not disinfected and are therefore not allowed..

Used instruments and lab equipment made of glass or pointed and sharp objects must be placed in disinfectant solution before cleaning.

For handling alcoholic disinfectants, the substance-related operating instructions must be observed.

The wearing of jewelry, watches and wedding rings on hands or forearms is prohibited during the course of dealing with potentially infectious material.

Further information can be found in the respective operating instructions for activities with biological agents.

## **9. Special protective measures for the handling of compressed gases and low-temperature gases (see also substance-related operating instructions)**

Compressed gas cylinders must not be stored in the laboratory. The number of compressed gas cylinders should be limited to the absolute minimum. If it is essential for the continuation of the work, there may be a maximum of one spare bottle for a pressurized gas cylinder connected to drain.

If there is an increased fire hazard in the laboratory (for example due to activities with flammable liquids), pressurized gas cylinders must be protected from the effects of fire (for example, behind brickwork or safety gas cylinder cabinets).

For very toxic, toxic and carcinogenic gases, the smallest possible compressed gas cylinders or "Lecture Bottles" are to be preferred. Basically, the containers with these gases are to be installed in a fume cupboard or extractor (eg. safety gas cylinder cabinet).

If pressurized gas cylinders with flammable gases have to be operated outside of safety gas

cylinder cabinets, attention must be paid to compliance with the protection zones (potentially explosive zone in the event of gas leakage) around the gas cylinders (see Technical Rule TRG 280 "Operation of pressurized gas containers"). Within the protected areas, any sources of ignition (eg. open flame, non-explosion protected electrical equipment) should be avoided.

The transport of compressed gas cylinders is permitted only with the protective cap screwed on (i.e. without pressure-reducing valve) and chained on a transport cart for steel cylinders. Larger gas cylinders over 6 kg total weight or 2 l volume should not be carried by hand.

When transporting deep cold liquefied gases (for example, liquid nitrogen and helium) in the elevator, make sure that no persons can board or get in.

Gas cylinders must be secured against falling over with chains, pipe clamps or similar items attached sideways. They must be protected from direct heat (i.e., a minimum distance of 0.5 m from radiators and other heat sources such as gas chromatographs).

When using very toxic, toxic or carcinogenic gases, a respirator mask with a suitable filter (see substance-related operating instructions) must always be carried during transport and during the execution of the work or kept in the laboratory at the workplace.

All parts of compressed gas cylinders and their fittings that come into contact with oxidising or oxidising gases must be kept free of oil, grease and glycerine (take care when rubbing hands with greasy skin care products!). Otherwise there is a risk of fire! This is especially true for oxygen, nitrous oxide and compressed air.

Valves of pressurized gas cylinders for flammable and oxidizing gases should be opened slowly to prevent valve firing or ignition of the gases.

Pressure gauges on pressure reducers may only be exchanged by experts (Linde AG, Vogelweiherstr 73, 90441 Nuremberg, Phone No. 0911-42 380). The employees of the institute are strictly forbidden to manipulate the pressure gauges.

After completing the work, the main valve must be closed and the reducing valve relaxed.

Regular checks of gas cylinders by experts (in general at the bottling plant) must be ensured. The test period is taken at the bottleneck. For compressed gas cylinders with an elapsed test period, the supervisor should be notified.

## **10. Waste reduction and disposal**

Hazardous substances must never be discharged into wastewater.

The amount of hazardous waste is to be reduced by using only small quantities of substances in reactions.

Reactive residues, e.g. Alkali metals, peroxides, hydrides or Raney nickel are to be converted appropriately to less dangerous substances (see substance-related operating instructions).

Collection containers for hazardous waste are to be labeled with the substance name, and, if applicable, the ingredients and the danger symbol according to the substance or mixture property.

Within the laboratory, hazardous waste must be stored under the same safety conditions as new hazardous substances (see section 4). For flammable liquids, the restrictions on container sizes also apply (see point 4)

Hazardous waste must be packed and declared for disposal in accordance with the

requirements of Ref. V / 5 of the ZUV. The same applies to compressed gas cylinders to be disposed of.

Pointy, sharp and fragile objects must be collected in sturdy and rigid containers and given to waste.

## **11. Principles for behavior in dangerous situations**

In the case of uncontrolled release of hazardous substances, the specific information in the substance-related operating instructions applies! Here only general behavioral principles can be mentioned.

Spilled substances should be taken up with suitable means (absorbent granules, mercury binder, if necessary dry with broom and shovel) and disposed of as special waste.

For volatile substances, ensure good ventilation.

If flammable liquids or gases are released, measures must be taken to prevent fires and explosions.

In case of discharge of dangerous gases / vapors / dusts or in case of fire:

- Keep calm and avoid hasty, ill-considered action!
- Bring injured persons out of danger area. Watch out for your own protection.
- Immediately wipe off clothing fires with an emergency shower, fire blanket or fire extinguisher. Attention: burned people tend to panic-like escape!
- Immediately EMERGENCY CALL: Fire Department Tel. 09/112, possibly with reference to "Chemical accident". Press fire detector. The fire brigade is to be alerted even with smaller fires.
- Inform the malfunction reporting office of the technical service: Tel. 27777
- If possible, interrupt gas supply to the room (if necessary via the skin barrier in the corridor).
- Close doors and windows, avoid draft.
- extinguish minor fires with fire extinguishers, sand, fire blanket; take care of your own safety.
- Attention: Never extinguish the following substances with water or foam extinguisher, risk of explosion: Ether, gasoline, or other very non-polar substances that do not mix with water, such as esters.
- Leave room immediately in case of gas leakage and major fires, close doors. Warn persons in other work areas, if necessary, ask them to leave the rooms.
- In case of fire do not use a lift! Further procedures are regulated by the fire department.

## **12. Principles of First Aid**

Substance-specific information on first aid after contact with hazardous substances is contained in the substance-related operating instructions, in the safety data sheets and in the "First Aid for Hazardous Chemicals" (GUV 20.10, August 1999 issue).

In the case of accidents involving hazardous substances that have led to health impairments, an accident report must be produced in the secretariat of the chair / institute

After skin contact: Use emergency shower or rinse with plenty of water. Wash off water-soluble substances with polyethylene glycol (for example from Merck, BASF or Roticlean E from Roth) and rinse with water. If irritation, burns or contact with skin-reoprtive substances in medical treatment.



After eye contact: Rinse eyes affected with eyewash, eye wash bottle or plenty of running water with splayed eyelids for at least 15 minutes, thereby, protecting the undamaged eye from contact with rinsing liquid. Have an emergency doctor / ambulance service brought in during the first aid.

After swallowing: Immediate medical treatment. For some substances induction of vomit is not recommended. Deliver injured person to the doctor along with the chemical packaging or safety data sheet.

After inhalation: Move to fresh air. For bronchial irritants, give Auxilosone Aerosol. Medical treatment (Auxilosone is prone to prescription, prescription by FAU Medical Service possible.)

After contact with clothing: remove wet clothing, clean with suitable means or leave to air outside.

Information about poisoning can be obtained from

- Poison Information Center **Munich**                      Tel.: **089/19240**

### **13. Emergency call**

**Fire**                      **112**

**Accident**              **112**

from any telephone within the university network (exception: elevator telephones)

Issue an emergency call (NOTRUF) according to the following scheme:

**WHERE** happened the accident

**WHAT** happened: fire, corrosion, fall etc.

**HOW MANY** injured persons

**WHAT** injuries: Type and location on the body

**WAIT** until the call is terminated by the Rescue Coordination Center. There can be important questions to answer.

### **14. Important numbers / alarms:**

Institutional Director: Prof. Dr. med. Thomas Brabletz

Security Officer: BBS S1              Dr. Martin Sachs  
   BBS S2              PD Dr. Dirk Mielenz

#### **First aid personnel:**

	<b>Phone</b>	<b>Room</b>
Prof. Dr. med. Thomas Brabletz	29104	01.031
Prof. Dr. med. Beate Winner	39301	00.072
Susann Berger	29112	02.033
Dr.rer.nat. Martin Sachs	29112	02.033
Andrea Schneider	39317	02.078
Martina Brückner	29122	02.048
Wencke Wallusch	29100	01.032
Dieter Hertel	Radio	02-9270

Wastewater Commissioner: Dieter Hertel Radio 02-9270

Notification of faults / technical service: -27777

Poison Information Center **Munich**

Tel.: **089/19240**

Surgery Polyclinic

-33260 / -33255

Eye Clinic Polyclinic

-34464

Dermatology Clinic

-33842

Company Medical Service

-23666

SG Work Safety

- 26631 / -26636 / -26291

Special waste disposal (ref V / 5)

- 22058 / -29267

Signal fire alarm:

loud continuous tone

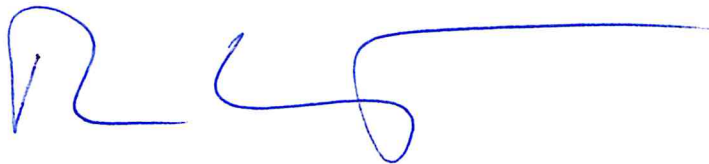
Signal clearing alarm:

loud continuous tone

**Fire: 112**

**Accident 112**

Erlangen, 15.09.2018



(Signature of chair / institute management)

**Attachments:**

- i) Information in the case of accidents involving the discharge of hazardous substances into the sewage system
- ii) Protocol for the instruction of employees
- iii) Information sheet and protocol to inform women about possible dangers and restrictions on employment during pregnancy and during breast-feeding

**i) Important information in case of accidents with discharge of hazardous substances in the sewer**

Please alert the following services immediately if hazardous substances have reached the channel:

Wastewater Commissioner: Dieter Hertel Radio 02-9270

Institutional Director: Prof. Dr. Thomas Brabletz Tel .: 29104

Disturbance Office Technical Service Tel .: 27777

City Erlangen - civil engineering office Tel .: 09 / 862-552, -346, -691

To mitigate damage:

Fire Department Tel .: 112

Tasks of the wastewater contractor:

- Creation of in-depth knowledge of the geosubstances used in the institute or professorship and their composition
- Employees and students must be regularly informed about the ban on the discharge of hazardous substances into the sewage system.
- The employees are to be informed that in case of danger the wastewater contractor must be informed immediately. He has to inform the city of Erlangen immediately and in case of imminent danger the fire brigade.

## **i) Teaching women about possible dangers and employment restrictions during pregnancy and while breastfeeding**

Ladies,

For pregnant and lactating women, the legislature has issued numerous provisions to ensure health protection against hazards, excessive demands and the exposure to hazardous substances in the workplace. Regulations for the protection of pregnant and lactating women can be found in particular in the following legal regulations:

- in the Maternity Protection Act (MuSchG)
- in the maternity protection directive (MuSchRiV)
- in the X-ray Ordinance (RöV)
- in the Radiation Protection Ordinance (StrSchV).

Addressed by the legal regulations is the employer, here the university and the hospital.

However, the university and the hospital can only guarantee the protection of the pregnant or lactating woman in the workplace if pregnancy is reported as early as possible.

For your protection and the protection of your child, please inform your supervisor(s) as soon as possible as well as the responsible personnel administration about your pregnancy and the expected delivery date (§ 5 MuSchG). The message will be kept confidential.

The University / Clinic is obliged to inform the competent Nürnberg Works Inspectorate about a pregnancy stating the name, the date of birth, the working time and the type of activity of the pregnant women (§ 5 Abs.1 and § 19 MuSchG). This is done by the responsible personnel administration of the university or the hospital.

According to § 2 MuSchG, the respective university or hospital facility (clinic, institute, chair, other service) is obliged to design the workplace of a pregnant or ailing woman in such a way that the life and health of the woman and child are improved by the occupational Activity should not be endangered. This means that local supervisors must conduct a thorough assessment of working conditions as soon as pregnancy becomes known. This assessment covers every activity that the pregnant or lactating woman performs (§ 1 MuSchRiV).

If the workplace assessment indicates that the safety or health of the pregnant or breastfeeding woman is at risk, the clinic, institute, department or other service provider must take appropriate protective measures, such as: Reorganization of the workplace, employment restrictions, change of job or exemption for employment prohibition (§§ 1 and 3 MuSchRiV). Employees in the working environment of the pregnant or breastfeeding woman should - with the consent of the persons concerned - be informed about the existing danger and the nec-

essary protective measures for the woman in order to avoid hazards arising from the working behavior of the employees.

In particular, general and individual employment restrictions and prohibitions as well as working time restrictions must be observed. Essential regulations concerning activities in the laboratory are mentioned below. For more information, please refer to the leaflets on maternity protection on the homepage of SG Arbeitssicherheit

<https://www.fau.de/intranet/servicestellen/sachgebiet-umweltmanagement-und-technische-sicherheit/>

(as of 09/18)

At your request, advice can always be obtained from the occupational health service and the occupational safety department of ZUV. You are free to include the responsible staff council.

### **Employment restrictions and prohibitions in scientific laboratories**

For the following activities of pregnant and breastfeeding women, there are specified employment prohibitions and restrictions:

1. Individual prohibition of employment if, according to the medical report, the life or health of the mother or child is endangered as long as the activity continues (§ 3 Abs.1 MuSchG).
2. Prohibition of night work between 8 pm and 6 am (§ 8 Abs.1 MuSchG). In individual cases, at the request of the woman exemptions by the Trade Inspectorate Nürnberg are possible.
3. prohibition of overtime, i.e. working hours of more than 8 1/2 hours per day or 90 hours per double week (§ 8 Abs.1 and 2 MuSchG).
4. Prohibition of Sunday and public holidays (§ 8 Abs.4 MuSchG).
5. Prohibition of heavy physical work and work in forced posture. These include the regular lifting and carrying of loads by hand of more than 5 kg weight as well as frequent considerable stretching, bending, squatting or stooping (§ 4 para. 1, 2 no. 1 and 3 MuSchG)
6. Prohibition of activities with increased accident hazards, e.g. because of possible slipping hazards on wet soils or handling of hazardous substances, if unpredictable dangerous reactions are to be expected (§ 4 Abs.2 Nr.8 MuSchG)
7. Residence ban in the control area when using ionizing radiation (X-ray radiation, radioactive radiation) (§ 4 Abs.1 MuSchG, § 22 RöV, § 56 StrSchV). Activities in surveillance areas should only be carried out after approval by the local radiation protection officer.
8. Prohibition of dealing with open radioactive substances or nuclides (§ 4 Abs.1 MuSchG, § 56 StrSchV).
9. When dealing with carcinogenic, teratogenic or mutagenic substances, a distinction is made between protective measures for pregnant and lactating women (§ 4 (1) MuSchG, § 5 (1) No. 3 and 4 MuSchRiV):  
Pregnant women should not be exposed to these substances at all, i. Any work-related exposure to these substances must be avoided.  
Nursing women should not be employed with these substances if the limit value is exceeded.

Carcinogenic, teratogenic and mutagenic hazardous substances are mentioned in the Technical Rule for Hazardous Substances TRGS 905. The listing there is not exhaustive. There-

fore, such substances must be identified by the safety data sheet or by the label. The following P or H phrases on the markings are important in this context:

H371 = Irreversible damage possible.  
H350= May cause cancer.  
H340= May cause heritable genetic damage.  
H360= May cause birth defects.  
H350i = May cause cancer by inhalation.  
H360Df= May damage the unborn child.  
H361d= Possible risk of harm to the unborn child.  
H362= May cause harm to breast-fed babies.  
P263= Avoid exposure during pregnancy.

In your field of work, these are in particular the following substances:

\*\*\*\* *Please check list of chemicals in your laboratory* \*\*\*\*

10. Prohibition of dealing with highly toxic, toxic, harmful or otherwise chronically harmful substances to humans, if the limit is exceeded (§ 4 Abs.1 MuSchG, § 5 Abs.1 No. 1 MuSchRiV).

11. Prohibition of employment for women of childbearing potential with hazardous substances containing lead or mercury silicys if the limit is exceeded (§ 5 (1) no. 5 MuSchRiV).

Explanation to Nos. 10 and 11: Limit values have been exceeded if the respective limit value in the workplace air (MAK or TRK) can not be permanently adhered to safely or if handling of skin-resorbing substances (cf. Material Safety Data Sheet or Labeling) direct contact with the skin or unsuitable gloves that are not sufficiently resistant to the respective material.

12. Prohibition of dealing with substances, preparations or articles which, according to experience, can transmit pathogens if the pregnant or lactating woman is exposed to the pathogens (§ 4 (2) No. 6 MuSchG, § 5 (1) no 1 MuSchRiV).  
This prohibition of employment is of particular importance for medical, biological and microbiological laboratories.

13 Infectious diseases such as Rubella, marigold, viral hepatitis, and cytomegalovirus are dangerous to both the mother and child. Pregnant and breastfeeding women should not be employed in activities where there is a corresponding risk of infection.  
Furthermore, pregnant and breastfeeding women should not be employed in activities where direct body contact (skin contact, inhalation of aerosols, mucosal contact) with body fluids and tissues of patients is possible.

Risks of infection can be minimized by wearing appropriate personal protective equipment (such as gloves, goggles, face shield, gown, particulate respirator). It should be noted, however, that pregnant or breastfeeding women are at risk for all activities that may compromise the protective effect of personal protective equipment. Therefore, pregnant and breastfeeding women should not be employed in the following work:

- activities involving piercing, cutting or fragile instruments and devices (such as cannulas, lancets, glass pipettes, fragile centrifuge inserts) posing an infection risk;
- acceptance, unpacking and preparation of the study material;
- blood samples;
- transfer of plasma / serum;
- preparation of blood smears;
- examination of stool, cerebrospinal fluid, sputum, etc .;
- contact with contaminated material;
- Cleaning contaminated equipment or objects

**ii)** protocol for the information of women about possible dangers and employment restrictions during pregnancy and while breastfeeding

I was informed by \_\_\_\_\_

on possible dangers and employment restrictions during pregnancy and during breast-feeding. A corresponding information letter was handed to me.

<b>Name</b>	<b>Surname</b>	<b>Date</b>	<b>Signature</b>