

# LABORATORY PROCEDURE

for the Faculty of Natural Sciences III  
Biology and Preclinical Medicine  
19 July 1995

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## 1 Objectives

The present Laboratory Regulations shall ensure the use of the laboratories for occupational safety, environmental protection and economic efficiency.

Basically, it is achieved by careful and expert and purposive handling of the laboratory infrastructure, including equipment, facilities and equipment, as well as economical consumption of energy, water and other media that serve to:

- maintain the health and physical integrity of laboratory users,
- lower the risk of damage in accidents and
- avoid environmental pollution.

## 2 Scope and legal bases

The present Laboratory Regulations apply to all users of Laboratories of the Faculty of Natural Sciences III.

These instructions consider the accident prevention regulations (UVV), the guidelines for laboratories (DGUV Information 213-850), the Hazardous Substances Ordinance (GefStoffV) as well as other generally recognized safety, occupational medical and hygienic rules as well as the other proven findings in occupational science.

## 3 Duties of users of laboratories

Users must take note of and abide by the present Laboratory Regulations. The acknowledgment must be confirmed by signature.

In the case of grave breach of the obligations arising from this order, the user may be deprived of his job.

## 4 Dangers to humans and the environment

The application of biological, chemical and physical methods including their technical applications involves a multitude of hazards.

Humans may suffer acute or chronic damage to their health, e.g. injuries, burns, frostbite, burns, poisoning, irritation, allergies, infectious diseases, cancer, genetic damage and reproductive harm.

The release of hazardous substances into the air, water and soil can lead to environmental damage.

## 5 Health and safety

### 5.1 General

The Guidelines for Laboratories (DGUV Information 213-850), which is continuously updated and available under the following link <https://dguvi213-850.vur.jedermann.de>, describe in detail the correct behavior and supplement this order.

Work in a laboratory so that no one is harmed, endangered or harassed more than is necessary under the circumstances. When carrying out hazardous work, at least one other person must be on call, and all persons in the vicinity must be informed about dangers and necessary protective measures.

The head of a working group or internship regulates the opening hours and the access authorization to the laboratories for his area.

According to the accident prevention regulation GUV 0.1 General regulations, the laboratory users are to be instructed about the dangers arising from their activities as well as the measures for their avoidance before employment and thereafter at appropriate intervals, but at least once a year.

Students and staff may only perform work that complies with the instructions given to them. Instructions of the trainee and the heads of the scientific institutions must be followed.

Smoking in the laboratories is generally prohibited. In laboratories handling toxic, highly toxic, carcinogenic, teratogenic, mutagenic substances and infectious or suspect materials or agents, do not eat or drink. If, in certain laboratory areas, this is not the case with the above-mentioned materials, the working group or trainer can define areas in which the laboratory users can turn off food and drinks and eat and drink. Food and drinks should not be stored with chemicals.

Sources of danger, especially water pools or oil films on the floors are to be removed immediately. Escape and rescue routes must be free of obstacles and sources of danger.

Safety-impairing faults in construction, equipment or equipment must be reported to the responsible manager or the technical center (phone 33 33).

## 5.2 Safety devices and protective equipment

Users should inform themselves about the nature and use of the safety devices (such as fire alarms, portable fire extinguishers, fire blankets, first aid kits, respirators, emergency showers, eye showers) and their locations.

The equipment prescribed for the protection of the user (for example, laboratory mantle, safety goggles, protective gloves, pipetting aids, desiccator, glass bottle carry-ons) must be used. When working with special risks, wear the necessary protective equipment.

## 5.3 Conducting experiments

### 5.3.1 *General*

Laboratory users shall be aware of the risks and associated safety measures when conducting experiments using experimental rules, operating instructions and operating instructions. Safety instructions in the working instructions are to be observed.

Instructions are to be carried out separately according to more specific regulations, e.g. in accordance with the GefStoffV, users must be instructed verbally and at least once a year based on the operating instructions.

Self-employed workers are obliged to identify and assess risks themselves and to take appropriate protective measures. This is especially true when work is transferred to others.

### 5.3.2 *Devices*

Devices may only be used as intended. Damaged equipment and defective electrical equipment must not be used.

Devices that run overnight must comply with appropriate safety regulations (e.g. level controllers, water monitors). If necessary, the responsible person must be reachable by telephone and write his telephone number on the outside of the laboratory door.

The handling of autoclaves, pressure and vacuum equipment, centrifuges, etc. requires special care and, if necessary, special instructions.

### *5.3.3 Chemicals and hazardous substances*

Chemicals stored in the laboratory must be organized, clearly arranged and limited to the necessary quantity; Flammable liquids for hand use must only be stored in vessels of 1 l capacity or less. Otherwise, the Guidelines for Laboratories apply (DGUV Information 213-850).

In safety cabinets and specially designed and labeled rooms, large quantities of flammable liquids may be stored.

Containers must be provided with a clear substance name and, in the case of hazardous substances, the required hazard symbols and designations. Prohibiting the storage of chemicals in commercial food packaging or in beverage bottles. Toxic, very toxic, carcinogenic, mutagenic or reprotoxic substances may only be used by knowledgeable or instructed persons.

If highly flammable substances are stored in refrigerators, only explosion-proof refrigerators designated as such may be used.

Chemicals that can release hazardous gases or vapors must be stored under continuous suction.

When transporting and transferring chemicals, take suitable measures against spillage. Liquefied liquid hazardous substances must be disposed of properly immediately. Any absorption material used may then be added to special waste.

In-house chemicals, including home-made products, are for research, education, training purposes only, and may not be used for other purposes or removed from the home.

Flammable liquids should only be heated electrically, under reflux, under constant supervision and using a collecting trough.

Work in which hazardous substances can be released as gas, vapor, aerosol or dust must be carried out in the fume cupboard.

Skin contact with chemicals should be avoided. Protective gloves must be worn if required by the substance-specific operating instructions.

For pipetting mechanical equipment must be used. Pipetting by mouth is prohibited.

Glassware for the scullery must not contain any residues of hazardous (such as corrosive) substances.

### *5.3.4 Compressed gas cylinders*

Compressed gas cylinders may only be transported with the protective cap screwed on and using the special transport carts. During operation, they must be secured against falling over and protected against heat. Pressure reducers may only be fitted and replaced by experts. Compressed gas cylinders whose sampling valves that cannot be opened by hand must be marked and taken out of service.

Compressed gas cylinders containing toxic, very toxic or carcinogenic gases must, if they are installed in the laboratory, be permanently sucked off and stand, for example, in the fume cupboard or in compressed gas cylinder cabinets. For these gases, the smallest possible containers should be used.

Compressed gas cylinders may only be installed in laboratories for the purpose of gas extraction or be available for immediate replacement, but storage is not permitted there. The installation of compressed gas cylinders in the corridor area is prohibited.

#### 5.3.5 *Special techniques*

For working with UV radiation and laser light separate regulations must be observed.

For working with X-rays as well as radioactive substances and genetically modified organisms and their storage, the specifications contained in the permits apply.

As a rule, the work in question may only be carried out in specially designated rooms.

When dealing with objects or substances suspected of being infected or when examining and treating animals, the relevant requirements of the accident prevention regulations health service (GUV 8.1) must be observed.

Animal experiments are regulated in the animal welfare law.

### 5.4 Disposal of waste

For waste, a distinction must be made between ordinary and hazardous waste. The usual waste to be disposed of to household waste or sewage also includes chemicals that are not classified as hazardous.

The disposal of hazardous waste is described in individual cases in operating instructions. Highly reactive or very toxic substances must be chemically inactivated before being added to special waste.

The collection of solid and liquid hazardous waste must be carried out according to the leaflet hazardous waste disposal of the University of Regensburg. Hazardous waste shall be collected according to instructions in labeled hazardous waste containers. The disposal of waste in the corridors, escape balconies or roof terraces is prohibited. The user must arrange the replacement of non-receptive containers. (Phone 33 33).

Separate regulations apply to the disposal of radioactive liquid and solid waste, which are specified in a separate radiation protection instruction in accordance with the respective valid handling permit.

The regulations governing the disposal of genetically modified organisms are governed by the Genetic Engineering Act and corresponding operating instructions.

### 5.5 Hygienic measures

At the end of work and before eating food and drink, wash hands thoroughly. Storage of chemicals in social rooms is prohibited. Work coats used in laboratories should not be worn in libraries, lecture halls, seminar rooms or cafeterias.

## 6 Behavior in case of accidents and fires

### 6.1 General

Rescuing injured or trapped persons from danger areas takes precedence over other measures. Despite all urgency, care must be taken with care.

In all laboratories, the notice "Behavior in case of fire / behavior in case of accident" is displayed.

### 6.2 First Aid

The injured person is to provide immediate first aid.

If persons are injured, the emergency doctor must be called on 01 or 09 +112 (with the home appliance, or by calling the control room on 33 33).

In case of acute poisoning, advice can be obtained from the Poison Control Centers:

Gift Emergency Call Munich: 089/19 240

Gift Emergency Call Nuremberg: 0911/39 82 45 1

For ambulance and ambulance, the Faculty of Natural Sciences III has the rescue meeting point at the exit of the Physics building in the "Tiefstraße".

### 6.3 Fires

At the outbreak of a fire, persons at risk should be warned, if necessary, save without danger to themselves. If the fire cannot be extinguished with the existing means (hand fire extinguishers, fire blankets, etc.) without endangering itself, the fire brigade must be alerted immediately by means of the nearest fire alarm. Until the arrival of the fire brigade, further spread of the fire should be avoided if possible.

Non-helpers must leave the danger area. Further details are regulated by the fire protection regulations.

### 6.4 Hazardous material accidents

If hazardous and / or environmentally hazardous quantities of gases, vapors, dusts, solids or liquids are released in an uncontrolled manner in a laboratory, all those present must immediately be summoned to leave the danger area; Neighboring areas are to be warned. The danger zone may only be re-entered after express approval.

Control room: Tel. 33 33

Department of Environmental Protection / Disposal: Tel. 17 73

Dangerous substances officer: Tel. 33 22

Department of Security: Tel. 33 11, 33 22, 33 44, or 58 60

If the person concerned cannot immediately establish the necessity of a firefighting operation, the notification of the fire brigade will be checked and arranged by the authorities in each individual case. If necessary, the fire department should be notified via the nearest push-button detector.

## 7 Relevant literature

Safety literature can be found in the Departmental Libraries 86 (Chemistry), 88 (Biology and Preclinical Medicine) and 91 (School of Medicine) under the following signatures:

- VB 4100 Chemical laboratory; Laboratory equipment and operation
- VB 4130 Chemicals Act; Ordinance on Hazardous Substances
- VB 4150 operational safety; precautions
- VB 4170 Radiation protection; Handling radioactive substances
- WB 4100 Biological Laboratory; Laboratory equipment and operation
- WB 4150 Safety and Protection
- WC 6300 animal experiments; experimental animals
- WD 2500 Radiation Biology; radiation effects
- WG 3450 gene technology
- YR 1900-2100 Radiation protection; Radiation Protection Law, Radiation Damage; dosimetry

A collection of relevant regulations and brochures (for example UVV, GefStoffV, Technical Rules for Hazardous Substances) are available in the departmental library (file folder LabO and systems in the magazine shelf). This font collection is kept up to date by the Faculty Security Commission.

Extensive literature on occupational safety as well as a comprehensive collection of safety and legal provisions can be found at the Security Unit (phone 33 11, 33 22, 33 44, or 58 60).

Literature about hazardous substances law can be found at the University's Hazardous Substances Department (phone 33 22).

The Department of Environmental Protection / Disposal: (Tel. 11 73) has relevant literature on the subject.

## 8 Entry into force

These statutes were approved by the Faculty Council of Faculty of Natural Sciences III - Biology and Preclinical Medicine - at its meeting on July 19, 1995. It comes into effect the day after its publication.

The laboratory order is part of the house rules of the faculty. It replaces the previous laboratory regulations of May 10, 1989.

This order is posted in all laboratories of the faculty.

In individual areas of the institutes and business units of the faculty, supplements to these regulations can be issued as required.

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